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Pepperdine University
Graduate School of Education and Psychology

CHINA STUDY:
EMERGING CHALLENGES IN SOCIAL SECURITY, HEALTH CARE, AND LEADERSHIP
VOLUME II

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Education in Organizational Leadership

by

Patrick D. Huff

April, 2019

Farzin Madjidi, Ed.D. – Dissertation Chairperson

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APPENDIX A.

Literature Review Methodology: A Sixteen-Step Approach

Table A1.

Literature Investigation As An Initial Step Towards Constructing A Delphi Survey

Step	Description and Application
Step 1.	Conduct a broad survey of the literature in the area(s) of interest. As the initial materials are collected, the researcher can begin to align and categorize the information and observations that are necessary to conduct a deeper investigation into any evidence that may support a determination of the central research question(s). The objective is to identify and construct a framework of factors or themes that appear to support the investigation.
Step 2.	Conduct an extensive country brief as a background to the study. By selecting the appropriate approach and methods, the researcher will be able to use a country's history and culture as a guide in the investigation, collection of information, and completion of the analysis of the data. Shaping the initial data extracted during this step moves the investigation towards securing an outcome that supports a finding and determination of a prediction that is pertinent to the country being studied in the context of the central hypotheses. This step elaborates on one of the sub-components depicted in what is illustrated in Volume I, Figure 11, as the Design Approach to Study. As such, this step as represented in this table, better defines the application of the inquiry system (IS) and Saldana's methodology (also see Step 4 of that process).
Step 3.	Identify the problem(s) and postulate the research hypotheses. In this case, during the investigation of the problem a focus was given to the environmental dynamics of China in the context of the country's emerging social security, health care, and leadership issues as they are predicted to influence or drive the direction of the country over the next decade. Through this lens, China's rapid growth and traditional cultural ideology can be placed in perspective as the country transitions to a position of global leadership and economic superiority. Further, this approach will allow the investigator to observe how these influencers or drivers are likely to affect leadership styles, traits, and characteristics in association with policy advocacy and related decisional processes.
Step 4.	Identify and define the purpose of the study. In this case, investigate and identify the future challenges China is likely to face specific to its social security and health care programs and how these are likely to be affected by the country's leadership characteristics and behavior.
Step 5.	Identify relevant hypotheses and sub-hypotheses that frame the central problem. Explore and identify the basis for these research questions/statements or expectations. This includes examining the selected hypotheses by applying the SPELIT Matrix Model. In this case, the evidence collected was additionally framed in the context of longitudinal interval relevancy. As such, a series of ordered inquiries were conducted to collect evidence that was in turn weighted in association with the date each observation was made, e.g. historic, present, and the future. Each data point was recorded by aligning it with a theme and code so as to track and ultimately narrow the field of interests, environmental factors, and issues in favor of those that were the most likely to emerge as influencers and drivers of change.
Step 6.	Focus the evidence towards validating the research hypotheses. In this case, three hypotheses or expectations were developed that best represent the predictive assessments [assumptions]. These were constructed by examining or reviewing the collective body of evidence from five different perspectives as follows: <ol style="list-style-type: none"> 1. Historical evidence 2. Present evidence 3. Future evidence 4. Competing ideologies 5. Competing cultural influencers Included in this step is the attempt to reduce the evidence or data selection to only those factors, themes, and sub-themes that are likely to be influencers or drivers of change. This step elaborates on another of the sub-components depicted in what is illustrated in Volume I, Figure 11, as the Design Approach to Study. This step as presented in this table adds clarity by better defining the application of the inquiry system (IS) and Saldana's methodology depicted as steps 5.1, 5.2, and 6 in process.
Step 7.	Identify the study's assumptions and limitations. Assess and stipulate the key assumptions that will assist in framing and shaping the collected historic, present, and future data, and by reducing the focus on the data to only that which appears to be influencing or driving the China's direction and supporting policies.
Step 8.	Restructure the data. Structure and summarize the data associated with the four-orders of inquiry as identified during the themeing and coding process within the SPELIT framework. Begin to identify relevant or significant relationships or links within the data that can be mapped in association with patterns or clusters of influence.
Step 9.	Identify the study's assumptions and limitations. Assess and present the key assumptions that shape

(continued)

Step	Description and Application
	<p>and frame the historic, present, and future literature investigations and determinations pertaining to likely influencers or drivers of China's direction and supporting policies.</p> <p>Step 10. Reshape the data. Summarize the data collected from the literature as integrated into the SPELIT model to assist in identifying relevant themes, sub-themes and patterns that appear to support discoveries pertaining to each of the stated hypotheses.</p> <p>Step 11. Identify and integrate the significant themeing factors into the study's survey questionnaire. Themes and sub-themes are used to construct statements or inquiries as appropriate to collect evidence in support of determining the stated hypotheses and/or sub-hypotheses. Again, this step elaborates on another set of sub-components depicted in what is illustrated in Volume I, Figure 11, as the Design Approach to Study. As such this step, as presented in this table, better defines the application of Mitroff and Turoff's Policy Delphi Model as depicted as steps 8 and 9 of the Design Approach to Study.</p> <p>Step 12. Construct a relevant questionnaire (Rnd1) and implement a first-round (R1) survey. This first questionnaire and survey serve as a beta-test for the Survey Development Panel (SDP) towards achieving the desired consensus and stability results as supportive evidence in constructing a series of findings pertinent to solving for the stated hypotheses.</p> <p>Step 13. Integrate survey feedback collected from the SDP. This pertains to the Rnd1/R1 survey results and an attempt by the SDP to improve the first-round questionnaire by making changes to the Rnd2/R2 second-round survey as a part of the beta-testing process.</p> <p>Step 14. Integrate the SDP feedback collected from the Rnd2/R2 second-round survey process. During this step the results take from the second-round survey are applied to the third-round (Rnd3/R3) survey questionnaire to improve the implementation and results of the live participant online survey, and to achieve the desired investigation results or established stopping-rule.</p> <p>Step 15. Summarize the findings, determine each questionnaire item's level of agreement (consensus) or disagreement, and resulting stability. Upon completing the analysis, determine whether the SDP's stopping-rule has been achieved or not. If not, make the necessary adjustments to the Rnd3 questionnaire to improve format, clarity, and ease of use by the participants and consider moving towards implementing another survey-round.</p> <p>Step 16. If the stopping-rule has not been achieved, conduct the fourth-round (Rnd4/R4) survey. Upon completion of this survey, summarize the findings by determining each questionnaire item's level of agreement (consensus) or disagreement, and resulting stability. Upon completing the analysis, determine whether the stopping-rule was achieved. If not, make the necessary adjustments to the Rnd4 questionnaire to improve format, clarity, and ease of use by the participants and move to implement yet another survey-round. At the point in this process where the desired results are obtained, and the stopping rule needs have been achieved, then report the final analytics, conclusions, and determination of findings associated with the study's hypotheses as a series of valid predictions.</p>

Note.

1. The above table is intended to add clarity to the steps and in defining the methodology applied in the literature review, data collection, evaluation, and analysis portion of the investigation.
2. This sixteen-step process is further elaborated on in other sections of this study that cover the investigation methodologies that were applied. As subsequently modified, these steps were integrated into the Delphi Investigative System (IS) process as a guide, checklist, and developmental tool.
3. The table summarizes and add clarity to portions of the nine-step approach to the study that serves as a descriptive of certain portions of this study's investigative procedures (also see Volume I, Investigating the Literature, High-Frequency Contributing Literature and Background: Social reform and cultural acceptance in Chapter Two; and, Volume I, Figure 11, Design Approach to Study in the Defining the Investigation section of Chapter Three).

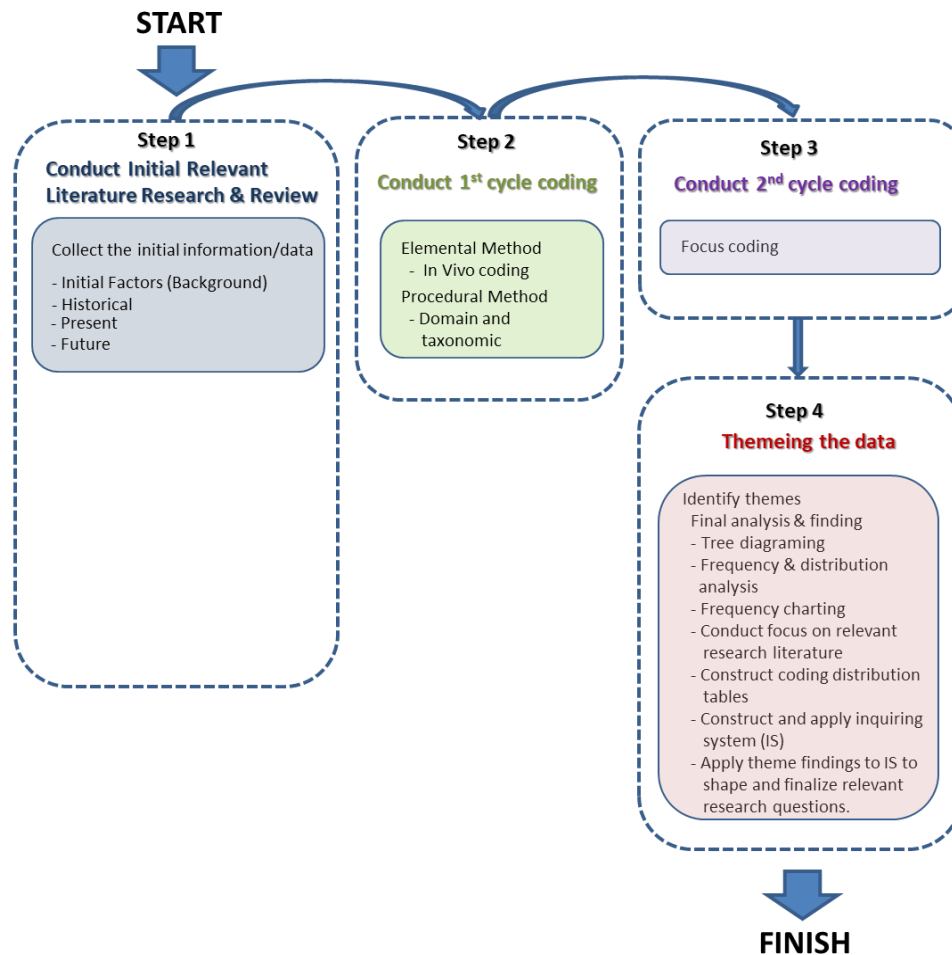


Figure A1. Saldana's Two-Cycle Method: Design approach.

Note. Extracted and adapted to study from Saldana's, *The Coding Manual for Qualitative Researchers*.

Methodology:

1. Saldana's method has been modified to best-fit this research.
2. The method is integrated into this study's four-order analysis process as date-interval recorded data; e.g. history, present, future environmental factors and/or issues to enable the discovery of leading influencers/drivers pertinent to China's emerging challenges.
3. The date-interval process allows each data series (data point) to be weighted to reflect its relevancy in real-time as an influencer.
4. Portions of the above four-step process are integrated into each of those listed in the fourteen-steps identified in this section.

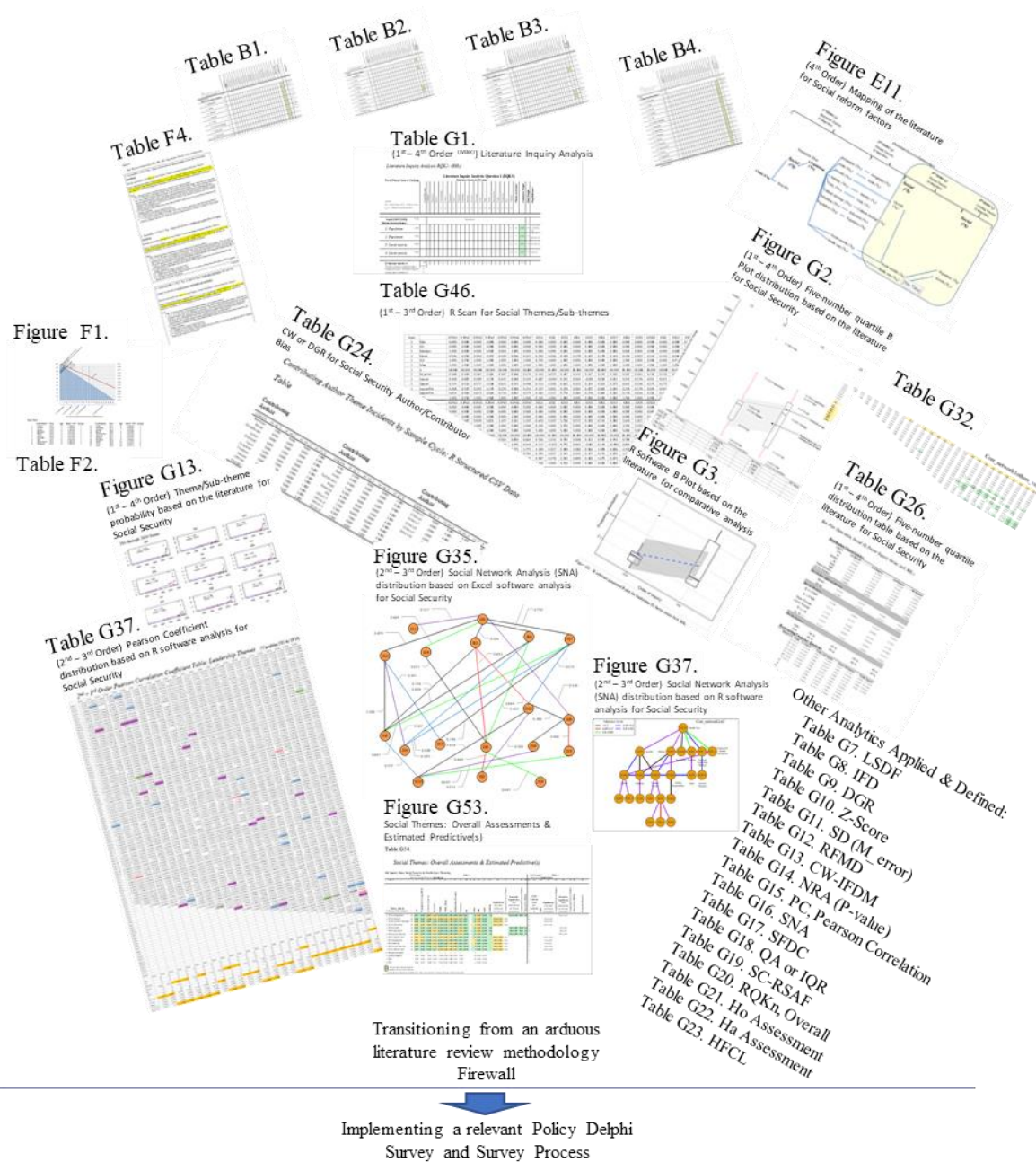


Figure A2. Approach to investigating relevant literature: Sample path of analysis.

Note. Literature Review Process: Routines/Sub-routines as techniques towards collecting the evidence and initial observations that guide the investigation. Once completed, this process moves to support the construction of a focus and relevant Policy Delphi Survey Process. The above figure illustrates the techniques, routines, and sub-routines applied to determine the social security theme/sub-theme factors and to initially identify those that likely to be significant influencers of a predictive outcome; and, as indicators needed to guide or assist in directing this investigation towards the achieving a relevant Delphi Policy Survey and the determination of the stated hypotheses. In this case, the figure should be viewed as a sample path of analysis in the investigation of each of the themes/sub-themes that lie within the designated area of interest. Although the path of analysis illustrated in this figure applies to the investigation of the social security RH₁, it can be applied to the search for a determination of finding pertaining to the investigation of health care RH₂, and leadership RH₃ as well. The path of analysis and techniques represented by the tables and figures all include examining the full-range of (alternative) hypotheses (themes/sub-themes) that were considered likely influencers or drivers of closely associated data points (data sets) as predictive indicators. The term firewall is applied to separate the arduous literature review phase investigation from that of the Delphi Policy Study.

Table A2.

Applying A 16-Step Approach Towards Data Collection: Path and Instruments Of Analysis

Steps	Routines/Sub-routines Table/Figure Associations
<p>Step 1. Conduct a broad survey of the literature in the area(s) of interest.</p> <p>Step 2. Conduct an extensive country brief as a background to the study.</p>	<ul style="list-style-type: none"> • Table G17. SFDC: Saldana Frequency Distribution by Contributor • Table G8. IFD: Incident Frequency Distribution • Table G12. RFMD: Relative Frequency Magnitude Distribution • Table G7. LSDF: Longitudinal Sample Data Framing • Table B1. 1st Order examination of historic literature for reoccurring themes/sub-themes pertaining to the stated hypotheses. • Table B2. 2nd Order examine present literature for reoccurring themes/sub-themes pertaining to the stated hypotheses. • Table B3. 3rd Order examine future literature for reoccurring themes/sub-themes pertaining to the stated hypotheses. • Table B4. 4th Order examine literature data collected to identify significant theme/sub-theme reoccurrences.
<p>Step 3. Identify the problem(s) and postulate the research hypotheses.</p> <p>Step 4. Identify and define the purpose of the study.</p> <p>Step 5. Identify relevant hypotheses and sub-hypotheses that frame the central problem.</p> <p>Step 6. Focus the evidence towards validating the research hypotheses.</p>	<ul style="list-style-type: none"> • Table G1. Literature Inquiry Analysis, examine and identify 1st – 4th Orders for significant reoccurring themes/sub-themes pertaining to the stated hypotheses. • Table F4. Examine future literature for reoccurring themes/sub-themes pertaining to the stated hypotheses. • Figure E11. 4th Order mapping of the literature for social reform factors.
<p>Step 7. Identify the study's assumptions and limitations.</p> <p>Step 8. Restructure the data.</p>	<ul style="list-style-type: none"> • Table G13. CW-IFDM: Cumulative Weighted Incident Magnitude Mean Distribution • Table G24. Contributing Author Theme Incidents by Sample Cycle (Order): CSV Data • Table G9. DGR: Declining Generational Relevancy • Figure F1. Declining Relevancy Model. Constructs a basis for reassessing and evaluating the observations taken from the literature in terms of incremental longitudinal bias. • Table F2. DGR: Declining Generational Model (Coefficients) • Table G24. CW or Declining Relevancy Model is applied to literature observations (collected data) on an author/contributor basis. Constructs and applies bias coefficient weights (CWs) as factors for reassessing and evaluating each observation extracted from the literature for incremental longitudinal bias. • Table G13. NRA: Nonlinear Regression (P-value), predictive differences analysis
<p>Step 9. Identify the study's assumptions and limitations.</p>	<ul style="list-style-type: none"> • Table G46. (1st – 3rd Order) R scan for theme/sub-theme multivariate analysis scatter plot forecasts for the themes/sub-themes applying the CW and DGR to each data point, for date published and by author/contributor association. • Table G18. QA or IQR Interquartile Range (relevant literature review data analysis for distribution as a test for individual theme/sub-theme significance) • Figure G13. 2nd Order (present) social multivariate analysis scatter plot forecasts for the theme/sub-theme series that best-fits the investigation. • Table G10. Z-Score • Table G11. M_error: Standard Deviation Error

(continued)

Steps	Routines/Sub-routines Table/Figure Associations
Step 10. Reshape the data.	<ul style="list-style-type: none"> • Table G10. Z-Score • Table G11. M_error: Standard Deviation Error • Figure G2. Five-number quartile distribution B plot by Excel software • Figure G3. Comparative five-number quartile distribution B plot by applying R software • Table G32 R structured CSV Sample Data • Table G26. Five-number quartile distribution analysis based on relevant literature data (themes/sub-themes) • Table G15. PC: Pearson Correlation • Table G37. Ordered Inquiry Pearson Correlation Coefficients • Figure G36. SNA: Cluster and link strength associations by applying Excel software • Figure G37. SNA: Comparative test for cluster and link strength associations by applying R software • Table G16. SNA: Social Network Analysis • Table G19. SC-RSAF: Weighted and Unweighted Selection Criteria and Ranking Analysis Finding
Step 11. Identify and begin to integrate the significant themeing/sub-themeing factors into the study's survey questionnaire. Initial preparation by the SDP of the survey development. Preparation for the next phase of the investigation, the Policy Delphi Process.	<ul style="list-style-type: none"> • Table G20. RQKn: Overall Ordinal Ranking of RQKn Data Selection Range, Analysis by Question or Statement Code • Table G53. Theme/Sub-theme Overall Assessments and Estimated Predictive(s), Initial Ranking of RQKn Data in order to focus and guide the construction of the Policy Delphi Study survey process by the SDP
Methodology Transition	
Firewall	
Step 12. Construct a relevant questionnaire (Rnd1) and implement a first-round (R1) survey.	<ul style="list-style-type: none"> • Table G23. HFCL High Frequency Contributing Literature
Step 13. Integrate survey feedback collected from the SDP.	<ul style="list-style-type: none"> • Table G18. QA or IQR Interquartile Range (Delphi survey Round(s) analysis as a test for level of consensus and stability pertaining to each survey item question or statement)
Step 14. Integrate the SDP feedback collected from the Rnd2/R2 second-round survey process.	
Step 15. Summarize the findings, determine each questionnaire item's level of agreement (consensus) or disagreement, and resulting stability.	<ul style="list-style-type: none"> • Table G21. Ho: Null Hypotheses Assessments • Table G22. Ha: Alternative Hypotheses Assessments
Step 16. If the stopping-rule has not been achieved, conduct the fourth-round (Rnd4/R4) survey.	

Note. Literature Review Process: Routines/Sub-routines as techniques towards collecting the evidence and initial observations that guide the investigation. Once completed, this process moves to support the construction of a focus and relevant Policy Delphi Survey Process. The above table elaborates on each of the 12-steps in the process and links each to the associated routine/sub-routine as identified by the supporting table or figure represented. This table illustrates the path of analysis by illustrating those tables, figures and the supporting data that was used to identify and construct those themes/sub-themes that proved to be highly likely to lead to conducting a relevant policy survey and predictive determination in accepting or rejecting the study's hypotheses.

APPENDIX B

Collected Literature Data and Analysis

Table B1.

Social themeing: Unweighted Incident Frequency Analysis (1st Order)

Legend:
(X) = Base Factor, (X1) = Primary Issue
(₀X₁) = Related research question

		Scaled Relevance Citations ⁷	Beardon (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farrel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselichev (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)	* Others	Theme occurrences ²	Cumulative Weight ⁴	Page Reference ⁵
Population (₁ P ₀)	Code	Occurrences																						
Historical (1st Order of Inquiry)																								
1.1. Geography	(¹ P ₀₁)								1			1	1				1	1			10	15	0.536	9,12,41,55, 162,216,21 7,222
1.2. Scale	(¹ P ₀₂)						1		1	1		1	1					1			1	7	0.250	41,47,55,16 2
1.3. Growth	(¹ P ₀₃)						1		1	1	1	1	1				1	1	1		2	11	0.393	14,40,42,47
1.4. Stability	(¹ P ₀₄)						1		1	1		1	1	1			1	1	1		1	10	0.357	4,5,7,40,41, 42
1.5. Unity	(¹ P ₀₅)		1																	1	10	12	0.429	9,10,11,57
1.6. Cultural ideology	(¹ P ₀₆)							1	1		1	1	1	1			1	1	1	1	5	15	0.536	4,5,6,9,12,1 3,14,40,47, 55,56
1.7. Education	(¹ P ₀₇)												1				1	1	1		5	9	0.321	7,55
1.8. Population	(¹ P ₀₈)		1				1							1				1	1		1		0.214	
Citations on theme by author (Sub-totals) ¹			2	0	0	0	4	1	5	3	2	5	6	3	0	0	5	7	5	2	35	79	0.403	

Note. Literature review input to CSV data files; Statistic graphics and tables, social theme frequencies.

Methodology:

1. Study literature and data selected as relevant and widely published or supported by scholarly and analytical narratives.
2. Theme and sub-themes shown are those selected from a 4-order process that applied Saldana's technique.
3. Scaled priority was determined by the number of reoccurrences of each coded theme by the referenced author/contributor.
4. Table adapted to best fit theories and observations presented in the above referenced works in the context of environmental factors as potential future challenges.
5. Average column scores indicate relative significance and priority for extended research, inquiry, and finding into a particular variable or group of variables.
6. Codes as shown. (See Index for master code book.)

Data:

1. Variables with the highest incident of frequency of theme reoccurrence within the horizontal vector are considered for additional analysis and testing to determine their significance and inclusion in subsequent cumulated weight (CW) incident magnitude frequency distribution analysis, and time bias relevancy testing.
2. Total sample n = 196; Total positive responses = 74, for an overall incident rate of (74/196) or 37.8%.

Table B2.

Social Themeing: Unweighted Incident Frequency Analysis (2nd Order)

(X) = Base Factor, (X1) = Primary Issue
(₀X₁) = Related research question

Social (2S)	Code	Occurrences																			Theme occurrences ²	Cumulative Weight ⁴	Refr. Weight	Page Reference ⁵
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
Present (2nd Order of Inquiry)																								
1.1. Geography	(² S ₁)																0	1		6	7	0.250		9,162
1.2. Scale	(² S ₂)																			1	1	0.036		
1.3. Growth	(² S ₃)		1			1		1		1		1					1	1		5	12	0.429		6,9,14,57,22
1.4. Stability	(² S ₄)		1		1	1														2	5	0.179		38,42,47,57
1.5. Unity	(² S ₅)		1																	2	3	0.107		11,57
1.6. Cultural ideology	(² S ₆)		1									1					1	1		1	5	0.179		6,56
1.7. Education	(² S ₇)											1					1	1		1	4	0.143		6,7,8,162
1.8. Population	(² S ₈)		1													1	1	1		9	12	0.464		115,119,162, 220,221, 224,
1.9. Social security	(² S ₉)										1					1				8	10	0.357		36,114,116
1.10. Health care	(² S ₁₀)										1					1				2	4	0.143		9,113,114, 115,116
Citations on theme by author (Sub-totals) ¹			5	0	0	1	2	0	1	0	1	2	3	0	0	0	3	4	5	0	37	63	0.229	

Note. Source: CSV Data Files; Statistic graphics and tables, social theme frequencies extracted from the literature data.

Methodology:

1. Study literature and data selected as relevant and widely published or supported by scholarly and analytical narratives.
2. Theme and sub-themes shown are those selected from a 4-order process that applied Saldana's technique.
3. Scaled priority was determined by the number of reoccurrences of each coded theme by the referenced author/contributor.
4. Table adapted to best fit theories and observations presented in the above referenced works in the context of environmental factors as potential future challenges.
5. Average column scores indicate relative significance and priority for extended research, inquiry, and finding into a particular variable or group of variables.
6. Codes as shown. (See Index for master code book.)

Data:

1. Variables with the highest incident of frequency of theme reoccurrence within the horizontal vector are considered for additional analysis and testing to determine their significance and inclusion in subsequent cumulated weight (CW) incident magnitude frequency distribution analysis, and time bias relevancy testing.
2. Total sample = 280; Total positive responses = 73, for an overall incident rate of (73/280) or 26.1%.

Table B3.

Social Themeing: Unweighted Incident Frequency Analysis (3rd Order)

Legend:
(X) = Base Factor, (X1) = Primary Issue
(_oX_i) = Related research question

	Scaled Relevance Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselichchev (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)	*Others	Theme occurrences ²	Cumulative Weight ⁴	Refr. Weight	Page Reference ⁵
Social (3S)	Code	Occurrences																						
Future (3rd Order of Inquiry)																								
<i>1.1. Geography</i>	(³ S ₁)																			4	4	0.143		162,000
<i>1.2. Scale</i>	(³ S ₂)																			1	1	0.036		
<i>1.3. Growth</i>	(³ S ₃)		1			1		1		1	1									2	7	0.250		14, 42, 57
<i>1.4. Stability</i>	(³ S ₄)		1		1	1														2	5	0.179		42, 45, 47, 57
<i>1.5. Unity</i>	(³ S ₅)		1																	2	3	0.107		11, 57
<i>1.6. Cultural ideology</i>	(³ S ₆)		1																	1	2	0.071		56, 000
<i>1.7. Education</i>	(³ S ₇)																	1		2	3	0.107		7, 162
<i>1.8. Population</i>	(³ S ₈)					1														5	6	0.214		9, 40, 162, 220, 221, 224
<i>1.9. Social security</i>	(³ S ₉)		1													1				4	6	0.214		114, 116
<i>1.10. Health care</i>	(³ S ₁₀)										1					1				1	3	0.107		114, 116
Citations on theme by author (Sub-totals) ¹		16	2	3	7	12	6	10	8	12	16	17	12	13	14	23	24	28	18	117	40	0.143		

Note. CSV Data Files; Statistic graphics and tables, social theme frequencies extracted from the literature data.

Methodology:

1. Study literature and data selected as relevant and widely published or supported by scholarly and analytical narratives.
2. Theme and sub-themes shown are those selected from a 4-order process that applied Saldana's technique.
3. Scaled priority was determined by the number of reoccurrences of each coded theme by the referenced author/contributor.
4. Table adapted to best fit theories and observations presented in the above referenced works in the context of environmental factors as potential future challenges.
5. Average column scores indicate relative significance and priority for extended research, inquiry, and finding into a particular variable or group of variables.
6. Codes as shown. (See Index for master code book.)

Data:

1. Variables with the highest incident of frequency of theme reoccurrence within the horizontal vector are considered for additional analysis and testing to determine their significance and inclusion in subsequent cumulated weight (CW) incident magnitude frequency distribution analysis, and time bias relevancy testing.
2. Total sample = 280; Total positive responses = 46, for an overall incident rate of (46/280) or 16.4%.

Table B4.

Social themeing: Unweighted Incident Frequency Analysis (4th Order)

Legend: (X) = Base Factor, (X1) = Primary Issue (_{QX}) = Related research question	Scaled Relevance	Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farrel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselikhehev (2012)	Vogel(2011)	Xiaoping (2011)	Zhu (2011)	*Others	Theme occurrences ²	Cumulative Weight ⁴	Ref. Weight	Page Reference ⁵
al (4S)	Code	Occurrences																							
Leading (4th Order of Inquiry)																									
1.1. Geography	(¹ Po ₁)								1			1	1				1	1			10	15	0.536	4,5,6,9,12,13,14,40,47,55,56	
1.2. Scale	(¹ Po ₂)						1		1	1		1	1					1			1	7	0.250		
1.3. Growth	(¹ Po ₃)						1		1	1	1	1	1				1	1	1		2	11	0.393		
1.4. Stability	(¹ Po ₄)						1		1	1		1	1	1			1	1	1		1	10	0.357		
1.5. Unity	(¹ Po ₅)			1																1	10	12	0.429		
1.6. Cultural ideology	(¹ Po ₆)							1	1		1	1	1	1			1	1	1	1	5	15	0.536		
1.7. Education	(¹ Po ₇)												1				1	1	1		5	9	0.321	9,12,41,55,162,216,217,222	
1.8. Population	(¹ Po ₈)			1			1							1				1	1		1		0.214	115,119,162,220,221,224,	
1.1. Geography	(² S ₁)																	0	1		6	7	0.250		
1.3. Growth	(² S ₃)			1			1		1		1		1					1	1		5	12	0.429		
1.8. Population	(² S ₈)			1													1	1	1		9	12	0.464		
1.9. Social security	(² S ₉)											1					1				8	10	0.357		
1.3. Growth	(³ S ₃)			1			1		1		1	1									2	7	0.250	6,9,14,57,22	
1.8. Population	(³ S ₈)						1														5	6	0.214	36,114,116	
1.9. Social security	(³ S ₉)			1													1				4	6	0.214	9,113,114,115,116	
IS literature sample (n) ⁶		304	6	0	0	0	7	1	7	3	4	7	7	3	0	0	8	9	8	2	74	139	0.348		

Note. CSV Data Files; Statistic graphics and tables, social theme frequencies extracted from the literature data.

Methodology:

1. Study literature and data selected as relevant and widely published or supported by scholarly and analytical narratives.
2. Theme and sub-themes shown are those selected from a 4-order process that applied Saldana's technique.

3. Scaled priority was determined by the number of reoccurrences of each coded theme by the referenced author/contributor.
4. Table adapted to best fit theories and observations presented in the above referenced works in the context of environmental factors as potential future challenges.
5. Average column scores indicate relative significance and priority for extended research, inquiry, and finding into a particular variable or group of variables.
6. Codes as shown (also see Index for codebook).

Data:

1. Variables with the highest incident of frequency of theme reoccurrence within the horizontal vector are considered for additional analysis and testing to determine their significance and inclusion in subsequent cumulated weight (CW) incident magnitude frequency distribution analysis, and time bias relevancy testing.
2. Total sample = 280; Total positive responses = 108, for an overall incident rate of (104/280) or 37.15.

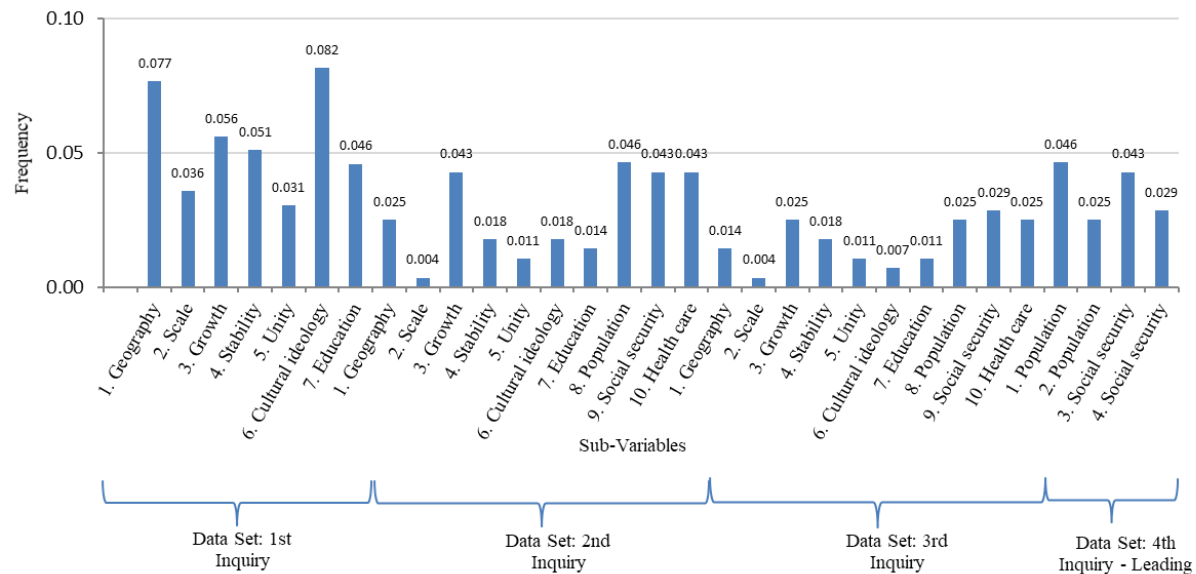


Figure B1. Social themeing: Frequency distribution results.

Table B5.

Social Themeing: Frequency Distribution Analysis

1st Inquiry Historical			2nd Inquiry Present			3rd Inquiry Future			4th Inquiry Leading		
Category	Code	Value	Category	Code	Value	Category	Code	Value	Category	Code	Value
1. Geography	(1Po1)	0.077	1. Geography	(2S1)	0.025	1. Geography	(3S1)	0.014	1. Population	(2S8)	0.046
2. Scale	(1Po2)	0.036	2. Scale	(2S2)	0.004	2. Scale	(3S2)	0.004	2. Population	(3S8)	0.025
3. Growth	(1Po3)	0.056	3. Growth	(2S3)	0.043	3. Growth	(3S3)	0.025	3. Social security	(2S9)	0.043
4. Stability	(1Po4)	0.051	4. Stability	(2S4)	0.018	4. Stability	(3S4)	0.018	4. Social security	(3S9)	0.029
5. Unity	(1Po5)	0.031	5. Unity	(2S5)	0.011	5. Unity	(3S5)	0.011			
6. Cultural ideology	(1Po6)	0.082	6. Cultural ideology	(2S6)	0.018	6. Cultural ideology	(3S6)	0.007			
7. Education	(1Po7)	0.046	7. Education	(2S7)	0.014	7. Education	(3S7)	0.011			
			8. Population	(2S8)	0.046	8. Population	(3S8)	0.025			
			9. Social security	(2S9)	0.043	9. Social security	(3S9)	0.029			
			10. Health care	(2S10)	0.043	10. Health care	(3S10)	0.025			

Note. CSV Data Files; Statistic graphics and tables, social theme frequencies extracted from the literature data.

Methodology:

1. The information has been interpolated from original qualitative and quantitative data (observations) extracted from the referenced background literature using Saldana's technique and Mitroff's Inquiry System (IS) methodology.
2. In this study Huff and Sharker applied alpha-numeric codes to each category and sub-category in order to include a cumulative weight (CW) coefficient calculation that is applied to each discovery (theme or sub-theme) occurrence in the context of its longitudinal time bias and associated relevancy. Cumulative weights were not assigned to the initial background literature examined in Chapter Two.
2. Figure B.1 and supporting data table illustrate the principle findings associated with the discovery of those themes or sub-themes as factors (within each category); and, sub-factors (within each sub-category) data sets. The intent is to interpret their relative significance in terms of the study's stated purpose and to determine their association with each of the hypotheses. Each represents the information/data extracted from the relevant literature reviews examined as produced by the authors/contributors referenced on the topic.

Analysis:

1. Table B5, rows 9 and 10, in the 3rd inquiry column indicate stable incline tails as potential significant influencers representing future challenges. In addition, the variables indicate relatively high relevancies ($=, >$) 0.029 and 0.025 as shown in the value column.
2. The value column indicates the overall number of times the factor or related theme was addressed by the author/contributor as referenced in the longitudinal sampling or timeline referenced (historical, present, or future).
3. In the 3rd and 4th Orders of Inquiry, (leading) sub-category variables that represent themes or issues with the highest incident of reoccurrence within the given category are viewed in the context of (N3 and N4) samples from the relevant literature that represent the full-range of longitudinal outcomes observed.
4. N1 is not calculated into the trend sparklines as it is used to establish a baseline for the 2nd and 3rd orders of inquiry.
5. The IS literature sample (n) used in this table is equal to the number of publications reviewed or investigated in the context of relevant research. This information was made available to the survey development panel (SDP) as representative of significant factors, or sub-factors (categories, or sub-categories) worthy of their consideration.
6. This analysis considers each sub-category as a single observation or highly associated group regardless of the number of times the contributor(s) made the same reference in their literature. Each observation is subject to a specific longitudinal characterization (cumulative weight factor) which contributes to a sequential or ordinal assessment being applied in each inquiry cycle.
7. Each theme reoccurrence cited is framed by the author (contributor), as a factor (category (variable), or subcategory [variable]) associated to the respective longitudinal sample in the context of a (historical, present, or future) time bias and related declining generational relevancy (DGR). This DGR is expressed as a cumulative weight or (CW) coefficient.

Coding/notation examples

1. (¹Po₁) reference: (1st subscript indicates the Order of Inquiry, in this example the numeral indicates the 1st Order of Inquiry); (Po indicates the stem theme, factor, or category, in this example as political); (the last number in this case, 1 indicates the ordinal listing of the observation in the category).
2. These codes when interpreted by the computer operating system/software is notated or scripted as (1Po1) or (X1Po1). R program software was used to generate the analysis and outcomes as Huff's original field observations were converted to structured CSV tables for input by Dr. Sharker, Y., 2017 to the software for analysis.

Table B6.

Leadership Themeing: Unweighted Frequency Analysis (1st Order)

Present

Population (iPo) Historical (1st Order of Inquiry)	Code	Occurrences																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.1. Geography (iPo ₁)		1				1				1		1	1			1	1	1	1	9
1.2. Scale (iPo ₂)		1				1				1						1				4
1.3. Growth (iPo ₃)		1	1			1					1					1	1			6
1.4. Stability (iPo ₄)		1				1				1	1					1		1		6
1.5. Unity (iPo ₅)		1		1	1	1				1	1						1	1		8
1.6. Cultural Ideology (iPo ₆)		1				1		1		1	1					1	1	1	8	16
1.7. Education (iPo ₇)							1			1						1		1	1	5
1.8. Population (iPo ₈)		1	1			1	1			1						1		1	9	16
1.9. Social Security (iPo ₉)		1	1	1		1				1						1			2	9
1.10. Health Care (iPo ₁₀)						1				1	1					1	1		1	6
2.1. Natural Resource Access (iFo ₁)		1		1		1				1			1	1		1			1	9
2.2. Environmental Responsibility (iFo ₂)																				0
3.1. Balance of Trade (iWe ₁)		1				1				1						1	1	1		6
3.2. Capital Reserves (iWe ₂)															1		1			2
3.3. Currency Value (iWe ₃)		1								1					1					3
3.4. Shared-Wealth (iWe ₄)						1													1	2
3.5. Economic & Monetary Ideology (iWe ₅)																				0
3.6. International Trade & Exchange (iWe ₆)																				0
3.7. Technical & Quality Advmts. (iWe ₇)						1				1										2
3.8. Property & Rule of Law (iWe ₈)		1	1			1				1			1			1	1	1	1	10
4.1 Fuel Resources (iEn ₁)						1					1					1	1		1	5
4.2 Supply (iEn ₂)		1				1				1			1		1	1	1	1	1	10
4.3 Natural Energy Resources (iEn ₃)		1				1				1			1		1	1	1	1	1	9
5.A.1. Security (iT ₁)		1				1		1	1	1	1	1				1	1	1		10
5.A.2. Advancement (iT ₂)		1						1	1			1				1	1	1		10
5.A.3. Military (iT ₃)		1				1		1	1	1	1	1			1	1	1	1	1	10
5.B.1. Power (iMi ₁)		1			1	1		1	1	1	1					1		1	1	10
5.B.2. Authority (iMi ₂)		1			1	1	1	1	1	1	1				1	1	1			11
5.B.3. Superiority (iMi ₃)		1						1	1	1	1		1		1	1		1	1	11
5.B.4. Global Projectability (iMi ₄)						1				1					1	1		1		5
5.B.5. Security (iMi ₅)		1				1		1	1	1	1	1				1	1	1		10
IS literature sample (n) ¹		784	21	3	4	2	23	3	8	7	23	12	6	6	1	8	23	16	17	9
Weighted Factors: (sfactor) =		0																		220
Citations on theme by author (Sub-totals) ¹																				0.253

Note. Saldana Analysis, leadership literature research data.

Table B7.

Leadership Themeing: Unweighted Frequency Analysis (2nd Order)

Leadership Themeing & Coding		Present																							
Legend: (X) = Base Factor, (X1) = Primary Issue (X _Q X ₂) = Related research question	Scaled Relevance	Citations ⁷	1 Beardon (2013)	2 Brown (2009)	3 China Scope (2011)	4 Cohen (2001)	5 Diamond (2005)	6 Farrel (2013)	7 Ferguson (2011)	8 Friedman (2002)	9 Jacques (2010)	10 Johnson (2004)	11 Kissinger (2013)	12 Lowe (1966)	13 Nash (1928)	14 Smith (1976)	15 Tselichev (2012)	16 Vogel (2011)	17 Xiaoping (2011)	18 Zhu (2011)	19 *Others	Theme occurrences ²	Cumulative Weight ⁴		
Social (S)	Code	Occurrences																							
Present (2nd Order of Inquiry)																									
1.1. Geography	(² S ₁)						1															1	0.036		
1.2. Scale	(² S ₂)		1		1			1	1													4	0.143		
1.3. Growth	(² S ₃)		1	1	1			1	1		1							1				1	8	0.286	
1.4. Stability	(² S ₄)		1		1		1		1		1						1		1	1	1	9	0.321		
1.5. Unity	(² S ₅)		1		1	1	1	1	1		1	1					1		1	1	2	13	0.464		
1.6. Cultural Ideology	(² S ₆)		1	1	1	1	1	1	1		1	1		1			1	1	1	1	9	23	0.821		
1.7. Education	(² S ₇)		1		1		1				1								1		3	8	0.286		
1.8. Population	(² S ₈)									1		1										2	4	0.143	
1.9. Social Security	(² S ₉)		1			1			1		1	1							0		1	6	0.214		
1.10. Health Care	(² S ₁₀)		1						1		1	1					1		1	1	1	8	0.286		
2.1. Freedom	(² P ₁)		1			1											1		1	1		5	0.179		
2.2. Civil-Rights	(² P ₂)					1											1		1	1	1	5	0.179		
2.3. Voting	(² P ₃)		1	1		1															2	5	0.179		
2.4. Int. Gov. Legitimacy	(² P ₄)		1	1							1	1	1				1		1	1	6	14	0.500		
2.5. Int. Leadership Ideology	(² P ₅)		1	1	1	1					1	1	1				1	1	1	1	9	20	0.714		
2.6. Ext. Gov. Legitimacy	(² P ₆)		1	1				1			1	1	1				1				3	10	0.357		
2.7. Ext. Leadership Ideology	(² P ₇)		1			1		1												1	1	5	0.179		
2.8. Leadership Behavior	(² P ₈)		1	1		1		1			1	1	1	1	1		1	1	1	1	10	23	0.821		
2.9. Equilibrium	(² P ₉)					1					1						1					3	0.107		
2.10. Succession Planning	(² P ₁₀)																		1			1	0.036		
2.11. Natural Resource Access	(² P ₁₁)		1			1		1			1	1	1		1			1		1	2	11	0.393		
2.12. Environmental Responsibility	(² P ₁₂)		1			1		1			1		1		1					1	2	9	0.321		
2.13. Food Supply	(² P ₁₃)																					0	0.000		
2.14. Power, Authority, Superiority	(² P ₁₄)		1	1			1	1			1	1		1	1		1		1	1	4	15	0.536		
2.15. Global Projectability	(² P ₁₅)						1	1											1		2	5	0.179		

(continued)

Note. Saldana Analysis, leadership literature research data.

Leadership Themeing & Coding

Present

Factor/Primary Issue or Challenge	Scaled Relevance	Childers ¹	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselikichev (2012)	Vogel (2011)	Xiangping (2011)	Zhu (2011)	*Others	Theme occurrences ²	Cumulative Weight ⁴
Legend: (X) = Base Factor, (X1) = Primary Issue (_{OP} X ₂) = Related research question			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Social (S)	Code	Occurrences																					
Present (2nd Order of Inquiry)																							
2.16. Security	(² P ₁₆)																					0	0.000
2.17. Military	(² P ₁₇)																					0	0.000
2.18. Global Influence	(² P ₁₈)					1	1	1									1		1	1	2	8	0.286
2.19. Cultural Ideology	(² P ₁₉)		1			1	1	1	1	1			1	1			1	1	1	1	2	14	0.500
3.1. Natural Resource Access	(³ E ₁)		1	1																		2	0.071
3.2. Environmental Responsibility	(³ E ₂)																					0	0.000
3.3. Food Supply	(³ E ₃)																					0	0.000
3.4. Balance of Trade	(³ E ₄)				1																	1	0.036
3.5. Capital Reserves	(³ E ₅)																					0	0.000
3.6. Currency Value	(³ E ₆)																					0	0.000
3.7. Shared-Wealth	(³ E ₇)										1						1		1			3	0.107
3.8. Economic & Monetary Ideology	(³ E ₈)		1	1		1			1	1	1	1				1	1	1	1	1	2	14	0.500
3.9. International Trade & Exchange	(³ E ₉)			1		1			1	1	1								1	1	2	9	0.321
3.10. Technical & Quality Advmts.	(³ E ₁₀)			1		1	1			1	1			1				1			7	14	0.500
3.11. Wealth	(³ E ₁₁)		1	1		1	1			1	1	1		1			1	1	1	1	7	19	0.679
3.12. Fuel Resources	(³ E ₁₂)																					0	0.000
3.13. Supply & Efficiency	(³ E ₁₃)																					0	0.000
3.14. Natural Energy Resources	(³ E ₁₄)																			1		1	0.036
3.15. Energy	(³ E ₁₅)																					0	0.000
3.16. Growth	(³ E ₁₆)			1		1	1				1	1	1		1		1	1	1	1	4	15	0.536
3.17. Infrastructure	(³ E ₁₇)			1		1									1	1	1				1	6	0.214
4.1. Intellectual Property Law & Protection	(⁴ L ₁)		1											1		1					2	5	0.179
4.2. Real Property Law & Protection	(⁴ L ₂)		1																1		3	5	0.179
4.3. Environmental Law & Enforcement	(⁴ L ₃)		1																			1	0.036
4.4. Foreign Investment	(⁴ L ₄)		1				1														3	5	0.179
4.5. Right of Ownership	(⁴ L ₅)		1																1		3	5	0.179
4.6. International Commerce Law	(⁴ L ₆)		1																		3	4	0.143

(continued)

Present

[illegible]

Table B8.

Leadership Themeing: Unweighted Frequency Analysis (3rd Order)

Leadership Themeing & Coding		Future																							
Factor/Primary Issue or Challenge		Scaled Relevance	Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Furel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tschichew (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)	*Others	Theme occurrences ²	Cumulative Weight ⁴	
Legend: (X) = Base Factor, (X1) = Primary Issue (c ₀ /x ₀) = Related research question				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Social (sS)		Code	Occurrences																						
Future (3rd Order of Inquiry)																									
1.1. Geography	(^c S ₁)					1																	1	0.036	
1.2. Scale	(^c S ₂)			1															1					2	0.071
1.3. Growth	(^c S ₃)				1	1		1	1			1						1	1				9	16	0.571
1.4. Stability	(^c S ₄)				1	1	1												1				8	12	0.429
1.5. Unity	(^c S ₅)				1		1				1		1					1	1				1	7	0.250
1.6. Cultural Ideology	(^c S ₆)				1	1	1		1	1	1		1					1	1	1			3	13	0.464
1.7. Education	(^c S ₇)				1						1												7	9	0.321
1.8. Population	(^c S ₈)																						1	1	0.036
1.9. Social Security	(^c S ₉)				1		1				1							1	1				8	13	0.464
1.10. Health Care	(^c S ₁₀)					1					1							1	1				10	15	0.536
2.11. Freedom	(^c P ₁)				1							1				1						1		4	0.143
2.12. Civil-Rights	(^c P ₂)				1							1				1		1	1				1	6	0.214
2.13. Voting	(^c P ₃)																						0	0.000	
2.14. Int. Gov. Legitimacy	(^c P ₄)							1				1						1					6	9	0.321
2.15. Int. Leadership Ideology	(^c P ₅)					1		1				1				1		1		1	1	1	1	8	0.286
2.16. Ext. Gov. Legitimacy	(^c P ₆)																			1	1		2	0.071	
2.17. Ext. Leadership Ideology	(^c P ₇)					1														1	1		3	0.107	
2.18. Leadership Behavior	(^c P ₈)					1		1		1		1			1		1	1	1	1	1	1	1	11	0.393
2.19. Equilibrium	(^c P ₉)					1		1				1			1		1		1	1		7	14	0.500	
2.20. Succession Planning	(^c P ₁₀)																				1	1	2	0.071	
2.21. Natural Resource Access	(^c P ₁₁)									1													1	0.036	
2.22. Environmental Responsibility	(^c P ₁₂)																						0	0.000	
2.23. Food Supply	(^c P ₁₃)																					1	1	0.036	
2.24. Power, Authority, Superiority	(^c P ₁₄)																			1	1	1	3	0.107	
2.25. Global Projectability	(^c P ₁₅)					1															1		2	0.071	

(continued)

(continued)

Note. Saldana analysis for leadership based on literature research data.

Future

Social (sS)	Code	Occurrences																					
Future (3rd Order of Inquiry)																							
2.27. Military	(² P ₁₇)																		0	0.000			
2.28. Global Influence	(² P ₁₈)			1												1	1	1	1	5	0.175		
2.29. Cultural Ideology	(² P ₁₉)			1		1		1		1			1		1		1	1	1	1	10	0.357	
3.1. Natural Resource Access	(³ E ₁)			1	1											1				1	4	0.143	
3.2. Environmental Responsibility	(³ E ₂)				1															1	2	0.071	
3.3. Food Supply	(³ E ₃)			1												1				1	3	0.107	
3.4. Balance of Trade	(³ E ₄)			1				1												1	3	0.107	
3.5. Capital Reserves	(³ E ₅)				1				1							1					3	0.107	
3.6. Currency Value	(³ E ₆)																				0	0.000	
3.7. Shared-Wealth	(³ E ₇)			1					1		1						1	1		1	6	0.214	
3.8. Economic & Monetary Ideology	(³ E ₈)			1	1				1		1						1	1	1	1	2	10	0.357
3.9. International Trade & Exchange	(³ E ₉)			1	1				1		1					1	1	1		1	9	0.321	
3.4. Technical & Quality Advmts.	(³ E ₁₀)			1																1	2	0.071	
3.5. Wealth	(³ E ₁₁)			1		1			1		1					1	1	1	1	1	1	10	0.357
3.6. Fuel Resources	(³ E ₁₂)																			1	1	0.036	
3.7. Supply & Efficiency	(³ E ₁₃)																			1	1	0.036	
3.8. Natural Energy Resources	(³ E ₁₄)																			1	1	0.036	
3.9. Energy	(³ E ₁₅)																			1	1	0.036	
3.10. Growth	(³ E ₁₆)			1	1	1	1				1	1				1		1	1	1	1	11	0.393
3.11. Infrastructure	(³ E ₁₇)			1																1	2	0.071	
4.1. Intellectual Property Law & Protection	(⁴ L ₁)			1									1					1			3	0.107	
4.2. Real Property Law & Protection	(⁴ L ₂)			1									1			1					3	0.107	
4.3. Environmental Law & Enforcement	(⁴ L ₃)																			1	1	0.036	
4.4. Foreign Investment	(⁴ L ₄)			1									1							1	3	0.107	
4.5. Right of Ownership	(⁴ L ₅)			1									1							1	3	0.107	
4.6. International Commerce Law	(⁴ L ₆)			1									1							1	3	0.107	

(continued)

Leadership Themeing & Coding			Future																							
Factor/Primary Issue or Challenge			Scaled Relevance	Citations ⁷	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Theme occurrences ²	Cumulative Weight ⁴	
Legend:																										
(X) = Base Factor, (X1) = Primary Issue																										
(x ₀ x ₁) = Related research question																										
Social (sS)			Code	Occurrences																						
Future (3rd Order of Inquiry)																										
5.1. Openness			(¹ I ₁)							1		1				1					1	1	2	7	0.250	
5.2. Cultural Stability			(¹ I ₂)							1						1							2	4	0.143	
5.3. Ideology Differences			(¹ I ₃)																	1			2	3	0.107	
6.1. Security			(² T ₁)			1		1															1	3	0.107	
6.2. Advancement			(² T ₂)							1	1						1			1	1	1	4	10	0.357	
6.3. Military			(² T ₃)													1					1		2	4	0.143	
IS literature sample (n) ³			1624			75	52	34	52	50	48	35	27	62	41	29	41	26	38	67	63	86	87	388	0	0.183
Weighted Factors: Standard (sfactor) =			0																							
Leading factor (ledfactor) =			0																							
Citations on theme by author (Sub-totals) ³																										

Note. Unweighted leadership themeing analysis outcomes by order and category.

Methodology:

The scientific notation format is expressed slightly different from that of the computer data notations. For example (1Fo1) as formulated for the model's scientific notation is expressed as (1Fo1) when compiled and interpreted by the applied computer system software.

Coding notation example: (1Po1) refers to ((the superscript indicates the Order of Inquiry, in this example the numeral indicates the 1st Order of Inquiry) (Population factor code or, in this case Po indicates population) (the stem theme or category is numerically represented by the subscript)). This code scripted differently for the computer operating system and controlling software coding where it is notated or scripted as (1Po1).

The table indicates categories and issues in ranked order to level of reoccurrence as measured by the applied method. The issues indicate those with the highest significance as potential influencers of the future challenges China is likely to face in the next ten (10) years. Issues or issues sets are represented in descending order of significance or relevancy. Therefore, the research questions that are worthy of consideration, investigation, and evaluation by the Delphi subject matter experts (as in accordance with Mitroff's theory) are those that probe into the prospects of each factor and issue set in the context of the challenges China is most likely to face in the future.

Data:

Category survey population (p) = 19; where, the cumulative category participants = 28; with 31 variables in the 1st Order; 58 variables in the 2nd Order; and, 58 variables in the 3rd Order for a total sample (N) = 4032.

1. Data been interpolated from original qualitative and quantitative data extracted from the referenced background literature using Mitroff's Inquiry System (IS) and by applying an alpha-numeric code to each category and issue; and, by scoring each discovered item occurrence in the literature with each contributor (author or researcher).

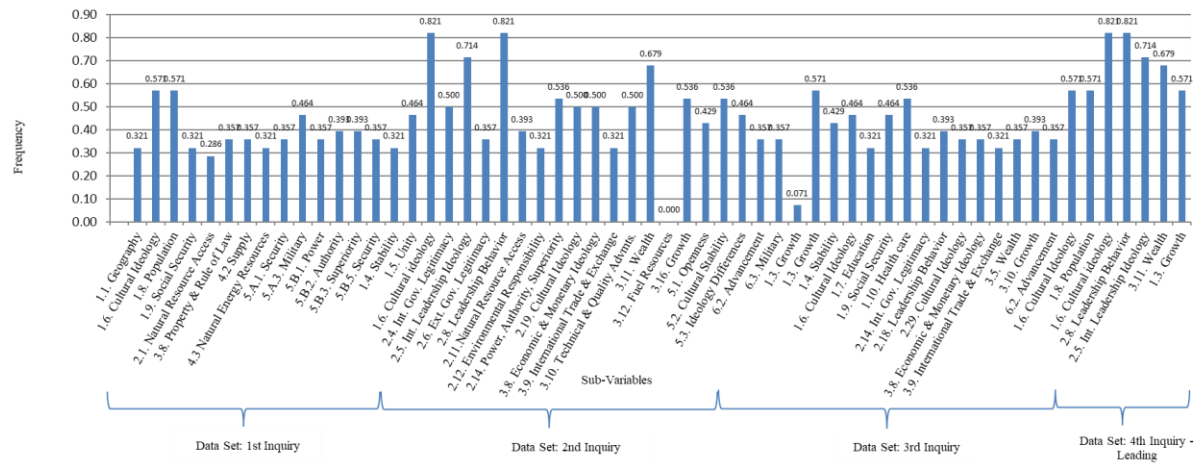


Figure B2. Leadership themeing: Frequency distribution results.

Table B9.

Leadership Themeing: Frequency Distribution Results

1st Order of Inquiry - Historic	2nd Order of Inquiry - Present	3rd Order of Inquiry - Future	4th Order of Inquiry - Leading
1.1. Geography (1Po1) 0.321	1.4. Stability (2S4) 0.321	1.3. Growth (3S3) 0.571	1.6. Cultural Ideology (1Po6) 0.571
1.6. Cultural Ideology (1Po6) 0.571	1.5. Unity (2S5) 0.464	1.4. Stability (3S4) 0.429	1.8. Population (1Po8) 0.571
1.8. Population (1Po8) 0.571	1.6. Cultural Ideology (2S6) 0.821	1.6. Cultural Ideology (3S6) 0.464	1.6. Cultural Ideology (2S6) 0.821
1.9. Social Security (1Po9) 0.321	2.4. Int. Gov. Legitimacy (2P4) 0.500	1.7. Education (3S7) 0.321	2.8. Leadership Behavior (2P8) 0.821
2.1. Natural Resource Access (1Po5) 0.286	2.5. Int. Leadership Ideology (2P5) 0.714	1.9. Social Security (3S9) 0.464	2.5. Int. Leadership Ideology (2P5) 0.714
3.8. Property & Rule of Law (1We8) 0.357	2.6. Ext. Gov. Legitimacy (2P6) 0.357	1.10. Health care (3S10) 0.536	3.11. Wealth (2E 11) 0.679
4.2 Supply (1En2) 0.357	2.8. Leadership Behavior (2P8) 0.821	2.14. Int. Gov. Legitimacy (3P4) 0.321	1.3. Growth (3S3) 0.571
4.3 Natural Energy Resources (1En3) 0.321	2.11. Natural Resource Access (2P11) 0.393	2.18. Leadership Behavior (3P8) 0.393	
5.A.1. Security (1T1) 0.357	2.12. Environmental Responsibility (2P12) 0.321	2.29. Cultural Ideology (3P19) 0.357	
5.A.3. Military (1T3) 0.464	2.14. Power, Authority, Superiority (2P14) 0.536	3.8. Economic & Monetary Ideology (3E 8) 0.357	
5.B.1. Power (1Mi1) 0.357	2.19. Cultural Ideology (2P19) 0.500	3.9. International Trade & Exchange (3E 9) 0.321	
5.B.2. Authority (1Mi2) 0.393	3.8. Economic & Monetary Ideology (2E 8) 0.500	3.5. Wealth (3E 11) 0.357	
5.B.3. Superiority (1Mi3) 0.393	3.9. International Trade & Exchange (2E 9) 0.321	3.10. Growth (3E 16) 0.393	
5.B.5. Security (1Mi5) 0.357	3.10. Technical & Quality Advms. (2E 10) 0.500	6.2. Advancement (3T 2) 0.357	
	3.11. Wealth (2E 11) 0.679		
	3.12. Fuel Resources (2E 12) 0.000		
	3.16. Growth (2E 16) 0.536		
	5.1. Openness (2I 1) 0.429		
	5.2. Cultural Stability (2I 2) 0.536		
	5.3. Ideology Differences (2I 3) 0.464		
	6.2. Advancement (2T 2) 0.357		
	6.3. Military (2T 3) 0.357		

Table B10.

Source and Integration of R Software Script and Code to Literature Analysis

R Application Description and Users	
<ol style="list-style-type: none"> 1. Cumulative weights (CW) for themes and Generational Declining Relevancy (GDR) for consecutive orders of inquiries were formulated by Huff, P. and Sharker, Y., 2017. 2. CSV structuring and means calculations were scripted in R format by Sharker, Y., Values indicate the numerical cumulative weights (CW) for each order or survey cycle for each theme and data frame. 3. R Software and statistical analytics is an internationally recognized program that has been created for the purpose of sharing collaborative research. 4. The following major research institutes and University's employ the use of the application in the United States: <ul style="list-style-type: none"> https://cran.cnr.berkeley.edu/ University of California, Berkeley, CA http://cran.cnr.berkeley.edu/ University of California, Berkeley, CA http://cran.stat.ucla.edu/ University of California, Los Angeles, CA https://mirror.las.iastate.edu/CRAN/ Iowa State University, Ames, IA http://mirror.las.iastate.edu/CRAN/ Iowa State University, Ames, IA https://ftp.ussg.iu.edu/CRAN/ Indiana University http://ftp.ussg.iu.edu/CRAN/ Indiana University https://rweb.crmda.ku.edu/cran/ University of Kansas, Lawrence, KS http://rweb.crmda.ku.edu/cran/ University of Kansas, Lawrence, KS https://cran.mtu.edu/ Michigan Technological University, Houghton, MI http://cran.mtu.edu/ Michigan Technological University, Houghton, MI http://cran.wustl.edu/ Washington University, St. Louis, MO http://archive.linux.duke.edu/cran/ Duke University, Durham, NC http://lib.stat.cmu.edu/R/CRAN/ Statlib, Carnegie Mellon University, Pittsburgh, PA https://mirrors.nics.utk.edu/cran/ National Institute for Computational Sciences, Oak Ridge, TN http://mirrors.nics.utk.edu/cran/ National Institute for Computational Sciences, Oak Ridge, TN https://cran.revolutionanalytics.com/ Revolution Analytics, Dallas, TX http://cran.revolutionanalytics.com/ Revolution Analytics, Dallas, TX 	

Table B11.

Theme Cumulative Weight Coefficients: (Orders 1–3) Social and Leadership Analysis

Themes	CW Order1	Themes	CW Order2	Themes	CW Order3	Themes	CW Order4
1Po1	0.7510	2S1	0.2464	3S1	0.1411	1Po1	0.7510
1Po2	0.3383	2S2	0.0350	3S2	0.0350	1Po6	0.7280
1Po3	0.5360	2S3	0.4165	3S3	0.2395	1Po5	0.6055
1Po4	0.4716	2S4	0.1703	3S4	0.1703	1Po3	0.5360
1Po5	0.6055	2S5	0.1051	3S5	0.1051		
1Po6	0.7280	2S6	0.1734	3S6	0.0699		
1Po7	0.4496	2S7	0.1386	3S7	0.1047		
		2S8	0.4208	3S8	0.2096		
		2S9	0.3507	3S9	0.2085		
		2S10	0.1377	3S10	0.1025		
Mean	0.5543	Mean	0.2195	Mean	0.1386	Mean	0.6551

Note. CSV data analysis, R statistical software calculated outcomes.

Methodology:

1. Cumulative weights (CW) by theme for consecutive orders of inquiries formulated by Sharker and Huff.
2. CSV structuring and means calculations were accomplished by applying R software.
3. Values indicate the average of cumulative weights (CW) for each order or survey cycle for each theme or sub-theme.

Data:

1. CSV data tables developed as a result of applying Saldana's themeing, mapping, and coding methodologies so as to identify incidents of occurrence.
2. The Saldana analysis was conducted by Huff, P., 2014. This data was used to formulate each sample data frame.
3. Weights for each incident were determined by applying a descending generational relevancy (DGR) percentage or coefficient to adjust each for present or future relevancy (significance). The DGR is based on a scale that replicates the level of relevancy or significance related to each author/contributor's observations for the period [time] in which the observation was made. This approach is widely recognized in relation to aging and time bias phenomena as directly associated with longitudinal samples in other empirical studies. This is case, Huff and Sharker choose to construct a series of supporting calculations to replicate other research [study's] associated with declining relevancy. They chose to reference their findings and method of evaluation as the DGR model.
4. Table B11 reflects the data associated to social and leadership themeing as collected from the 1st, 2nd, 3rd, and 4th orders of inquiry.

Table B12.

Utilizing Saldana's Technique and the Inquiry System (IS)

Procedure	Description and Application
	<p>Discussion: Utilizing Saldana's Technique</p> <p>The series of tables provided in this section were utilized to give structure and meaning to the data collected while applying Saldana's System Inquiry (SI) technique as framed by Schneider-Ramirez and Mallette's SPELIT matrix. Collectively, these were used to construct and evaluate relevant research inquiries and statements as necessary to support the literature review process and to focus the investigation towards a set of findings associated with the stated hypotheses.</p> <p>Construction of Relevant Research and Stem Questions</p> <p>In each case, a number of possible variations on each category and specific issue were proposed by this study's SDP. After several iterations of shaping and focus, a series of preliminary questions were developed.</p> <p>Each preliminary question was then re-evaluated for accuracy, focus, and clarity particular to Saldana's technique and in keeping with applicable SPELIT and IS protocol. Once this was accomplished, each question was re-evaluated by applying quantitative values representative of each variant within each question. Due to the diversity of the information in the primary area of interest and those found to be significantly associated, the complexity of the organization and evaluation process has greatly enhanced by applying a formulaic approach to control and shape the data so as to achieve a high-confidence outcome.</p> <p>A standard mathematical formula was selected that is used to calculate outcomes from the union of valued sets or domains. By applying the formula (as shown in the following table) a process of determining each question's overall relevancy was achieved by calculating the combine set values that then, yielded the identification a series of significant themes and sub-themes as potential influencers or drivers of change pertaining to the given set or sub-set examined in association with the stated research hypotheses (RH).</p> <p>The product from the cumulative set or sub-set variants provides an overall relevancy value outcome which is then used to guide the continuance of the investigation. By applying this process, each question is definitively assessed for relevancy and significance when compared to the examinations of other themes or sub-themes during the process of implementing the total Inquiry System (IS).</p> <p>Keywords or Terms as Variables</p> <p>The research questions constructed were restricted to containing only one, two, or three variants. Each question is framed by the SPELIT environmental factors (as categories) maximizing the use of only those words or terms extracted from the investigation of the referenced background literature used to explore the study's problem statement topic and relevant issues within the context of Mitroff's research question development criteria.</p> <p>Each research question is evaluated by category and issue by applying key word or term re-occurrence values generated from the IS analysis as questions have been constructed from the study's preliminary investigative data outcomes.</p> <p>In each case, the ultimate value determination of the constructed research question was not known until each question's single or multi-variant data (issue or topics) values were calculated. The resultant relevancy of each question therefore was not known until the cumulative variant data was applied to the appropriate evaluation formula and calculated.</p> <p>The following research questions frame the literature reviews subsequently contained within this chapter. They exhibit a wide-range of significance within a domain of those validated as being highly relevant.</p> <p>The data set representing the research question outcomes generate a lower quartile $Q1 = .195$, a median quartile $Q2 = .288$, and an upper quartile $Q3 = .370$. Relevancy ranges from .480 to .082 with an upper fence = .633 and a lower fence = -.069 given an inter-quartile range (IQR) = .175. That said the descriptive analysis indicates the research question relevancies are all within the upper and lower fences and are therefore within the confidence interval. In short, none of the research questions represent outliers.</p> <p>In accord with the application of Saldana's qualitative technique and the quantitative mathematical formula, higher value outcomes of variables and inquiry domain sets and sub-sets infer high significance towards relevancy. Each resultant therefore, can perhaps be considered a valid tool for guiding further exploration and inquiry into critical areas of interest towards developing a determination of finding by the study's Delphi panel of those factors and issues likely to represent China's future challenges.</p>

Table B13.

Inquiry System: Research Questions and Relevancy (RH_{1,2})

Coded Questions	Challenges	Research Questions and Key: Primary research question (PRQ) > 1.00; or Secondary research question (SRQ) < 1.00	Type Key/ Value	Literature SME referenced/ Two cycle coding method applied
RH₁ Social (⁴ S)	- Social security (^{2,3} S ₉) - Population (^{2,3} S ₈) Notation: Literature Relevancy score:	<i>Will China increase its <u>social security</u> system due to its aging population?</i> Given: $RQK1 = \sum_{i=4}^n \{A \cup B\} \div i$ $A = \{^2S_8 ^3S_8\}$ $B = \{^2S_9 ^3S_9\}$ $i = 4 \text{ total elements}$ $n = 30; \text{ Given } N1^{(1-4(\text{Max})S)}$ $= \sum_{i=4}^n \{(^2S_8) + (^3S_8) + (^2S_9) + (^3S_9)\} \div i$ Then: $\{.428 + .345 + .395 + .395\} / 4 = .391$ <i>Note.</i> Formula supports Saldana's analysis method as represented in Volume II; Appendix F: Table F3, Stem Research Statements for RH ₁ , RH ₂ , and RH ₃ ; and, Table H1, Stem Research Inquiries, Key Inquiries: Influencing Themes for RQK1. These are associated in the investigation and final determinations as the bases of Mitroff's Delphi Policy Survey construction and results as constructed from the literature analysis; also see Volume II; Appendix I; Figure I61, Survey results: Rnd4 (F1-Q8) Social security; and, Table I25 Results and notes; and, Figure I12, SDP Rnd1-2 Beta-Questionnaire, Section F, Item F1, RQK1 that supported the construction of the Rnd3-4 survey rounds as shown in Figure I16, Section F, F1; and, Figure I38, Section F (Part 1) F1. Data: Extracted from Appendix G, Table G1, Literature Inquiry Analysis RQK1: (RH1).	SRQ 0.391	(Tselichtchev, 2012) 1. Domain and taxonomic coding; 2. Focused coding
RH₂ Social (⁴ S)	- Health care (^{2,3} S ₁₀) - Population (^{2,3} S ₈) Notation: Literature Relevancy score:	<i>Will China increase its <u>health care</u> system due to its aging population?</i> Given: $RQK2 = \sum_{i=4}^n \{A \cup B\} \div i$ $A = \{^2S_8 ^3S_8\}$ $B = \{^2S_{10} ^3S_{10}\}$ $i = 4 \text{ total elements}$ $n = 30; \text{ Given } N1^{(1-4(\text{Max})S)}$ $= \sum_{i=4}^n \{(^2S_8) + (^3S_8) + (^2S_{10}) + (^3S_{10})\} \div i$ Then: $\{.263 + .148 + .132 + .148\} / 4 = .173$ <i>Note.</i> Formula supports Saldana's analysis method as represented in Volume II; Appendix F: Table F3, Stem Research Statements for RH ₁ , RH ₂ , and RH ₃ ; and, Table H1, Stem Research Inquiries, Key Inquiries: Influencing Themes for RQK2. These are associated in the investigation and final determinations as the bases of Mitroff's Delphi Policy Survey construction and results that have been constructed from the literature analysis; also see Volume II; Appendix I; Figure I63, Survey results: Rnd4 (F3-Q10) Social security; and, Table I27 Results and notes; and, Figure I12, SDP Rnd1-2 Beta-Questionnaire, Section F, Item F3, RQK3 that supported the construction of the Rnd3-4 survey rounds as shown in Figure I16, Section F (Part 1) F3; and, Figure I38, Section F (Part 1) F3. Data: Extracted from Appendix G, Table G3, Literature Inquiry Analysis RQK2: (RH2).	SRQ 0.173	(Tselichtchev, 2012) 1. Domain and taxonomic coding; 2. Focused coding

Note. Algorithms developed by Huff and Sharker as applied to the literature data for evaluation and analysis.

APPENDIX C.

China's Growth and Social Demographic Statistics

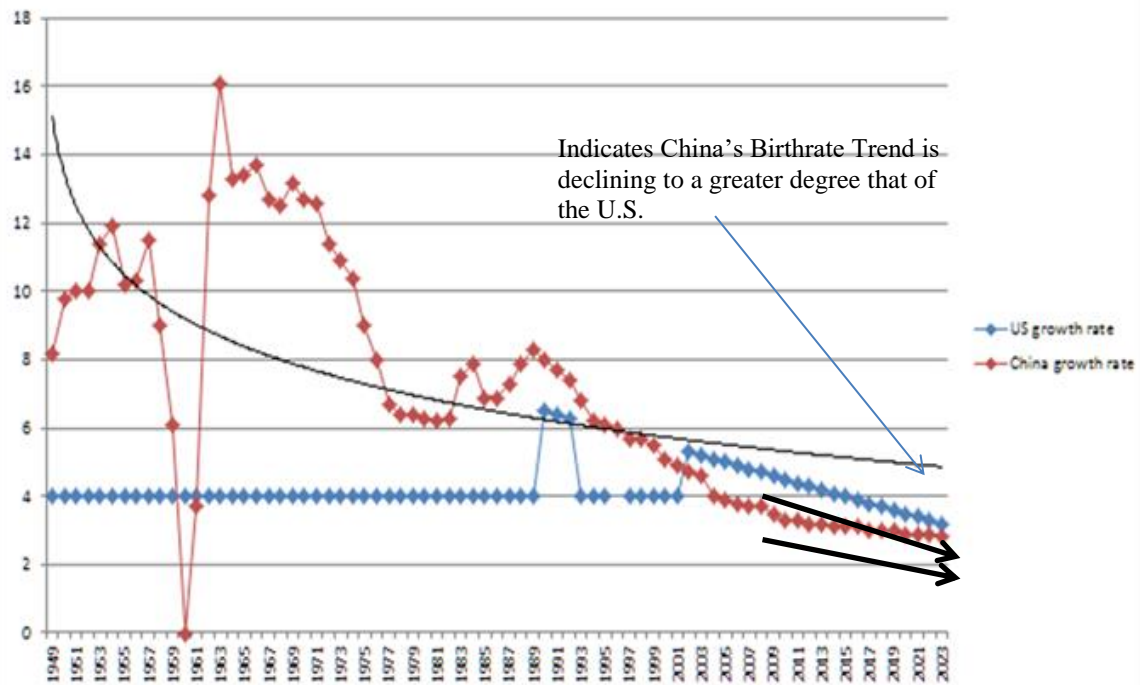


Figure C1. China's birthrate: Future labor and social services demand.

Note. IMF, Ernst and Young calculations using composite data from the International Monetary Fund (IMF) Composite graphical data (2014), exported from China's Power Index Data Files.

APPENDIX D

China's GDP Growth Rate

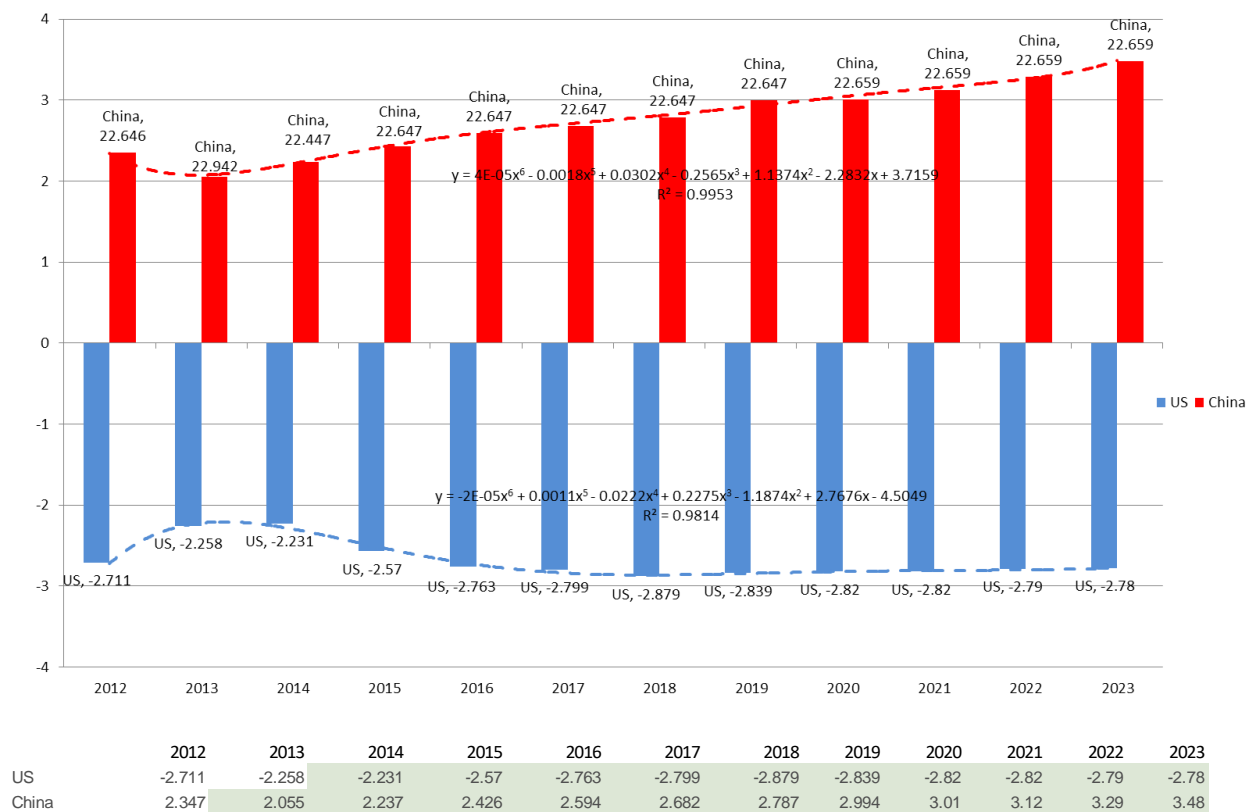


Figure D1. China's GDP 2012-2023 trend: Future economic growth.

Note. IMF, Ernst and Young public archives.

Methodology:

1. The IMF estimates that by the end of this year, China's economy will surpass the US in size: \$17.63 trillion versus \$17.42 trillion, based on the purchasing power parity standard. Further, the IMF indicates China's economy will grow by 7.4% this year (The Economic Times, 2014).
2. Voting shares are proportioned by measured national GDP within the IMF. As such, China's voting power/authority within the IMF is due to increase due to its ever-increasing GDP within the group membership. Reapportionment however must be approved by the United States, which has refused to address China's continuing GDP growth since 2010 (The Economic Times, 2014).

Data:

Information represented is illustrated as a composite graphic.

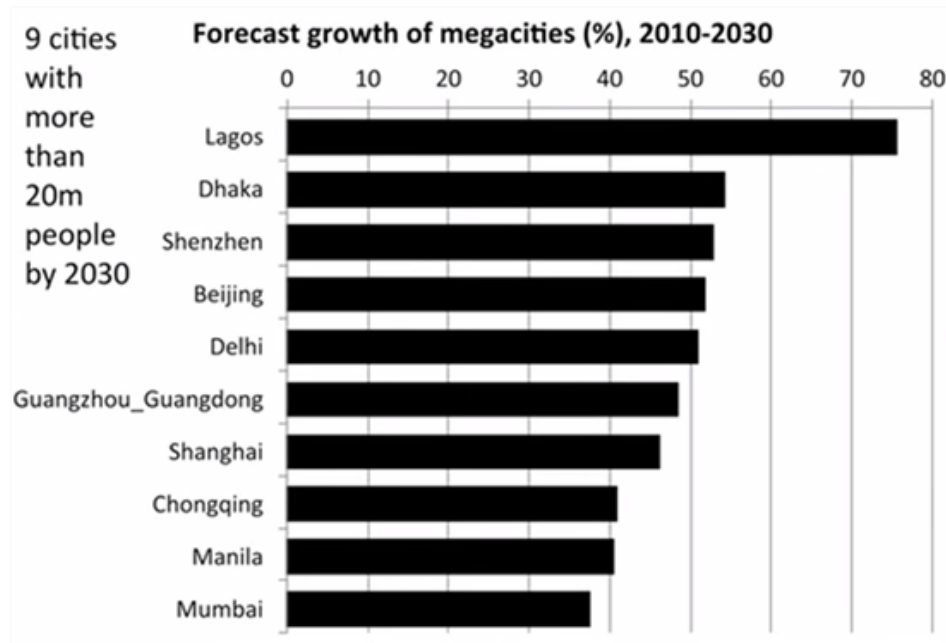


Figure D2. China's key megacities: Future economic growth forecast.

Note. Deutsche Bank, statistical data.

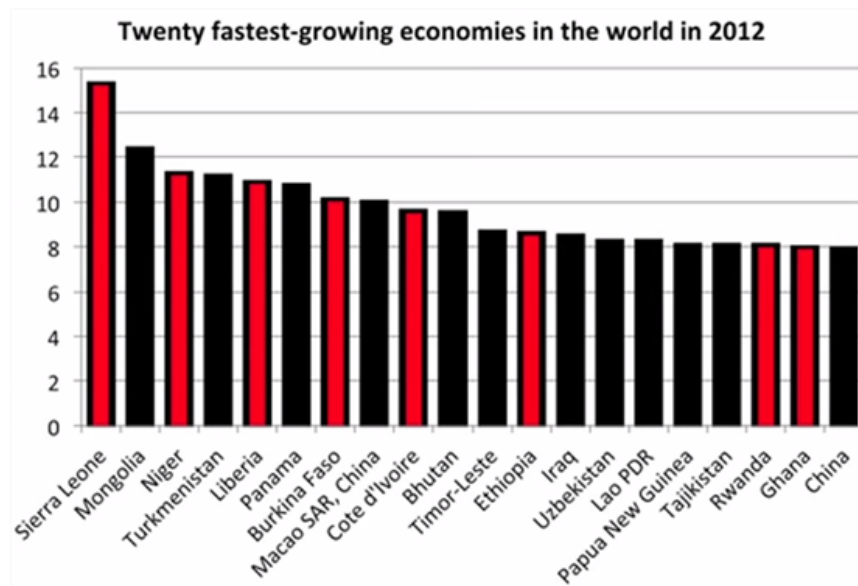


Figure D3. China's position among the fastest growing economies: Growth Analysis.

Note. World Bank, statistical data.

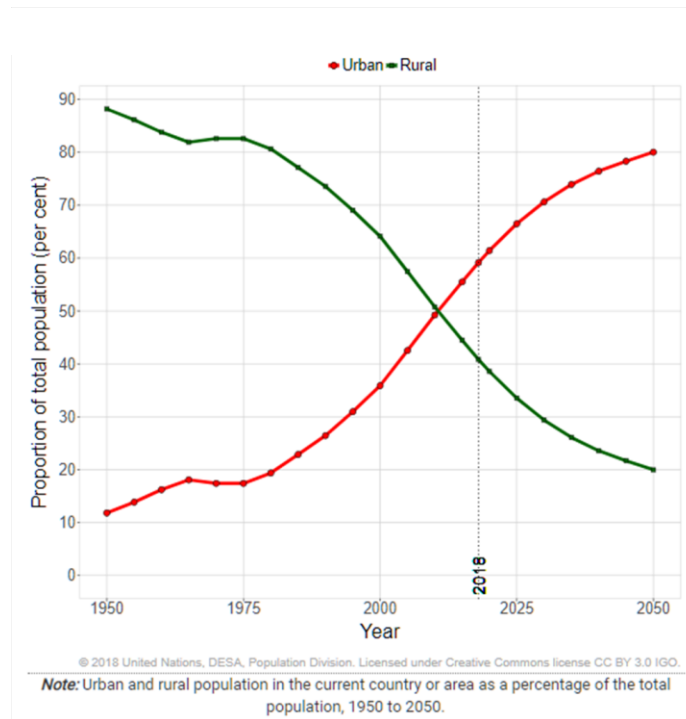


Figure D4. China's percentage of population in urban and rural areas.

Note. United Nations, Department of Economic and Social Affairs, World Urbanization Prospects.

Table D1.

China's Percentage of Population in Urban and Rural Areas

Annual Percentage of Population at Mid-Year Residing in Urban Areas, 1951-2050									
1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
12.2	12.6	13.0	13.4	13.9	14.3	14.8	15.2	15.7	16.2
1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
16.7	17.2	17.8	18.3	18.1	17.9	17.8	17.7	17.5	17.4
1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
17.3	17.2	17.2	17.3	17.4	17.5	17.5	17.9	18.6	19.4
1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
20.1	20.9	21.5	22.2	22.9	23.6	24.3	25.0	25.7	26.4
1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
27.3	28.2	29.1	30.0	31.0	31.9	32.9	33.9	34.9	35.9
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
37.1	38.4	39.8	41.1	42.5	43.9	45.2	46.5	47.9	49.2
2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
50.5	51.8	53.0	54.3	55.5	56.7	58.0	59.2	60.3	61.4
2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
62.5	63.6	64.6	65.5	66.5	67.4	68.2	69.1	69.9	70.6
2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
71.4	72.0	72.7	73.3	73.9	74.5	75.0	75.5	76.0	76.4
2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
76.9	77.2	77.6	78.0	78.3	78.7	79.0	79.4	79.7	80.0

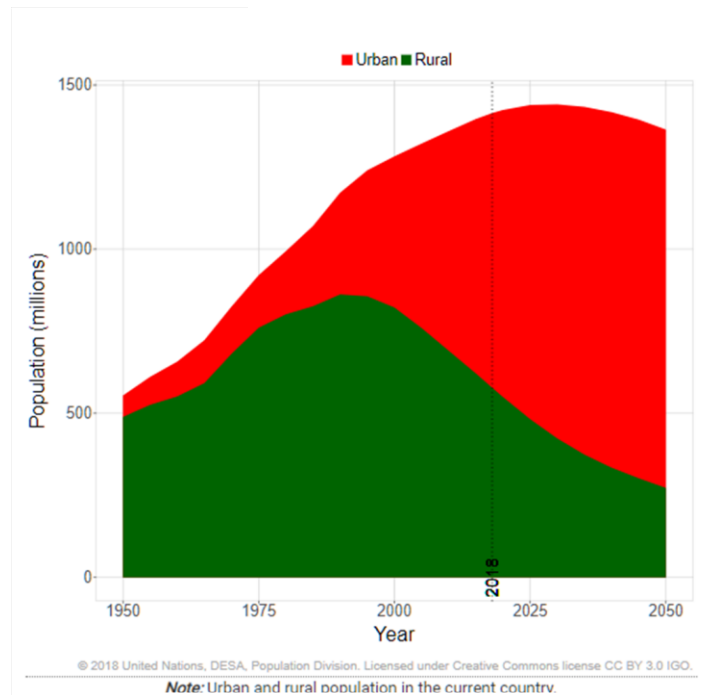


Figure D5. China's urban and rural population internal migration.

Note. United Nations, Department of Economic and Social Affairs, World Urbanization Prospects.

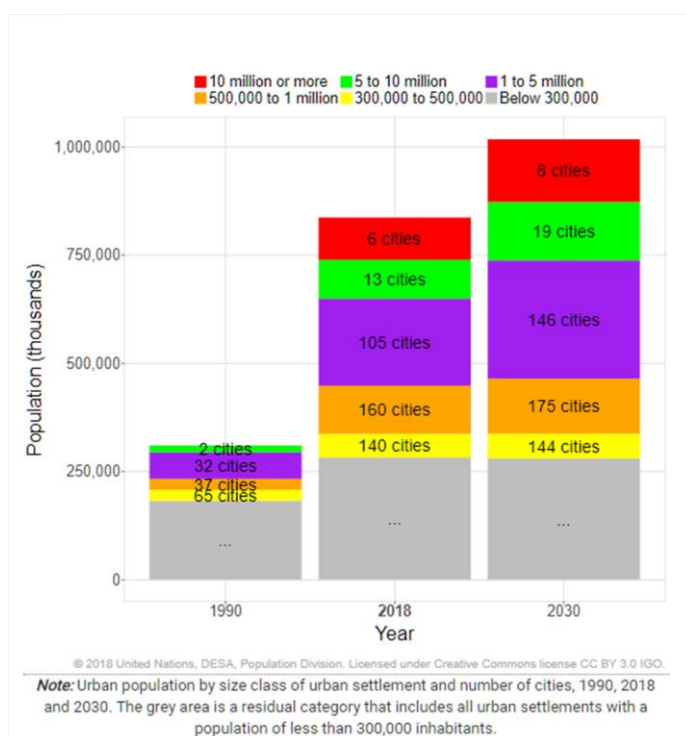


Figure D6. China's urban population by size and class of urban settlement.

Note. United Nations, Department of Economic and Social Affairs, World Urbanization Prospects (2018).

APPENDIX E

The Search for Relevancy: Investigative System and Methodology

Table E1.

Defining Turoff and Mitroff's Literature Investigative System (IS)

Procedure	Description and Application
Literature Review Design	<p>This study follows Turoff and Mitroff's design criteria which encourages undertaking a critical review of a collection of relevant literature and data pertaining to a central problem (Mitroff, I.I., Turoff, M., 1975). Turoff argues this approach is essential to the development and conveyance of the general spirit and philosophy applied to a Delphi investigation. Therefore, sufficient background information and data are prerequisites in forming the foundation of this type of study.</p> <p>Background investigation. Turoff advises that this extensive background material is central to the support of a relevant Inquiry System (IS). In addition, he states it is essential that a sound inquiry system is underpinned by a grounded controlling philosophy. As such, the applied controlling philosophies differentiate one Delphi study from another. In keeping with Turoff's Policy Delphi Model this study's collection of literature is offered to participants as an analysis tool that supports the problem statement and assists in assessing and predicting China's future challenges and direction. Turoff cautions Delphi designers should remind participants the information and process provided is not intended to be a decision-making tool. Instead, the information and process should be viewed as a decision-analysis tool (Turoff, 1975).</p> <p>The approach to the literature and data collected. In this study, these were constructed in accordance with Turoff's model. This data was then used to construct the study's stem research questions and the subsequent 1st round Delphi questionnaire. More specifically, these were constructed from the expected frequency (fe) observations that have been tested as referenced in the 4th order themeing and coding analytics generated from the selected literature. The category variates identified as "leading" in the 4th Order of Inquiry are considered to be themes that are potential influencers or drivers of future predictions. By extracting this data from the literature, the Delphi participants can form multiple opinions or positions related to a pre-selected set of focused areas of interest, themes, factors, and issues. In the context of this study, these are additionally referred to as environment factors, categories, and sub-category variates.</p> <p>Integration of the Investigative System (IS). Once the background material is initially collected it integrated into a part of the inquiry system so as to form a foundation towards establishing this study's initial direction, assumptions, limitations; and, to gain an appreciation of the direct and indirect interdisciplinary (interactive) influencers and drivers that are subject to longitudinal time-bias dependencies.</p> <p>Integrating and balancing the data to a time-bias. This time-bias dependency is referred to in this study as the declining generational relevancy (DGR). This background provides a basis for panelists to make an election from a series of valid alternative outcomes with a degree of confidence, and reason as associated and based on the materials presented (Turoff, 1975). It could be said then, that when these variables are properly constructed into a Delphi survey questionnaire, the survey will serve to guide panelists through the analysis process as they apply their knowledge, expertise, empirical methods, and decision-analysis tools towards forming their predictive responses.</p> <p>Selection of Data Sampling Modes and Resources. What follows in the context of applying the selected quantitative techniques is the undertaking of an exhaustive effort to ensure each theme is equally evaluated and estimated in terms of attempting to isolate and then integrate the most significant data into what is designed to serve the study's goals by means of constructing highly relevant research questions. Once achieved, these questions flow into this study's Delphi Policy Survey Questionnaires and findings. This process is in part illustrated graphically in the following series of figures.</p> <p>Reducing the data and determining relevancy. Turoff and Linstone argue that field investigations involve identifying, defining, and quantifying factors associated with a natural phenomenon. This can involve a single population and distinctive variate or the investigation of multiple population samples with multiple variates as illustrated in this Chapter (Dillman, Smyth, and Christian, 2014). As field investigations can include the search for relevant literature, the following figures represent an initial multi-step process to conduct an investigation that involves observing multiple themes or variates as a means of searching for a discovery of significant relationships and agreement within a series of longitudinal samples.</p> <p>Constructing stem questions to prove the hypotheses. To summarize, each of the stem research questions presented in this Chapter support achieving the goals of this study and have been duly constructed through the rigorous application of a mixed-method empirical processes that</p>

(continued)

Procedure	Description and Application
	<p>represents an arduous effort to validate the evidence and discoveries extracted from this research each step along the way.</p> <p>Literature Design – Putting it all together</p> <p>This study follows Turoff and Mitroff's design criteria which encourages undertaking a critical review of a collection of relevant literature and data pertaining to a central problem (Mitroff, I.I., Turoff, M., 1975). Turoff argues this approach is essential to the development and conveyance of the general spirit and philosophy applied to a Delphi investigation. Therefore, sufficient background information and data are prerequisites in forming the foundation of this type of study. Turoff advises that this extensive background material is central to the support of a relevant Inquiry System (IS). In addition, he states it is essential that a sound inquiry system is underpinned by a grounded controlling philosophy. As such, the applied controlling philosophies differentiate one Delphi study from another. In keeping with Turoff's Policy Delphi Model this study's collection of literature is offered to participants as an analysis tool that supports the problem statement and assists panelists in assessing and predicting China's future challenges and direction. Turoff cautions Delphi designers should remind participants the information and process provided is not intended to be a decision-making tool. Instead, the information and process should be viewed as a decision-analysis tool (Turoff, 1975).</p> <p>The approach to the literature and data collected in this study were constructed in accordance with Turoff's design model. This data was then used to construct the study's stem research questions and the subsequent 1st round Delphi questionnaire. More specifically, these were constructed from the expected frequency (fe) observations that have been tested as referenced in the 4th order themeing and coding analytics generated from the background and other selected literature. The category variates identified as "leading" are considered to be potential themes expected to be influencers or drivers of future predictions. By supplying this material to the panel, participants can consider and form multiple opinions or positions related to a pre-selected set of focused areas of interest, themes, factors, and issues. In the context of this study, these are additionally referred to as environment factors, categories, and sub-category variates.</p> <p>As such, background material is presented as a part of the initial inquiry system so as to form a foundation towards understanding this study's initial direction, limiting assumptions, and to gain an appreciation of the direct and indirect interdisciplinary (interactive) influencers and drivers that are subject to this study's longitudinal time-bias dependency. This background provides a basis for panelists to make an election from a series of alternative outcomes with a degree of confidence, validity, and reason as associated and based on the materials presented (Turoff, 1975). This approach is intended to assist and guide panelists in the analysis process as they apply their own extensive knowledge, expertise, empirical methods, and decision-analysis tools towards forming their predictive responses.</p> <p>Integrating Saldana and Mitroff's Mapping</p> <p>Reducing Complexity, Applying Mitroff's Rules and Occam's Razor.</p> <p>Due to the complexity of the topics the literature review investigation when combine with the array of influencing environmental factors (themes and sub-themes) it is best to assimilate and compile the information into a stepped-investigation methodology which first applies a qualitative approach. Once completed the analysis moves to applying a quantitative approach that serves to examine the qualitative findings at a deeper level. This second level of investigation is designed to measure and better identify those themes that appear to be statistically significant as possible influencers or drivers of future policy. Integrated in this second level of investigation is the application of a series of different arithmetic calculations and the application of an algorithm that are applied to determine the measure of significance and degree of validity or relevance that is associated with each reoccurring theme or variable discovered in the literature. This process is generally represented in the sixteen-step approach to the study as outlined in Table A1.</p> <p>Summarizing the Approach and Implementation</p> <p>The study's design and approach places special attention on developing an extensive background and investigation into intercultural-ideologies (worldviews), leadership, social, political, and economics as a means to assist in framing, evaluating and constructing a relevant survey process. The information collected from the Delphi survey is accomplished as a real-time rapid evaluation process. This is accomplished by utilizing an internet-based survey software that is readily delivered over the internet to the Delphi participants. A link is provided to each participant wherein they can access and complete the survey in a matter of minutes. Once a participant has completed the survey, the software records the duration, time, and date. In addition, the software performs a series of statistical analytics that focus on each statement or inquiry; and, provides a set of findings pertaining to each. These are reported for each survey instrument as well as the collective of surveys complete by the participants. The software operation then provides a summary of findings from which the statistical level of consensus significance can be determined for each statement.</p> <p>These results then provide a body of evidence that validates the study's research hypotheses as either true or false. Accordingly, this determination provides the evidence needed to formulate a valid predictive estimate of future events.</p> <p>Once this series of steps and processes are complete the outcome is significant towards assisting international leaders, scholars, and analysts frame a subsequent dialogue so as to aid the West in understanding the East. As such, the findings provide significant assistance in better shaping policy decisions that are critical to China's leadership, power, authority, dominance, economic unity, balance, and environmental responsibility; and, assist in better understanding the implications they present to the global community.</p>

(continued)

Figure E1. HGN: Singularity and dynamic environmental factors clusters.

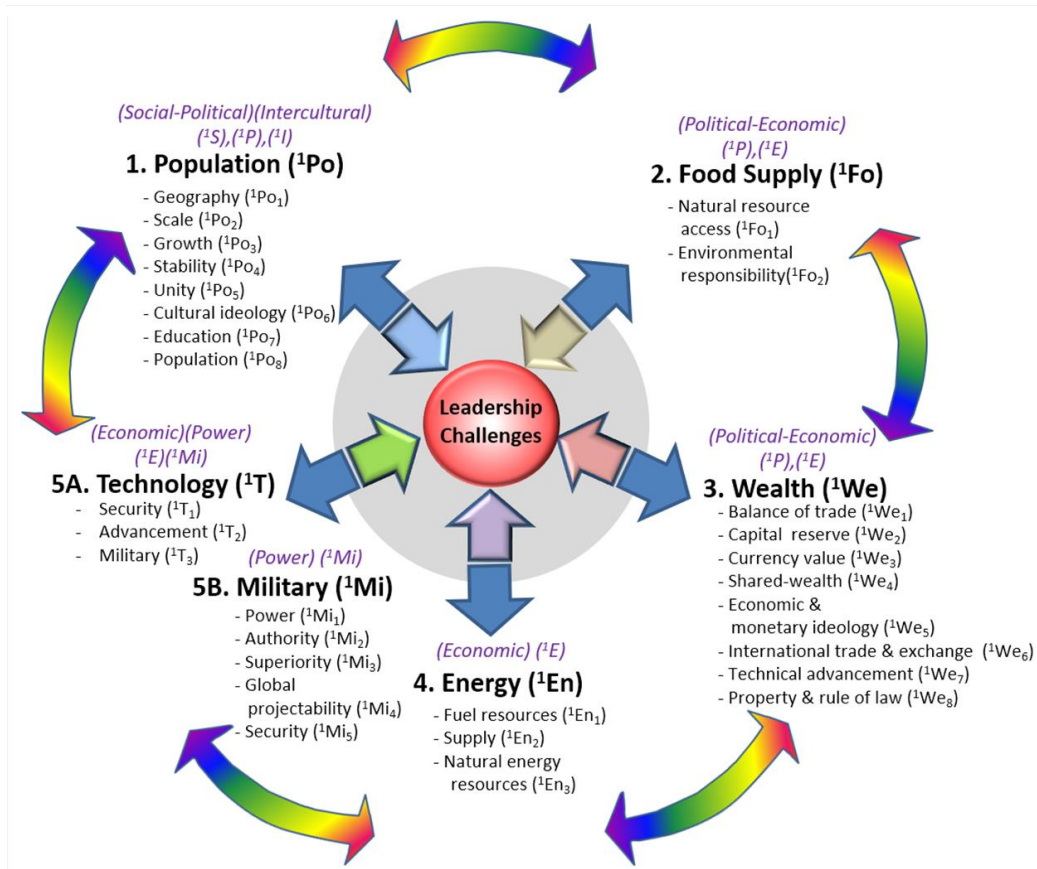


Figure E2. Historical areas of interest: 1st Order influencers (generalized).

Note. Extracted from the literature as supported by the data represented in the four Orders of Inquiry.

* Figure adapted to observations in the context of environment factors and influencers on China using the SPELIT Matrix Model and the information extracted from the data by applying Saldana's themeing and coding technique.

Codes:

1. ¹Po = 1st Order investigation into population factors due to frequency of occurrence in the relevant literature.
2. ¹Fo = 1st Order investigation into food supply factors due to frequency of occurrence in the relevant literature.
3. ¹We = 1st Order investigation into wealth factors due to frequency of occurrence in the relevant literature.
4. ¹En = 1st Order investigation into energy factors due to frequency of occurrence in the relevant literature.
5. ¹Mi = 1st Order investigation into military factors due to frequency of occurrence in the relevant literature.

Other sub-themes/factors are as referenced in the supporting tables.

Notation:

1. Prefix superscripts denote the data frame in which the indicated vector reference is located.
 2. Post-subscripts denote the sequence of occurrence or position within the referenced vector.
- All of the ¹Po Population variables transition to the social category in the 2nd Order of Inquiry.
 - All of the ¹Fo Food Supply variables transition to the political category in the 2nd Order of Inquiry.
 - All of the ¹We Wealth variables transition to the economic category in the 2nd Order of Inquiry.
 - All of the ¹En Energy variables transition to the economic category in the 2nd Order of Inquiry.
 - All of the 5.A or ¹T Technology variables transition to the economic category in the 2nd Order of Inquiry.
 - All of the 5.B or ¹Mi Military variables transition to the political category in the 2nd Order of Inquiry.

Table E2.

1st Order of Inquiry: Historic Data, DGR and Longitudinal Bias

Procedure	Description and Application
	<p>1st IS Order of Inquiry Discovery from Historic Data</p> <p>In order to best understand and appreciate the social security, health care, and the leadership transformation dynamic is it necessary to explore the history of the Chinese people and they ancient culture. In this case, considering the lengthy history of the people and the region, one that reaches back over 5,000 years, this background investigation is essential when attempting to identify the initial influencers and drivers within the social and leadership environment that may be operators associated or linked to influencers in the present and future.</p> <p>The historical influencers and drivers discovered in the literature are represented in the Figure E2., Historical Areas of Interest: 1st Order Influencers. This graphic summarizes the reoccurring themes that were discovered in the literature that were referenced by the contributing authors (subject matter experts) as factors in China's history pertaining to the social and leadership environments. As such, it serves to benchmark what the observations reveal in each of the areas of interest (categories) indicated.</p> <p>These are generalized as: (a) social-political and intercultural environment, or population; (b) the political-economic environment, or food supply; (c) the political-economic environment, or wealth; (d) the economic environment, or energy; and, (e) the economic and power environment, or military.</p> <p>Having successfully identified these factors and validated them from the data collected, the study moves to an exploration into the present or 2nd Order. The purpose here is to identify any shifts in the data and associated findings in the context of a transition or transformation in focus or the themes associated within each area of interest (category).</p> <p>Adjusting for DGR and Longitudinal Bias</p> <p>Any data shifts in terms of theme reoccurrence would represent an indication of a time-lapse longitudinal bias in the ideologies of the people and their leaders. Huff and Yushuf have explored this bias and have postulated it as a function of a Declining Generational Relevancy (DGR) algorithm (also see Figure F1 and Table F2).</p> <p>Further, it was discovered the DGR appears to be a natural phenomenon commonly observed throughout human history. From all initial indicators, after a thorough review of the phenomenon, the algorithm that Huff and Yushuf developed appears to best fit the discovery and provides a bridge to understanding why some of the key variables shift in terms of being relevant influencers from one period to the other.</p> <p>What follows is another graphic that represents discoveries in the context of the current or present period as influencers. In addition, this 2nd Order investigation attempts to reduce the number of variables in the study's investigation of factors (as appropriate) to only those discovered to have the highest level of reoccurrence.</p>

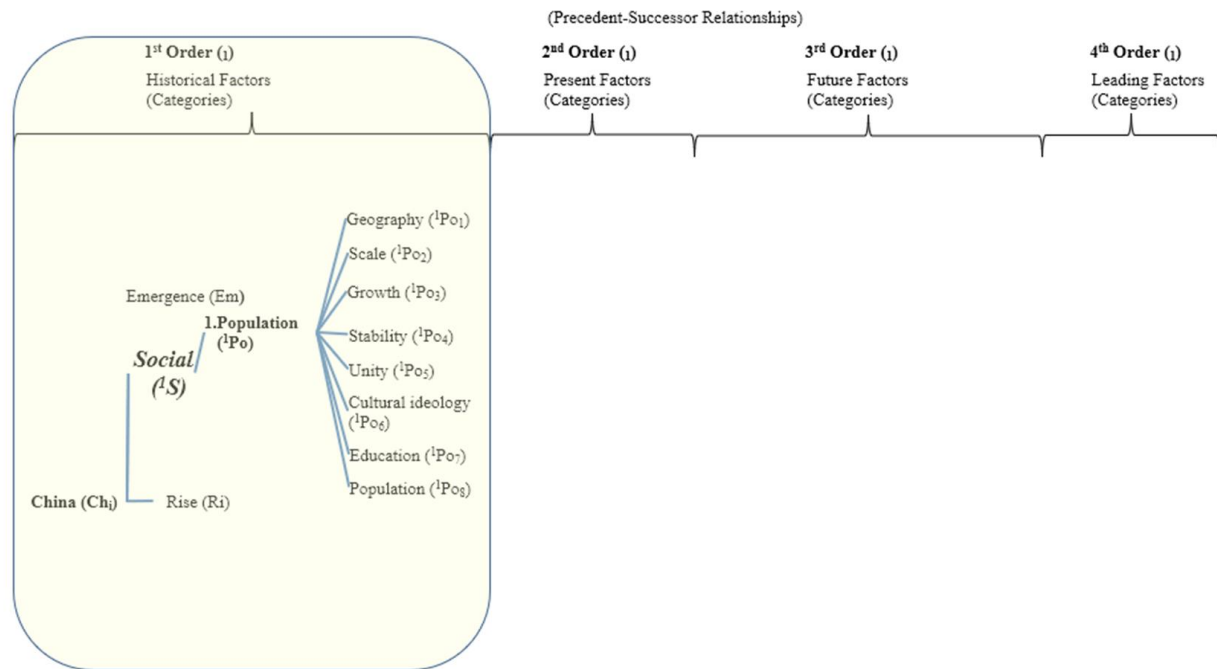


Figure E3. Mapping: 1. Range of social reform factors and challenges (1st Order).

Note. Saldana Analysis, data points and mapping extracted from the literature.

Methodology: Theme and stem question correlations that infer statistical significance:

- 1st Order Social Factors = China, rise, population, geography, scale, growth, stability, unity, cultural ideology, and education
- 2nd Order Social Factors = Geography, scale, stability, unity, cultural ideology, education, population, social security, and health care
- 3rd Order Social Factors = Reduced to growth, social security, and health care
- 4th Order Social Factors = Reduced to growth, population, social security, and health care

Codes: (Partial listing)

1. China = Ch_i (1st Order)
2. Social = S (1st Order)
3. Rise = Ri (1st Order)
4. Population = Po (1st Order)
5. Social = S (2nd Order)
6. Social = S (4th Order)

Other sub-themes associated and/or linked to key themes (extracted from the literature investigation of the social environment as factors of influence or drives of emerging policy).

1. Care providers
2. One-Child Policy = Social reforms, social programs
3. Health Care = Social reforms, social programs
4. Social Security = Social reforms, social programs
5. Income Inequality
6. Aged Population = Population
7. Declining Population = Population
8. Gender Imbalance = Intercultural differences
9. Labor Resources
10. Labor Productivity
11. Declining Generational Relevancy
12. Labor Class awakening
13. Human Capital
14. Leadership Characteristics
15. Leadership Decisional Processes

(None of the above sub-themes are represented in the figure.)

Data: Collected from the IS and examination of the literature as represented in the following table notes.

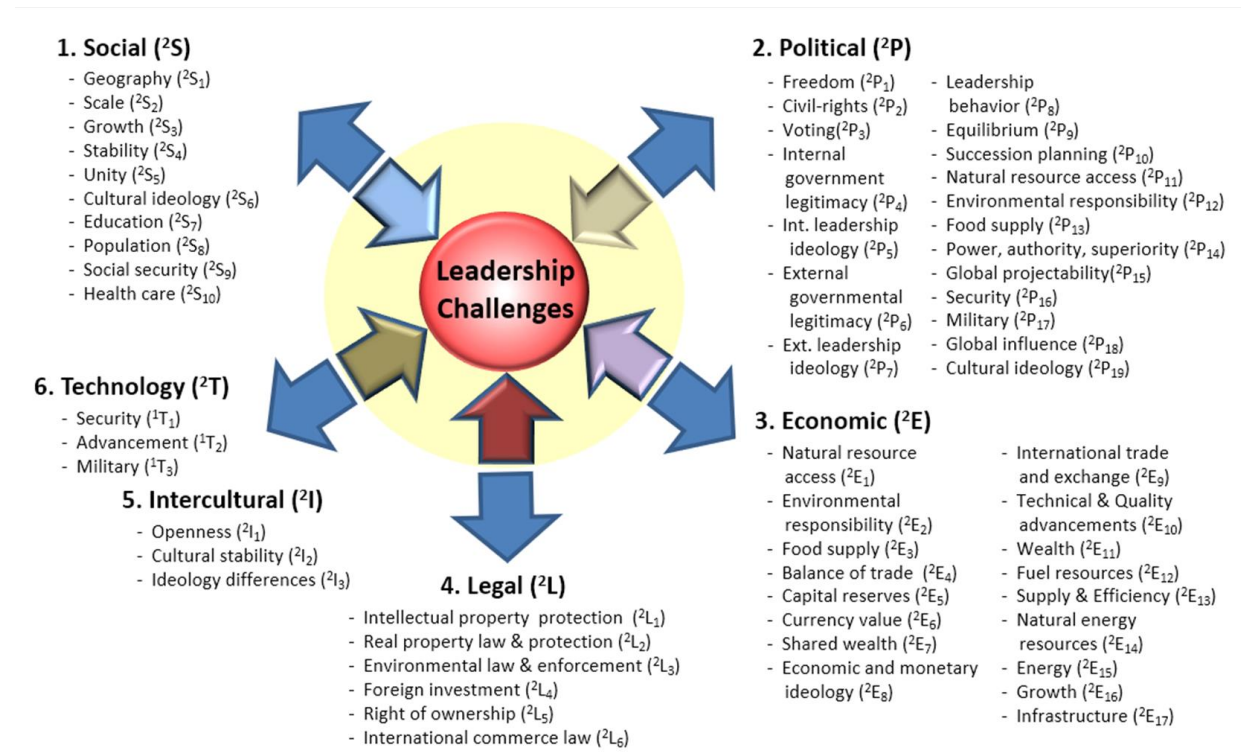


Figure E4. Present factors: 2nd Order influencers (generalized).

Note. Saldana Analysis, data extracted from the literature.

* Figure adapted to observations in the context of environment factors and influencers on China using the SPELIT Matrix Model and the information extracted from the data by applying Saldana's themeing and coding technique.

Codes:

1. ^{2S} = 2nd Order investigation into social factors due to frequency of occurrence in the relevant literature.
2. ^{2P} = 2nd Order investigation into political factors due to frequency of occurrence in the relevant literature.
3. ^{2E} = 2nd Order investigation into economic factors due to frequency of occurrence in the relevant literature.
4. ^{2L} = 2nd Order investigation into legal factors due to frequency of occurrence in the relevant literature.
5. ^{2I} = 2nd Order investigation into intercultural factors due to frequency of occurrence in the relevant literature.

Others sub-thermes/factors are as referenced in the supporting tables.

Notation:

1. Prefix superscripts denote the data frame in which the indicated vector reference is located.
2. Post-subscripts denote the sequence of occurrence or position within the referenced vector.

Table E3.

2nd Order of Inquiry: Present Data, DGR and Longitudinal Bias

Procedure	Description and Application
2nd IS Order of Inquiry Discovery from Present Data	<p>Next the inquiry moved to narrow its wider background assessment to focus on present factors of interests and observations in a 2nd order of inquiry (See, Present Factors: 2nd Order Influencers). This served to reduce the study's investigation of factors to only those discovered to have the highest level of reoccurrence. These factors or themes were discovered in the literature in the context of observations or references to social security and health care reforms to include leadership styles, characteristics and supporting ideologies and behavior. Each is listed under the category (social, political, economic, legal, and intercultural) or environment in which they were directly associated.</p> <p>Mapping, Themes and Codes</p> <p>The Figure below (Mapping, Themes and Codes: 1. Social Reform Factors and Challenges) represents the factors that were discovered during the examination of the literature during the 1st, 2nd, 3rd, and 4th Orders of Inquiry. At this point in the process however, the reviewer should focus on the 1st and 2nd Orders that represent the reoccurring theme discoveries as coded and mapped by applying Saldana's investigative technique.</p>

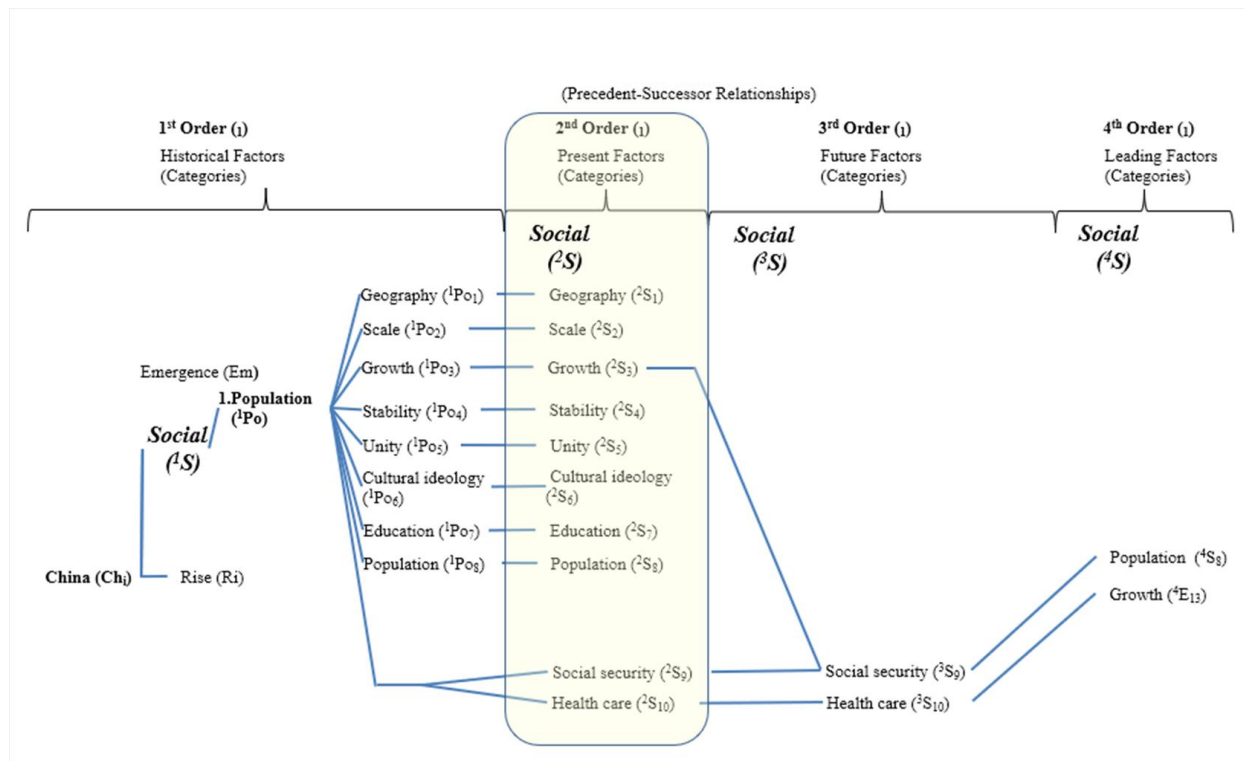


Figure E5. Mapping: 1. Social reform factors and challenges (2nd Order).

Note. Saldana Analysis, data and mapping extracted from the literature.

Data: Collected from the IS and examination of the literature as represented in the following table notes.

Figure Notes: Theme and stem question correlations that infer statistical significance:

- 1st Order Social Factors = China, rise, population, geography, scale, growth, stability, unity, cultural ideology, and education
- 2nd Order Social Factors = Geography, scale, stability, unity, cultural ideology, education, population, social security, and health care
- 3rd Order Social Factors = Reduced to growth, social security, and health care
- 4th Order Social Factors = Reduced to growth, population, social security, and health care

Codes: (Partial listing)

- | | |
|--|--|
| 1. Geography = ² S ₁ (2 nd Order) | 6. Cultural ideology = ² S ₆ (2 nd Order) |
| 2. Scale = ² S ₂ (2 nd Order) | 7. Education = ² S ₇ (2 nd Order) |
| 3. Growth = ² S ₃ (2 nd Order) | 8. Population = ² S ₈ (2 nd Order) |
| 4. Stability = ² S ₄ (2 nd Order) | 9. Social security = ² S ₉ (2 nd Order) |
| 5. Unity = ² S ₅ (2 nd Order) | 10. Health care = ² S ₁₀ (2 nd Order) |

Other sub-themes associated and/or linked to key themes (extracted from the literature investigation of the social environment as factors of influence or drives of emerging policy).

- | | |
|---|--------------------------------------|
| 1. Care providers | 9. Labor Resources |
| 2. One-Child Policy = Social reforms, social programs | 10. Labor Productivity |
| 3. Health Care = Social reforms, social programs | 11. Declining Generational Relevancy |
| 4. Social Security = Social reforms, social programs | 12. Labor Class awakening |
| 5. Income Inequality | 13. Human Capital |
| 6. Aged Population = Population | 14. Leadership Characteristics |
| 7. Declining Population = Population | 15. Leadership Decisional Processes |
| 8. Gender Imbalance = Intercultural differences | |

None of the above sub-themes are represented in the figure.

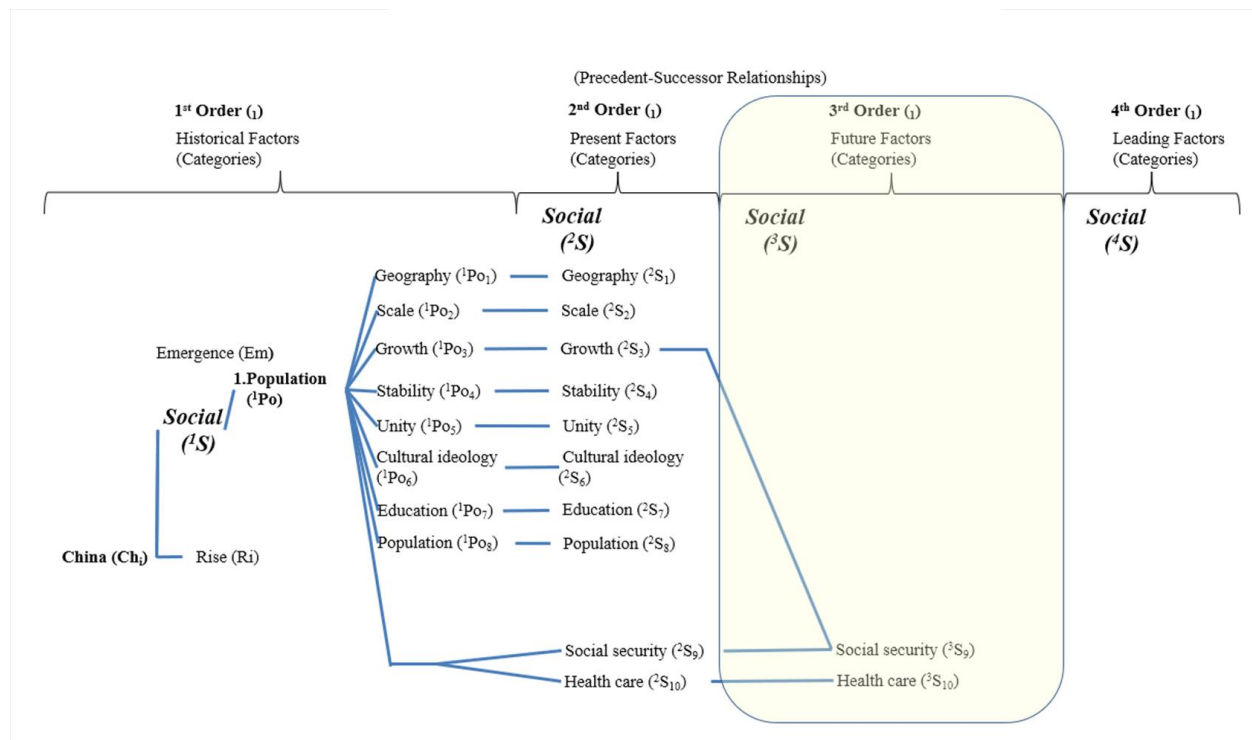


Figure E6. Mapping: 2. Social reform factors and challenges (3rd Order).

Note. Saldana Analysis, data and mapping extracted from the literature.

Data: Collected from the IS and examination of the literature as represented in the following table notes.

Figure Notes: Theme and stem question correlations that infer statistical significance:

- 1st Order Social Factors = China, rise, population, geography, scale, growth, stability, unity, cultural ideology, and education
- 2nd Order Social Factors = Geography, scale, stability, unity, cultural ideology, education, population, social security, and health care
- 3rd Order Social Factors = Reduced to growth, social security, and health care
- 4th Order Social Factors = Reduced to growth, population, social security, and health care

Codes: (Partial listing)

1. Social security = ³S₉ (3rd Order)
2. Health care = ³S₁₀ (3rd Order)

Other sub-themes associated and/or linked to key themes (extracted from the literature investigation of the social environment as factors of influence or drives of emerging policy).

1. Care providers
2. One-Child Policy = Social reforms, social programs
3. Health Care = Social reforms, social programs
4. Social Security = Social reforms, social programs
5. Income Inequality
6. Aged Population = Population
7. Declining Population = Population
8. Gender Imbalance = Intercultural differences
9. Labor Resources
10. Labor Productivity
11. Declining Generational Relevancy
12. Labor Class awakening
13. Human Capital
14. Leadership Characteristics
15. Leadership Decisional Processes

None of the above sub-themes are represented in the above figure.

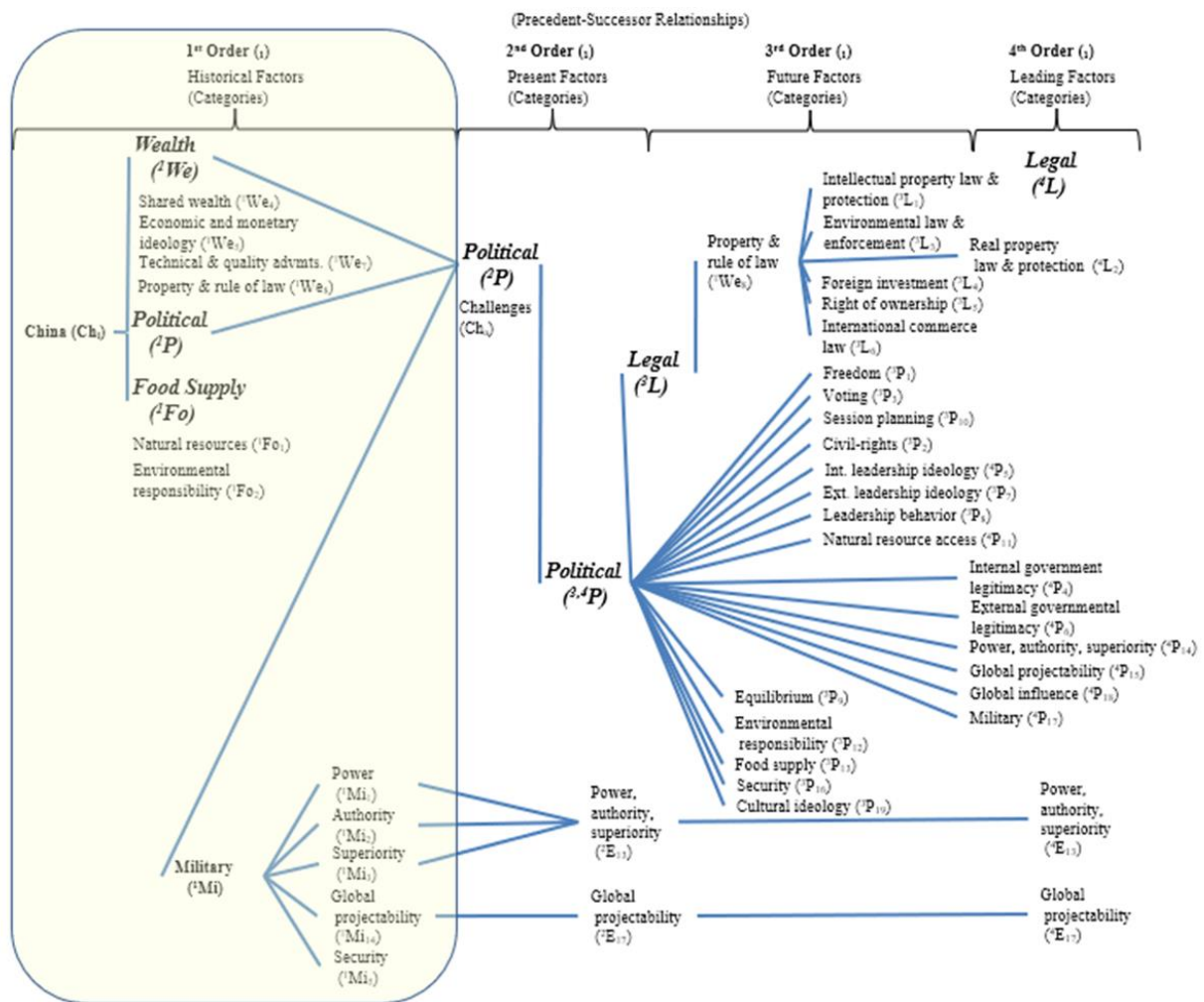


Figure E7. Mapping: 1. Leadership factors and challenges (2nd Order).

Note. Collected from the IS and examination of the literature as represented in the following table notes.

Methodology: Theme and stem question correlations that infer statistical significance are listed as follows.

- 1st Order Political Factors = China, property, rule of law, military, power, authority, superiority, global projectability, and security
- 2nd Order Political Factors = Challenges, power, authority, superiority, and global projectability
- 3rd Order Political Factors = Intellectual property law and protection, environmental law and enforcement, foreign investment, right of ownership, international commerce law, freedom, voting, session planning, civil-rights, internal leadership, external leadership, leadership behavior, natural resource access, equilibrium, environmental responsibility, food supply, security, and cultural ideology
- 4th Order Political Factors = Real property law, protection, internal government legitimacy, external government legitimacy, power, authority, superiority, global projectability, global influence, military

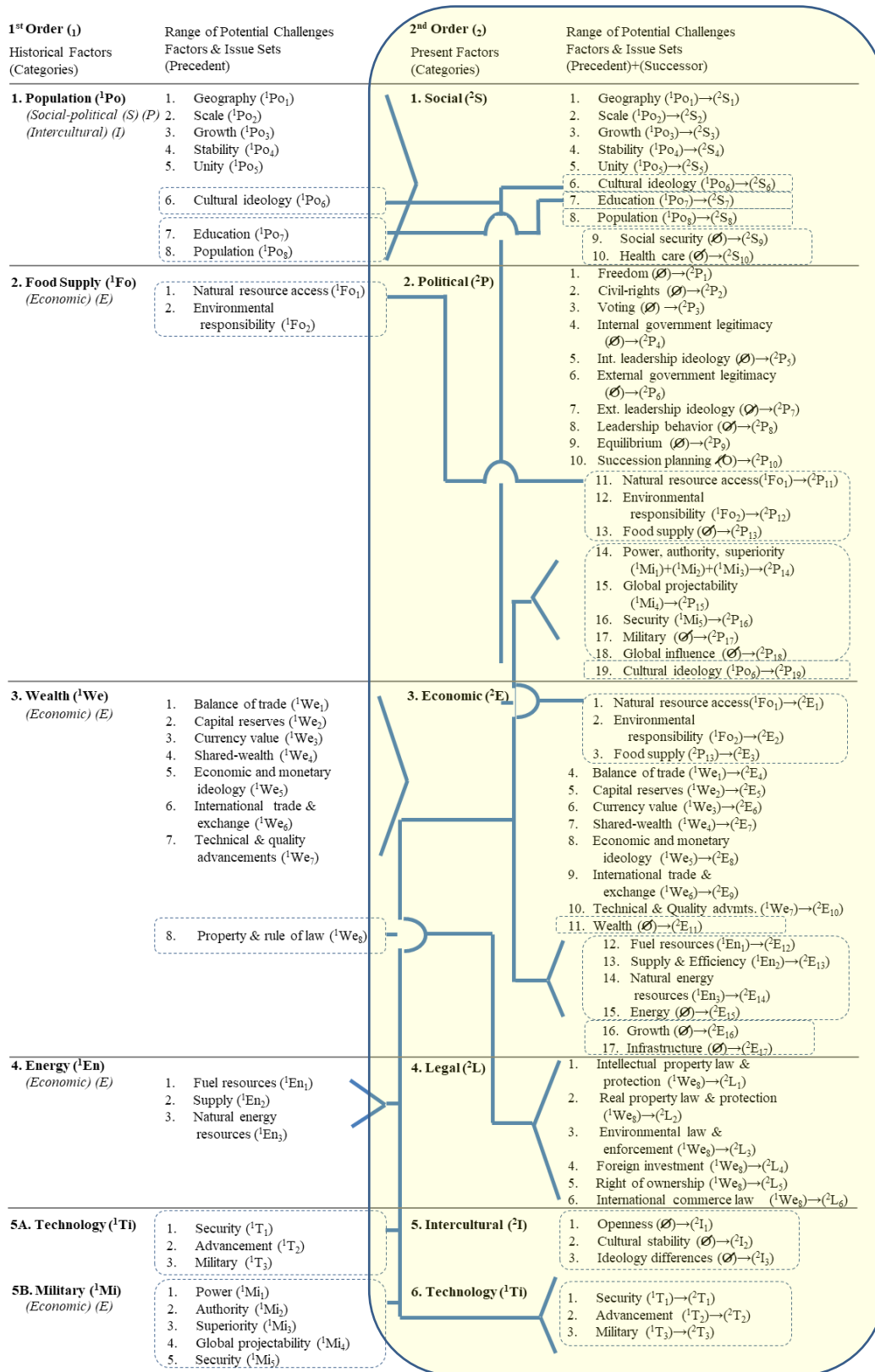
Codes: (Partial listing)

1. China = Ch_i (1st Order)
2. Political = ²P (2nd Order)
3. Property and rule of law = ¹We (1st Order)
4. Military = ¹Mi (1st Order)
5. Political = ³P (3rd Order)
6. Political = ⁴P (4th Order)

Other sub-themes associated (extracted from the literature investigation of the social environment as factors of influence or drives of emerging policy).

1. Freedom = restrictive policy, lifestyle, right of enjoyment
2. Internal government = national interests
3. Internal leadership ideology = leadership philosophy
4. Food supply = subsistence, food, agricultural production
5. Global projectability = power, influence, authority, superiority

None of the above sub-themes are represented in the above figure.

Figure E8. Mapping: 1st – 2nd Orders (narrowing the focus).

Note. Saldana Analysis, data and mapping extracted from the literature.

1. Prefix-superscripts denote the data frame in which the indicated vector reference is located.
2. Post-supscripts denote the sequence of occurrence or position within the referenced vector.

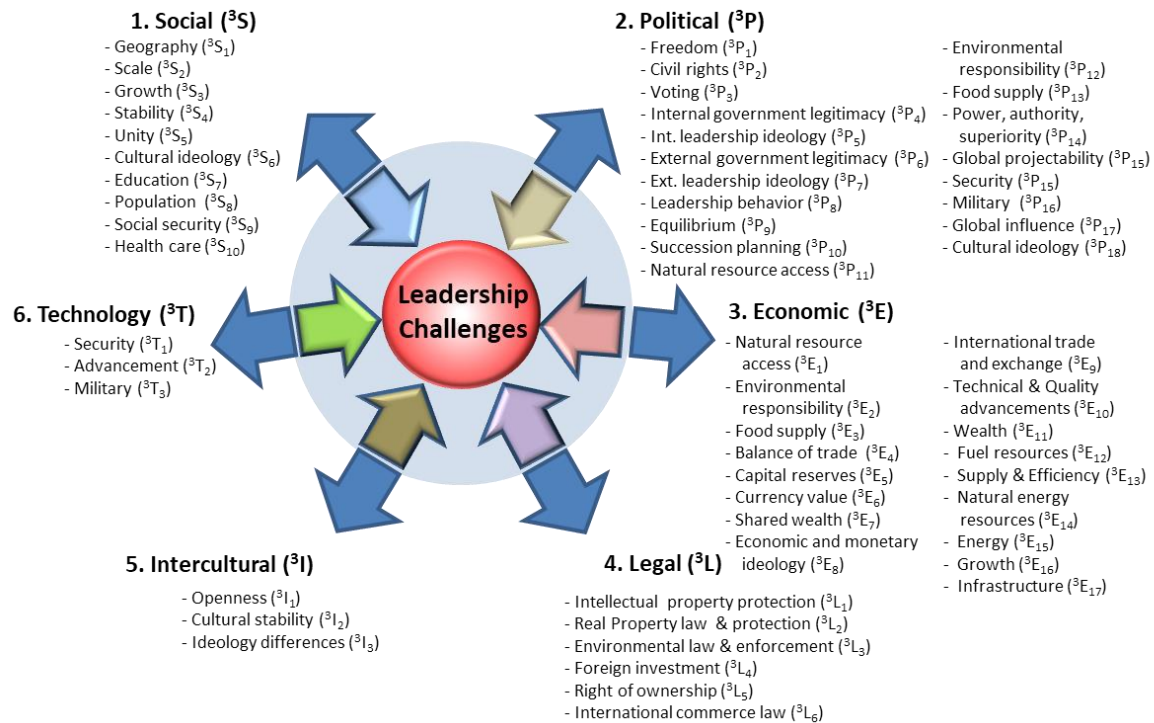


Figure E9. Future factors: Analysis of 3rd order influencers.

Note. Saldana Analysis, data and mapping extracted from the literature.

* Figure adapted to observations in the context of environment factors and influencers on China using the SPELIT Matrix Model and the information extracted from the data by applying Saldana's themeing and coding technique.

Codes:

1. ³S = 3rd Order social factors due to frequency of occurrence in the relevant literature.
 2. ³P = 3rd Order political factors due to frequency of occurrence in the relevant literature.
 3. ³E = 3rd Order economic factors due to frequency of occurrence in the relevant literature.
 4. ³L = 3rd Order legal factors due to frequency of occurrence in the relevant literature.
 5. ³I = 3rd Order intercultural factors due to frequency of occurrence in the relevant literature.
 6. ³T = 3rd Order technology factors due to frequency of occurrence in the relevant literature.
- (Others factors are as referenced as sub-thermes or additional influencing variables in the supporting figures and associated tables.)

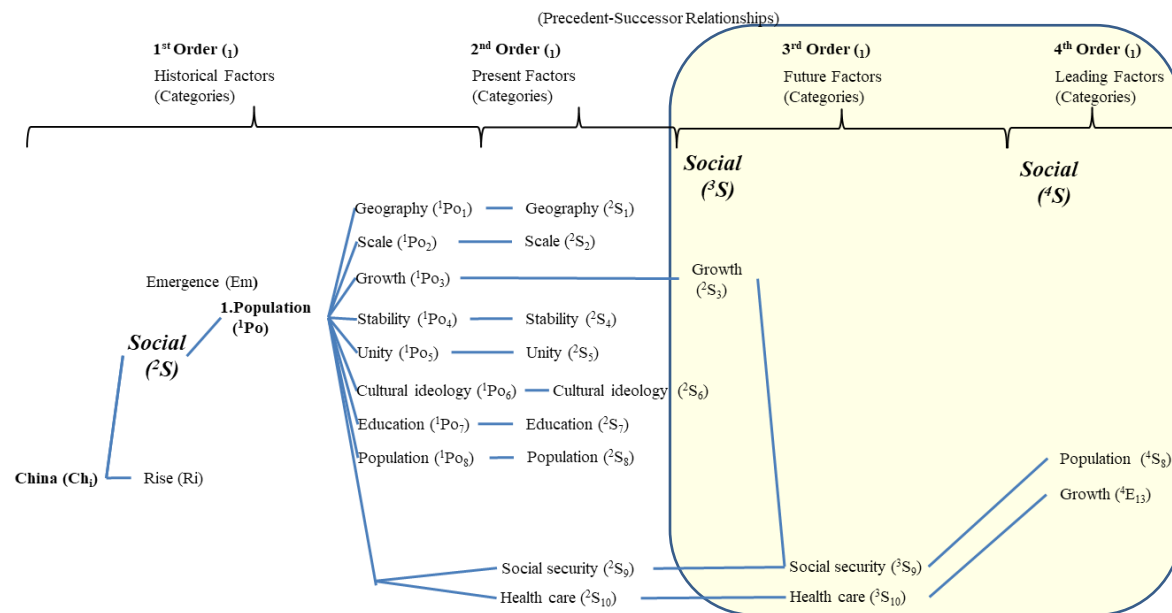


Figure E10. Mapping: 1. Social reform factors and challenges (3rd order).

Note. Saldana Analysis, data and mapping extracted from the literature.

Collected from the IS and examination of the literature as represented in the following table notes.

Methodology: Theme and stem question correlations that infer statistical significance:

1. 1st Order Political Factors = China, property, rule of law, military, power, authority, superiority, global projectability, and security
2. 2nd Order Political Factors = Challenges, power, authority, superiority, and global projectability
3. 3rd Order Political Factors = Intellectual property law and protection, environmental law and enforcement, foreign investment, right of ownership, international commerce law, freedom, voting, session planning, civil-rights, internal leadership, external leadership, leadership behavior, natural resource access, equilibrium, environmental responsibility, food supply, security, and cultural ideology
4. 4th Order Political Factors = Real property law, protection, internal government legitimacy, external government legitimacy, power, authority, superiority, global projectability, global influence, military

Codes: (Partial listing)

- | | | | |
|--|--|---|---|
| 1. China = Ch_1 (1 st Order) | 2. Social = 2S (2 nd Order) | 3. Population = 1Po (1 st Order) | 4. Social = 3S (3 rd Order) |
| 5. Growth = 2S_3 (2 nd Order) | 6. Social security = 3S_9 (3 rd Order) | 7. Health care = $^3S_{10}$ (3 rd Order) | 8. Population = 4S_8 (4 th Order) |
| 9. Growth = $^4E_{13}$ (4 th Order) | | | |

Other sub-themes associated (extracted from the literature investigation of the social environment as factors of influence or drives of emerging policy).

- | | | | |
|-------------------------------------|---------------------------------------|---|---|
| 1. Care providers reforms, programs | 2. One-Child Policy = Social programs | 3. Health Care = Social reforms, programs | 4. Social Security = Social reforms, programs |
| 5. Income Inequality | 6. Aged Population = Population | 7. Declining Population = Population | 8. Gender Imbalance = Intercultural differences |
| 9. Labor Resources | 10. Labor Productivity | 11. Declining Generational Relevancy | 12. Labor Class awakening |
| 11. Human Capital | 13. Leadership Characteristics | 14. Leadership Decisional Processes | |

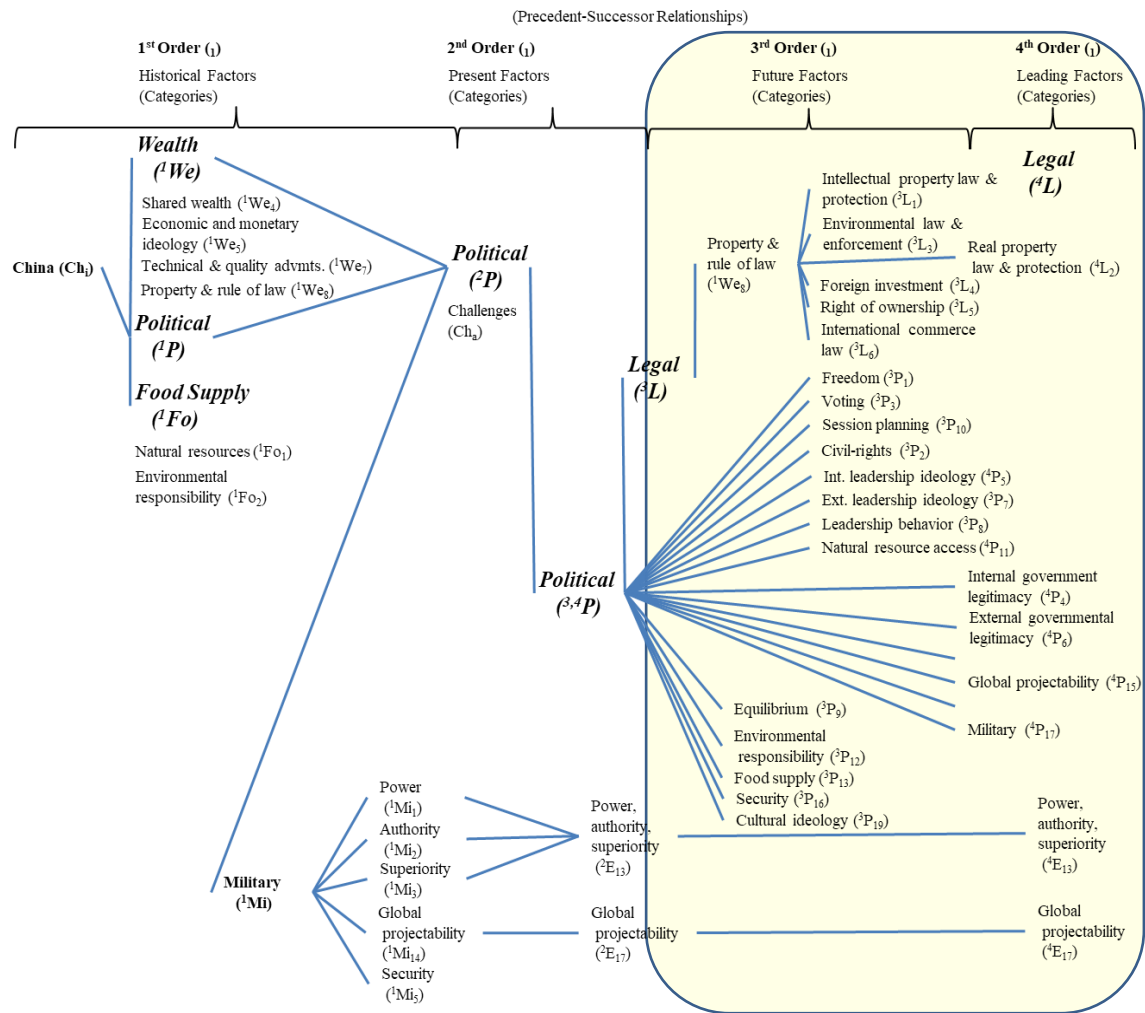


Figure E11. Mapping: 2. Range of leadership factors and challenges (4th Order).

Note. Saldana Analysis, data and mapping extracted from the literature.

Collected from the IS and examination of the literature as represented in the following table notes.

Methodology: Theme and stem question correlations that infer statistical significance:

- 1st Order Political Factors = China, property, rule of law, military, power, authority, superiority, global projectability, and security
- 2nd Order Political Factors = Challenges, power, authority, superiority, and global projectability
- 3rd Order Political Factors = Intellectual property law and protection, environmental law and enforcement, foreign investment, right of ownership, international commerce law, freedom, voting, session planning, civil-rights, internal leadership, external leadership, leadership behavior, natural resource access, equilibrium, environmental responsibility, food supply, security, and cultural ideology
- 4th Order Political Factors = Real property law, protection, internal government legitimacy, external government legitimacy, power, authority, superiority, global projectability, global influence, military

Codes: (Partial listing)

1. Real property law and protection = ⁴L₂ (4th Order)
2. Internal government legitimacy = ⁴P₄ (4th Order)
3. External government legitimacy = ¹P₆ (4th Order)
4. Global projectability ⁴P₁₅ (4th Order)
5. Military ⁴P₁₇ (4th Order)
6. Power, authority, superiority ⁴E₁₃ (4th Order)
7. Global projectability ⁴E₁₇ (4th Order)

Other sub-themes Associated (extracted from the literature investigation of the social environment as factors of influence or drives of emerging policy).

1. Freedom = restrictive policy, lifestyle, right of enjoyment
2. Internal government = national interests
3. Internal leadership ideology = leadership philosophy
4. Food supply = subsistence, food, agricultural production
5. Global projectability = power, influence, authority, superiority

Leadership: Themeing Frequency Analysis (1st Order, Unweighted)

Factor/Primary Issue or Challenge		Historical																						
		Scaled Relevance Citations ³	Burdon (2013)	Brown (2009)	Chan Scope (2011)	Cohen (2001)	Dimond (2005)	Farral (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kasinger (2013)	Love (1966)	Nash (1928)	Smith (1976)	Teitelbaum (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)	*Others	Theme occurrences ²	Cumulative Weight ⁴	
Legend:	(X) = Base Factor, (X1) = Primary Issue (<0%) = Related research question		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Population (1Po)	Code	Occurrences																						
Historical (1st Order of Inquiry)																								
1.1. Geography	(1Po)		1			1				1		1	1				1	1	1	1		9	0.321	
1.2. Scale	(1Po)		1			1				1							1					4	0.143	
1.3. Growth	(1Po)		1		1	1					1						1	1				6	0.214	
1.4. Stability	(1Po)		1			1				1	1						1		1			6	0.214	
1.5. Unity	(1Po)		1		1	1	1			1	1							1	1			8	0.286	
1.6. Cultural Ideology	(1Po)		1			1		1		1	1						1	1	1			8	16	0.571
1.7. Education	(1Po)						1			1							1		1		1	5	0.179	
1.8. Population	(1Po)		1	1		1	1			1							1		1		9	16	0.571	
1.9. Social Security	(1Po)		1	1	1	1				1							1			1	2	9	0.321	
1.10. Health Care	(1Po)					1				1	1						1	1			1	6	0.214	
2.1. Natural Resource Access	(1Fo)		1		1	1				1			1	1			1			1	1	9	0.321	
2.2. Environmental Responsibility	(1Fo)																					0	0.000	
3.1. Balance of Trade	(1We)		1			1				1							1	1	1			6	0.214	
3.2. Capital Reserves	(1We)																1		1			2	0.071	
3.3. Currency Value	(1We)		1								1						1					3	0.107	
3.4. Shared Wealth	(1We)					1															1	2	0.071	
3.5. Economic & Monetary Ideology	(1We)																					0	0.000	
3.6. International Trade & Exchange	(1We)																					0	0.000	
3.7. Technical & Quality Advmts.	(1We)					1				1												2	0.071	
3.8. Property & Rule of Law	(1We)		1	1		1				1			1				1	1	1	1	1	10	0.357	
4.1 Fuel Resources	(1En)					1					1						1	1		1		5	0.179	
4.2 Supply	(1En)		1			1				1			1				1	1	1	1	1	10	0.357	
4.3 Natural Energy Resources	(1En)		1			1				1			1				1	1	1	1		1	9	0.321
5.A.1. Security	(1Ti)		1			1		1	1	1	1	1	1				1	1	1			10	0.357	
5.A.2. Advancement	(1Ti)		1					1	1			1					1	1	1			10	0.250	
5.A.3. Military	(1Ti)		1			1		1	1	1	1	1	1				1	1	1	1	1	10	0.464	
5.B.1. Power	(1Mi)		1		1	1		1	1	1	1	1					1		1	1		10	0.357	
5.B.2. Authority	(1Mi)		1			1	1	1	1	1	1	1	1				1	1	1			11	0.393	
5.B.3. Superiority	(1Mi)		1					1	1	1	1	1	1	1			1	1		1	1	11	0.393	
5.B.4. Global Projectability	(1Mi)					1				1							1	1		1		5	0.179	
5.B.5. Security	(1Mi)		1			1		1	1	1	1	1	1				1	1	1			10	0.357	
IS literature sample (n) ¹		784		21	3	4	2	23	3	8	7	23	12	6	6	1	8	23	16	17	9	28	220	0.253
Weighted Factor: (sfactor)=		0																						
Citations on theme by author (Sub-totals)																								

Leadership: Themeing Frequency Analysis (2nd Order, unweighted)

(continued)

Note. Saldana Analysis, data and mapping extracted from the literature.

(continued)

Note. Saldana Analysis, data and mapping extracted from the literature.

Note. Saldana Analysis, data and mapping extracted from the literature.

Table E6.

Leadership: Themeing Frequency Analysis (3rd Order, Unweighted)

Leadership Themeing & Coding		Future																					
		Scaled Relevance	Citations ¹																	Theme occurrences ²	Cumulative Weight ⁴		
			Beardon (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Ferstl (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johanson (2004)	Kasinger (2013)	Lowe (1966)	Nieh (1928)	Smith (1996)	Tschichner (2012)	Vogel (2011)	Xinping (2011)	Zhu (2011)	*Others		
Legend:			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
(X) = Base Factor, (X1) = Primary Issue																							
(C/X) = Related research question																							
Social (S)	Code	Occurrences																					
Future (3rd Order of Inquiry)																							
1.1. Geography	(¹ S)				1																1	0.036	
1.2. Scale	(¹ S)		1															1			2	0.071	
1.3. Growth	(¹ S)			1	1		1	1		1							1	1			9	16	0.571
1.4. Stability	(¹ S)		1	1	1													1			8	12	0.429
1.5. Unity	(¹ S)		1		1				1		1						1	1			1	7	0.250
1.6. Cultural Ideology	(¹ S)		1	1	1		1	1	1		1						1	1	1		3	13	0.464
1.7. Education	(¹ S)		1						1												7	9	0.321
1.8. Population	(¹ S)																				1	1	0.036
1.9. Social Security	(¹ S)		1		1				1								1	1			8	13	0.464
1.10. Health Care	(¹ S)		1		1				1								1	1			10	15	0.536
2.11. Freedom	(¹ P)		1							1				1						1		4	0.143
2.12. Civil-Rights	(¹ P)		1							1				1			1	1			1	6	0.214
2.13. Voting	(¹ P)																					0	0.000
2.14. Int. Gov. Legitimacy	(¹ P)					1				1							1				6	9	0.321
2.15. Int. Leadership Ideology	(¹ P)			1		1				1				1		1			1	1	1	8	0.286
2.16. Ext. Gov. Legitimacy	(¹ P)																		1	1		2	0.071
2.17. Ext. Leadership Ideology	(¹ P)			1															1	1		3	0.107
2.18. Leadership Behavior	(¹ P)			1		1		1		1			1			1	1	1	1	1	1	11	0.393
2.19. Equilibrium	(¹ P)			1		1				1				1		1		1	1		7	14	0.500
2.20. Succession Planning	(¹ P)																			1	1	2	0.071
2.21. Natural Resource Access	(¹ P)							1														1	0.036
2.22. Environmental Responsibility	(¹ P)																					0	0.000
2.23. Food Supply	(¹ P)																				1	1	0.036
2.24. Power, Authority, Superiority	(¹ P)																		1	1	1	3	0.107
2.25. Global Projectability	(¹ P)			1																1		2	0.071

(continued)

Note. Saldana Analysis, data and mapping extracted from the literature.

Leadership Themeing & Coding		Future																					
	Scaled Relevance	Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselichev (2012)	Vogel (2011)	Xiangping (2011)	Zhu (2011)	*Others	Theme occurrences ²	Cumulative Weight ⁴
Legend: (X) = Base Factor, (X1) = Primary Issue (_q X _r) = Related research question			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
2.26. Security	(¹ P ₁₆)							1														1	0.036
2.27. Military	(¹ P ₁₇)																					0	0.000
2.28. Global Influence	(¹ P ₁₈)			1														1	1	1	1	5	0.179
2.29. Cultural Ideology	(¹ P ₁₉)			1		1		1		1				1		1		1	1	1	1	10	0.357
3.1. Natural Resource Access	(¹ E ₁)			1	1													1			1	4	0.143
3.2. Environmental Responsibility	(¹ E ₂)				1																1	2	0.071
3.3. Food Supply	(¹ E ₃)			1													1				1	3	0.107
3.4. Balance of Trade	(¹ E ₄)			1				1													1	3	0.107
3.5. Capital Reserves	(¹ E ₅)				1				1								1					3	0.107
3.6. Currency Value	(¹ E ₆)																					0	0.000
3.7. Shared-Wealth	(¹ E ₇)			1					1		1							1	1		1	6	0.214
3.8. Economic & Monetary Ideology	(¹ E ₈)			1	1				1		1						1	1	1	1	2	10	0.357
3.9. International Trade & Exchange	(¹ E ₉)			1	1				1	1				1			1	1	1		1	9	0.321
3.4. Technical & Quality Advmts.	(¹ E ₁₀)			1																	1	2	0.071
3.5. Wealth	(¹ E ₁₁)			1		1			1		1					1	1	1	1	1	1	10	0.357
3.6. Fuel Resources	(¹ E ₁₂)																				1	1	0.036
3.7. Supply & Efficiency	(¹ E ₁₃)																				1	1	0.036
3.8. Natural Energy Resources	(¹ E ₁₄)																				1	1	0.036
3.9. Energy	(¹ E ₁₅)																				1	1	0.036
3.10. Growth	(¹ E ₁₆)		1	1	1	1					1	1				1		1	1	1	1	11	0.393
3.11. Infrastructure	(¹ E ₁₇)			1																	1	2	0.071
4.1. Intellectual Property Law & Potection	(¹ L ₁)			1										1				1				3	0.107
4.2. Real Property Law & Protection	(¹ L ₂)			1										1			1					3	0.107
4.3. Environmental Law & Enforcement	(¹ L ₃)																				1	1	0.036
4.4. Foreign Investment	(¹ L ₄)			1										1							1	3	0.107
4.5. Right of Ownership	(¹ L ₅)			1										1							1	3	0.107
4.6. International Commerce Law	(¹ L ₆)			1										1							1	3	0.107

(continued)

Note. Saldana Analysis, data and mapping extracted from the literature.

Leadership Themeing & Coding												Future												

Note. Saldana Analysis, data and mapping extracted from the literature.

Table E7.

Leadership: Themeing Frequency Analysis (4th Order, Unweighted)

Leadership Themeing & Coding																			Future													
Legend: (X) = Base Factor, (X1) = Primary Issue (₀ X _i) = Related research question	Scaled Relevance	Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farrel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselikichev (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)	⁸ Others	Theme occurrences ²	Cumulative Weight ⁴	Refr. Weight	Page Reference ⁵							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19												
al (4S)		Code																			Occurrences											
Leading (4th Order of Inquiry)																																
1.6. Cultural Ideology (¹ P ₀₆)			1				1		1		1	1				1	1	1		8	16	0.571	0									
1.8. Population (¹ P ₀₈)			1	1			1	1			1					1		1		9	16	0.571	0									
1.6. Cultural Ideology (² S ₀)			1	1	1	1	1	1	1		1	1		1		1	1	1	1	9	23	0.821	0									
2.8. Leadership Behavior (² P ₈)			1	1		1		1			1	1	1	1	1		1	1	1	1	10	23	0.821	0								
2.5. Int. Leadership Ideology (² P ₅)			1	1	1	1					1	1	1				1	1	1	1	9	20	0.714	0								
3.11. Wealth (² E ₁₁)			1	1		1	1			1	1	1		1			1	1	1	1	7	19	0.679	0								
1.3. Growth (³ S ₀)				1	1		1	1			1						1	1			9	16	0.571	0								
IS literature sample (n) ⁴		4032	6	6	3	4	5	4	2	1	7	5	2	3	1	0	7	6	6	4	61	133	0.679									
Theme/issue occurrence mean		19																														
Weighted Factors: (sfactor) =		0																														
Leading factor (ledfactor) =		0																														

Note. Saldana Analysis, data and mapping extracted from the literature.



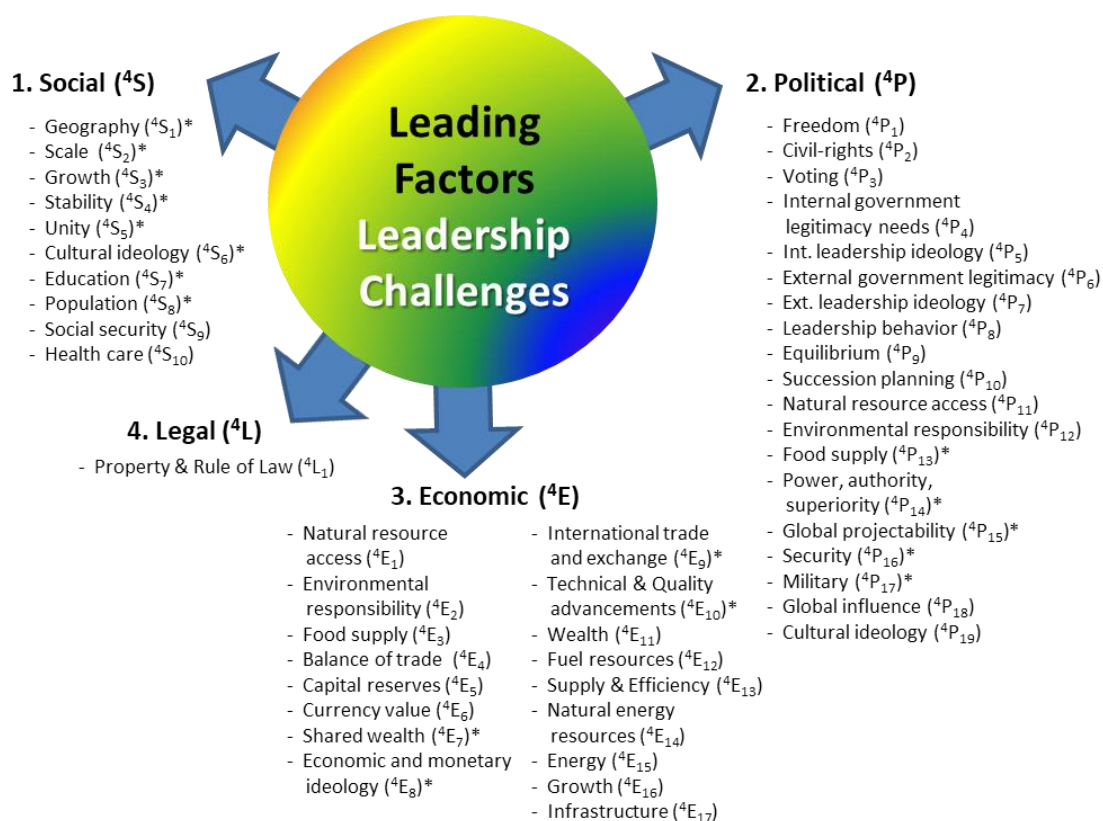
Figure E12. Mapping: 2nd – 3rd order themes and codes (narrowing the focus).

Note. Saldana Analysis, data and mapping extracted from the literature.

Table E8.

Mapping: 2nd – 3rd Order Themes and Codes (Narrowing the Focus)

Procedure	Description and Application
	<p>3rd IS Order of Inquiry Discovery from Future Data</p> <p>Following, the 3rd order of inquiry and assessment was conducted to again increase the study's focus by reducing the field of factors considered for additional investigation (also see Figures E12 and E14 together with supporting Tables G1, G3 and G4).</p> <p>What resulted was an unexpected expansion in the number of factors identified during this phase of the process. Upon concluding this analysis which focused the discovery of future potential influencing factors and associated issues, the Saldana technique produced data from the inquiry with reoccurring themes in all six (6) areas of the SPELIT framework (Mitroff, I.I., Turoff, M., 1975; Saldana, 2012).</p> <p>Mapping, Themes and Codes</p> <p>The table that follows (Mapping, Themes and Codes: 3rd and 4th Orders – Narrowing the Focus) represents the factors that were discovered during the examination of the literature during the 3rd Order of Inquiry to include mapping those that appeared to be leading factors or themes after completing an analysis of the first three inquiries. As such, the 4th Order of Inquiry shown in the following tables represents those themes that were determined to have a high level of reoccurrence in the literature when all three-period bias (historical, present, and future) were considered. Having identified these, each theme is subjected to an arduous series of statistical and arithmetic calculations as an ordered process of analytics which have been utilized in the construction of a multi-stepped analytic algorithm. At this point, the reviewer should focus on the 4th Order (leading themes) as representative of reoccurring theme discoveries that have been found to be qualitatively significant as coded and mapped by applying Saldana's investigative technique within the bounds of the SPELIT framework or matrix.</p>

*Figure E13.* Leading future factors and issue sets of highest significance (4th order).

Note. Saldana Analysis, data and mapping extracted from the literature. Figure adapted to observations in the context of environment factors and influencers on China using the SPELIT Matrix Model and the information extracted from the data by applying Saldana's themeing and coding technique.

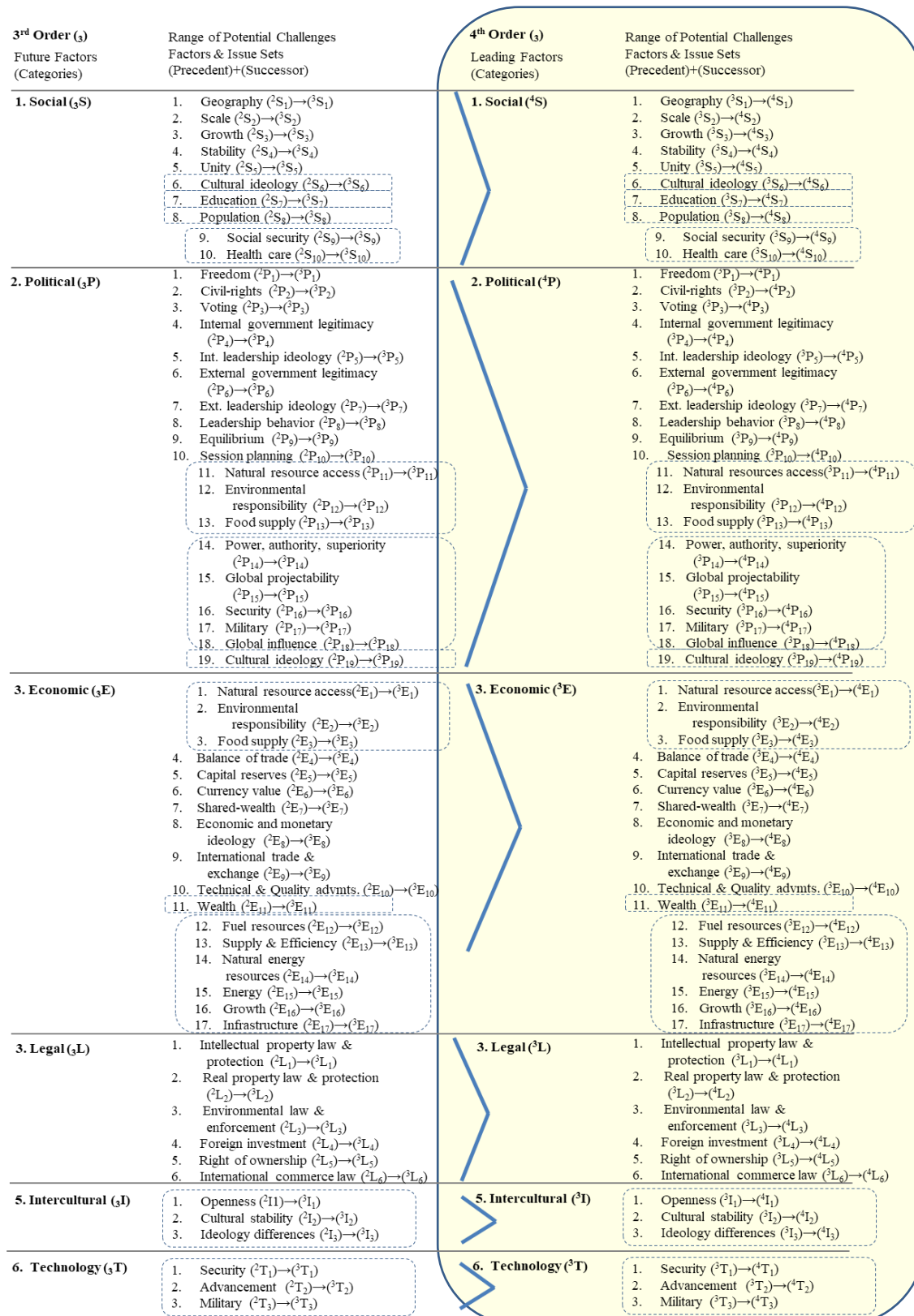
* Variables that transitioned from other categories in prior orders of inquiry to those indicated above.

Notation:

1. ⁴S = 4th Order social factors due to frequency of occurrence in the relevant literature.
2. ⁴P = 4th Order political factors due to frequency of occurrence in the relevant literature.
3. ⁴E = 4th Order economic factors due to frequency of occurrence in the relevant literature.
4. Others factors are as referenced in the supporting tables.

Notes:

1. Prefix superscripts denote the data frame in which the indicated vector reference is located.
2. Post-subscripts denote the sequence of occurrence or position within the referenced vector.
3. The analysis of the factors and issues represented are an extension of the findings taken from the 1st, 2nd, and 3rd Orders of inquiry, to include a quantitative assessment of the number of times each factor and issue was referred to within the relevant literature reviewed in the preparation of Mitroff's Inquiry System as a process to constructing relevant Delphi survey inquiries worthy of consideration by subject matter experts.

Figure E14. Mapping 3rd – 4th order themes and codes (narrowing the focus)

Source: Saldana Analysis, data and mapping extracted from the literature.

Table E9.

4th Order of Inquiry Discovery From Compiled Data

Procedure	Description and Application
	<p>4th Order of Inquiry Discovery from Compiled Data</p> <p>Finally, the cumulative Inquiry System assessment in conjunction with the application of Saldana's themeing and coding technique revealed yet another discovery. This order of inquiry identified only three (3) leading factors. These factors revealed a series of associated issues that yielded the highest degree of reoccurrence or significance as related to the complex nature of the topic (Ferguson, 2011; Kissinger, 2012).</p> <p>The three factors discovered from this analysis inferred social, political, and economic factors were highly significant as relevant areas of interest and continued inquiry.</p> <p>In addition, this order's analysis served to isolate these as the most critical or significant factors that are the most likely to have high relevancy to the topic and in identifying the range of causalities that may be associated with determining a predictive outcome relative to this study's problem statement.</p> <p>Finally, this step of the analysis process yielded the discovery of the most reoccurring and significant issues within each of the three SPELIT factors. In the context of this study, the issue sets identified are coded as secondary elements (sub-factors) that are worthy of additional investigation and assessment as this research continues.</p> <p>Saldana's Technique: Mapping Themes and Codes</p> <p>The environmental factors and sub-factors that commonly reoccurred as observed during the four orders of inquiry after applying Saldana's Themeing and Coding Technique are perhaps more clearly associated and pathed as illustrated in the supporting tables that represent each order of the inquiry system (IS).</p> <p>The tables provide greater detail and understanding as to how each factor and its' secondary elements are associated. Moreover, the mapping of each SPELIT factor and the associated secondary elements or issue sets are clearly defined. in (also see Figures E3-8, E12, and E14 together with supporting Tables G1, G3 and G4).</p> <p>Data Collection and Qualitative Analysis</p> <p>IS discovery. While each 1st order of inquiry is framed by the factors represented in the SPELIT model, only in a few cases did the investigation of each (as associated with the literature reviewed) support the discovery of multiple high-reoccurrence frequencies. In fact, as viewed in the following tables the range of high-reoccurrence factors and secondary elements as associated with the 1st, 2nd, and 3rd Orders were found to be between a low of one (Legal = 1); and, a high of seventeen (Economic = 17).</p> <p>In each of the following cases, the order with the greatest sum of variables was used when assessing the outcome derived in the 4th Order. This allowed the investigator to determine the variance or ΔP between those orders with the greatest sum of variables to what was derived in the 4th Order. Given this, each sequence of analysis was conducted uniformly to identify those orders that yielded the greatest sum of variables = $S_{n(\text{Max})}$. Additionally, it should be noted that in each of the SPELIT factor assessments, the lowest sum of variables = $S_{n(\text{Min})}$ was observed to occur in the 4th Order analysis.</p> <p>On review of the IS outcomes, it was observed that the wide range of variance associated between the 1st order factors and secondary elements was likely due to the highly diverse and broad nature of the historical data that was examined during this stage of the IS process. As such, the application of the SPELIT technique began to best support Mitroff's Inquiry System once the research moved into its 2nd, 3rd, and 4th orders. As viewed in the following tables, once the investigative process moved to the subsequent orders of inquiry the SPELIT framing model demonstrated its true value.</p> <p>Inquiry System</p> <p>Social factors discovery. While Table 1.4 illustrates the mapping of the themes and codes extracted from the relevant literature examined, the process effectively reduced the focus of the investigation in this area from ten (10) significant factors and secondary elements to four (4) as identified in the 4th order column. Setting aside Social (^{2,3,4}S) as a primary factor, the four sub-factors are: Growth (⁴S₃), Population (⁴S₈), Social security (⁴S₉) and Health care (⁴S₁₀).</p> <p>Applying the technique. By applying the technique, the study's focused is reduced to only the social factor; and, the four (4) sub-factors as an issue set. This reduction can be calculated as $1 - (S_{n4}/S_{n2}) = \Delta P$, or $1 - (4 \div 10) = (1 - .4) = .6$ or (60%); where S_{n4} = Sum of variables in 4th Order, S_{n2} = Sum of variables in 2nd Order, and where ΔP equals the percentage of variables reduced. In this case, the 2nd Order variable sum was used as it represented the last sequence examined that yielded the greatest sum of variables or $S_{n(\text{Max})}$.</p>

(continued)

Procedure	Description and Application
	<p>Applying Mitroff and Turoff's Technique</p> <p>Narrowing Critical Factors and the Study's Focus. Themeing and coding is applied to the initial background, historical, present, and future (predictive) data collected from relevant literature as reduced by applying Saldana's technique as referenced in Mitroff's Inquiry System as a methodology.</p> <p>Why apply themeing and coding to the research questions to narrow focus? The process is designed to address the quantity and diversity of information that is representative of complex topics. Such topics require a focused set of significant factors and issues to be identified and provided to Delphi panels for decisional consideration. The process supports the creation and sequential development of a series of prescribed research questionnaires or investigative surveys with high degrees of relevancy (Mitroff, I.I., Turoff, M., 1975).</p> <p>I would argue this approach is consistent with RAND's original intent of The Delphi Technique application and use in assisting organizations cope with complex factors and issues. In fact, Turoff significantly improved the technique by offering a rapid technique for reducing complexity to a set of simple and expedient factors and issues related to policy evaluation considerations that assists the decision-making process. As such, this study places emphasis on the reduction of China's complex background and near-term challenges to a simple set of significant considerations in keeping with Turoff's techniques.</p> <p>After initial review of the relevant literature authored by subject matter experts, scholars, and analysts (not participating as Delphi panelists) differing perspectives are referenced in the study's background information that are reflected in the reoccurring themes and codes as leading indicators specific to the defined areas of interests relevant to China's future challenges.</p> <p>When reduced by applying Saldana's themeing and coding technique and Mitroff's Inquiry System, three (3) factors and issue sets were discovered to have high frequencies of reoccurrence. These are framed within the SPELIT model as social, political, and economic environmental factors.</p> <p>Applying Saldana's Technique</p> <p>Saldana's technique additionally uncovered reoccurring themes within each of the six factors that represent certain peripheral issue sets as being highly relevant. Taken collectively, Saldana's Themeing and Coding Method and Mitroff's Inquiry System when coupled with Schmieder-Ramirez and Mallette's SPELIT framework proved to be best fit for the study design and exploration into the problem statement and contributed significantly to shaping the direction of the study and the Delphi process.</p> <p>Initial Discoveries and Relevance as a Guiding Inquiry. The initial investigation indicated factors and issues that exhibited high frequencies of reoccurrence. These are reflected in the research as the initially assumed leading factors or themes that represent varying degrees of significance as illustrated by the extrapolated data as assessed and represented in Tables B7, B12 in Appendix B; and, Table E7 in Appendix E; and, G1, G3, and G5 in Appendix G pertaining to Leading Themes by Relevancy; and, Cumulative Themeing Frequency Analysis as associated with the 4th Order of Inquiry for the highest degree of significance; also, see a detailed analysis of relevant literature reviewed as provided in Chapter Three and supported by Tables G1, G3 and G5 in Appendix G).</p> <p>Initial Discovery of Leading Environmental Factors as Influencers</p> <p>The four (4) leading environmental factors and issues depicted in the referenced tables and figures represent the most probable influencers as drivers of China's future challenges in the next decade as extracted by examining the initial literature sample data. Specifically, these factors and their degree of significance as determined by being above each sample mean are: 1. Leadership behavior (3P_8) = 0.740; 2. Natural resource access (3E_1) = 0.740; External leadership ideology (3P_7) = 0.691; and, Food Supply (3E_3) = 0.691. Note, the highest value represents the greatest degree of significance within the range [0.740-0.493].</p> <p>Next, this study applies Mitroff's IS analysis to develop a relevant Delphi panel questionnaire (survey inquiry) by applying the Policy Delphi Method as shaped by a controlling inquiry philosophy as suggested in Mitroff's approach (Mitroff, I.I., Turoff, M., 1975).</p>

APPENDIX F

Areas of Interest: Categories, Themes and Longitudinal Factors

Table F1.

Selection of Areas of Interest: Categories and Themes

Procedure	Description and Application
Selecting the Areas of Interests	<p>The scope of this study's literature reviews is limited to the three areas of interest identified in this study's design process. Specifically, the literature referenced focuses primarily on social, political, and economic factors of the environment (Schneider-Ramirez and Mallette, 2007).</p> <p>This focus was identified as potentially associated, interactive, and causational in varying degrees to China's rapid growth, ideology, and superiority or dominance as probable leading indicators of the major challenges China will confront in the next decade.</p> <p>These areas were determined after patterning, mapping, themeing, and coding a wide sampling of literature on the central topic as framed and subsequently evaluated for relevance and ranked significance using the SPELIT framework of assessment and by applying Saldana's qualitative analysis model as adjusted to best fit Mitroff and Turoff's IS Model protocols. Relevant literature authored by leading scholars, statesmen, global historians, physicists, and economists were reviewed and analyzed as widely published contributors on the subject of China and its emerging challenges. All are considered subject matter experts (SMEs) on China.</p> <p>A total of three challenges were extracted from the initial investigative review of 75 books and 14 institutional papers as reoccurring themes. These are generalized as China's rapid growth, ideology, superiority, and natural resource availability. Collectively, 16 areas of interest (categories and sub-categories) were prominently discovered in the literature.</p> <p>The distribution and relative significance of the works reviewed served to guide the initial direction of this investigation into the central problem statement. As such, this investigation began with initial assumptions extracted from these first books and papers examined prior to formally commencing with an advanced in-depth relevant literature review process (Harvey, 2013). This study's relevant literature reviews identify and include: 75 books out of a set of 187 scholarly or academic publications; 14 institutional research papers and articles; 27 economic and political news agency reports; and a total of 12 global econometric, financial, and demographic monitoring studies with supporting statistical data.</p> <p>All were compiled, written, or edited by subject matter experts conducting relevant inquiries into the problem statement using various scientific methods and instruments of analysis to frame their observations and conclusions.</p> <p>This study utilized the SPELIT Matrix approach to frame areas of interest and identify prominent factors, effects, and implications in conjunction with Saldana's technique in order to integrate the statistically significant data into the IS model. Taken collectively, the inquiry system was utilized to analyze and reduce the number of factors and issues to only those that represented the highest level of significance across the range of social, political, economic, legal, intercultural, and technology environment categories and sub-categories as potential indicators of influence or drivers of China's future challenges.</p> <p>About the Literature, Gaps, and Bias</p> <p>Due to a gap in the literature pertaining to the problem statement, those works published prior to 2009 represent approximately 40% of the materials assessed. The opinions or findings represented in 65% of the publications reviewed were formulated by Western subject matter experts; while 35% of the publications favor an East Asian bias by statesman, scholars, and researchers. Collectively, the level of significance of the reviews was determined by identifying and measuring the degree of agreement or disagreement of reoccurring themes in what is represented in six random samples (N1:Social, N2:Political, N3:Economic, N4:Legal, N5:Intercultural, and N6:Technology). Each of the major categories (variates) are covered in this study to varying degrees. These represent the review of approximately 4,176 records that are supported by selected literature citations from statesman, academic fellows, or research peers in conjunction with the supporting background and advanced research materials presented. Additionally, it should be noted there is a significant gap in the literature due to the absence of interdisciplinary analytical studies on China (Beardson, 2013). Moreover, none of the China studies known</p>

(continued)

Procedure	Description and Application
	<p>to this investigator, or papers on this topic utilized an interdisciplinary Policy Delphi technique as a method of analysis of social ethnological phenomenon.</p> <p>The weight of the literature presented is approximately 83% qualitative and 17% quantitative. These weights were established to provide a basis of relevance, significance, and validity pertaining to those aspects of the research that best support inquiry into the selected areas of interest. The weights are similar to 25 other studies or dissertations examined by Dr. Kathleen Plinske where the Policy Delphi Model was utilized to establish the significance of findings and conclusions in conjunction with comparable mixed-method studies. In the study's she cited, major weight was given to qualitative methodologies (Plinske, 2008).</p> <p>Declining Generational Relevancy (DGR)</p> <p>Due to this study's longitudinal nature and structured data, the researcher chose to align each of the contributor's themes, categorical, and sub-categorical observations to an appropriate time bias model that applies an age dependent declining generational relevancy to each individual variable identified (also see Figure F1, and Table F2 in Appendix F). The assumption is that the narratives or Hegelian dialectics that center around any particular variable's significance pertaining relevant knowledge or unique insight is subject to a time bias that suffers declining relevancy as newer or more recent discoveries and increasing knowledge take a toll on earlier insights and knowledge (Myers, 2010).</p> <p>This process effectively dates older insights and knowledge, which in turn, tends to reduce the significance or relevance of variates over time as well as those contributors that presented them as critical knowledge and insight (Myers, 2010). Huff and Sharker argue that knowledge and insights grow less and less relevant over time in much the same way people are viewed to be less and less valued in the workplace. Since the late 1950's, there has been an increase the perceptions of private and public business and academic sectors in the West that as the workforce increases in age its ability to deliver new knowledge and unique insights diminishes. This social perception forms the basis of a time bias phenomenon that serves to reduce the perceived value or relevancy of any knowledge or insight that is dated, to include those individuals associated with it. Huff and Sharker argue this phenomenon is largely supported by occupational employment statistics that indicate hiring and retention preferences are given to younger individuals desiring to enter or gain relevance and authority in the workplace over peers that are senior and more advanced in age and experience (Woodward, 2014). In fact, there are substantial and meaningful generational differences between individuals within diverse age groups in today's workplaces (Woodward, 2014). In many instances, these differences can be characterized as an emerging conflict between seniority, experience, and the valued contributive merit of younger team members in contemporary organizations. That said, merit is overtaking seniority as a deciding factor in determining promotions and leadership positions within a digitally savvy, information-rich, service oriented, knowledge-based organization that seeks accelerated development and the adoption of emerging technologies in order to remain relevant in today's emerging markets (Lancaster, 2002; Murphy, 2010).</p> <p>Given additional investigation and statistical analysis into relationships pertaining to workplace relevancy (as subjected to longitudinal time bias), Huff and Sharker determined that once an individual enters the workplace, say between the ages of 18 to 22 (assuming a mean of 20), the individual enters into the job with the highest possible potential relevancy. This is to say, that upon entry into their chosen field they have the potential of being 100 percent relevant in terms of impacting the organization or group.</p> <p>Given this, Huff and Sharker observed that most organizations then tend to retire employees or team members between the ages of 62 and 68 (assuming a mean of 65). This led to the discovery of the social or workplace perception that after the age of 65 team members are no longer capable of offering knowledge or unique insights to the organization or group from which it can substantially benefit. Hence, after approximately 45 years of service the relevancy of any aged contributor has substantially declined.</p> <p>Huff and Starker's next step towards investigating this notion of declining relevancy as to turn to the question of; Just how much relevancy is lost over time? Could it be possible that 100% of all relevancy is loss as related to an individual's ability to contribute relevant information over a period of just 45 years? If this were true, the implied relevancy of anyone at the age of 65 would be equal to zero.</p> <p>Upon further investigation, this determination proves to be inaccurate. However, a reasonable case can be made that once an individual reaches the age of 65, about they have loss about 60% of their relevancy according to Huff and Starker. Further, relevancy appears in some cases to continue to decline over a period of time that extends pass an individual contributor's death. As such, Huff and Starker argue that it is not uncommon to find the thoughts, knowledge, and certain unique insights of an individual can and often do extend to roughly a period of 160 years until they are considered to have zero value.</p>

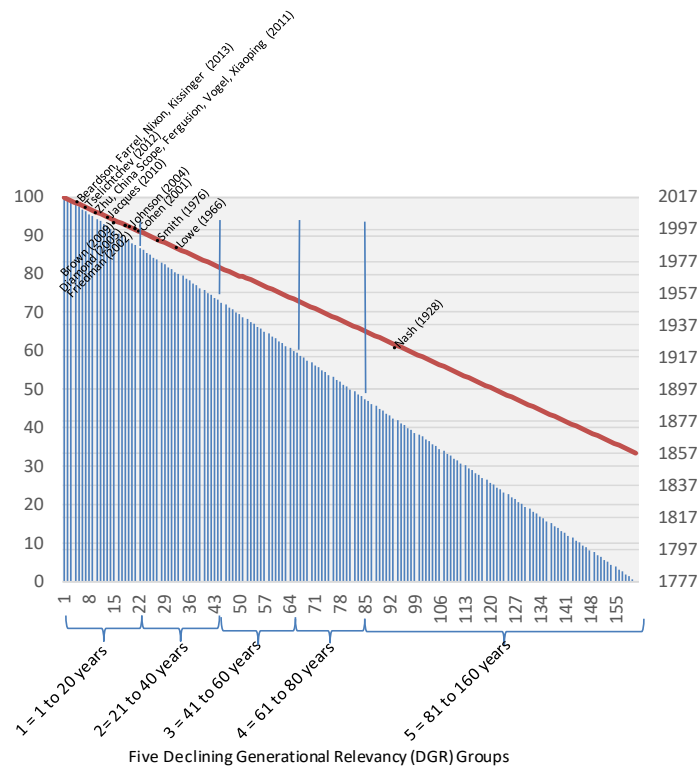


Figure F1. Declining Generational Relevancy model w/ (CW) coefficients.

Table F2.

Declining Generational Relevancy Model w/(CW) Coefficients

	Contributor	Year	Age	Relev. CW	Group		Contributor	Year	Age	Relev. CW	Group
1	Others	2017	0	1.00000	1	11	Vogel	2011	6	0.96250	1
2	Others	2016	1	1.00000	1	12	Xiaoping	2011	6	0.96250	1
3	Others	2015	2	1.00000	1	13	Jacques	2010	7	0.95625	1
4	Beardson	2013	4	0.97500	1	14	Brown	2009	8	0.95000	1
5	Farrel	2013	4	0.97500	1	15	Tselichtchev	2013	4	0.93125	1
6	Nixon	2013	4	0.97500	1	16	Diamind	2013	4	0.92500	1
7	Kissinger	2013	4	0.97500	1	17	Johnson	2011	6	0.91875	1
8	Zhu	2011	6	0.96250	1	18	Friedman	2002	15	0.90625	1
9	China Scope	2011	6	0.96250	1	19	Smith	1976	41	0.74375	2
10	Fergusson	2011	6	0.96250	1	20	Lowe	1966	51	0.66875	2
						21	Nash	1928	89	0.44375	5

Note. Declining Generational Relevancy Model; R Statistical analysis software analysis.

Data:

- Also see Appendix B and G, Social themeing: Frequency and distribution analysis (interpretives) and contributing author incidents by sample cycle, CSV data tables.
- Original data extracted from reviews of prominent monographs associated with this study's core questions.
- Declining Generational Relevancy model constructed from a series of investigations into human resource productivity and creative contribution assessments by management analysts in the context of associated organizational benefits related to aging workforces, innovation, or emerging technologies, and ideologies. Added information was sourced from social phenomenon associated with family unit, structured groups, and common practices endorsed by public and private organizations, to include academic institutions, and governmental agencies directly related to aging and relevancy.

Table F3.

Declining Generational Relevancy Model

Procedure	Description and Application
Supporting Evidence	<p>Evidence was discovered in labor, employment, and general profile studies involving human relevancy as conducted by a number of global sovereigns with resulting determinations that support relevancy is directly dependent to a value scale that can be proportionally distributed over a range of 100% to 0% covering a period of approximately 160 years with relatively high confidence given the social environment and contemporary case studies on the topic.</p>
How the Period was Determined	<p>This period was determined after reviewing a number of studies that pertained to the value of human knowledge and intellectual property that has been handed down between a series of what could be described as great-great-grandparent; to great-grandparent, to grandparent; to parent; to child relationships that represent ideals or thinking that continue to be relevant as influencers or drivers of younger generations ideologies, fundamental policy formation, and subsequent actions (Bengston, 1975).</p>
Scalable Declination	<p>Huff and Sharker argue significant evidence exists that supports a scalable declination model that is proportionally balanced over time given a normal central tendency within a random population sample with similar characteristics. Huff and Starker calculated the rate of decline of relevancy as equal to 0.00625 or .625% per year that commences to decline from the date of the original observation, or in this case, the date an individual offers the initial insightful observations. Moreover, this model applies when an individual presents a series of innovative insights after entering the workplace for the first time.</p> <p>So, what's all this have to do with literature reviews and the discovery of significant themes? Huff and Sharker argue that including time bias relevancy is critical when attempting to assign a degree of significance to a particular factor (category, or sub-category) or themes relevancy in terms of a given variates level of influence to guide, or drive people's decisions during the consideration, development, and implementation of policy and supporting actions.</p> <p>Hence, from the time or date that a factor, theme, or variate is observed it becomes dependent to the degree of significance that is proportionally associated to a time bias based influence. Given this, themes, factors, or variables that are likely to impose an influence or drive future policy decisions are generally more relevant given that they are representative of more contemporary thinking (Woodward, 2015).</p> <p>Last, it could be argued, that more current thinking from contemporaries within multigenerational or a dyadic setting of younger and older age groups there is a paradigm shift that tends to favor the most recent contributor as being the more influential when it comes to driving emerging policy (Woodward, 2015). Woodward argues that as all organizations seek to adapt and change or face stagnation and ruin, this focus shifts additionally to the relevancy or time bias related to the materials and information these organizations place value in. That said, public and private businesses seek to discover and assign value and significance to those authors, researchers, subject matter experts that have most recently been published as being the leading and most relevant authority's in their field. This phenomenon applies to most structured groups, and across many cultures and ethnicities as observed by Huff and Sharker (Mailey, 1993).</p> <p>Therefore, the proceeding declining generational relevancy scale has been factored into each of the variables (categories and sub-categories) that have been observed as a means of addressing the time bias represented in the literature examined in this study. (See cumulative weighting (CW) factors and the calculated DGR values associated in Tables G47, and G52.)</p>
Cognitive and Sample Proportionality	<p>This author argues the weight placed on the qualitative and quantitative aspects of this research are proportionally supported. This is due to 83% of the areas studied (social, political, economic) and evidence collected is strongly associated to leaders and leadership characteristics that are qualitative in nature, while 17% of this study is quantitative or statistical in nature due to the scientific approach applied to the interpretive analysis of meta-data pertaining to the range of variates investigated. This was particularly true in the case of the analytics applied to variates such as monetary, trade, commerce, and resources (mineral and labor) that influence, effect, and shape sovereign policy.</p> <p>These methods were applied to a proportional sub-set of this group of contributors. The samples and data collected from these contributors are viewed as a sub-set of cognitive thought leaders within the general population. As a group, this small domain of contributors are leaders of intellectual thought which subsequently influence the general population according to Saldana, Mitroff, and Turoff. This author agrees with Mitroff and Turoff's policy decision discoveries, that argue such pre-qualified contributor samples are representative of capturing a proportional sampling specific to a sub-domain of intellectuals and subject matter experts as leaders in the areas of interest covered in an investigation. As such, this study assumes strong leaders, leadership practices, and characteristics matter when it comes to investigating the shape, structure, and implementation of organization and sovereign policy. Given this phenomenon, this researcher argues</p>

Procedure	Description and Application
	<p>these assumptions apply to Asian countries as well; and, more specifically the Chinese people and their leaders.</p> <p>The Nature of a Literature Review</p> <p>A literature review can be part of a larger study or completed as freestanding research (Creswell, 2007,2009; Harvey 2013; Imel, 2011; Pan, 2008; Torracco, 2005). As a novice scholar on this topic new to this level of research, the literature covered in this chapter represents a critical body of evidence supporting a discovery, determination, and finding pertaining to the research topic and central inquiry. Although the mixed-method research design does not intend the collection of reviews to be standalone evidence in support of a finding, this author is providing the following as essential data for analysis and determination of a finding considering the topic involves the exploration of a country environment that is considerably geographically isolated and highly culturally diverse. As such, this research relies substantially on the following literature and the materials provided by contributors as a significant evidence corpus. Due to the weight placed on qualitative data and the fact that the location of the case study is extremely remote, this study's collection of relevant literature reviews is considered critical evidence in relation to the application of the Policy Delphi Model real-time technique.</p> <p>Collectively, this design approach forms the basis of establishing the validity and significance of this study's research and findings as framed by the SPELIT Matrix model, Saldana's mapping, themeing, and coding technique, and Mitroff and Turoff's Inquiry System (Mitroff, I.I., Turoff, M., 1975; Schmieder-Ramirez, J. and Mallette, L.A., 2007) when viewed as a complex multivariate model that is designed to support the Policy Delphi process.</p> <p>Literature Reviews and Associated Research Questions</p> <p>The research inquiry system presented utilizes the SPELIT model so as to provide a framework for examining the information provided by subject matter expert(s) that are exploring significant questions in similar areas of interest, categories, and sub-categories. The research questions are presented in the order they are framed by the SPELIT model and; therefore, are not in the order of significance. Each inquiry has been themed and coded as a result of the Saldana qualitative analysis process wherein the collection of reoccurring themes has been subsequently reduced from those discovered in the literature in order to shape each research question and related relevancy. This approach is consistent with the concept of Mitroff and Turoff's Inquiring System (IS), (Mitroff, I.I., Turoff, M., 1975).</p> <p>Due to the diversity and complex nature of this study the author has integrated a quantitative methodology to Saldana's technique in order to consistently categorize, track, and measure the reoccurring responses observed; and, to ultimately determine the significance of each by calculating the magnitude of each variate in order to identify a ranked priority of significance for each (See related analysis, testing, and selection methodology Appendix B, Tables B1- B9).</p> <p>The quantitative outcomes in each category greatly assist in determining an ordinal frequency of reoccurrence, significance, and the potential relevancy of each category theme as a dependent or independent variate. As such, relevancies are assigned numeric values with levels of significance determined by calculating the overall value of each series of data vectors for incident frequency and distribution; cumulative weight or relevancy in the context of a proportional time bias; relative frequency magnitude and distribution; and, a calculated variate correlation coefficient that when collectively assessed provide an inference of convergence or agreement.</p> <p>This process additionally supports a comparative multiple bi-variate regression analysis (RA) of each outcome identified against the full-range of those identified. Finally, the mathematical process applied included assessing the significance of the union of any given set of variates in order to increase the overall relevance of each stem research inquiry. (See related tables and figures in Chapter 1 to include those provided in this section of Chapter 2.) With this in mind the following should be considered when viewing the determination of those factors (categories and themes) that demonstrated high levels of significance numerically given this study's focus on mathematical calculations, statistical analysis, and inferences. As far as the laws of mathematics refer to reality [sic], they are not certain, and as far as they are certain, they do not refer to reality (Einstein, 1936).</p> <p>Inquiry System Coding and Themeing</p> <p>Research question key codes are linked to the theme inquiry patterning, mapping, and coding process. By applying Saldana's technique certain themes have been reduced or omitted in each ordered cycle of assessment. As a result, in some cases certain factors or issues have been dropped or omitted due to being discovered as having lesser frequencies of reoccurrence, e.g. categories with starting codes of (1Xn1:i) may have been omitted in favor of those coded (2Xn1:i), (3Xn1:i), or (4Xn1:i); whereas, (1X) = the 1st Inquiry cycle theme sample in N1; and , (n1:i) = a</p>

(continued)

Procedure	Description and Application
	<p>given sample data point within the full-range of data points of a vector that may be omitted in the subsequent <i>N2</i>:2nd Inquiry, <i>N3</i>:3rd Inquiry, and <i>N4</i>:4th Inquiry cycle of investigation.</p> <p>Therefore, as all reoccurring themes were patterned, mapped, and coded as discovered, in some cases, certain themes were removed from the sequence of discovery due to lower levels of reoccurrence or lesser inferred significance. Moreover, others were merged with closely associated categories or themes in subsequent cycles of assessment.</p> <p>As indicated in the supporting mapping and data tables, certain coded themes were dropped from consideration as “leading” factors or issues leaving the appearance certain themes were over-looked as coded topics. In many cases, these leading factors are represented in the 4th Inquiry cycle (summary of significant expected frequency (<i>fe</i>) observations) or subsequent series of category investigations. This is due to categories or themes being realigned (shifted) to other coded categories with similar themes (also see disappearing themes and codes in the patterning and mapping sequences illustrated in supporting figures and tables, Chapter One).</p> <p>Alpha-characters and numeric references indicate areas of interest or factor (category and theme (variates) in the context of the specific inquiry sample referenced. As such, these areas of interest have been coded to ensure they are considered for final selection and inclusion in the stem research questions.</p> <p>Variate Integration into the Stem Research Questions. The following represents a list of 16 research questions that have been sourced and constructed from significant reoccurring themes.</p> <p>Each was constructed by applying the prescribed Inquiry System (IS), philosophies, theories, and the empirical techniques applied as a unified scientific model of approach (Mitroff, I.I., Turoff, M., 1975).</p> <p>As such, only those themes that were calculated to have high potential significance were reviewed and integrated into each respective category’s stem research questions. In addition, the relevancy of each category or theme investigated is represented as a calculated product of the prescribed empirical methods applied (also see Appendix F, Table F4; and the integration of the data in constructing the Delphi survey as represented in Appendix H, Table H1).</p> <p>The calculated cumulative weight (CW) coefficient or declining generational relevancy (DGR) for each sub-category (variate) for all six category samples (<i>N1</i>, <i>N2</i>, <i>N3</i>, <i>N4</i>, <i>N5</i>, and <i>N6</i>) range from (<i>N1</i>:6min to <i>N1</i>:6max) or a high of 1.0 to a low of .04, with the higher value indicating a greater degree of significance or relevancy within the themes discovered. (See Table G54-55.) The CW coefficient or declining generational relevancy (DGR) is relative as it is calculated using the publication date of the referenced contributor’s literature. In the case of Other contributors, all referenced literature publications fall within a time bias grouping with a CW</p>

Table F4.

*Stem Research Statement(s) RH₁, RH₂, RH₃: Hypotheses, Themes, Codes and Relevancy***1. Social RH₁ = {²S₈ U ³S₉}: China will increase its social security system due to its aging population.**

Relevancy and selection: See Appendix G, Table G54, Social Themes – Overall Assessments and Response Selections – Predictive.

Analysis: Supported by Saldana's method as represented in Volume II; Appendix F: Table F3, Stem Research Statements for RH1, RH2, and RH3; and, Table H1, Stem Research Inquiries, Key Inquiries: Influencing Themes for RQK1. These are associated in the investigation and final determinations as the bases of Mitroff's Delphi Policy Survey construction and results as constructed from the literature analysis; also see Volume II; Appendix I; Figure I61, Survey results: Rnd4 (F1-Q8) Social security; and, Table I25 Results and notes; and, Figure I12, SDP Rnd1-2 Beta-Questionnaire, Section F, Item F1, RQK1 that supported the construction of the Rnd3-4 survey rounds as shown in Figure I16, Section F, F1; and, Figure I38, Section F (Part 1) F1.

Data: Extracted from Appendix G, Table G1, Literature Inquiry Analysis RQK1: (RH1). Question was inspired by (Tselichtchev, 2012) and redesigned in accordance with Mitroff's IS technique.

Note:

1. RH₁ = Research question construction and numeric reference code. Question number 1.
2. ²S₈ U ³S₉ = The union or convergence of data vectors with common word and theme ranges. In this case, the S represents key words or themes identified within the category or the social environment category. The numeric subscripts indicate the data was extracted from the 2nd and 3rd order inquiry data and referenced as a being linked or in agreement, having a common union or significant relationship with the themes discovered selected. Coded subscripts are modified to normal indentures when integrated to or extracted from supporting computer script, generated calculations, and/or the statistical program input, and output analysis.
3. S = Social factors or related themes discovered within the SPELIT analysis framework as prescribed in Schneider and Mallette's technique.
4. S₈ = Population or sub-category theme discoveries
5. S₉ = Social security or sub-category theme discoveries
6. U = The union of common themes or variables with evidence of being significantly linked after applying SPELIT; patterning, mapping, themeing, and coding; and, numerous supporting analytic techniques as referred to in this chapter.

2. Social RH₂ = {^{2,3}S₁₀ U ^{2,3}S₈}: China will increase its health care system due to its aging population.

Relevancy and selection: See Appendix G, Table G54, Social Themes – Overall Assessments and Response Selections – Predictive.

Analysis: Supported by Saldana's method as represented in Volume II; Appendix F: Table F3, Stem Research Statements for RH1, RH2, and RH3; and, Table H1, Stem Research Inquiries, Key Inquiries: Influencing Themes for RQK2. These are associated in the investigation and final determinations as the bases of Mitroff's Delphi Policy Survey construction and results that have been constructed from the literature analysis; also see Volume II; Appendix I; Figure I63, Survey results: Rnd4 (F3-Q10) Social security; and, Table I27 Results and notes; and, Figure I12, SDP Rnd1-2 Beta-Questionnaire, Section F, Item F3, RQK3 that supported the construction of the Rnd3-4 survey rounds as shown in Figure I16, Section F (Part 1) F3; and, Figure I38, Section F (Part 1) F3.

Data: Extracted from Appendix G, Table G3, Literature Inquiry Analysis. Question was inspired by (Tselichtchev, 2012) and redesigned in accordance with Mitroff's IS technique.

Notes:

1. RH₂ = Research question construction and numeric reference code. Question number 2.
2. ^{2,3}S₁₀ U ^{2,3}S₈ = The union or convergence of data outcomes with a set of common ranges and/or themes. In this case, the S represents themes or key words identified as social factors. The numeric subscripts indicate that the data was extracted from the 2nd and 3rd order examination of the data and referenced as a being linked or the product of a common union between the 8th and 10th themes discovered. Coded subscripts are modified to normal indentures when integrated or extracted from the supporting computer scripting, generated calculations, and output analysis.
3. S = Social factors or related themes discovered within the SPELIT analysis framework as prescribed in Schneider and Mallette's technique.
4. S₈ = Population or sub-category theme discoveries.
5. S₁₀ = Health care or sub-category theme discoveries.

(continued)

6. U = The union of common words or phrases (themes) showing evidence of being linked after applying SPELIT; mapping, themeing, and coding; and, IS techniques.

3. Leadership $RH_3 = \{^2S_8 U ^3S_9\}$: A shift in China's leadership ideologies will cause the country to increase its social security and health care programs.

Relevancy and selection: See Appendix G, Table G54, Leadership Themes – Overall Assessments and Response Selections – Predictive.

Analysis: Supported by Saldana's method as represented in Volume II; Appendix F: Table F3, Stem Research Statements for RH1, RH2, and RH3; and, Table H1, Stem Research Inquiries, Key Inquiries: Influencing Themes for RQK4. These are associated in the investigation and final determinations as the bases of Mitroff's Delphi Policy Survey construction and results that have been constructed from the literature analysis; also see Volume II; Appendix I; Figure I63, Survey results: Rnd4 (F3-Q10) Social security; and, Table I27 Results and notes; and, Figure I12, SDP Rnd1-2 Beta-Questionnaire, Section F, Item F3, RQK3 that supported the construction of the Rnd3-4 survey rounds as shown in Figure I16, Section F (Part 1) F3; and, Figure I38, Section F (Part 1) F3.

Data: Extracted from Appendix G, Table G3, 4th Inquiry Cycle Literature Analysis 3: RH₃ (Leadership). Question was inspired by (Tselichtchev, 2012) and redesigned in accordance with Mitroff's IS technique.

Notes:

1. RH₃ = Research question construction and numeric reference code. Question number 3.
2. $^{2,3}S_{10} U ^{2,3}S_8$ = The union or convergence of data outcomes with a set of common ranges and/or themes. In this case, the S represents themes or key words identified as social factors. The numeric subscripts indicate that the data was extracted from the 2nd and 3rd order examination of the data and referenced as a being linked or the product of a common union between the 8th and 10th themes discovered. Coded subscripts are modified to normal indentures when integrated or extracted from the supporting computer scripting, generated calculations, and output analysis.
3. S = Social factors or related themes discovered within the SPELIT analysis framework as prescribed in Schneider and Mallette's technique.
4. S₈ = Population or sub-category theme discoveries.
5. S₁₀ = Health care or sub-category theme discoveries.
6. U = The union of common words or phrases (themes) showing evidence of being linked after applying SPELIT; mapping, themeing, and coding; and, IS techniques.

Table F5.

Applying SPELIT: Themeing, Mapping, Coding, the Inquiry System and Processes

Procedure	Description and Application
	<p>Applying SPELIT, Themeing, Mapping, Coding, Inquiry Systems and Processes</p> <p>The following series of tables utilizes the information collected as framed by Schneider-Ramirez and Mallette's SPELIT matrix, then moving to assess and structure the data by applying Saldana's technique, and then by finally integrating the data into Mitroff and Turnoff's Inquiry System (IS) technique as a process of constructing and evaluating the relevancy of each reoccurring theme.</p> <p>This process assists in identifying and reducing the data collected so as to focus the study only upon those themes that indicate a high degree of significance. Once achieved, these key themes are aligned with other high-frequency themes to construct and shape relevant research questions. When properly completed, the process fully supports the foundational requirements necessary to establish and successfully complete a relevant Delphi Policy study (Mitroff, I.I., Turoff, M., 1975).</p> <p>Relevant Research Question Construction</p> <p>In each case, a number of possible variations on each category theme were proposed as likely influencing or driving factors of China's emerging challenges and policy. After several iterations of structuring, shaping, and focusing the data, a series of preliminary questions were developed (Also see Appendix H, Table H1).</p> <p>Each preliminary question was then evaluated for theme, relevancy, correlation, focus, and clarity particular to Saldana's technique and in keeping with applicable SPELIT and IS framework and protocols. Once this was accomplished, each question was re-evaluated by applying qualitative and quantitative analytics to each variable considered for integration into a final proposed research question. This was accomplished in an empirical manner to achieve the highest significance and relevance in order to obtain a valued discovery during the implementation of the Delphi survey process. Due to the diversity of the information in the primary area of interest and those themes or observations expected to possess significantly high correlations, the complexity of the organization and evaluation process resulted in the construction of a formulaic approach to control and shape the data so as to achieve high confidence outcomes. Notably, the goal was to develop a final set of Delphi survey questions that represents a set of cross-associated mono-variant inquiries that when collectively answered support the development of a unified finding or theory.</p> <p>Applying Mathematical formulas and Algorithms</p> <p>Standard statistical mathematical formulas were selected to calculate outcomes from the union of valued vector sets or domains to test and validate associated relationships and resultants. By applying the formulas (shown in the following figures and tables) the process of determining each question's overall relevancy by calculating single and multi-vector set values and weighted magnitudes yielded a series of significant outcomes for each category and theme used in the construction of each research question. As such, the summation of the cumulative variables, associated tests, and evaluations yielded calculated outcomes that represent each research question's overall significance. By applying this process, each question was definitively assessed for relevancy and validated in accordance with the total Inquiry System (IS) protocol.</p> <p>Keywords, Themes, and Descriptive Limits Associated with Variables</p> <p>The research questions constructed were restricted to contain only one, two, or three variables. Each question was framed by the SPELIT factors (as categories) maximizing the use of only those themes, terms, or sub-categories extracted from the investigation of the referenced literature in the course of exploring the study's central topic, problem statement, and relevant issues in the context of Mitroff's research question development criteria.</p> <p>Each research question was then constructed after evaluating each category and theme. This process applied theme re-occurrence values, weighted magnitudes, and distribution tendencies generated from the IS analysis. By analyzing the quantitative and qualitative outcomes, which included reoccurrence incident frequency, relative magnitude, and degrees of theme agreement to evaluate significance, an ultimate determination of the constructed research question's significance or relevancy was identified. Prior to completing this process, a proposed research question's value is not known, especially if the proposed question contained multi-variables (themes) that required close attention be paid to the related calculation protocols and applied algorithms to determine and validate relevancy. The resultant significance of each question was therefore not known until the cumulative variable frequency analysis and testing results were cumulatively assessed and applied (also see Appendix F, Table F4; and the integration of the data in constructing the Delphi survey as represented in Appendix H, Table H1).</p>

(continued)

Procedure	Description and Application
	<p>The Final Analytics, Applying Nash's Three-Player Gaming Algorithm</p> <p>Finally, the following literature reviews presented represent significant ideologies, leadership behaviors, and characteristics as influencers or drivers when predicting how emerging social, political, economic, legal, and intercultural, technology, and infrastructural challenges are likely to be confronted, prioritized, and dealt with by China's ruling elite.</p> <p>This study's literature review process ends with the examination of the complex effects and implications of cooperative rational (equilibrium) gaming theory (Nash, 1928) which this author applies as a tool to frame and empirically analyze the series of potential interactions inherent in predicting rational leadership decisions so as to assess how various players (or actors) with hidden agendas, needs, desires, and ethical behavior can significantly influence predictive outcomes (Madjidi, 2012; Robbins, Stephen and Judge, 2011). As such, Nash's Three-Player Gaming algorithm was found to be extremely valuable as a process that enables the assessment of a range of potential outcomes; and, constructing a predictive action that would be taken by a reasonable player as supported by a statistically significant inference (Nash, 1928). After considerable attention was placed on applying Nash's gaming theory (as a process of determining a statistically supported prediction) the mathematicians this study engaged to assist with the application argued this was the first time (to their knowledge) Nash's Three-Player Gaming Theory has been used to determine a probable outcome or series of outcomes associated with conducting a Delphi Policy study.</p> <p>That said, the areas of interest, related empirical methods applied, specific research questions and Delphi panel responses in this study are designed to support and contribute to a significant corpus of knowledge and discovery. Those areas of interest identified in the SPELIT model that are not covered in this study will be the subject of focus in this author's future research and investigations as a process of ongoing independent longitudinal studies.</p> <p>The following critical literature reviews and associated discoveries in each area of interest are subject to a time bias due to this study's investigation, survey scheduling constraints, and the fact that the subject of the study is situated in a remote geographic location. As with many studies of this nature, the investigation, data collection, and outcomes are adversely affected when the process is extended due to prolonged breaks in the research being conducted in association with the completion of the analysis, findings, and final report. As such, this study attempts to complete an exhaustive research investigation, framing of the evidence, conductance of relevant analysis, and offer a timely report of findings in the context of the challenges China is likely to face in the next 10 years as supported by a series of relevant predictions.</p> <p>Theme Selections for Research Question Integration</p> <p>So, how and why were the final themes selected for integration into this stem research question? They were determined after reviewing and reflecting on the results of the different statistical analytics and validation tests conducted. In addition, each theme's merits were considered from the world system viewpoint and for a reasonable fit prior to being integrated into this study's stem research questions. The method applied utilized a series of selection criteria based in general on determining a finding or insight by assessing the highest overall significance of each sample's Incident Frequency Distribution (IFD) + Relative Frequently Magnitude Distribution (RFMD) + CW Weighted Incident Magnitude Frequency Mean Distribution (IFDM) + Nonlinear Regression Analysis (NRA) + Pearson Correlation (PC) + Social Network Analysis (SNA) + Saldana Frequency Distribution by Contributor (SFDC) + the Five-Number Quartile Analysis (QA) for Interquartile Range (IQR) Analysis; and, as assessed by the High Frequency Contributing Literature (HFCL). In formulaic terms, the process expresses the degree of comparative variable or covariant (theme) agreement or disagreement between ranked order vectors and provides evidence for the acceptance or rejection of the null or alternative hypotheses pertaining to each theme's overall relevancy.</p> <p>When correctly applied, the SC and RSAF represent vector sets where themes with the highest significance (relevancy) are defined by "agreement" tendencies. The data vectors represented by $(^2S_8 + ^2S_9 + ^3S_8 + ^3S_9)$ when assessed by the prescriptive SC and the supporting RSAF formula indicated $\{^2S_8 [\text{Present Population}] + ^2S_9 [\text{Present Social security}] + ^3S_8 [\text{Future Population}] + ^3S_9 [\text{Future Social security}]\}$ are among the most critical factors when assessing China's future challenges and direction in the future as validated by the empirical process applied in this study.</p> <p>Given this mixed-method data analysis, the following literature reviews provide further evidence in support of this finding from a qualitative viewpoint as to why the stem research question was structured the way it was; and, why it is considered a critically important factor in determining China's future direction.</p> <p>Analysis Model and Framework</p> <p>The analysis model selected for the study was Dr. June Schmieder-Ramirez's and Dr. Leo A. Mallette's SPELIT Power Matrix developed for the assessment of organizational and social system phenomena. The model is specifically designed for researchers to use as a framework for determining and formulating answers to organizational questions. Use of the model assists researchers and investigators in analysis, diagnostics, and benchmarking findings related to developing constructs, and theories pertinent to implementing innovation and change intervention.</p>

(continued)

Procedure	Description and Application
	<p>The SPELIT model establishes a framework for phenomena assessment in the context of identifying core functional attributes of any given phenomena or incident. These functional areas include social, political, economic, legal, intercultural, technology and infrastructure (included in this study) as areas of assessment and analysis. The SPELIT methodology was established and may be applied to diverse phenomena; however, we found the method was well fitted to our exploration and research of organizational entities. The utility of Dr. Schmieder-Ramirez's and Dr. Mallette's methodology as applied to our study of China proved to be an effective application of the model.</p> <p>Chapter 5 undertakes an examination of the SPELIT functional areas in the context of China with commence with the conceptualized framework as represented in Figures E1, HGN, Saldana and Mitroff's influence on SPELIT; Figure E2, Historical areas of interest, 1st Order influencers(generalized); Figure E4, Present factors, 2nd Order influencers (generalized); and, Figure E9, Future factors, Analysis of 3rd Order influencers. All were assessed, coded and mapped as represented in Figure E3, E5. E6, E7, E8, E10, E11, E12, and E14.</p> <p>Ultimately, each of the examinations (Orders of Inquiry) assisted in identifying environmental influencers and or drivers in each of the categories and/or sub-categories in the context of implied negative, positive or neutral effects (themes or sub-themes) within the framework of Dr. Schmieder-Ramirez's model. The final findings of this investigation are based on the results represented in the final two rounds (R3 and R4) of Delphi Policy Surveys as illustrated in Table I72, Policy Delphi Survey Results Analytics; and, Table I73, Survey Consensus Items; Findings, Comparative/Contrasting Implications.</p>

Table G2.

*Investigating and Assessing RH₁, RH₂ and RH₃ (Leadership): Qualitative Analytics**land2*

Procedure	Description and Application
Qualitative Analytics and Modeling: Themeing	<p>Social Security, Health Care, and Leadership Environments: Literature and Research Statement Assessments</p> <ol style="list-style-type: none"> 1. Social Security and Aging Population (2S9 U 3S8); China will increase its social security system due to the aging population (RH₁). 2. Health Care and Aging Population (2S10 U 3S8); China will increase its health care system due to the aging population (RH₂). 3. Leadership Behavior (RH₃); Ideology, and Military (2P5 U 2P8 U 3Mi1,2,3,4); A shift in China's leadership ideologies will cause the country to address needed social security and health care reforms.
Primary Experts on the Topic	<p>Social security and aging population. The primary subject matter experts covered in the literature on this topic are others, Johnson, Vogel, Beardson, Tselichtchev, Diamond, Kissinger and Xiaoping. Each represent high frequencies of theme incidents of reoccurrence. Of this group, others were discovered to have the highest frequency of theme incidents of reoccurrence. All contributors are scholars, investigators, and researchers featured prominently in connection with this question when assessed in the overall set of outcomes extracted from the three cycle samples.</p> <p>The following table highlights how the subject matter experts on the topic of the social environment viewed the importance of the certain themes and specific to the following inquiry of investigation. Social Security and Aging Population (2S9 U 3S8); China will introduce a social security system due to its aging population (RH₁).</p>

Table G3.

4th Inquiry Cycle Literature Analysis 2: RH₂ (Health Care)

Factor/Primary Issue or Challenge		Literature Inquiry Analysis: Question 2 (RQK2)																									
		Relevance based on (IS) data																									
Legend: (X) = Base Factor, (X1) = Primary Issue (₀ X ₁) = Related research question	Scaled Relevance	Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselichev (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)	^a Others	Theme occurrences ²	Cumulative Weight ⁴	Ref. Weight	Page Reference ⁵		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19						
	Social (2,3S10 U 2,3S8)		Code	Occurrences																							
	Relevant literature Inquiry																										
	1. Health care		(₅ S10)										1					1					2	4	0.132	10	9,113,114, 115,116
	2. Health care		(₅ S10)										1					1					1	3	0.148	15	114,116
	3. Population		(₅ S8)										1					1	1				5	8	0.263	10	115,119,162, 220,221, 224,
	4. Population		(₅ S8)					1															2	3	0.148	15	9,40,162, 220,221,224
	IS literature sample (n) ⁶		304					1					3					3	1				10		0.173		
	Theme/issue occurrence mean		8																								
	Weighted Factors: Standard (sfactor) =		10																								
Leading factor (ledfactor) =		15																									
Script code notation vs computer code notation example: (₂ S10) = (2S10)																											

Note. 1st, 2nd, 3rd, and 4th order social themeing: frequency and distribution analysis.

Data:

1. See Appendix B, Figure B1, Social themeing: Frequency and distribution analysis (interpretive).
2. See Chapters One and Two; and, supporting Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B91; represent mapping, themes, and codes by category and theme in the context of investigating social environment factors; and the range of potential challenges - analysis.
4. See Appendix B, Table B13, Inquiry System: Research questions and relevancy (RQK1-2).
5. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study's core questions.

Methodology:

1. Priority of selection was weighted to ₂S9, and ₃S9 responses 1st; and, then to ₂S8 and ₃S8 responses; and, then by the collective response total or score.
2. By priority of selection, only significant responses within each of the categories were subject to additional study.
3. Selection included a minimum ₂S9 + ₃S9 score ≥ 2, and a ₂S8 + ₃S8 score ≥ 1 respectively to warrant subsequent literature review, investigation, and analysis.
4. Script code notations are also illustrated in computer code notation format: Example (₂S9) = (2S9).
5. Data scoring: Each time a theme code association was discovered present in a work a value of 1 was assigned to the work or monograph in which the theme was located. The listings of prominent works are listed by author as referenced in each of the 19 categories.
6. Leading factor (ledfactor) where multiplied by 15. It factor was randomly selected in order to assign greater significance to those themes what were considered the most directly associated with the central inquiry. In addition, the factor facilitates the illustration and management of interpretive graphics.
7. Weighted Factors: Standard (sfactor). All data collected was multiplied by 10. The factor facilitates the illustration and management of interpretive graphics.

Table G4.

Investigating and Assessing RH₂ and RH₃ (Leadership): Qualitative Analytics 3

Procedure	Description and Application
	<p>Primary Experts on the Topic: Health Care and Aging Populations</p> <p>The primary subject matter experts covered in the literature on this topic are Tselichtchev, Johnson, and Vogel. The review additionally includes 10 other scholars, investigators, and researchers that are featured prominently in connection with this question.</p> <p>Health Care and Aging Population (2S10 U 3S8); China will increase its health care system due to its aging population (RH2).</p> <p>Primary Experts on the Topic: Leadership and Ideologies</p> <p>The primary subject matter experts covered in the literature on this topic are Tselichtchev, Johnson, and Vogel. The review additionally includes 10 other scholars, investigators, and researchers that are featured prominently in connection with this question.</p> <p>Leadership Ideology, Behavior, and Military (2P5 U 2P8 U 3Mi1,2,3,4); A shift in China's leadership ideologies will cause the country to address needed social reforms.</p> <p>Frequency and Distribution Analysis: Social Themeing</p> <p>Random population sample data sets ($N1\Sigma (n1:7) + N2\Sigma (n1:10) + N3\Sigma (n1:10)$) or $(196 + 280 + 280) = 756$, where ($N1 = 1\text{st Inquiry population sample}$) + ($N2 = 2\text{nd Inquiry population sample}$) + ($N3 = 3\text{rd Inquiry population sample}$) = Total Population Sample; are collectively reduced to $N4 = \text{Leading contributing theme observations with expected high significance}$ (also see Appendix B, Figure B1, Table B5; and, Figure B2, Table B9); and where, the total positive responses for ($N1 + N2 + N3$) represented $(74 + 74 + 47) = 195$ or 25.8% in the context of the category themes investigated. See range of outcomes extracted from samples $N1 + N2 + N3$, represented in Appendix B, Tables B1-9; and, Figure B1.</p> <p>Social themeing. Frequency Distribution Analysis as a consolidated themeing and determination of significance. In this case, the total percentage of positive responses in the collective series of inquiries ($N1$, $N2$, and $N3$) is an indicator of the general level of interest in this set of themes.</p> <p>Uniform Theme Analysis and Selection Process (UTASP)</p> <p>The themes selected to shape the social environment stem research question(s) were based on the following analysis and confidence tests. The observations and contributing descriptives are summarized in applied (also see Appendix F, Table F4; and the integration of the data in constructing the Delphi survey as represented in Appendix H, Table H1. This empirical process is summarized in the following series of the discoveries that occurred at each level of the analysis. These discoveries are presented in the order of the investigation, statistical analysis, testing, and series of findings pertinent to RQK1-3.</p>

Table G5.

*4th Inquiry Cycle Literature Analysis 3: RH₃ (Leadership)***4th Order of Inquiry - Leading Factors**

Leadership Themeing & Coding	Factor/Primary Issue or Challenge Legend: (X) = Base Factor. (X1) = Primary Issue (_Q X _i) = Related research question	Scaled Relevance	Relevance based on (IS) data																			Theme occurrences ²	Cumulative Weight ⁴	Refr. Weight	
			Citations ⁷	Beardson (2013)	Brown (2009)	China Scope (2011)	Cohen (2001)	Diamond (2005)	Farrel (2013)	Ferguson (2011)	Friedman (2002)	Jacques (2010)	Johnson (2004)	Kissinger (2013)	Lowe (1966)	Nash (1928)	Smith (1976)	Tselichchev (2012)	Vogel (2011)	Xiaoping (2011)	Zhu (2011)				*Others
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
Code		Occurrences																							
Leading (4th Order of Inquiry)																									
1. Leadership Behavior	(² P ₈)		1	1		1		1			1	1	1	1	1		1	1	1	1	10	23	0.757	0	
2. Cultural Ideology	(² P ₁₉)		1			1	1	1	1	1			1	1			1	1	1	1	10	22	0.724	0	
3. Int. Leadership Ideology	(² P ₃)		1	1	1	1					1	1	1				1	1	1	1	10	21	0.691	0	
4. Population	(¹ P ₀₉)		1			1	1	1	1	1					1	1	1	1	1	1	1	4	16	0.526	0
5. Growth	(² E ₁₆)			1		1	1				1	1	1		1		1	1	1	1	1	4	15	0.493	0
6. Cultural Stability	(² I ₂)						1				1	1				1		1	1	1	1	8	15	0.493	0
7. Power, Authority, Superiority	(² P ₁₄)		1	1			1	1			1	1		1	1		1		1	1	1	4	15	0.493	0
8.Economic & Monetary Ideology	(² E ₈)		1	1		1			1	1	1	1				1	1	1	1	1	1	2	14	0.461	0
9. Int. Gov. Legitimacy	(² P ₄)		1	1							1	1	1				1		1	1	1	6	14	0.461	0
10. Wealth	(³ E ₁₁)		1	1		1	1			1	1	1		1			1	1	1	1	1	2	14	0.461	0
IS literature sample (n) ⁶		304	8	7	1	7	6	4	3	4	8	8	5	4	4	3	9	8	10	10	60	169	0.556		

Note. MSeExcel. Social-political themeing, frequency, and distribution analysis.

Data:

1. See Chapter One, Political themeing: Frequency and distribution analysis (interpretive).

2. See Chapter One, Table 1, Mapping, themes and codes by category – Social Environmental Factors; Range of Potential Challenges - Analysis.

3. See Chapter One, Tables 5, 6 and 7, Mapping, themes and codes, 1st, 2nd, 3rd, and 4th Orders - Moving towards a focused inquiry.

4. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study's core questions.

Notes:

1. Data scoring: Each time a theme code association was discovered present in a work a value of 1 was assigned to the work or monograph in which the theme was located. The listings of prominent works are listed by author as referenced in each of the 19 categories.
2. Leading factor (ledfactor) where multiplied by 15. It factor was randomly selected in order to assign greater significance to those themes what were considered the most directly associated with the central inquiry. In addition, the factor facilitates the illustration and management of interpretive graphics.
3. Weighted Factors: Standard (sfactor). All data collected was multiplied by 10. The factor facilitates the illustration and management of interpretive graphics.

Table G6.

Investigating and Assessing RH₃ (Leadership): Qualitative Analytics 3

Procedure	Description and Application
Frequency and Distribution Analysis	<p>Social themeing. Random population sample data sets ($N1\Sigma (n1:7) + N2\Sigma (n1:10) + N3\Sigma (n1:10)$) or $(196 + 280 + 280) = 756$, where ($N1 = 1\text{st Inquiry population sample}$) + ($N2 = 2\text{nd Inquiry population sample}$) + ($N3 = 3\text{rd Inquiry population sample}$) = Total Population Sample; are collectively reduced to $N4 = \text{Leading contributing theme observations with expected high significance}$ (also see Appendix B, Figure B1, Table B5; and, Figure B2, Table B9); and where, the total positive responses for ($N1 + N2 + N3$) represented $(74 + 74 + 47) = 195$ or 25.8% in the context of the category themes investigated. See range of outcomes extracted from samples $N1 + N2 + N3$, represented in Appendix B, Tables B1-9; and, Figure B1.</p> <p>Frequency distribution analysis. Frequency distribution analysis is used to consolidate themeing and to determine significance. In this case, the total percentage of positive responses in the collective series of inquiries ($N1, N2$, and $N3$) is an indicator of the level of interest and or influence that is associated with any given set of themes.</p> <p>Uniform Theme Analysis and Selection Process (UTASP)</p> <p>The themes selected to shape the social environment stem research question(s) were based on the following analysis and confidence tests. The observations and contributing descriptives are summarized in Appendix F, Table F4; and the integration of the data in constructing the Delphi survey as represented in Appendix H, Table H1. This empirical process is summarized in the following series of the discoveries that occurred at each level of the analysis. These discoveries are presented in the order of the investigation, statistical analysis, testing, and series of findings pertinent to RQK1- 3.</p>

Table G7.

LSDF Analysis

Method	Description and Application
(LSDF)	Longitudinal Sample Data Framing
Method	<p>The design, framing, and implementation of the longitudinal literature samples followed the prescriptive(s) as established by Saldana's Themeing and Coding Technique; Schneider-Ramirez, Mallette's SPELIT Matrix Technique; to include Mitroff and Turoff's Investigation System, where each of these qualitative techniques has been applied in this investigation of an ethnological social phenomenon and the prediction of a series of decisions related to leadership policy (also see Figure F1-2 and G24).</p> <p>Determination</p> <p>Social environment analysis. After a comprehensive review of the literature specific to the social category, the following themes were determined to be significant out of a range of 27 identified. The codes and descriptions for each were: 1Po1 (Historical Geography); 2S3 (Present Growth); 2S8 (Present Population); 2S9 (Present Social Security); 3S9 (Future Social Security); and, 2S10 (Present Health Care). Of these, the analysis indicated strong correlations or links between the following: 1Po1 to 2S8 or Historical Geography and Present Population; 2S3 to 3S8 or Present Growth and Future Population; 2S8 and 3S9 = Present Population and Future Social Security; 2S9 and 2S10 = Present Social security and Present Health care.</p> <p>Leadership environment analysis. After a comprehensive review of the literature specific to the social and leadership categories, the following themes were determined to be significant out of a range of 56 identified. The codes and descriptions for each were: 2Po8 (Leadership Behavior); 2P19 (Cultural Ideology); 2P5 (Internal Leadership Ideology); 2E16 (Growth); 2I2 (Cultural Stability); 2P14 (Power, Authority, Superiority); 2E8 (Economic and Monetary Ideology); 2P4 (Internal Government Legitimacy); and, 2E11 (Wealth). After a comprehensive review of the literature specific to the leadership category, the following themes were determined to be significant out of a range of 56 identified with a sample outcome that ranged between a low of -0.221 and a high of 1.</p>

(continued)

Method	Description and Application
(LSDF)	<p>Longitudinal Sample Data Framing</p> <p>identified with a sample outcome that ranged between a low of -0.221 and a high of 1.00. The statistical significance for each was determined to be the following: 2P8 and 2P10 or Leadership Behavior and Succession Planning = 0.819; 2P8 and 3P11 or Leadership Behavior and Natural Resource Access = 0.814; 2P8 and 22P12 = Leadership Behavior and Environmental Responsibility = 0.710; 2P8 and 2P1 = Leadership Behavior and Freedom = 0.751; 2P8 and 3P2 = Leadership Behavior and Scale = 0.771; 2P8 and 2P16 = Leadership Behavior and Security = 0.590; 2P8 and 2E16 = Leadership Behavior and Growth = 0.590; and, 2P8 and 2P6 = Leadership Behavior and External Governmental Legitimacy = 0.617. Of these, the analysis indicated strong correlations or links between the following: 2P8 and 2P10 or Leadership Behavior and Succession Planning; 2P8 and 3P11 or Leadership Behavior and Natural Resource Access; 2P8 and 2P12 = Leadership Behavior and Environmental Responsibility; 2P8 and 2P1 = Leadership Behavior and Freedom; 2P8 and 3P2 = Leadership Behavior and Scale; 2P8 and 2P16 = Leadership Behavior and Security; 2P8 and 2E16 = Leadership Behavior and Growth; and, 2P8 and 2P6 = Leadership Behavior and External Governmental Legitimacy. Of these, Succession Planning, Natural Resource Access, Scale, and Freedom were the themes that exhibited the strongest associations to Leadership Behavior using a cut-off threshold of 0.75 in the context of the -0.221 to 1.00 outcome range for the sample.</p> <p>Reasoning. This determination was made after completing a series of 56 analyses and tests that included a scoring, ranking and selection process to determine definitive significance. The results of each are outlined and identified in Table E-9 as follows:</p> <ol style="list-style-type: none"> 1. Longitudinal Sample Data Framing (LSDF) Analysis 2. Incident Frequency Distribution Analysis (IFD) Analysis 3. Declining Generational Relevancy (DGR) Analysis 4. Z-Score Analysis 5. Mean or Calculated Standard Errors (M_error or SD) Analysis 6. Relative Frequency Magnitude Distribution (RFMD) Analysis 7. CW Weighted Incident Magnitude Frequency Mean Distribution (IFDM) Analysis 8. Multivariate Nonlinear Inverse Regression (IR) Analysis 9. Multivariate Nonlinear Regression (P-value) Analysis 10. Pearson Correlation (PC) Analysis 11. Social Network Analysis (SNA) 12. Saldana Frequency Distribution by Contributor (SFDC) Analysis 13. Five-Number Quartile Analysis (QA) for Interquartile Range (IQR) Analysis 14. Weighted and Unweighted Selection Criteria (SC) Analysis and Overall Score Analysis 15. Overall Ordinal Ranking for (RQKn) Data Selection Range Analysis 16. Predicted (H0) Null Hypotheses Assessment(s) 17. Predicted (Ha) Alternate Hypotheses Assessment(s) 18. High Frequency Contributing Literature Reviews (HFCL) Analysis 19. Overall Assessment and Selections – Historic Cycle Analysis 20. Overall Assessment and Selections – Present Cycle Analysis 21. Overall Assessment and Selections – Future Cycle Analysis 22. Overall Assessment and Selections – Predictive <p>Significance. These methods, analytics, tests, and scoring are widely utilized as acceptable methods of conducting an empirical investigation into themes or variables that are likely to be significantly linked to influencing or driving specific outcomes (also see tables G53-54). Identifying these factors is critical to shaping relevant research questions (inquiries) pertaining to the examination and discovery of causal relationships within the social and leadership environments; and, they are linked to the development of leadership policies that drive social phenomena. Each analysis or test applied is assigned a weighted value representative of the following with 5 being the highest and 1 being the lowest in significance. The scale utilized for scoring and ordinal ranking is as follows: 5 = Critical positive indicator or inference without which the analysis or test would be incomplete and without a determination; 4 = Somewhat critical positive factor or inference; 3 = Moderately critical positive factor or inference; 2 = Minor critical positive factor or inference; and, 1 = Incomplete assessment without being considered in the analysis due to the potential for error.</p>

Table G8.

IFD Analysis

Method	Description and Application
(IFD)	Incident Frequency Distribution
Method	<p>The IFD represents an unweighted incident frequency mean calculated from the single-incident theme sample observations in the literature investigated for inquiry cycles N_1: Historical, N_2: Present, and N_3: Future (also see Table G53-54, Column 1).</p> <p>Determination</p> <p>Social environment analysis. Themes were discovered to be in a range from .014 to .082; with a vertical vector data set mean = .044 of those investigated. Themes demonstrating the strongest relevancy inferences were: 2S_8: Present Population = .046; 3S_9: Future Social Security = .029; 2S_9: Present Social Security = .043; and, $^2S_{10}$: Present Health Care = .043 Due to the high frequency incident means associated which each of these variables, they should be subject to additional analysis and testing for possible integration into the construction of a stem research question in this category.</p> <p>Leadership environment analysis. Themes were discovered to be in a range from .014 to .082; with a vertical vector data set mean = .044 of those investigated. Themes demonstrating the strongest relevancy inferences were: 2S_8: Present Population = .046; 3S_9: Future Social Security = .029; 2S_9: Present Social Security = .043; and, $^2S_{10}$: Present Health Care = .043 Due to the high frequency incident means associated which each of these variables, they should be subject to additional analysis and testing for possible integration into the construction of a stem research question in this category.</p> <p>Reasoning. As a standalone assessment, Saldana would argue the results of applying this technique provides researchers with a strong indication as to where to guide a continuing investigation in order to extract a relevant insight or discovery from the literature. This argument supports Saldana's theory that theme frequencies are directly associated to relevancy.</p> <p>Significance. The overall weight or ranked value of this method or technique = 5, critical positive indicator or inference without which the analysis or test would be incomplete and without a determination.</p>

Table G9.

DGR Model Analysis

Method	Description and Application
(DGR)	Declining Generational Relevancy
Method	<p>The DGR analysis is associated with the integration of a cumulative weight (CW) coefficient that has been modeled from the observations extracted from a number of studies pertaining to assessing relevancy in proportion to time bias. The DGR is applied to each data point within a range of observations where each represents the number of theme incident reoccurrences observed. As such, each (theme) data point is multiplied by the CW coefficient as a means of adjusting or correcting the discovery in accordance with its date of observation so as to reflect an appropriate relevancy. The resulting relevancy is then directly dependent to the theme observation's publication date and its' contributor. Hence, older theme observations and contributors are subject to a proportional DGR or CW coefficient that effectively reduces their significance or relevancy when assessed or evaluated in the context of a complete sample frame (also see Figure F1; Table F2; and, Tables G53-54 Column 2).</p>

(continued)

Method	Description and Application
(DGR)	Declining Generational Relevancy
Method	
Determination	<p>Social environment analysis. Resultants represent vector set medians multiplied by the appropriate CW coefficient which range from 0.143 to 0.536. Given this ${}^1\text{Po}_1$ to ${}^2\text{S}_8$ or Historical Geography and Present Population = 0.536; ${}^2\text{S}_3$ to ${}^3\text{S}_8$ or Present Growth and Future Population = 0.429; ${}^2\text{S}_8$ and ${}^3\text{S}_9$ Present Population and Future Social Security = 0.464; and, ${}^2\text{S}_9$ and ${}^2\text{S}_{10}$ = Present Social Security and Present Health Care = 0.429 have been identified as demonstrating high degrees of relevancy.</p> <p>Leadership environment analysis. Resultants represent vector set medians multiplied by the appropriate CW coefficient which range from 0.143 to 0.536. Given this ${}^1\text{Po}_1$ to ${}^2\text{S}_8$ or Historical Geography and Present Population = 0.536; ${}^2\text{S}_3$ to ${}^3\text{S}_8$ or Present Growth and Future Population = 0.429; ${}^2\text{S}_8$ and ${}^3\text{S}_9$ Present Population and Future Social Security = 0.464; and, ${}^2\text{S}_9$ and ${}^2\text{S}_{10}$ = Present Social Security and Present Health Care = 0.429 have been identified as demonstrating high degrees of relevancy.</p> <p>Reasoning. As this study involves the assessment of an array of themes that are subject to an independent variable (time) it is critical to include the effects of a time bias (proportional relevancy variant) as a multiplier of each theme as sampled in the context of historic, present, and future. These are represented in the three data sample sets (N_1, N_2, and N_3) wherein, each has been adjusted according to the date of the publication of the author's work and observed theme, or the effective age of the theme and its' relevancy in the context of the DGR model. As such, themes extracted from more recently published literature are considered to have greater significance or influence as causational factors, drivers, and predictors of leader's decisions.</p> <p>Significance. The overall weight or ranked value of this method or technique = 5, critical positive indicator or inference without which the analysis or test would be incomplete and without a determination.</p>

Table G10.

Z-Score Analysis

Method	Description and Application
(Z-Score)	
Method	<p>A single sample z-test assists in evaluating the difference between an expected frequency observed (f_e) mean that is theoretical in comparison to another frequency observation (f_o) mean within the same vector or data frame (given a specified level (%) of significance alpha = 0.05, or a 95% confidence interval). The test resultant represents the number of deviations above or below the given data vector's mean. In this case, the test calculation infers whether the H_0 is proven given the difference between the means is greater than 6.009 were the range is 3.827 to 13.040. Conversely, the H_a may be proven if the difference between the means is lesser than 6.009 within the same range of outcomes (also see formula shown below, and, Tables G53-54, Column 3).</p> $z = \frac{X - \bar{X}}{sd}$
Determination	<p>Social environment analysis. The following themes (variable) outcomes were as follows: ${}^1\text{Po}_1$ = 3.8677, ${}^1\text{Po}_3$ = 4.2368, ${}^1\text{Po}_6$ = 3.8677, ${}^1\text{Po}_7$ = 4.5807, ${}^2\text{S}_3$ = 4.1104, ${}^2\text{S}_8$ = 4.0083, ${}^2\text{S}_9$ = 4.1104, ${}^2\text{S}_{10}$ = 4.1104, ${}^3\text{S}_1$ = 6.6150, ${}^3\text{S}_4$ = 5.9521, ${}^3\text{S}_9$ = 4.8132 and ${}^3\text{S}_{10}$ = 5.1025 within a range of 3.8680 to 6.6150. Of those listed, those closest to the minimum resultant of 3.868 are the most significant, they are: ${}^1\text{Po}_1$: Historical Geography = 3.8677; ${}^1\text{Po}_6$: Historical Cultural Ideology = 3.877; ${}^2\text{S}_8$: Present Population = 4.0083; ${}^2\text{S}_9$: Present Social Security = 4.1104; and ${}^2\text{S}_{10}$: Present Health Care = 4.1104. Those underlined share significant outcomes in other analytics and tests and are sufficiently significant to warrant additional assessment for integration into a relevant research stem question.</p>

(continued)

Method	Description and Application
(Z-Score) Method	<p>Leadership environment analysis. The following themes (variable) outcomes were as follows: ${}^1\text{Po}_1 = 3.8677$, ${}^1\text{Po}_3 = 4.2368$, ${}^1\text{Po}_6 = 3.8677$, ${}^1\text{Po}_7 = 4.5807$, ${}^2\text{S}_3 = 4.1104$, ${}^2\text{S}_8 = 4.0083$, ${}^2\text{S}_9 = 4.1104$, ${}^2\text{S}_{10} = 4.1104$, ${}^3\text{S}_1 = 6.6150$, ${}^3\text{S}_4 = 5.9521$, ${}^3\text{S}_9 = 4.8132$ and ${}^3\text{S}_{10} = 5.1025$ within a range of 3.8680 to 6.6150. Of those listed, those closest to the minimum resultant of 3.868 are the most significant, they are: ${}^1\text{Po}_1$: Historical Geography = 3.8677; ${}^1\text{Po}_6$: Historical Cultural Ideology = 3.877; ${}^2\text{S}_8$: Present Population = 4.0083; ${}^2\text{S}_9$: Present Social Security = 4.1104; and ${}^2\text{S}_{10}$: Present Health Care = 4.1104. Those underlined share significant outcomes in other analytics and tests and are sufficiently significant to warrant additional assessment for integration into a relevant research stem question.</p> <p>Reasoning. If the H_a contains one or more of these variables, the H_a is considered proven given a 95% confidence.</p> <p>Significance. The overall weight or ranked value of this method or technique = 3, moderately critical positive factor or inference.</p>

Table G11.

SD (M_error) Analysis

Method	Description and Application
(M_error) Standard Deviation (SD) Error Method	<p>This technique assesses the data and calculated resultants for indications of error.</p> <p>The test is applied to a data frame vector and run to determine the acceptability of the resultant in the context of the range of deviations discovered. The acceptability of the resultant is determined by the researcher. As a rule, a lower resulting error value infers a higher reliability of the data frame (also see Tables G54-55, Column 4).</p> <p>Determination</p> <p>Social environment analysis. The M_error vector ranges from 0.188 to 0.117. Variables with the lowest M_error were: ${}^3\text{S}_{10}$: Future Health Care = 0.117; ${}^3\text{S}_4$: Future Stability = 0.144; ${}^3\text{S}_1$: Future Geography = 0.132; ${}^2\text{S}_{10}$: Present Health Care = 0.132. None of the error resultants discovered in the data frame were high enough to warrant being isolated or eliminated from further consideration and integration into a stem research question.</p> <p>Leadership environment Analysis. The M_error vector ranges from 0.188 to 0.117. Variables with the lowest M_error were: ${}^3\text{S}_{10}$: Future Health Care = 0.117; ${}^3\text{S}_4$: Future Stability = 0.144; ${}^3\text{S}_1$: Future Geography = 0.132; ${}^2\text{S}_{10}$: Present Health Care = 0.132. None of the error resultants discovered in the data frame were high enough to warrant being isolated or eliminated from further consideration and integration into a stem research question.</p> <p>Reasoning. The higher the M error resultant indicates the data and resultant calculations are more subject to being questioned has valid.</p> <p>Significance. The overall weight or ranked value of this method or technique = 1, incomplete assessment without being considered in the analysis due to the potential for error.</p>

Table G12.

RFMD Analysis

Method	Description and Application
(RFMD)	Relative Frequency Magnitude Distribution
Method	<p>This method of analysis includes going back into the literature sampled in order to expand the investigation into each theme incident that occurred. The focus is to discover how many times each theme was repeated by the author or contributor in their cited work. This second literature review provides deeper insight into those themes the contributors repeat or reinforce the most. In statistical terms and for the purpose of this study, the degree to which any theme is repeated is characterized as its magnitude. The term relative implies that any given theme's magnitude is proportional to the literature being reviewed or investigated. This due to the wide range of reoccurrences that can be discovered to occur, the most appropriate term applied would be the relative magnitude of a theme frequency. This analysis procedure does not include the inclusion of the DGR or CW coefficient weighting for time bias.</p> <p>Determination</p> <p>Social environment analysis. The RFMD outcomes range from 0.103 to 0.751, with the greater value representative of a higher degree of significance. Specifically, the themes that inferred the highest significance were the following: ¹P₀₁: Historical Geography = 0.7510, ¹P₀₃: Historical Growth = 0.5360; ¹P₀₆: Historical Cultural Ideology = 0.7280; ¹P₀₇: Historical Education = 0.4496; ²S₃: Present Growth = 0.4165; ²S₈: Present Population = 0.4208. These were discovered to be above the mean for the data vector.</p> <p>Leadership environment analysis. The RFMD outcomes range from 0.103 to 0.751, with the greater value representative of a higher degree of significance. Specifically, the themes that inferred the highest significance were the following: ¹P₀₁: Historical Geography = 0.7510, ¹P₀₃: Historical Growth = 0.5360; ¹P₀₆: Historical Cultural Ideology = 0.7280; ¹P₀₇: Historical Education = 0.4496; ²S₃: Present Growth = 0.4165; ²S₈: Present Population = 0.4208. These were discovered to be above the mean for the data vector.</p> <p>Reasoning. This deeper investigation demonstrates the relative magnitude to which each theme reoccurs. The investigation supports Saldana's argument that themes which are repeated the most by any given author or contributor should be considered to be considered the most significant.</p> <p>Significance. The overall weight or ranked value of this method or technique = 4, somewhat critical positive factor or inference in the context of the degree of significance in making an overall final determination of finding.</p>

Table G13.

CW-IFDM Analysis

Method	Description and Application
CW-IFDM	Cumulative Weighted Incident Magnitude Frequency Mean Distribution
Method	<p>This method is similar to that of the RFMD analysis which includes going back into the literature sampled to discover the number of times each theme was repeated by the author or contributor in their work. In statistical terms, the degree to which any theme is repeated is characterized as its relative magnitude. In this analysis, each theme's relative magnitude has been multiplied by a coefficient associated with the age of the theme or observation. Therefore, the magnitudes provided in this analysis are the product of the DGR or proportional CW coefficient weight for time bias representative of when the observation was made or published.</p> <p>Determination</p> <p>Social environment analysis. The CW Weighted IFDMs range from 0.033 to 0.309, with the greater value representing a greater degree of significance. Specifically, the themes with the highest significance were the following: ¹Po₁: Historical Geography = 0.304, ¹Po₃: Historical Growth = 0.123; ¹Po₆: Historical Cultural Ideology = 0.309; ¹Po₇: Historical Education = 0.0147; ²S₃: Present Growth = 0.204; ²S₈: Present Population = 0.218; ²S₉: Present Social Security = 0.176; ³S₄: Future Stability = 0.1703; and, ³S₉: Future Social Security = 0.133. These were discovered to be above the mean for the data vector or 0.111.</p> <p>Leadership environment analysis. The CW Weighted IFDMs range from 0.033 to 0.309, with the greater value representing a greater degree of significance. Specifically, the themes with the highest significance were the following: ¹Po₁: Historical Geography = 0.304, ¹Po₃: Historical Growth = 0.123; ¹Po₆: Historical Cultural Ideology = 0.309; ¹Po₇: Historical Education = 0.0147; ²S₃: Present Growth = 0.204; ²S₈: Present Population = 0.218; ²S₉: Present Social Security = 0.176; ³S₄: Future Stability = 0.1703; and, ³S₉: Future Social Security = 0.133. These were discovered to be above the mean for the data vector or 0.111.</p> <p>Reasoning. This technique adjusts each theme to the appropriate level of relevancy or degree of significance when evaluating each for inclusion into the series of stem research questions focused on extracting discoveries from the Delphi questionnaire. The technique is intended to ensure that the older or more aged themes observed are scaled to an appropriate declining generational relevancy that best fits a theme's significance in real-time.</p> <p>Significance. The overall weight or ranked value of this method or technique = 5, critical positive indicator or inference without which the analysis or test would be incomplete and without a determination of value or degree of significance in making an overall final determination of finding.</p>

Table G14.

NRA Analysis (P-Value Analysis)

Method	Description and Application
(NRA) Method	<p>Nonlinear Regression (P-value)</p> <p>The analysis is expressed as a <i>descriptive statistic</i> that includes an estimated predictive trend as to the direction of the population to better understand the overall distribution of the sample (also see Tables G54-55, Column 8, and supporting Tables G53-54). This test statistic value infers the probability that the evidence against an H_0 is present. In short, this technique assumes the sample frequency distribution supporting an H_0 is false. The focus of the test is to assist in identifying the validity of what the H_0 is predicting when compared other assumed H_0 or H_a prediction. Outcomes where the test statistic outcome is found present in the tail of the sample distribution (a direction predicted by an H_a) infer it is far from what is being predicted in the assumed H_0. This descriptive, therefore, summarizes how far out in the tail the test statistic may fall wherein a given result indicates the likelihood of other variable observation may be more extreme. The P-value resultant is denoted by P (Agresti and Finlay, 2009).</p> <p>Determination</p> <p>Social environment analysis. The P-value outcomes range from 0.000 to 0.132, with the lower value representative of a greater degree of significance. Specifically, the themes with the highest significance were: $^1P_{01}$: Historical Geography = 0.000; $^1P_{06}$: Historical Cultural Ideology = 0.003; $^1P_{07}$: Historical Education = 0.000; 2S_3: Present Growth = 0.000; 2S_8: Present Population = 0.000; 2S_9: Present Social Security = 0.000; 3S_1: Future Geography = 0.030; and, 3S_9: Future Social Security = 0.003. These were discovered to be below the mean (0.031) for the data vector. As a rule, if the P-value has a moderate value, strong evidence exists that the variables are independent. Additionally, very small P-values infer strong evidence exists that the variables are associated. Of the themes identified, all infer evidence of being associated. In short, the H_0 variables are statistically independent. In this case, the H_a variables are statistically dependent given the observed frequency (f_o) of a data point in the sample table, and a low P-value associated with an expected frequency or (f_e). (Agresti and Finlay, 2009, pp. 224-227).</p> <p>Leadership environment analysis. The P-value outcomes range from 0.000 to 0.132, with the lower value representative of a greater degree of significance. Specifically, the themes with the highest significance were: $^1P_{01}$: Historical Geography = 0.000; $^1P_{06}$: Historical Cultural Ideology = 0.003; $^1P_{07}$: Historical Education = 0.000; 2S_3: Present Growth = 0.000; 2S_8: Present Population = 0.000; 2S_9: Present Social Security = 0.000; 3S_1: Future Geography = 0.030; and, 3S_9: Future Social Security = 0.003. These were discovered to be below the mean (0.031) for the data vector. As a rule, if the P-value has a moderate value, strong evidence exists that the variables are independent. Additionally, very small P-values infer strong evidence exists that the variables are associated. Of the themes identified, all infer evidence of being associated. In short, the H_0 variables are statistically independent. In this case, the H_a variables are statistically dependent given the observed frequency (f_o) of a data point in the sample table, and a low P-value associated with an expected frequency or (f_e). (Agresti and Finlay, 2009, pp. 224-227).</p> <p>Reasoning. Given these P-value outcomes, the test statistic values provide evidence against each being a H_0; and, are likely supportive of the direction predicted by H_a, therefore, each is considered true or valid as an H_a. Given the proposed stem research question was assumed as a null hypothesis, this finding indicates the H_0 is not valid and therefore rejected. In short, the proposed stem research question is then true.</p> <p>Significance. The overall weight or ranked value of this method or technique = 5, critical positive indicator or inference without which the analysis or test would be incomplete and without a determination of value or degree of significance in making an overall final determination of finding.</p>

Table G15.

PC Analysis

Method	Description and Application
(PC)	Pearson Correlation
Method	<p>The Pearson correlation coefficient, commonly referred to as Pearson's r, or bivariate correlation is a measure of the linear correlation between variables X and Y (also see Tables G53-54, Column 9). The coefficient is the covariance of two variables divided by the product of their standard deviation. This definition is characterized as a "product moment" that represents the mean (the first moment about the origin) of the product of the mean-adjusted random variables. The values represented in the table are resultants as extracted from the data sample, and are represented by the letter r or the sample correlation coefficient (also see supporting Pearson Correlation formula provided).</p> $cov(x, y) = \sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y}) / (n - 1)$
Determination	<p>Social environment analysis. (See Tables G53-54, Column 9) The r values for the themes tested ranged from 0.430 to 1.000 with the greater value representative of a higher degree of correlation. Given: ¹Po₁: Historical Population = 0.686; ¹Po₆: Historical Cultural Ideology = 0.518; ¹Po₇: Historical Education = 0.802; ²S₁₀: Present Health Care = 0.818; ³S₁: Future Geography = 0.673; ³S₄: Future Stability = 0.663; ³S₉: Future Social Security = 0.664; and, ³S₁₀: Future Health Care = 1.000; each exhibited a strong positive correlation to the others. For the purpose of this analysis, correlations are considered significant only when they are not associated with the same theme reference. For example, the strong correlation between ²S₁₀ and ³S₁₀ is discounted in terms of being considered for integration into a bivariate stem research question as the two share the same theme.</p> <p>Leadership environment analysis. (See Tables G53-54, Column 9) The r values for the themes tested ranged from 0.430 to 1.000 with the greater value representative of a higher degree of correlation. Given: ¹Po₁: Historical Population = 0.686; ¹Po₆: Historical Cultural Ideology = 0.518; ¹Po₇: Historical Education = 0.802; ²S₁₀: Present Health Care = 0.818; ³S₁: Future Geography = 0.673; ³S₄: Future Stability = 0.663; ³S₉: Future Social Security = 0.664; and, ³S₁₀: Future Health Care = 1.000; each exhibited a strong positive correlation to the others. For the purpose of this analysis, correlations are considered significant only when they are not associated with the same theme reference. For example, the strong correlation between ²S₁₀ and ³S₁₀ is discounted in terms of being considered for integration into a bivariate stem research question as the two share the same theme.</p> <p>Reasoning. Covariance can be thought of as the sum of matches and mismatches among the pairs of data points for x and y: a match occurs when both data points in the pair are on the same side of their mean, a mismatch occurs when one element in the pair is above its mean and the other is below its mean (Zaiontz, 2017). The values discovered range from +1 to -1. Given this, 1 is total positive correlation, 0 represents no correlation, and -1 represents total negative correlation. Therefore, all the observed outcomes infer a positive correlation.</p> <p>Significance. The overall weight or ranked value of this method or technique = 5, critical positive indicator or inference without which the analysis or test would be incomplete and without a determination of value or degree of significance in making an overall final determination of finding.</p>

Table G16.

SNA Analysis

Method	Description and Application
SNA Method	<p>Social Network Analysis</p> <p>The process mines the data frame for possible networks and then creates a graphic descriptive as a strategy for investigating social structures and theory (also see Appendix G, Figures G33-54; and, Tables G32, and G34-40). It characterizes the data in terms of structured network nodes (individual actors, people, things, or in this case themes within a network) and the ties or links (correlations, relationships, or interactions) that connect them. (Also, see Figure 1.5, Huff's Globular Nebula Theory.) In this study, these networks are visualized through the application of the Social Network Analyzer sociograms in which nodes are represented as points and ties are represented as connecting lines. Each line represents the <i>r</i> coefficient or strength of the correlation between the two variables illustrated in the network (Otte and Rousseau, 2002; Egghe and Rousseau, 2003; Sharker, 2017). The descriptive provides the <i>r</i> coefficients that are linked to each tie and node.</p> <p>Determination</p> <p>Social environment analysis. Given the sample data the following is inferred: ¹P₀₁: Historical Geography is linked to ²S₈: Present Population = 0.686; ¹P₀₃: Historical Growth is linked to ³S₃: Future Growth = 0.579; ¹P₀₆: Cultural Ideology is linked to ²S₃: Present Growth = 0.518; *¹P₀₇: Present Education is linked to ²S₁: Present Geography = 0.802; ²S₃: Present Growth is linked to ³S₈: Future Population = 0.430; ²S₈: Present Population is linked to ³S₉: Future Social Security = 0.709; ²S₉: Present Social Security is linked to ²S₁₀: Present Health Care = 0.754; ²S₁₀: Present Health Care is linked to ³S₁₀: Future Health Care = 0.818; ³S₁: Future Geography is linked to ³S₉: Future Social Security = 0.673; ³S₄: Future Stability is linked to ³S₅: Future Unity = 0.663; ³S₉: Future Social Security is linked to ³S₁₀: Future Health Care = 0.664; ³S₁₀: Future Health Care is linked to ³S₁₀: Future Health Care = 1.000. As is the case with the other techniques explored, variables with strong correlations to themselves are discounted for integration into bivariate stem research questions. Therefore, the outcomes for ²S₁₀ and ³S₁₀ are not included as selections for the construction of a stem research question. * The ¹P₀₇ link to ³S₈ was used a test statistic to determine a random correlation <i>r</i> coefficient significance for an expected distribution frequency association.</p> <p>Leadership environment analysis. Given the sample data the following is inferred: ¹P₀₁: Historical Geography is linked to ²S₈: Present Population = 0.686; ¹P₀₃: Historical Growth is linked to ³S₃: Future Growth = 0.579; ¹P₀₆: Cultural Ideology is linked to ²S₃: Present Growth = 0.518; *¹P₀₇: Present Education is linked to ²S₁: Present Geography = 0.802; ²S₃: Present Growth is linked to ³S₈: Future Population = 0.430; ²S₈: Present Population is linked to ³S₉: Future Social Security = 0.709; ²S₉: Present Social Security is linked to ²S₁₀: Present Health Care = 0.754; ²S₁₀: Present Health Care is linked to ³S₁₀: Future Health Care = 0.818; ³S₁: Future Geography is linked to ³S₉: Future Social Security = 0.673; ³S₄: Future Stability is linked to ³S₅: Future Unity = 0.663; ³S₉: Future Social Security is linked to ³S₁₀: Future Health Care = 0.664; ³S₁₀: Future Health Care is linked to ³S₁₀: Future Health Care = 1.000. As is the case with the other techniques explored, variables with strong correlations to themselves are discounted for integration into bivariate stem research questions. Therefore, the outcomes for ²S₁₀ and ³S₁₀ are not included as selections for the construction of a stem research question. * The ¹P₀₇ link to ³S₈ was used a test statistic to determine a random correlation <i>r</i> coefficient significance for an expected distribution frequency association.</p> <p>Reasoning. The observed nodes, links, and representative <i>r</i> correlation coefficients construct sufficient descriptives representative of significant theme correlations.</p> <p>Significance. No scaled assignment is necessary as a part of this analysis and determination.</p>

Table G17.

SFDC Analysis

Method	Description and Application
SFDC Method	<p>Saldana Frequency Distribution by Contributor</p> <p>The method utilizes a technique to identify themes within relevant literature as a basis of discovering their significance in terms of identify patterns and degrees (magnitudes) of reoccurrence within a single or series of sample frames (also see Tables G53-54, Column 12). The technique can be used to evaluate samples taken in real-time or a series of longitudinal samples. When more deeply investigated and assessed the data collected can be adjusted to each samples time-bias allowing the data to be modeled or structured to represent a proportionally weighted declining generational relevancy (DGR) model. The Saldana technique applied in this study is covered in greater detail in methodology section of Chapter Three.</p> <p>Determination</p> <p>Social environment analysis. 55% of the data collected for analysis was extracted from sources collected outside of the core group of 18 contributors. This is significant from the standpoint that many of the SME narratives are older or more dated than those represented as other contributors. Based on the weight of the data collected from “Others” as framed by the DGR time-bias model, the analysis infers this study is significantly guided or influenced by those contributors/themes that are the most recent, significant, and relevant.</p> <p>Leadership environment analysis. 55% of the data collected for analysis was extracted from sources collected outside of the core group of 18 contributors. This is significant from the standpoint that many of the SME narratives are older or more dated than those represented as other contributors. Based on the weight of the data collected from Others as framed by the DGR time-bias model, the analysis infers this study is significantly guided or influenced by those contributors/themes that are the most recent, significant, and relevant.</p> <p>Reasoning. In this case the number of contributors classified as Others was significantly higher than those in the SME control group. Effectively, Others were found to be speaking out more about the themes (variates) in the second two sample cycles (N_2: Present; and N_3: Future) than in the N_1 or Historical cycle. This may be significant considering the other contributors are contemporary to the core SME contributors in terms of publishing themes along a time bias that represents a greater relevancy.</p> <p>Significance. The overall weight or ranked value of this method or technique = 3, moderately critical positive factor or inference based on the degree of significance in making an overall final determination of finding.</p>

Table G18.

QA Analysis

Method	Description and Application
Quartile (QA)	<p>Interquartile Range (IQR)</p> <p>Method</p> <p>The analysis is expressed as a descriptive statistic in which a five-number summary provides a simple description of the data (also see Tables G53-54, Column 13). These numbers form the basis of a box plot that summarizes both the center and variability of sample data. The boxed portion of the plot contains the central 50% of the sample distribution which includes the lower and upper quartiles. The median is marked by a line drawn through a portion of the box. The lines extending from the box are called the whiskers. These represent the maximum and minimum limits of the sample data points with the exception of any outliers (observations) which are marked separately. Data points that lie the closest to the median of the distribution have the highest degree of significance (Agresti and Finlay, 2009, pp. 53-54.). In addition, any given observation can be assessed for significance by measuring (calculating) how far a selected observation falls from the mean in terms of the number of standard deviations (also see z-score test analysis, this section). In this study, a side-by-side box plot analysis was used to compare the historical, present, future and Leading findings to identify any significant shifts between the three samples due to longitudinal time bias.</p> <p>Determination</p> <p>Social environment analysis. When the analysis method is applied the following is observed: The variable IQR's range from 0.000 to 7.510 (See Tables G25). When assessed individually the following themes are significant demonstrating a high degree of agreement as shown by the following variable IQRs, observed frequencies observation mean (\bar{f}_o), and data frame IQRs:</p> <p><i>Note.</i> Certain variables were dropped from the above list as a result of the definitive reoccurring frequency observation mean (\bar{f}_o) outcomes with the generalized variable IQR outcomes. The underlined themes share high degrees of correlation and agreement after assessing the outcomes of the other analysis and tests applied. When viewed as longitudinal data frames side by side the IQRs for each order of inquiry (cycle) close from a range where $N_1 = 0.2062$; $N_2 = 0.1867$; $N_3 = 0.0959$; and, $N_4 = 0.1456$. N_4 is discounted as it only contained a set of expected observations established by the researcher prior to a determination of finding. What can be observed is that the IQRs of N_1, N_2, and N_3 appear to show an increasingly tightening of the sample data distribution which indicates the variables are increasingly in agreement as the theme samples progress over time.</p> <p>Reasoning. In this case, the lower IQRs indicate greater significance in terms of the variable (theme data point) in the sample distribution as they possess the highest general tendency within the sample set, hence, these are the most significant in terms of the potential for reoccurrence and supportive of predicted outcomes.</p> <p>Significance. Not applied when using this analytic method due to its descriptive nature. In this case the technique's significance is reduced due to the degree or magnitude of the residuals present in each distribution and the ranges between the outside fences. According to many statistical analysts, quartile analysis has lost favor as a technique for identifying inferences of variable agreement. They argue the range between the outer fences in the distribution distorts the accuracy of the agreement inferences. Given this, the statistical analyst reviewing this research argues in favor of conducting a series of other analysis and tests to better determine a defensible set of inferences.</p>

(continued)

Method	Description and Application
Quartile Interquartile Range (IQR) (QA)	
Method	<p>Leadership environment analysis. When the analysis method is applied the following is observed: The variable IQR's range from 0.000 to 5.000. When assessed individually the following themes are significant demonstrating a high degree of agreement as shown by the variable IQRs, and observed frequency means (<i>fo</i>), and data frame IQRs.</p> <p><i>Note.</i> Certain variables were dropped from the consideration as a result of the definitive reoccurring observation frequency mean (<i>fo</i>) outcomes with the generalized variable IQR outcomes.</p> <p>The underlined themes share high degrees of correlation and agreement after assessing the outcomes of the other analysis and tests applied. When viewed as longitudinal data frames side by side the IQRs for each order of inquiry (cycle) close from a range where $N_1 = 0.2062$; $N_2 = 0.1867$; $N_3 = 0.0959$; and, $N_4 = 0.1456$. N_4 is discounted as it only contained a set of expected observations established by the researcher prior to a determination of finding. What can be observed is that the IQRs of N_1, N_2, and N_3 appear to show an increasingly tightening of the sample data distribution which indicates the variables are increasingly in agreement as the theme samples progress over time. This supports the general direction and selection of those variables (themes) that are likely to demonstrate causational influence as drivers of a specific outcome in the context of being predictive of the direction China take in the future.</p> <p>Reasoning. In this case, the lower IQRs indicate greater significance in terms of the variable (theme data point) in the sample distribution as they possess the highest general tendency within the sample set, hence, these are the most significant in terms of the potential for reoccurrence and supportive of predicted outcomes.</p> <p>Significance. Not applied when using this analytic method due to its descriptive nature. In this case the technique's significance is reduced due to the degree or magnitude of the residuals present in each distribution and the ranges between the outside fences. According to many statistical analysts, quartile analysis has lost favor as a technique for identifying inferences of variable agreement. They argue the range between the outer fences in the distribution distorts the accurately of the agreement inferences. Given this, the statistical analyst reviewing this research argues in favor of conducting a series of other analysis and tests to better determine a defendable set of inferences.</p>

Table G19.

SC – RSAF Analysis

Method	Description and Application
Selection Score Criteria	Weighted and Unweighted Selection Criteria and Ranking Analysis Finding
Method	<p>A mixed-method analysis technique for selection of qualitative and quantitative analytics and tests that are focused on the selection the most inferentially significant themes (also see Tables G53-54, Column 14). This technique utilizes individual assessments to formulate a total collective evaluation and determination of findings. These findings will then serve to shape the construction of this study's stem research questions that will make up the series of Delphi panel survey questionnaires (also see, Tables H1, key inquiries, influencing themes and the supporting selections).</p> <p>Determination</p> <p>Social environment analysis. The overall selection criteria scores range from 35.133 to 73.319, with the higher value or score representing a higher rank order. As extracted from the table the individual and conjunctive correlative (highly associated) themes were ranked as follows: 1st - ¹P₀₁: Historical Geography to ²S₈: Present Population = 73.319; 2nd - ²S₈: Present Population to ³S₉: Future Social Security = 62.308; 3rd - ²S₉: Present Social Security to ²S₁₀: Present Health Care = 57.179; 4th - ²S₃: Present Growth to ³S₈: Future Population = 55.441. As Historical cycle themes were only used in the study to establish a baseline, the first ranked observation in this set is not considered for integration into a stem research question. The social themes selected represent those factors that are statistically inferred to be influencers or drivers of predicting China's challenges and direction over the next decade.</p> <p>Leadership environment analysis. The overall selection criteria scores range from 35.133 to 73.319, with the higher value or score representing a higher rank order. As extracted from the table the individual and conjunctive correlative (highly associated) themes were ranked as follows: 1st - ¹P₀₁: Historical Geography to ²S₈: Present Population = 73.319; 2nd - ²S₈: Present Population to ³S₉: Future Social Security = 62.308; 3rd - ²S₉: Present Social Security to ²S₁₀: Present Health Care = 57.179; 4th - ²S₃: Present Growth to ³S₈: Future Population = 55.441. As historical cycle themes were only used in the study to establish a baseline, the first ranked observation in this set is not considered for integration into a stem research question. The social themes selected represent those factors that are statistically inferred to be influencers or drivers of predicting China's challenges and direction over the next decade.</p> <p>Reasoning. The analysis technique associates each variable as multiplied by the assigned scale (weighted value) to determine each theme's final (cumulative) evaluation when compared to others represented in the data frame. This final assessment or ordinal ranking represents as the weighted positive selection Criteria Score (SC). The method of calculation is following: Given: S = Social Category; I = Order or cycle number of the inquiry; RW = relative weight resultant associated with a specific sample variable or theme; and C = analysis or test technique as represented by column number indicated and analytic description; multiplied by each analysis or test outcome or resultant value = RSAF, scripted as follows:</p> $= _S1RWC1*0.077+ _S1RWC2*0.536+ _S1RWC3*3.8677 + _S1RWC5*0.751+ _S1RWC6*0.304+ _S1RWC7*1.231+ _S1RWC8*0+ _S1RWC9*0.686+ _S1RWC12*15.$ <p>This calculation process or algorithm is designed to reduce the degree of bias or subjectivity when determining a ranked order of significance associated with an array of analytic outcomes in the context of a group of variables (theme) outcomes. When implemented, this process reduces the influence of a researcher's selection bias associated with the overall assigned relative weights (RW) of each technique or test. The RW's assigned were subject to considerable reflection and are considered to be a good and fair fit for arriving at a final outcome or selection score, where the higher score represents a higher ranked outcome.</p> <p>Significance. No scaled assignment is necessary as the RW has been integrated into the algorithm.</p>

Table G20.

Overall RQKn Analysis

Method	Description and Application
RQKn Method	Overall Ordinal Ranking for RQKn Data Selection Range Analysis
	See the SC and RSAF sections of this analysis and ranking methodology (also see Tables G53-54, Column 15).
Determination	The overall rankings were calculated using the weighted and unweighted selection criteria analysis method wherein an overall ranking was determined as shown in the RASF section of this analysis.
	Reasoning. The selection of significant themes was determined by: reflecting on the data; reassessing the outcomes and techniques of quantitative and qualitative analysis; and, reducing the selection process to only considering those themes exhibiting the strongest inferences. This re-examining in terms of the applied theories and underlying reason support the theme selections that are the most defensible and serves to guide the direction of this study towards achieving its goal.
	Significance. No assigned scaled weight is necessary to complete this analysis technique as the relative significance of findings is represented in the SC and RSAF ranked order of the variables that were observed and evaluated.

Table G21.

Ho Assessment, Null Hypotheses

Method	Description and Application
Ho	Null Hypotheses Assessments
	Method (also see Tables G.53-54, Columns 16 - 17.)
	Determination
	Social environment analysis. The following null hypotheses are assumed to be false: ¹ Po ₃ to ³ S ₃ ; Historical Growth to Future Growth (True, accepted) ¹ Po ₆ to ² S ₃ ; Historical Cultural Ideology to Present Growth (True, accepted) ¹ Po ₇ to ² S ₁ ; Historical Education to Present Geography (True, accepted) ² S ₁₀ to ³ S ₁₀ ; Present Growth to Future Growth (True, accepted) ³ S ₁ to ³ S ₉ ; Future Geography to Future Social Security (True, accepted) ³ S ₄ to ³ S ₅ ; Future Stability to Future Unity (True, accepted) * ³ S ₉ to ³ S ₁₀ ; Future Social Security to Future Health Care (True, accepted) ³ S ₁₀ to ³ S ₁₀ ; Future Health Care to Future Health Care (True, accepted) Are all considered to be null hypotheses as they are not supported from the collective series of analysis and tests. * This hypothesis and outcome may be the subject of further investigation and or inclusion in the Delphi stem research questions. Given the assumptions ² S ₈ U ³ S ₉ is not true and is therefore rejected. The outcomes infer this null hypothesis is not proven or valid and is rejected, meaning the two variables (themes) are associated and relevant.
	Reasoning. Assuming the researcher's algorithm is a good and fair fit for determining an overall assessment of the sample data, the above conclusions are supported by the evidence provided.
	Significance. No ranked order or scale of significance is needed in this assessment.
	Leadership environment analysis. The following null hypotheses are assumed to be false: ¹ Po ₃ to ³ S ₃ ; Historical Growth to Future Growth (True, accepted) ¹ Po ₆ to ² S ₃ ; Historical Cultural Ideology to Present Growth (True, accepted) ¹ Po ₇ to ² S ₁ ; Historical Education to Present Geography (True, accepted) ² S ₁₀ to ³ S ₁₀ ; Present Growth to Future Growth (True, accepted) ³ S ₁ to ³ S ₉ ; Future Geography to Future Social Security (True, accepted) ³ S ₄ to ³ S ₅ ; Future Stability to Future Unity (True, accepted) * ³ S ₉ to ³ S ₁₀ ; Future Social Security to Future Health Care (True, accepted) ³ S ₁₀ to ³ S ₁₀ ; Future Health Care to Future Health Care (True, accepted)

(continued)

Method	Description and Application
Ho	Null Hypotheses Assessments
Method	<p>Are all considered to be null hypotheses as they are not supported from the collective series of analysis and tests. * This hypothesis and outcome may be the subject of further investigation and or inclusion in the Delphi stem research questions. Given the assumptions $^2S8 \cup ^3S9$ is not true and is therefore rejected. The outcomes infer this null hypothesis is not proven or valid and is rejected, meaning the two variables (themes) are associated and relevant.</p> <p>Reasoning. Assuming the researcher's algorithm is a good and fair fit for determining an overall assessment of the sample data, the above conclusions are supported by the evidence provided.</p> <p>Significance. No ranked order or scale of significance is needed in this assessment.</p>

Table G22.

Ha Assessment

Method	Description and Application
Ha	Alternative Hypotheses Assessments
Method	(Also see Tables G.54-55, Column 18 - 20.)
Determination	<p>Social environment analysis. (Table G53)</p> <p>1PO_1: Historical Geography to 2S_8: Present Population (True, accepted)</p> <p>2S_8: Present Population to 3S_9: Future Social Security (True, accepted)</p> <p>2S_9: Present Social Security to $^2S_{10}$: Present Health Care (True, accepted)</p> <p>2S_3: Present Growth to 3S_8: Future Population (False, rejected)</p> <p>Leadership environment analysis. (Table G54)</p> <p>2P_8: Leadership to $^2S_{10}$: Present Internal Government Legitimacy (True, accepted)</p> <p>$^2P_{14}$: Present Power, Authority, Superiority to 2P_7: Present External Government Legitimacy (False, rejected)</p> <p>2E_8: Present Economic and Monetary Ideology to 2P_1: Freedom (True, accepted)</p> <p>2I_2: Present Cultural Stability to 2S_8: Future Leadership Behavior (True, accepted)</p> <p>Reasoning. Outcomes extracted from the SC Process and supporting algorithm were considered to be a good and fair fit for determining an overall assessment of the sample data. Hence, the above conclusions are supported by the evidence provided.</p> <p>Significance. These outcomes guide the construction of the Delphi survey stem research questions and questionnaire which are collectively designed to lead in the discovery of a valid prediction.</p>

Table G23.

HFCL Analysis

Method	Description and Application
(HFCL) Method	<p>High Frequency Contributing Literature</p> <p>This qualitative analysis focuses on presenting relevant literature reviews that are considered to best represent the arguments that infer agreement, neutrality, or disagreement in terms of the contributor's interpretations of the themes that serve to influence as driving factors in this area of interest (also see cited relevant literature reviews this section). Each contributor's work and theme observation are significant in determining the challenges and direction China will take in its development of future policy (also see: Figure B1, and Table B5 for social themeing, frequency distribution results; Figure B2, and Table B9 for leadership themeing, frequency distribution results).</p> <p>Determination</p> <p>Social environment analysis. A final assessment of these initial findings will be possible once the results from the Delphi panel survey results are available (See Chapters Three and Four). These initial findings will be compared to those of the Delphi panel questionnaire responses. At that time, each of the hypotheses proposed in this chapter will be determined as valid and accepted or dis-validated and rejected.</p> <p>Leadership environment analysis. A final assessment of these initial findings will be possible once the results from the Delphi panel survey results are available (See Chapters Three and Four). These initial findings will be compared to those of the Delphi panel questionnaire responses. At that time, each of the hypotheses proposed in this chapter will be determined as valid and accepted or dis-validated and rejected.</p> <p>Reasoning. The collective information, knowledge, and global environmental experience of the Delphi panel's SMEs when complimented with the data, analytics, and tests provided will serve to identify those themes that are likely to influence and drive leadership policy.</p> <p>Significance. The findings and conclusions extracted from this section serve as a critical guide to aligning this study's focused goal with the direction and overall goals of the Delphi panel survey(s) and questionnaire(s). When supplemented with the information provided in this chapter, the Delphi panel will be empowered appreciate the considerable attention to detail and focused analysis this study provides. This researcher trusts this information will serve to inform and inspire the panel to participate in the determination of a unique discovery that is critical to understanding China's direction and emerging leadership policy.</p>

Table G24.

Contributing Author Theme Incidents by Sample Cycle: R Structured CSV Data Table

Contributing Author					Contributing Author					Contributing Author				
Citations	cit_tot_1	cit_tot_2	cit_tot_3	cit_tot_4	Citations	cit_tot_1	cit_tot_2	cit_tot_3	cit_tot_4	Citations	cit_tot_1	cit_tot_2	cit_tot_3	cit_tot_4
Beardson	1.000	4.000	4.000	1.000	Lowe	2.000	0.000	0.000	1.000	Others-5	4.000	4.000	1.000	3.000
Brown	0.000	0.000	0.000	0.000	Nash	0.000	0.000	0.000	0.000	Others-6	2.000	3.000	0.000	2.000
ChinaScope	0.000	0.000	0.000	0.000	Smith	0.000	0.000	0.000	0.000	Others-7	2.000	2.000	0.000	2.000
Cohen	0.000	1.000	1.000	0.000	Tselichtchev	5.000	3.000	2.000	3.000	Others-8	2.000	2.000	0.000	2.000
Diamond	3.000	2.000	3.000	1.000	Vogel	6.000	4.000	0.000	3.000	Others-9	2.000	1.000	0.000	2.000
Farrel	1.000	0.000	0.000	1.000	Xiaoping	4.000	4.000	1.000	2.000	Others-10	2.000	0.000	0.000	2.000
Ferguson	5.000	1.000	1.000	3.000	Zhu	2.000	0.000	0.000	2.000					
Friedman	3.000	0.000	0.000	1.000	Others-1	7.000	10.000	10.000	4.000					
Jacques	2.000	1.000	1.000	2.000	Others-2	5.000	7.000	7.000	4.000					
Johnson	5.000	3.000	3.000	3.000	Others-3	4.000	4.000	3.000	3.000					
Kissinger	6.000	3.000	0.000	3.000	Others-4	4.000	4.000	3.000	3.000					

Note. Extracted from the literature data.

1. The Pareto Chart plots the distribution of the data in descending order of frequency with a cumulative line on a secondary axis as a percentage of the total. The method is commonly used as an interpretive in social research as a form of analysis.
2. The Contributing Author data table is extracted from the CSV data constructed for input to the R statistical program. The table reflects the original data collected from investigating the literature. It reflects the number of single incident theme occurrences associated with each sub-category variable. This table does not reflect the total number of reoccurrences or magnitude associated with any one theme and does not reflect a CW adjustment for longitudinal time bias. The table has been provided in conjunction with the Frequency Distribution by Contributor (Perc) Pareto Chart to enable an association between the weight of contributors as influencers towards identifying significant themes, and the actual incident counts associated to each contributor.

Data:

1. See Chapter One and Two, Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9 representing mapping, themes, and codes by category and sub-category in the context of investigating social environment factors; and the range of potential challenges - analysis.
3. See Chapter One, Table 1.4, mapping, themes, and codes pertaining to 1st, 2nd, 3rd, and 4th Inquiry cycles - moving towards a focused inquiry.
4. Also see Appendix B, Figure B1, Table B5; and, Figure B2, Table B9); Table H1, Inquiring System: Research questions and relevancy (RQKn); and Data Set Frequency Distribution Plot and Quartile Interpretive (Figures G1-12); and, Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9.
5. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study's core questions.

Notation/Script:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

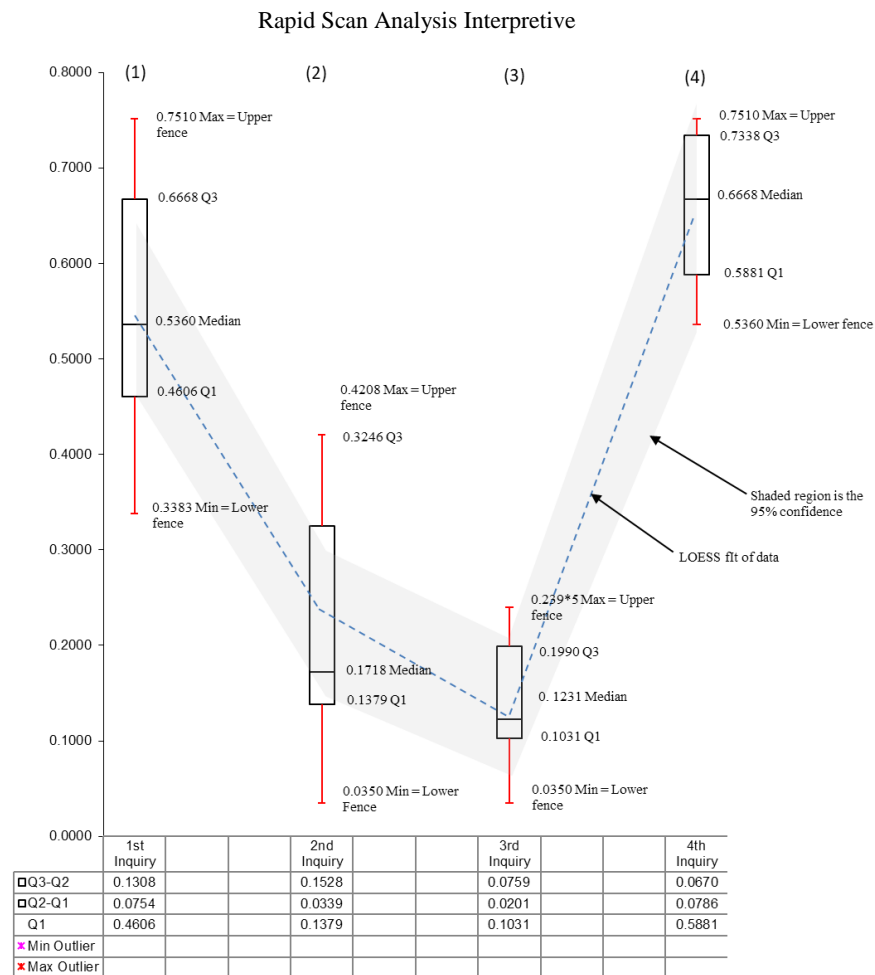


Figure G1. Box plot: Five-number quartile analysis, social factor series 1a/5, RH_{1,2}.

Note. Excel software plot, compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

Data:

1. See Appendix CSV themeing data tables: weighted incident analysis, inquiry series.
2. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
3. In this set of assessments, time is considered to be an independent variable.

Table G25.

Box Plot Data Table: Social (S) Factor Inquiry Series 1a/5, RH_{1,2}

Distribution Characteristics								
Labels	1st Inquiry	2nd Inquiry	3rd Inquiry	4th Inquiry				
Min	0.3383	0.0350	0.0350	0.5360				
Q ₁	0.4606	0.1379	0.1031	0.5881				
Median	0.5360	0.1719	0.1231	0.6668				
Q ₃	0.6668	0.3246	0.1990	0.7338				
Max	0.7510	0.4208	0.2395	0.7510				
IQR	0.2062	0.1867	0.0959	0.1456				
Upper Outliers	0.0000	0.0000	0.0000	0.0000				
Lower Outliers	0.0000	0.0000	0.0000	0.0000				
For the Box (IQR and Median)								
Q2-Q1	0.0754	0.0339	0.0201	0.0786				
Q3-Q2	0.1308	0.1528	0.0759	0.0670				
For the Whiskers								
Q ₃ +1.5*IQR	0.9760	0.6047	0.3428	0.9522				
Q ₁ -1.5*IQR	0.1514	-0.1421	-0.0408	0.3697				
Upper Whisker	0.7510	0.4208	0.2395	0.7510				
Lower Whisker	0.3383	0.0350	0.0350	0.5360				
W _{upper} -Q ₃	0.0843	0.0962	0.0406	0.0173				
Q ₁ -W _{lower}	0.1223	0.1029	0.0681	0.0521				
For the Outliers								
Max	#N/A	#N/A	#N/A	#N/A				
Min	#N/A	#N/A	#N/A	#N/A				
Reoccurring Frequency Quotients								
Sample No.	Codes	1st Inquiry	Codes	2nd Inquiry	Codes	3rd Inquiry	Codes	Inquiry
1	(1Po1)	0.7510	(2S1)	0.2464	(3S1)	0.1411	(2S8)	0.7510
2	(1Po2)	0.3383	(2S2)	0.0350	(3S2)	0.0350	(3S8)	0.7280
3	(1Po3)	0.5360	(2S3)	0.4165	(3S3)	0.2395	(2S9)	0.6055
4	(1Po4)	0.4716	(2S4)	0.1703	(3S4)	0.1703	(3S9)	0.5360
5	(1Po5)	0.6055	(2S5)	0.1051	(3S5)	0.1051		
6	(1Po6)	0.7280	(2S6)	0.1734	(3S6)	0.0699		
7	(1Po7)	0.4496	(2S7)	0.1386	(3S7)	0.1047		
8			(2S8)	0.4208	(3S8)	0.2096		
9			(2S9)	0.3507	(3S9)	0.2085		
10			(2S10)	0.1377	(3S10)	0.1025		

Note. Compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

1. RH1,2: Priority of selection was weighted to 2S9, and 3S9 responses 1st; and, then to 2S8 and 3S8 responses; and, then by the collective response total or score.
2. RH1,2: By priority of selection, only significant responses within each of the categories were subject to additional study.
3. RH1,2: Selection included a minimum 2S9 + 3S9 score $\geq .395$, and a 2S8 + 3S8 score $\geq .345$ respectively to warrant subsequent literature review, investigation, and analysis.

Category: In addition to considering each sub-variable (theme) in each category in the context of the identified range and distribution of reoccurrence frequencies discovered, the sub-variable categories selected as “leading” (Leads) are supported by four statistical tests pertaining to significance level, critical regions for practical assessment, confidence interval, and margin of error.

Data:

1. See Chapters One and Two; and, Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9; Mapping, themes and codes, 1st, 2nd, 3rd, and 4th Orders - Moving towards a focused inquiry.
2. See Chapter Two and supporting Table G5, Literature Inquiry Analysis: RH3 – Social Environmental Factors; range of leading potential challenges and analysis.
3. See Appendix G, Figure G2, Social themeing: Frequency and distribution analysis (interpretive).
4. See Appendix F, Table F4; and, Appendix H, Table H1, Inquiring System: Research questions and relevancy (RH3).
5. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study’s core questions.

Plot:

1. Plot illustrates the frequency distribution of the literature data collected in the 1st Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “historic” influencers.
2. Plot illustrates the frequency distribution of the literature data collected in the 2nd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “present” influencers.
3. Plot illustrates the frequency distribution of the literature data collected in the 3rd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “future” influencers.
4. Plot illustrates the frequency distribution of the literature data collected in the 4th Inquiry cycle of the “Leading” IS outcomes pertaining to the analysis and extraction of those sub-variables in the context of having the highest potential as causational factors related to “future” event predictions.
5. The curved plot illustrates the variance in the four inquiry distribution medians. The curve indicates the impact of the relative time-bias associated with the three different periods focused on in this longitudinal investigation as compared to the variable distribution of those selected for framing the RH1-2 research questions.

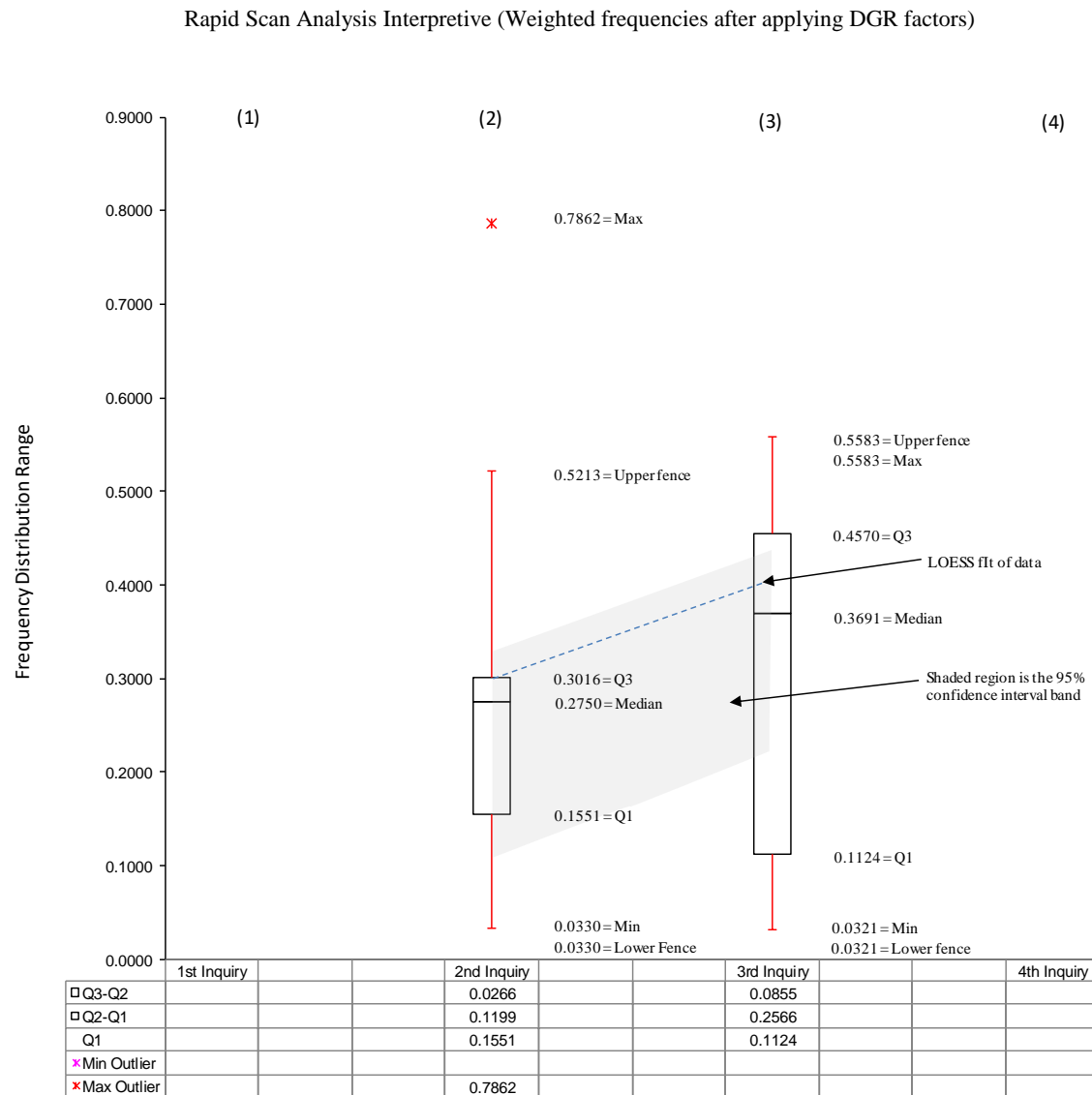


Figure G2. Box plot: Five-number quartile analysis, leadership factor series 1b/5, RH₃.

Note. Excel software plot, compiled from Literature Inquiry CSV Data and Analysis; themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

Data:

1. See Appendix CSV themeing data tables: weighted incident analysis, inquiry series.
2. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
3. In this set of assessments, time is considered to be an independent variable.
4. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
5. In this set of assessments, time is considered to be an independent variable.

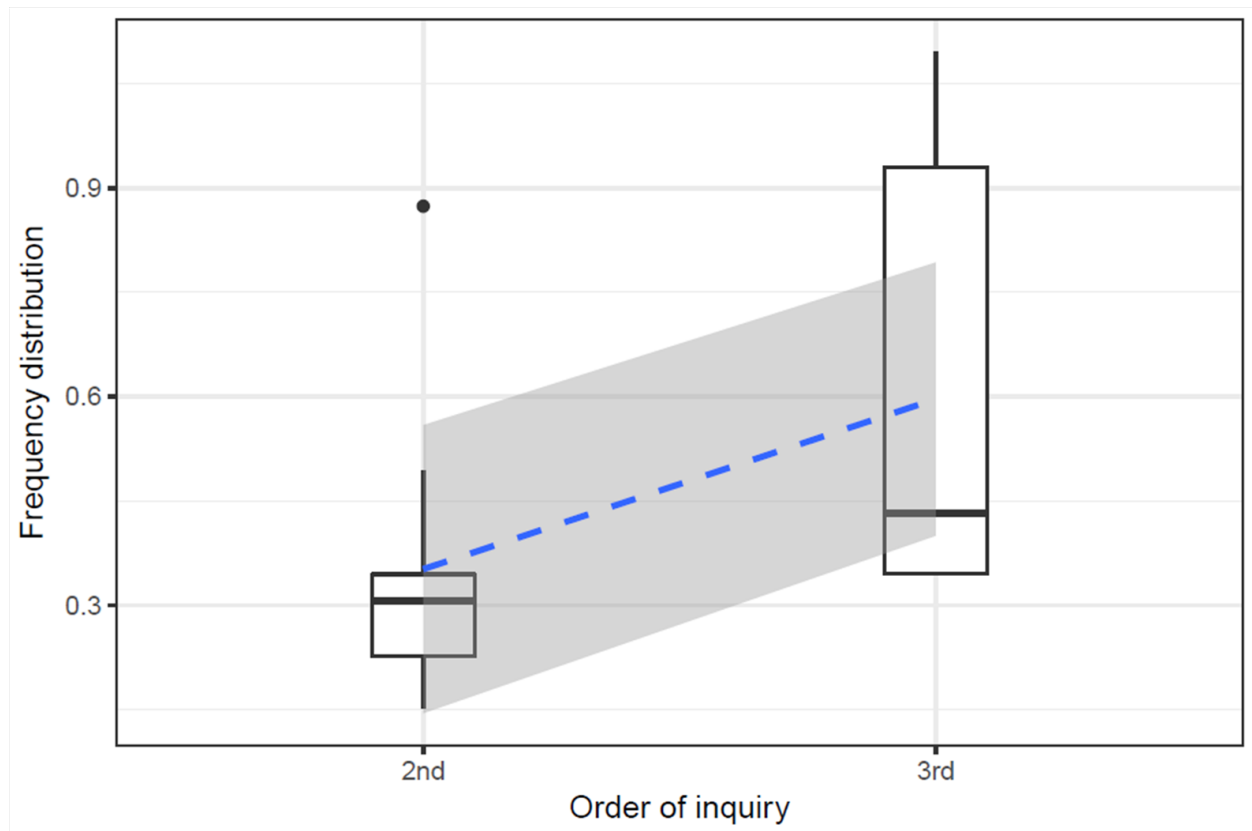


Figure G3. R software generated B plot for leadership (S) factor series 1b/5, RH₃.

Note. R software analytics. This box plot analysis was created for the purpose of comparing R and Ms excel software outcome interpretatives. The plot illustrates the association (influence) of select social factors on leadership and associated behavior.

Table G26.

*Box Plot Data Table: Leadership (S) Factor Inquiry Series 1b/5, RH₃***Distribution Characteristics (2S1-2S10) and (3S1-3S10)**

Labels	1st Inquiry	2nd Inquiry	3rd Inquiry	4th Inquiry
Min		0.0330	0.0321	
Q1		0.1551	0.1124	
Median		0.2750	0.3691	
Q3		0.3016	0.4546	
Max		0.7862	0.5583	
IQR		0.1465	0.3422	
Upper Outliers		1.0000	0.0000	
Lower Outliers		0.0000	0.0000	

For the Box (IQR and Median)

Q2-Q1	0.1199	0.2566
Q3-Q2	0.0266	0.0855

For the Whiskers

Q3+1.5*IQR	0.5213	0.9679
Q1-1.5*IQR	-0.0646	-0.4008
Upper Whisker	0.5213	0.5583
Lower Whisker	0.0330	0.0321
Wupper-Q3	0.2197	0.1036
Q1-Wlower	0.1220	0.0803

For the Outliers

Max	0.7862	#N/A
Min	#N/A	#N/A

Reoccurring Frequency Quotients

Sample No.	Codes	2nd Inquiry	Codes	3rd Inquiry
1	(2S1)	0.0330	(3S1)	0.0321
2	(2S2)	0.1371	(3S2)	0.0692
3	(2S3)	0.2750	(3S3)	0.5583
4	(2S4)	0.3096	(3S4)	0.4210
5	(2S5)	0.4449	(3S5)	0.2422
6	(2S6)	0.7862	(3S6)	0.4491
7	(2S7)	0.2775	(3S7)	0.3172
8	(2S8)	0.1388	(3S8)	0.0355
9	(2S9)	0.2038	(3S9)	0.4565
10	(2S10)	0.2750	(3S10)	0.5272
11		1.44		0.311
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				

Note. R software Analytics, Box Plot Analysis.

1. The median and IQR measure the central tendency and spread respectively.
2. Outlier identification. The IQR makes it easy to initially estimate outliers by looking at values that are more than one-and-a-half times the IQR or distance below the first quartile or above the third quartile.
3. Skewness. Comparing the median to the quartile value shows whether the data is skewed. For example, when a high proportion of larger values occurs, the median will be closer to the third quartile than the first quartile. By contrast, the data values may be more evenly distributed.
4. RH_{1,2}: Priority of selection was weighted to ₂S9, and ₃S9 responses 1st; and, then to ₂S8 and ₃S8 responses; and, then by the collective response total or score.
5. RH_{1,2}: By priority of selection, only significant responses within each of the categories were subject to additional study.
6. RH_{1,2}: Selection included a minimum ₂S9 + ₃S9 score $\geq .395$, and a ₂S8 + ₃S8 score $\geq .345$ respectively to warrant subsequent literature review, investigation, and analysis.
7. Category: In addition to considering each sub-variable (theme) in each category in the context of the identified range and distribution of reoccurrence frequencies discovered, the sub-variable categories selected as “leading” (Leads) are supported by four statistical tests pertaining to significance level, critical regions for practical assessment, confidence interval, and margin of error.

Data:

1. See Chapters One and Two; and, Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9; Mapping, themes and codes, 1st, 2nd, 3rd, and 4th Orders - Moving towards a focused inquiry.
2. See Chapter Two and supporting Table G5, Literature Inquiry Analysis: RH₃ – Social Environmental Factors; range of leading potential challenges and analysis.
3. See Appendix G, Figure G2, Social themeing: Frequency and distribution analysis (interpretive).
4. See Appendix F, Table F4; and, Appendix H, Table H1, Inquiring System: Research questions and relevancy (RH₃).

IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study’s core questions.

Plot:

1. Plot illustrates the frequency distribution of the literature data collected in the 1st Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “historic” influencers.
2. Plot illustrates the frequency distribution of the literature data collected in the 2nd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “present” influencers.
3. Plot illustrates the frequency distribution of the literature data collected in the 3rd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “future” influencers.
4. Plot illustrates the frequency distribution of the literature data collected in the 4th Inquiry cycle of the “Leading” IS outcomes pertaining to the analysis and extraction of those sub-variables in the context of having the highest potential as causational factors related to “future” event predictions.
5. The curved plot illustrates the variance in the four inquiry distribution medians. The curve indicates the impact of the relative time-bias associated with the three different periods focused on in this longitudinal investigation as compared to the variable distribution of those selected for framing the RH₁₋₂ research questions.

Notation:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

Rapid Scan Analysis Interpretive (Weighted frequencies prior to applying DGR factors)

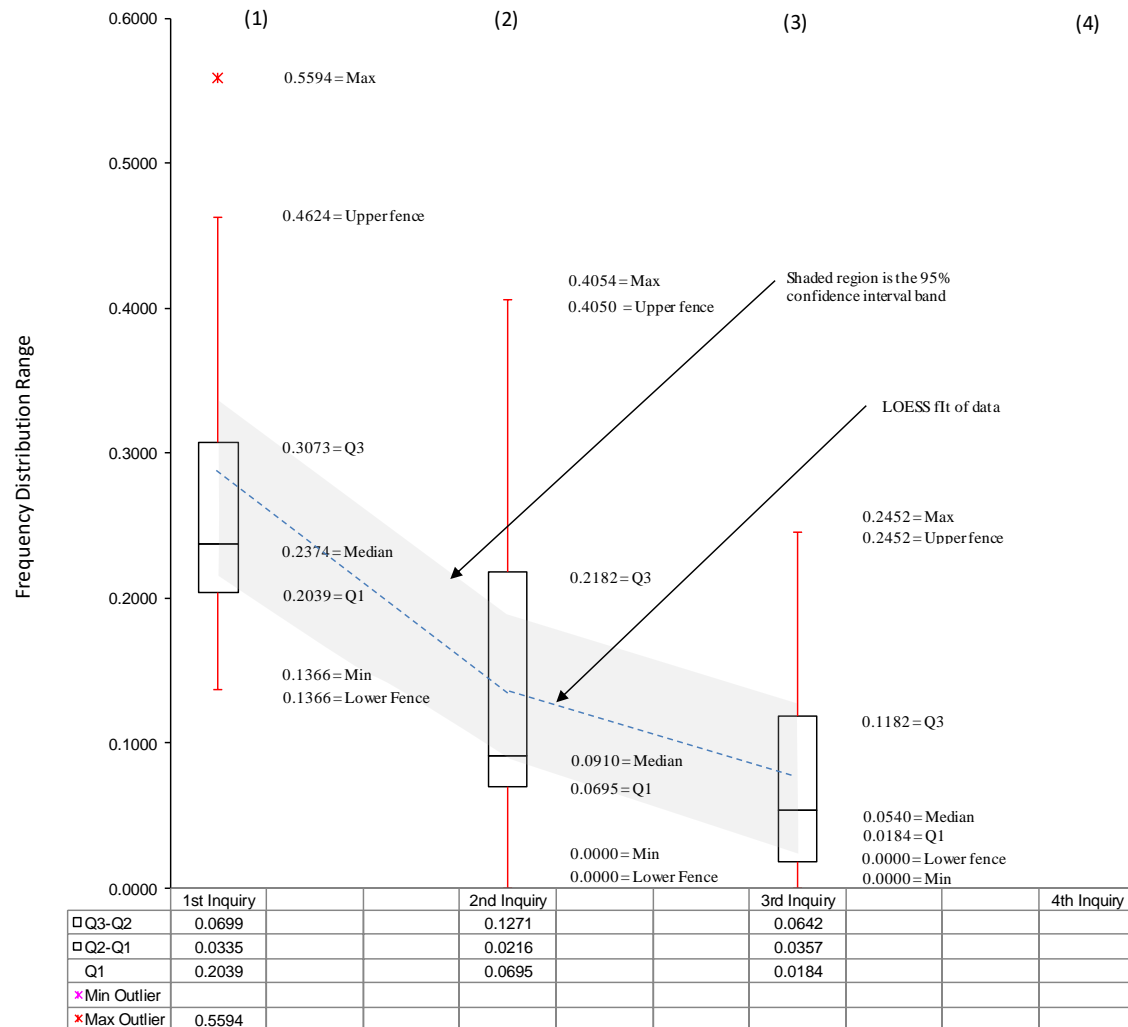


Figure G4. Box plot: Five-number quartile analysis, leadership (P) factor series 2/5, RH₃.

Note. Excel software plot, compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis. The plot illustrates the association (influence) of select political factors on leadership and associated behavior.

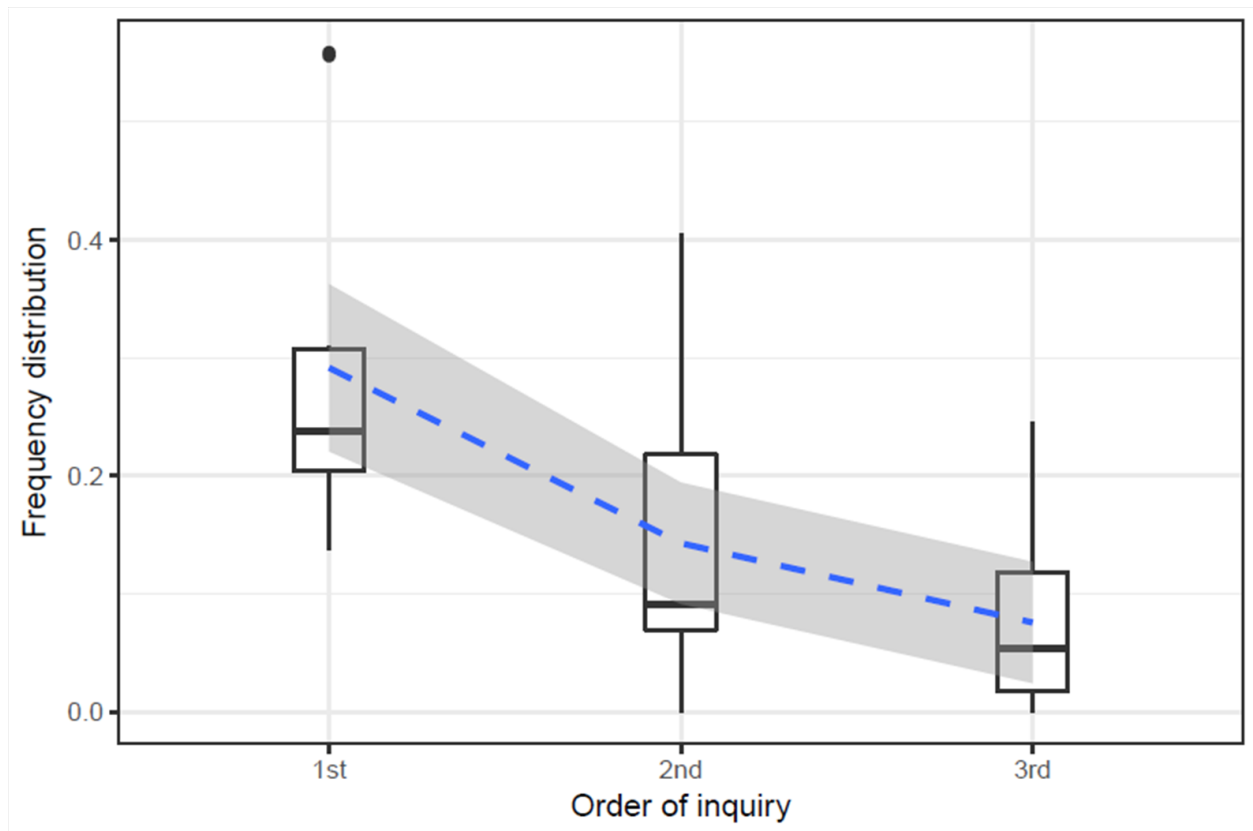


Figure G5. R software generated B plot for (P) factor analysis.

Note. R software plot, compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

Table G27.

Box Plot Data Table: Leadership (P) Factor Inquiry Series 2/5, RH₃

Rapid Scan Analysis Interpretive (Weighted frequencies after applying DGR factors)

Distribution Characteristics (1P1-1P10), (2P1-2P10) and (3P1-3P10)

Labels	1st Inquiry	2nd Inquiry	3rd Inquiry	4th Inquiry
Min	0.1366	0.0000	0.0000	
Q1	0.2039	0.0695	0.0184	
Median	0.2374	0.0910	0.0540	
Q3	0.3073	0.2182	0.1182	
Max	0.5594	0.4054	0.2452	
IQR	0.1034	0.1487	0.0998	
Upper Outliers	2.0000	0.0000	0.0000	
Lower Outliers	0.0000	0.0000	0.0000	
<i>For the Box (IQR and Median)</i>				
Q2-Q1	0.0335	0.0216	0.0357	
Q3-Q2	0.0699	0.1271	0.0642	
<i>For the Whiskers</i>				
Q3+1.5*IQR	0.4624	0.4413	0.2680	
Q1-1.5*IQR	0.0487	-0.1536	-0.1314	
Upper Whisker	0.4624	0.4054	0.2452	
Lower Whisker	0.1366	0.0000	0.0000	
Wupper-Q3	0.1551	0.1872	0.1270	
Q1-Wlower	0.0672	0.0695	0.0184	
<i>For the Outliers</i>				
Max	0.5594	#N/A	#N/A	
Min	#N/A	#N/A	#N/A	

Reoccurring Frequency Quotients

Sample No. Codes	1st Inquiry	Codes	2nd Inquiry	Codes	3rd Inquiry
1 (1Po1)	0.299	(2P1)	0.090	(3P1)	0.066
2 (1Po2)	0.137	(2P2)	0.086	(3P2)	0.103
3 (1Po3)	0.204	(2P3)	0.090	(3P3)	0.000
4 (1Po4)	0.204	(2P4)	0.256	(3P4)	0.164
5 (1Po5)	0.270	(2P5)	0.365	(3P5)	0.133
6 (1Po6)	0.556	(2P6)	0.182	(3P6)	0.037
7 (1Po7)	0.173	(2P7)	0.090	(3P7)	0.054
8 (1Po8)	0.559	(2P8)	0.405	(3P8)	0.194
9 (1Po9)	0.310	(2P9)	0.053	(3P9)	0.245
10 (1Po10)	0.205	(2P10)	0.018	(3P10)	0.037
11		(2P11)	0.189	(3P11)	0.018
12		(2P12)	0.154	(3P12)	0.000
13		(2P13)	0.000	(3P13)	0.018
14		(2P14)	0.257	(3P14)	0.055
15		(2P15)	0.091	(3P15)	0.036
16		(2P16)	0.000	(3P16)	0.018
17		(2P17)	0.000	(3P17)	0.000
18		(2P18)	0.144	(3P18)	0.091
19		(2P19)	0.247	(3P19)	0.170
20					
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Note. R software Analytics, Box Plot Analysis.

1. The median and IQR measure the central tendency and spread respectively.
2. Outlier identification. The IQR makes it easy to initially estimate outliers by looking at values that are more than one-and-a-half times the IQR or distance below the first quartile or above the third quartile.
3. Skewness. Comparing the median to the quartile value shows whether the data is skewed. For example, when a high proportion of larger values occurs, the median will be closer to the third quartile than the first quartile. By contrast, the data values may be more evenly distributed.
4. RH_{1,2}: Priority of selection was weighted to ₂S9, and ₃S9 responses 1st; and, then to ₂S8 and ₃S8 responses; and, then by the collective response total or score.
5. RH_{1,2}: By priority of selection, only significant responses within each of the categories were subject to additional study.
6. RH_{1,2}: Selection included a minimum ₂S9 + ₃S9 score $\geq .395$, and a ₂S8 + ₃S8 score $\geq .345$ respectively to warrant subsequent literature review, investigation, and analysis.
7. Category: In addition to considering each sub-variable (theme) in each category in the context of the identified range and distribution of reoccurrence frequencies discovered, the sub-variable categories selected as “leading” (Leads) are supported by four statistical tests pertaining to significance level, critical regions for practical assessment, confidence interval, and margin of error.

Data:

1. See Appendix CSV themeing data tables: weighted incident analysis, inquiry series.
2. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
3. In this set of assessments, time is considered to be an independent variable.
4. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
5. In this set of assessments, time is considered to be an independent variable.
6. Also see Chapters One and Two; Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9; Mapping, themes and codes, 1st, 2nd, 3rd, and 4th Orders - Moving towards a focused inquiry.
7. Also see environmental factors; range of leading potential challenges and analysis.
8. Also see Appendix B, Figure B1, Social themeing: Frequency and distribution analysis (interpretive).
9. Also see Appendix H, Table H1, Inquiring System: Research questions and relevancy (RH_{1,2}).
10. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study’s core questions.

Plot and Table:

1. Plot illustrates the frequency distribution of the literature data collected in the 1st Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “historic” influencers.
2. Plot illustrates the frequency distribution of the literature data collected in the 2nd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “present” influencers.
3. Plot illustrates the frequency distribution of the literature data collected in the 3rd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “future” influencers.
4. Plot illustrates the frequency distribution of the literature data collected in the 4th Inquiry cycle of the “Leading” IS outcomes pertaining to the analysis and extraction of those sub-variables in the context of having the highest potential as causational factors related to “future” event predictions.
5. The curved plot illustrates the variance in the four inquiry distribution medians. The curve indicates the impact of the relative time-bias associated with the three different periods focused on in this longitudinal investigation as compared to the variable distribution of those selected for framing the RH₁₋₂ research questions.

Notation:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

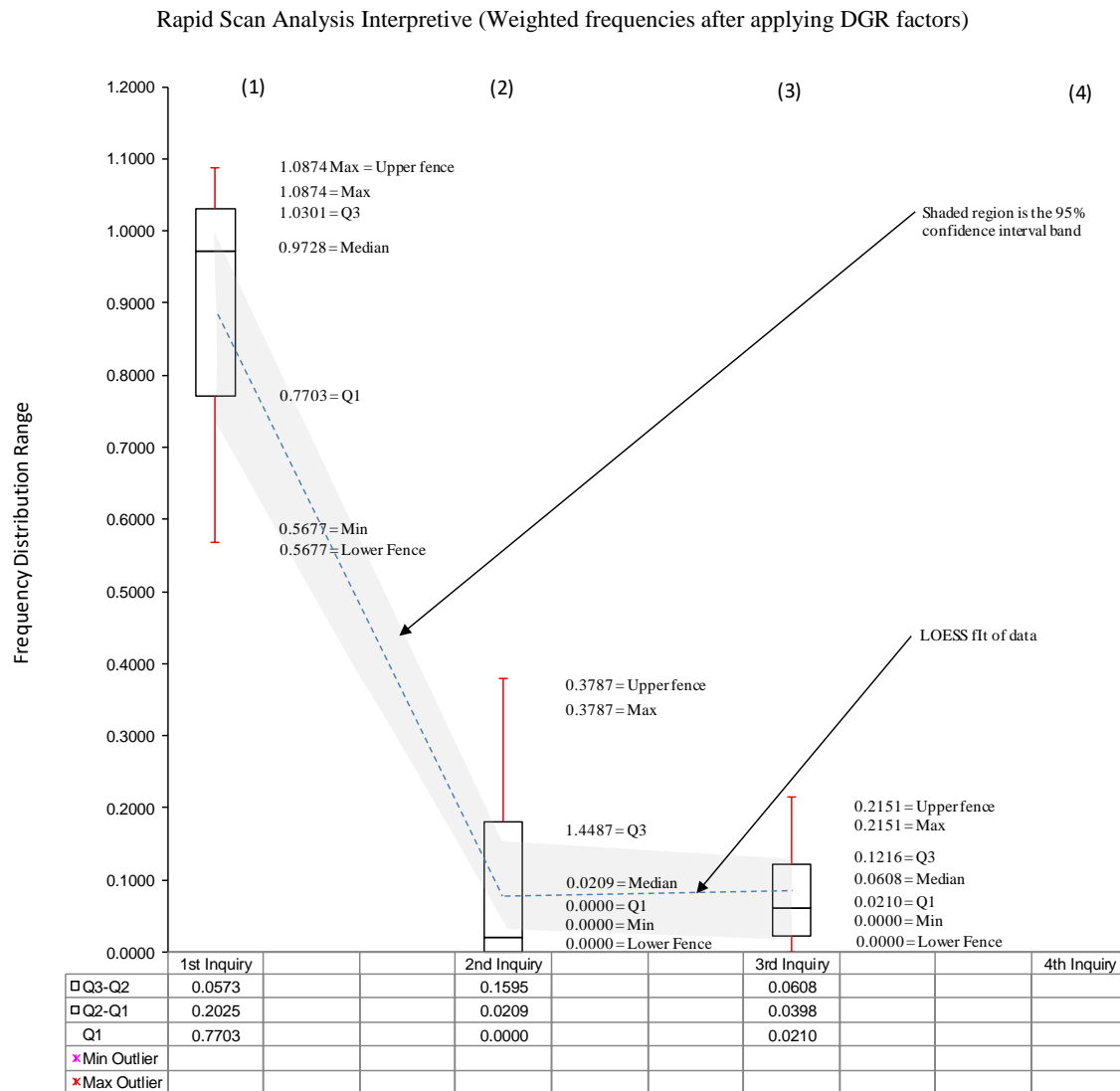


Figure G6. Box plot: Five-number quartile analysis, leadership (E) factor series 3/5, RH₃.

Note. Excel software plot, compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

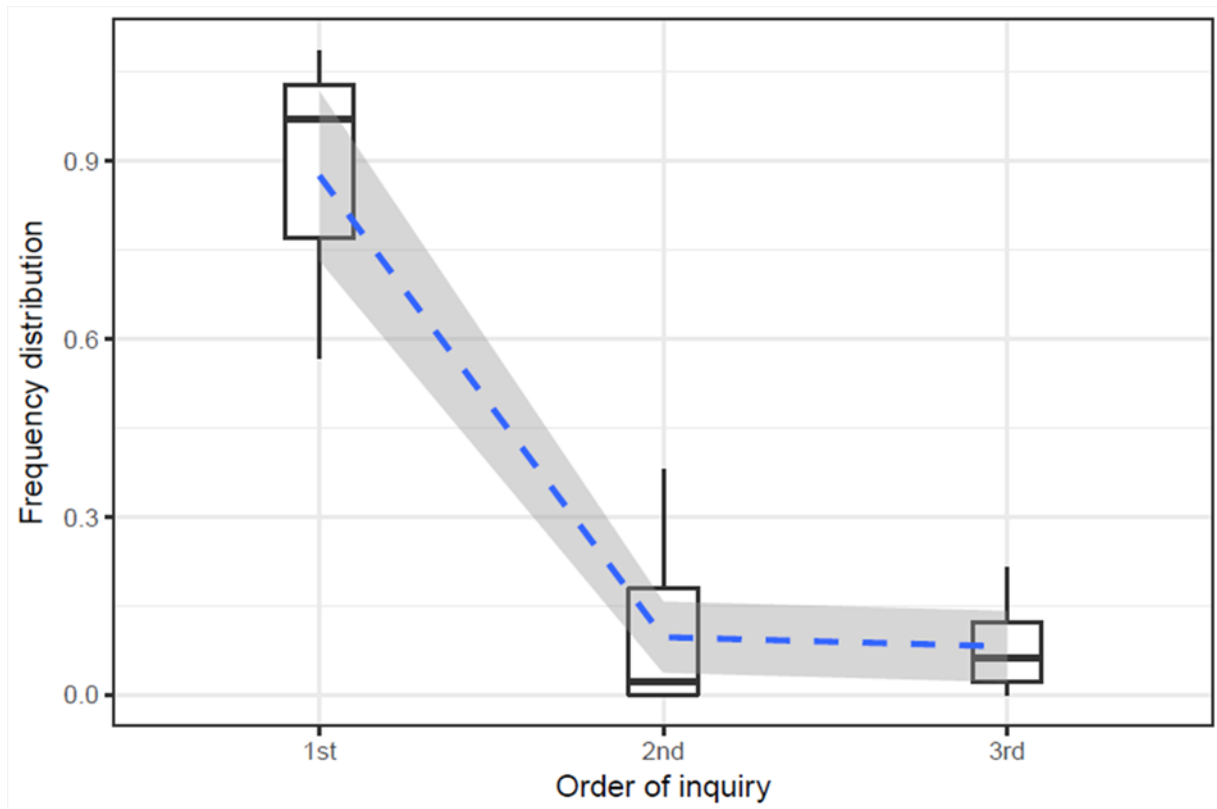


Figure G7. R software generated B plot for (E) factor analysis.

Note. R software Analytics, Box Plot Analysis.

Table G28.

Box Plot Data Table: Leadership (E) Factor Inquiry Series 3/5, RH₃

Distribution Characteristics (1En1-1En3), (2E1-2E17) and (3E1-3E17)					
Labels	1st Inquiry	2nd Inquiry	3rd Inquiry	4th Inquiry	
Min	0.5677	0.0000	0.0000		
Q1	0.7703	0.0000	0.0210		
Median	0.9728	0.0209	0.0608		
Q3	1.0301	0.1804	0.1216		
Max	1.0874	0.3787	0.2151		
IQR	0.2598	0.1804	0.1006		
Upper Outliers	0.0000	0.0000	0.0000		
Lower Outliers	0.0000	0.0000	0.0000		
For the Box (IQR and Median)					
Q2-Q1	0.2025	0.0209	0.0398		
Q3-Q2	0.0573	0.1595	0.0608		
For the Whiskers					
Q3+1.5*IQR	1.4198	0.4510	0.2725		
Q1-1.5*IQR	0.3805	-0.2706	-0.1299		
Upper Whisker	1.0874	0.3787	0.2151		
Lower Whisker	0.5677	0.0000	0.0000		
Wupper-Q3	0.0573	0.1983	0.0935		
Q1-Wlower	0.2025	0.0000	0.0210		
For the Outliers					
Max	#N/A	#N/A	#N/A		
Min	#N/A	#N/A	#N/A		
Reoccurring Frequency Quotients					
Sample No. Codes	1st Inquiry	Codes	2nd Inquiry	Codes	3rd Inquiry
1 (1En1)	0.568	(2E1)	0.040	(3E1)	0.081
2 (1En2)	1.087	(2E2)	0.000	(3E2)	0.041
3 (1En3)	0.973	(2E3)	0.000	(3E3)	0.061
4		(2E4)	0.020	(3E4)	0.061
5		(2E5)	0.000	(3E5)	0.061
6		(2E6)	0.000	(3E6)	0.000
7		(2E7)	0.060	(3E7)	0.122
8		(2E8)	0.276	(3E8)	0.203
9		(2E9)	0.180	(3E9)	0.175
10		(2E10)	0.278	(3E10)	0.041
11		(2E11)	0.379	(3E11)	0.197
12		(2E12)	0.000	(3E12)	0.021
13		(2E13)	0.000	(3E13)	0.021
14		(2E14)	0.021	(3E14)	0.021
15		(2E15)	0.000	(3E15)	0.021
16		(2E16)	0.292	(3E16)	0.215
17		(2E17)	0.105	(3E17)	0.041
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Note. R software Analytics, Box Plot Analysis.

1. The median and IQR measure the central tendency and spread respectively.
2. Outlier identification. The IQR makes it easy to initially estimate outliers by looking at values that are more than one-and-a-half times the IQR or distance below the first quartile or above the third quartile.
3. Skewness. Comparing the median to the quartile value shows whether the data is skewed. For example, when a high proportion of larger values occurs, the median will be closer to the third quartile than the first quartile. By contrast, the data values may be more evenly distributed.
4. RH_{1,2}: Priority of selection was weighted to ₂S9, and ₃S9 responses 1st; and, then to ₂S8 and ₃S8 responses; and, then by the collective response total or score.
5. RH_{1,2}: By priority of selection, only significant responses within each of the categories were subject to additional study.
6. RH_{1,2}: Selection included a minimum ₂S9 + ₃S9 score $\geq .395$, and a ₂S8 + ₃S8 score $\geq .345$ respectively to warrant subsequent literature review, investigation, and analysis.
7. Category: In addition to considering each sub-variable (theme) in each category in the context of the identified range and distribution of reoccurrence frequencies discovered, the sub-variable categories selected as “leading” (Leads) are supported by four statistical tests pertaining to significance level, critical regions for practical assessment, confidence interval, and margin of error.

Data:

1. See themeing: weighted incident analysis for inquiry orders 1-4.
2. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
3. In this set of assessments, time is considered to be an independent variable.
4. The model residuals (or errors) illustrated in the interpretive as the gray band following the LOESS fit lines of the data are the distances between each data points and the calculated modeling (represented by the straight dotted line).
5. In this set of assessments, time is considered to be an independent variable.
6. Also see Chapters One and Two; Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9; Mapping, themes and codes, 1st, 2nd, 3rd, and 4th Orders - Moving towards a focused inquiry.
7. Also see Appendix B, Figure B1 and Table B5 Social themeing: Frequency and distribution analysis (interpretive).
8. Also see Appendix H, Table H1, Inquiring System: Research questions and relevancy (RH_{1,2}).
9. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study’s core questions.

Plot and Table:

1. Plot illustrates the frequency distribution of the literature data collected in the 1st Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “historic” influencers.
2. Plot illustrates the frequency distribution of the literature data collected in the 2nd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “present” influencers.
3. Plot illustrates the frequency distribution of the literature data collected in the 3rd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “future” influencers.
4. Plot illustrates the frequency distribution of the literature data collected in the 4th Inquiry cycle of the “Leading” IS outcomes pertaining to the analysis and extraction of those sub-variables in the context of having the highest potential as causational factors related to “future” event predictions.
5. The curved plot illustrates the variance in the four inquiry distribution medians. The curve indicates the impact of the relative time-bias associated with the three different periods focused on in this longitudinal investigation as compared to the variable distribution of those selected for framing the RH₁₋₂ research questions.

Notation:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

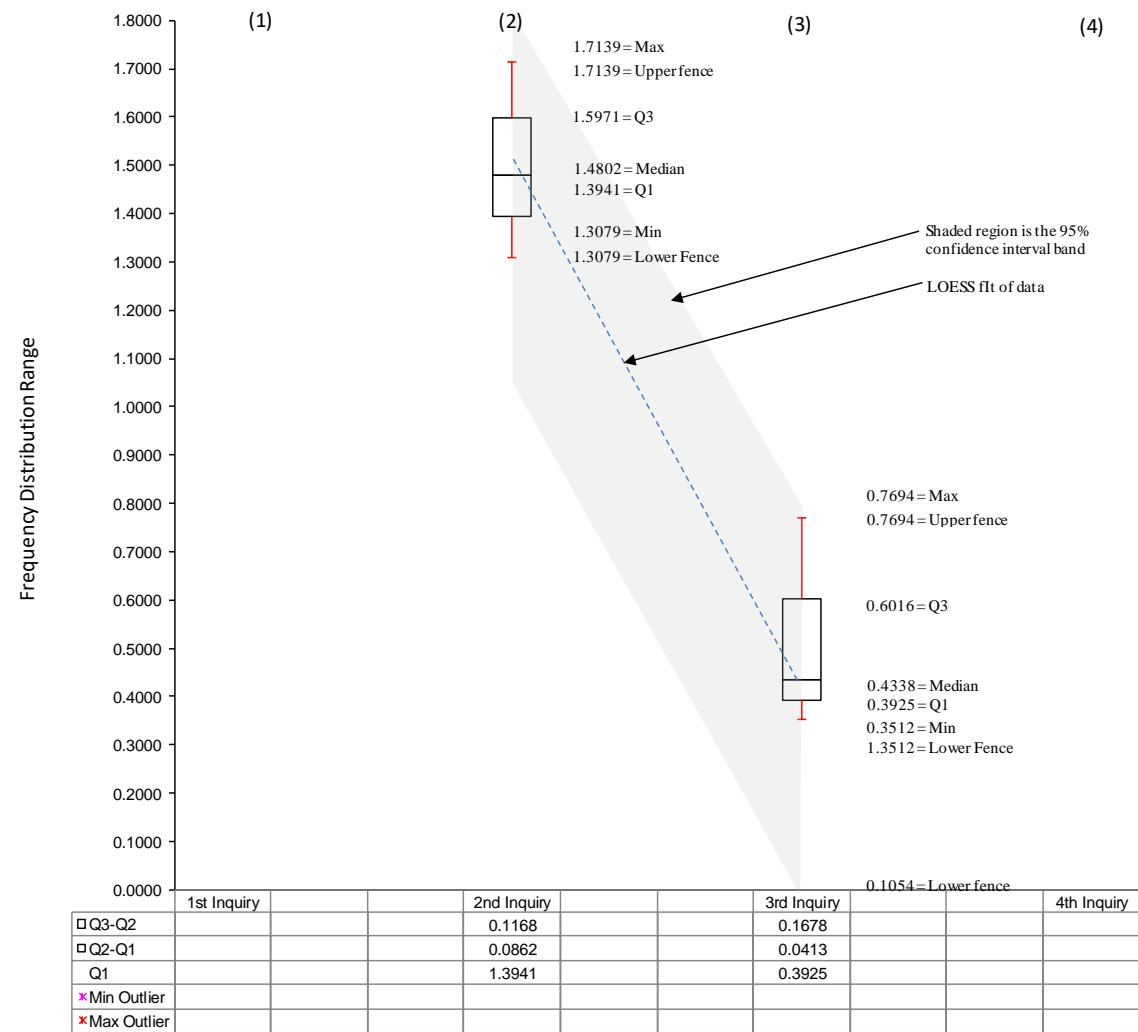


Figure G8. Box plot: Five-number quartile analysis, leadership (I) factor series 4/5 RH3.

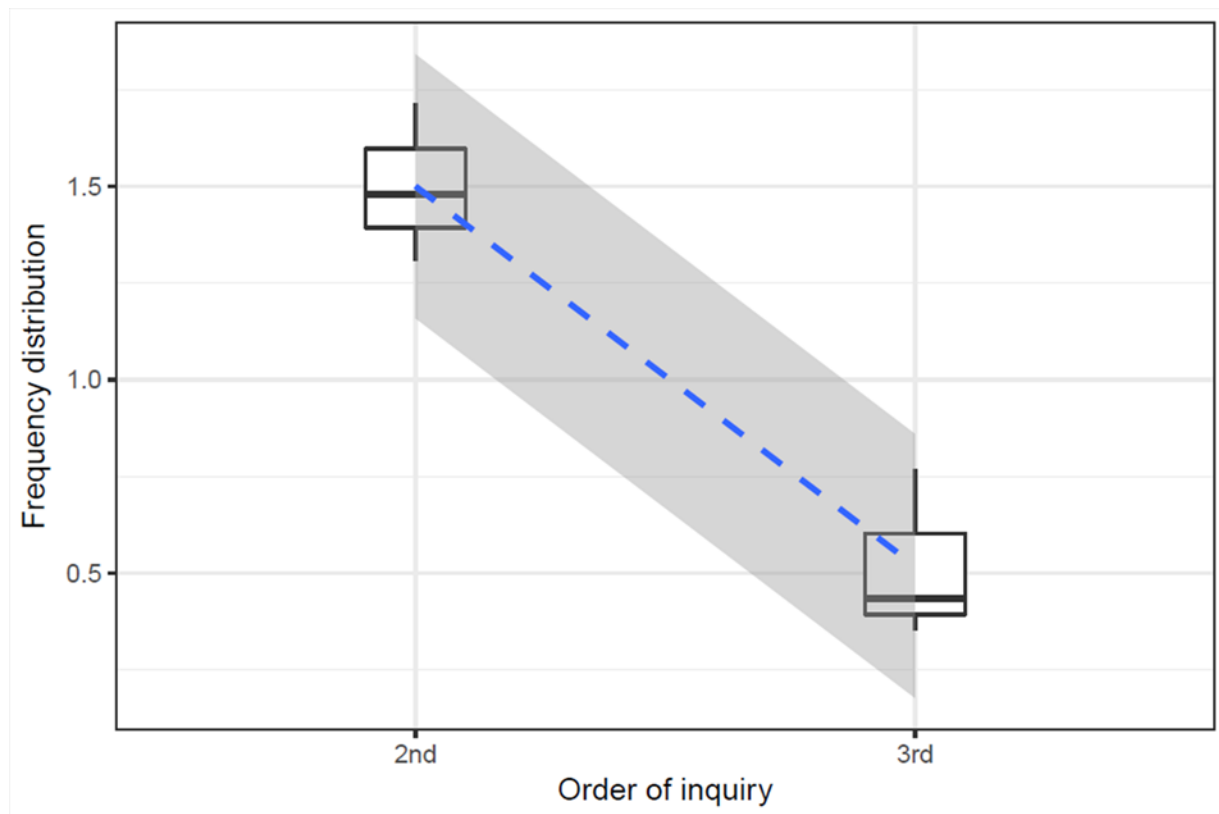


Figure G9. R software generated B plot for (I) factor analysis.

Note. R software Analytics, Box Plot Analysis, compiled from Literature Inquiry CSV Data and Analysis; themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

Table G29.

*Box Plot Data Table: Leadership (I) Factor Inquiry Series 4/5, RH₃***Distribution Characteristics (2I1-2I3) and (3I1-3I3)**

Labels	1st Inquiry	2nd Inquiry	3rd Inquiry	4th Inquiry
Min		1.3079	0.3512	
Q1		1.3941	0.3925	
Median		1.4802	0.4338	
Q3		1.5971	0.6016	
Max		1.7139	0.7694	
IQR		0.2030	0.2091	
Upper Outliers		0.0000	0.0000	
Lower Outliers		0.0000	0.0000	
<i>For the Box (IQR and Median)</i>				
Q2-Q1		0.0862	0.0413	
Q3-Q2		0.1168	0.1678	
<i>For the Whiskers</i>				
Q3+1.5*IQR		1.9015	0.9152	
Q1-1.5*IQR		1.0896	0.0789	
Upper Whisker		1.7139	0.7694	
Lower Whisker		1.3079	0.3512	
Wupper-Q3		0.1168	0.1678	
Q1-Wlower		0.0862	0.0413	
<i>For the Outliers</i>				
Max		#N/A	#N/A	
Min		#N/A	#N/A	

Reoccurring Frequency Quotients

Sample No.	Codes	2nd Inquiry	Codes	3rd Inquiry
1	(2I1)	1.3079	(3I1)	0.7694
2	(2I2)	1.7139	(3I2)	0.4338
3	(2I3)	1.4802	(3I3)	0.3512
4				
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6				
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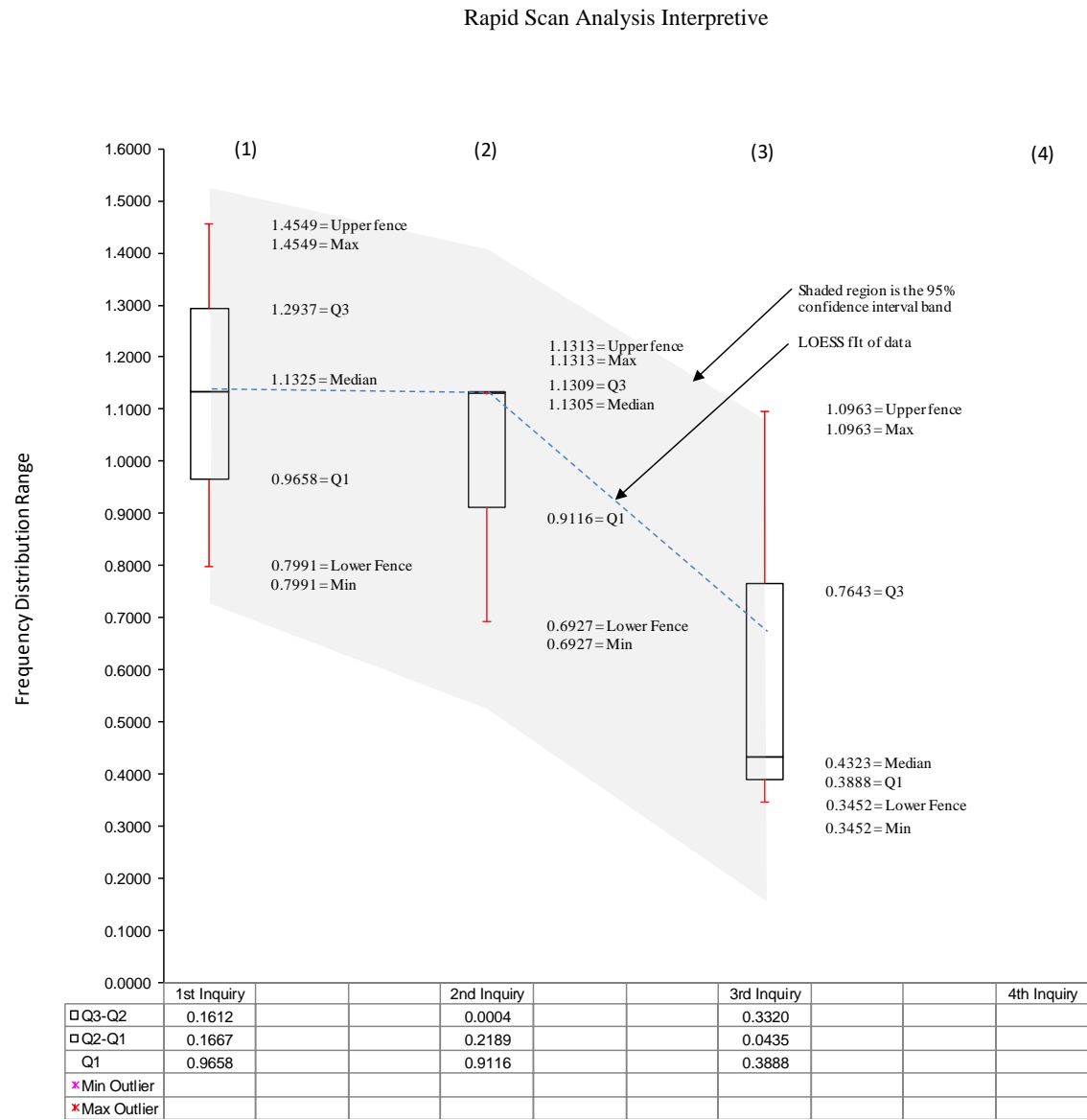


Figure G10. Box plot: Five-number quartile analysis, leadership (T) factor series 5/5 RH₃.

Note. Excel software plot, compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

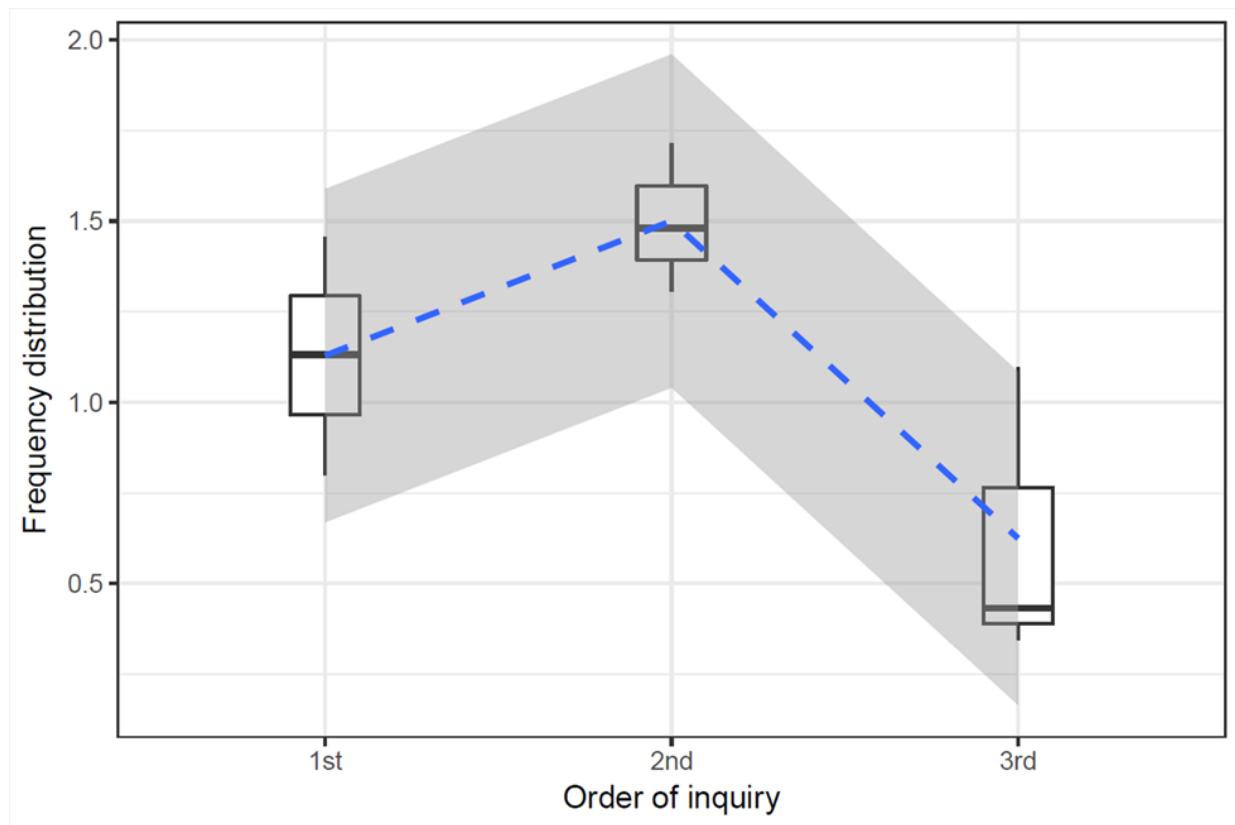


Figure G11. R software generated B plot for (T) factor analysis.

Table G30.

Box Plot Data Table: Leadership (T) Factor Inquiry Series 5/5, RH₃

Distribution Characteristics (1T1-1T10), (2T1-2T10) and (3T1-3T10)						
Labels	1st Inquiry		2nd Inquiry		3rd Inquiry	4th Inquiry
Min	0.7991		0.6927		0.3452	
Q1	0.9658		0.9116		0.3888	
Median	1.1325		1.1305		0.4323	
Q3	1.2937		1.1309		0.7643	
Max	1.4549		1.1313		1.0963	
IQR	0.3279		0.2193		0.3755	
Upper Outliers	0.0000		0.0000		0.0000	
Lower Outliers	0.0000		0.0000		0.0000	
<i>For the Box (IQR and Median)</i>						
Q2-Q1	0.1667		0.2189		0.0435	
Q3-Q2	0.1612		0.0004		0.3320	
<i>For the Whiskers</i>						
Q3+1.5*IQR	1.7856		1.4598		1.3276	
Q1-1.5*IQR	0.4739		0.5827		-0.1745	
Upper Whisker	1.4549		1.1313		1.0963	
Lower Whisker	0.7991		0.6927		0.3452	
Wupper-Q3	0.1612		0.0004		0.3320	
Q1-Wlower	0.1667		0.2189		0.0435	
<i>For the Outliers</i>						
Max	#N/A		#N/A		#N/A	
Min	#N/A		#N/A		#N/A	
Reoccurring Frequency Quotients						
Sample No.	Codes	1st Inquiry	Codes	2nd Inquiry	Codes	3rd Inquiry
1	(1T1)	1.132	(2T1)	0.693	(3T1)	0.345
2	(1T2)	0.799	(2T2)	1.131	(3T2)	1.096
3	(1T3)	1.455	(2T3)	1.131	(3T3)	0.432
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Note. Excel software plot, compiled from Literature Inquiry CSV Data and Analysis; Social themeing: weighted incident magnitude frequency reoccurrence distribution analysis.

Note. R software Analytics, Box Plot Analysis.

1. RH_{1,2}: Priority of selection was weighted to ₂S9, and ₃S9 responses 1st; and, then to ₂S8 and ₃S8 responses; and, then by the collective response total or score.
2. RH_{1,2}: By priority of selection, only significant responses within each of the categories were subject to additional study.
3. RH_{1,2}: Selection included a minimum ₂S9 + ₃S9 score $\geq .395$, and a ₂S8 + ₃S8 score $\geq .345$ respectively to warrant subsequent literature review, investigation, and analysis.
4. Category: In addition to considering each sub-variable (theme) in each category in the context of the identified range and distribution of reoccurrence frequencies discovered, the sub-variable categories selected as “leading” (Leads) are supported by four statistical tests pertaining to significance level, critical regions for practical assessment, confidence interval, and margin of error.

Data:

1. See Chapter One, Appendix E, Figures E 3, E5-8, E10-12; Appendix B, Tables B1-B9: Mapping, themes and codes, 1st, 2nd, 3rd, and 4th Orders - Moving towards a focused inquiry.
2. See Chapter Two, literature inquiry analysis: RH_{1,2} environmental factors; range of leading potential challenges and analysis.
3. Appendix B, Figure B1 and Table B5 Social themeing: Frequency and distribution analysis (interpretive).
4. Also see Appendix H, Table H1, Inquiring System: Research questions and relevancy (RH_{1,2}).
5. IS Data = Inquiry system data. The data has been extracted from reviews of prominent monographs associated with this study’s core questions.

Plot and Table:

1. Plot illustrates the frequency distribution of the literature data collected in the 1st Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “historic” influencers.
2. Plot illustrates the frequency distribution of the literature data collected in the 2nd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “present” influencers.
3. Plot illustrates the frequency distribution of the literature data collected in the 3rd Inquiry cycle of the IS pertaining to sub-variables in the context of being potential “future” influencers.
4. Plot illustrates the frequency distribution of the literature data collected in the 4th Inquiry cycle of the “Leading” IS outcomes pertaining to the analysis and extraction of those sub-variables in the context of having the highest potential as causational factors related to “future” event predictions.
5. The curved plot illustrates the variance in the four inquiry distribution medians. The curve indicates the impact of the relative time-bias associated with the three different periods focused on in this longitudinal investigation as compared to the variable distribution of those selected for framing the RH₁₋₂ research questions.

Notation:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

1Po1 through 1Po7 Series

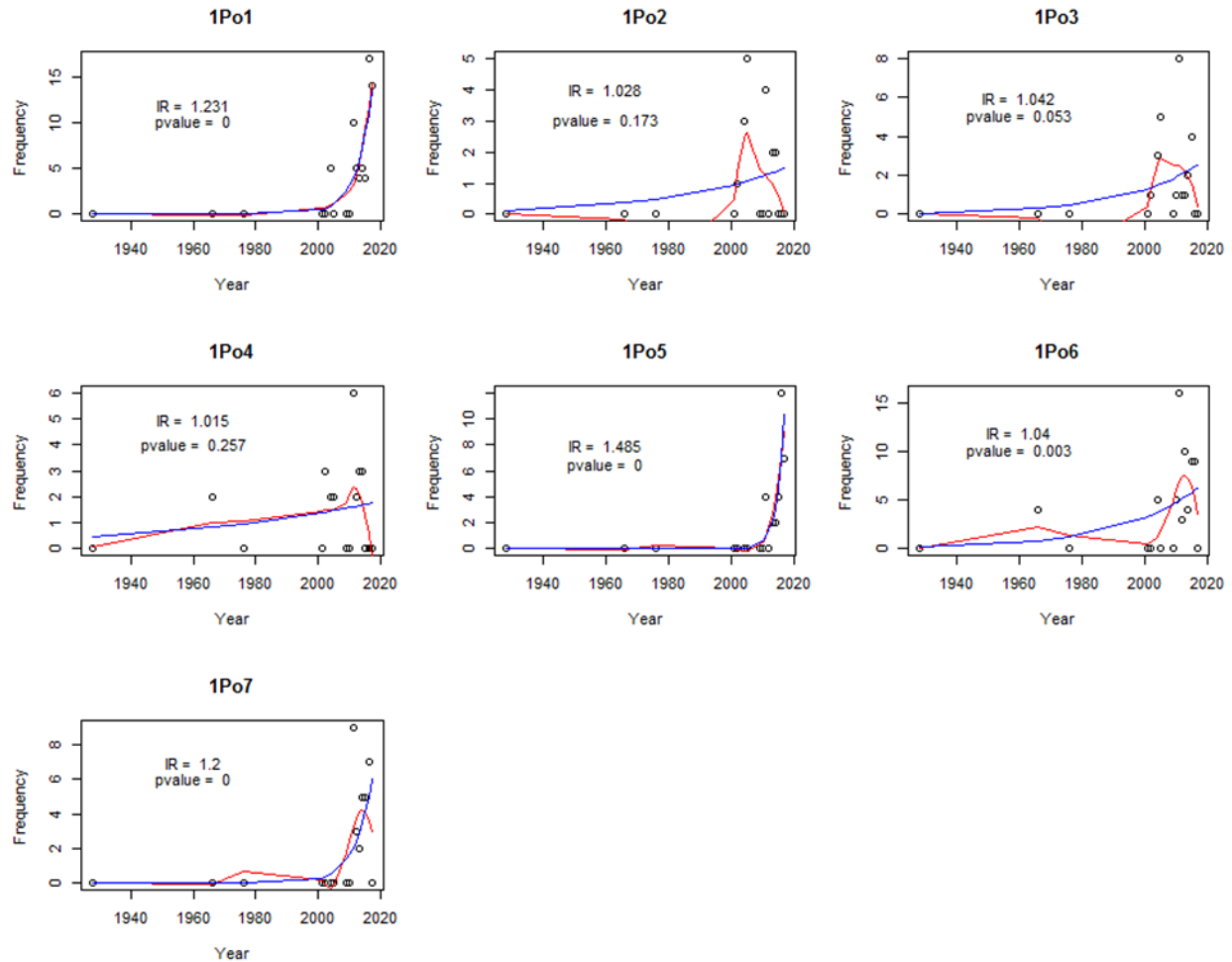


Figure G12. 1st Order (present) social multivariate analysis scatter plots: Forecasts 1Po1 – 1Po7 series.

Note. Literature Inquiry Data and Analysis; 1st, 2nd, 3rd, and 4th order social themeing: frequency and distribution analysis; Sharker, Yushuf (2017) Regression analysis methodology and R software integration.

1. The correlations above represent nonlinear inverse regression curve vector for each sub-category variable.
2. Nonlinear relationships: Polynomial regression. Ordinarily social science relationships are not exactly linear. The degree of nonlinearity is often so minor outcomes can be approximated. However, after running this series of data, the researcher discovered the linear model was inadequate for approximation. Therefore, the nonlinear model was selected to interpret the data.
3. The interpretive is based on the incidence frequency by year for different themes pertinent to this inquiry only.
4. The blue line indicates the predicted Poisson regression.
5. The red line indicates the LOESS fit with a confidence span = .75.
6. The inverse regression (IR) is the rate of change in incidence per year.
7. P values < .05 can be considered as representative of a rate of change at is significant.

Data:

1. Also see Appendix G, Tables G35-40, Structured CSV Sample Data for themeing, frequency and distribution analysis (interpretives).
2. All theme category and sub-category descriptions and pattern codes are published in the appendices and index of this study.

3. As a quick reference aid, the codes and sub-categories represented in this sample cycle are shown below to include the relative strengths of linear association and ordinal ranking. They are as follows:

Code: Description	Association	Ranking
a. 1Po1: Geography,	IR = 1.231	2 nd
b. 1Po2: Scale,	IR = 1.026	
c. 1Po3: Growth,	IR = 1.042	4 th
d. 1Po4: Stability,	IR = 1.015	
e. 1Po5: Unity,	IR = 1.485	1 st
f. 1Po6: Cultural ideology,	IR = 1.040	5 th
g. 1Po7: Education,	IR = 1.200	3 rd

4. Given the vertical data vectors the strongest trend inferences are associated with the following: 1Po5, 1Po1, 1Po7, 1Po3, and 1Po6.

5. Ordering the significance of sub-category variables yields the following top five: 1Po5 [Unity]; 1Po1 [Geography]; 1Po7 [Education]; 1Po3 [Growth]; and, 1Po6 [Cultural ideology].

6. Frequencies were determined first by evidence of incident of reoccurrence and then by the weighted value (magnitude) of the reoccurrences discovered in each contributor's works.

Notation/Script:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

Procedure	Description and Application
1st Inquiry Cycle Observations and Analysis	<p>Historical. The data plots representing the 1st Inquiry or cycle sampling infers 1Po6 [Cultural ideology] represents the strongest trend among the variables (themes) being ranked has the highest in significance. Additionally, the data plots representing this cycle infer 1Po7 [Educational] represents the 2nd strongest trend among the variables in the high range of significance. Considering the data outcomes were extracted in a historical context, cultural ideology and education demonstrate a relatively high incident frequency and significance that warrant further investigation and assessment in terms of being align with and integrated into the construction of a stem research question in the context of social environment factors as predictive influencers should “historical” data be considered.</p>

2S1 through 2S10 Series

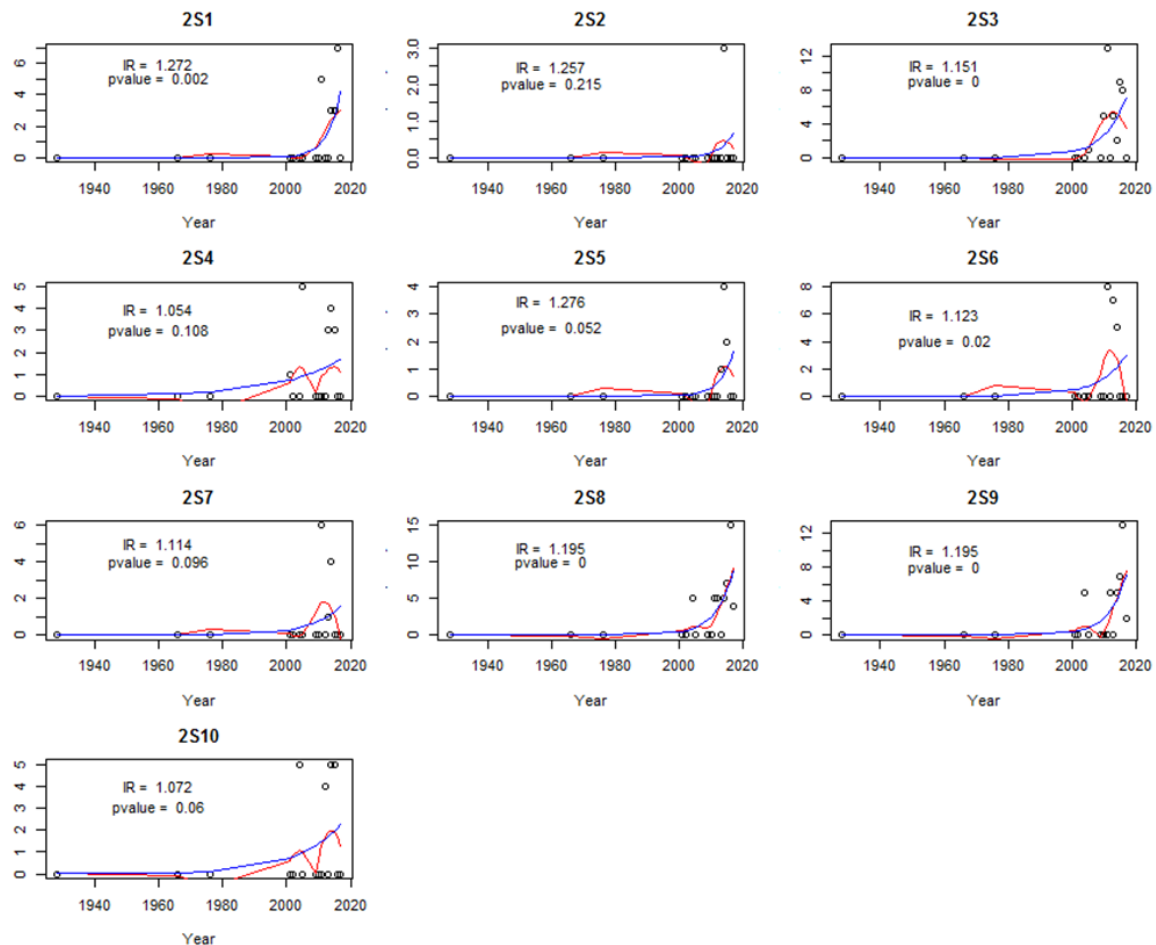


Figure G13. 2nd Order (present) social multivariate analysis scatter plots: Forecasts 2S1 – 2S10 series.

Note. Literature Inquiry Data and Analysis; 1st, 2nd, 3rd, and 4th order social themeing: frequency and distribution analysis.

1. The correlations above represent vector data for each sub-category variable. They are considered valid only when a straight line is sensible for the modeled relationship.
2. Since R , or R^2 is proportional to the slope of a linear prediction (forecast trendline) it measures the strength of the linear association between x and y .
3. R-squared is the statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or coefficient of multiple determination for multiple regressions.
4. R-Squared represents the statistical relationship between two or more series of events. The RSQ syntax used by Excel in the calculation requires a range of data points (vector) named x and y . Thus, the correlation is between the numbers in one column against another (<https://www.ncsu.edu/labwrite/res/gt/gt-reg-home.html>).
5. The larger the absolute value of r , the stronger the linear association. In this case, variables with a correlation ≥ 0.2294 are considered sufficiently significant to warrant further consideration and investigation pertaining to potential causal effect.

Data:

1. Also see Appendix G, Tables G35-40, Structured CSV Sample Data for themeing, frequency and distribution analysis (interpretives).
2. All theme category and sub-category description and pattern codes are published in the appendices and index of this study.
3. As a quick reference aid, the codes and sub-categories represented in this sample cycle are shown below to include the relative strengths of linear association and ordinal ranking. They are as follows:

Code: Description	Association	Ranking
a. 2S1: Geography,	IR = 1.272	2 nd
b. 2S2: Scale,	IR = 1.257	3 rd
c. 2S3: Growth,	IR = 1.151	
d. 2S4: Stability,	IR = 1.054	
e. 2S5: Unity,	IR = 1.276	1 st
f. 2S6: Cultural ideology,	IR = 1.123	
g. 2S7: Education,	IR = 1.114	
h. 2S8: Population,	IR = 1.195	4 th
i. 2S9: Social security,	IR = 1.195	5 th
j. 2S10: Health care,	IR = 1.072	

4. Given the vertical data vectors the strongest trend inferences are associated with the following: 2S5, 2S1, 2S2, 2S8, and 2S9.
5. Ordering the linear association strengths (significance) of sub-category variables yields the following top five: 2S5 [Unity]; 2S1 [Geography]; 2S2 [Scale]; 2S8 [Population]; and, 2S9 [Social security].
6. Frequencies were determined by the weighted value (magnitude) of the reoccurrences discovered in each contributor's works.

Notation:

The arithmetic notation or computer script applied to this table has been configured to conform to R statistical programming language.

Procedure	Description and Application
2nd Inquiry Cycle Observations and Analysis	<p>Present. The data plots representing the 2nd Inquiry or cycle sampling infers 2S9 [Social security] represents the strongest trend among the variables (themes) being ranked has the highest in significance. Additionally, the data plots representing this cycle infer 2S8 [Population] represents the 2nd strongest trend among the variables in a high-range of significance. Considering the outcomes extracted from the data in the present context, population and growth demonstrate relatively high frequencies and significance that warrant additional investigation and assessment in terms of being align with the construction of a stem research question as possible social environment factors and predictive influencers when only present data is considered.</p>

3S1 through 3S10 Series

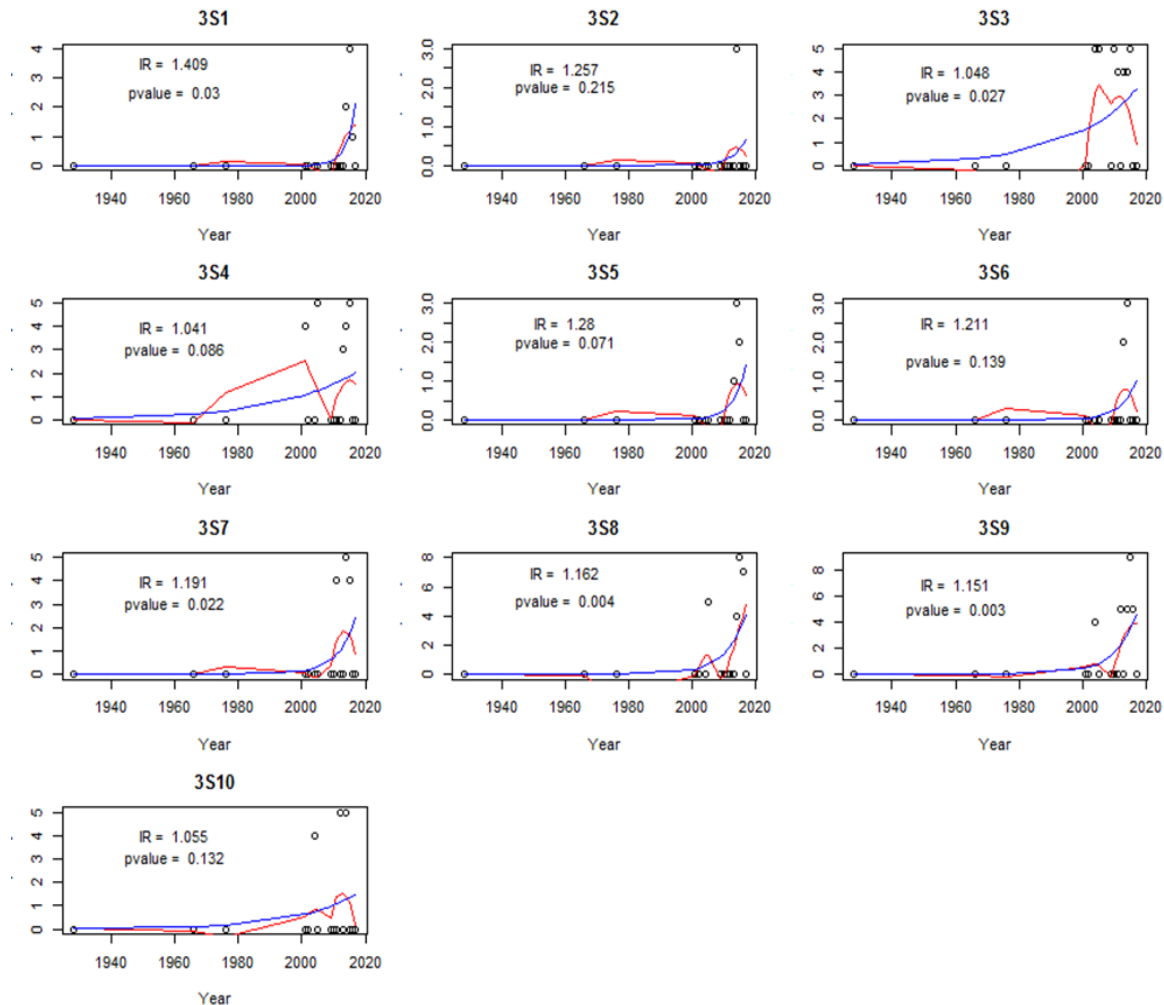


Figure G14. 3rd Order (future) social multivariate analysis scatter plots: Forecasts 3S1 – 3S10 series.

Note. Literature Inquiry Data and Analysis; 1st, 2nd, 3rd, and 4th order social themeing: frequency and distribution analysis.

1. The correlations above represent vector data for each sub-category variable. They are considered valid only when a straight line is sensible for the modeled relationship.
2. Since R , or R^2 is proportional to the slope of a linear prediction (forecast trendline) it measures the strength of the linear association between x and y .
3. R-squared is the statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or coefficient of multiple determination for multiple regressions.
4. The larger the absolute value of r , the stronger the linear association. In this case, variables with a correlation ≥ 0.1544 are considered sufficiently significant to warrant further consideration and investigation pertaining to potential causal effect.

Data:

1. Also see Appendix G, Tables G35-40, Structured CSV Sample Data for themeing, frequency and distribution analysis (interpretives).
2. All word and theme category and sub-category descriptive and pattern codes are published in the appendices and index of this study.

3. As a quick reference aid, the codes and sub-categories represented in this sample cycle are shown below to include the relative strengths of linear association and ordinal ranking. They are as follows:

4. Code: Description	Association	Ranking
a. 3S1: Geography,	IR = 1.409	1 st
b. 3S2: Scale,	IR = 1.257	3 rd
c. 3S3: Growth,	IR = 1.048	
d. 3S4: Stability,	IR = 1.041	
e. 3S5: Unity,	IR = 1.280	2 nd
f. 3S6: Cultural ideology,	IR = 1.211	4 th
g. 3S7: Education,	IR = 1.191	5 th
h. 3S8: Population,	IR = 1.162	
i. 3S9: Social security,	IR = 1.151	
j. 3S10: Health care,	IR = 1.055	

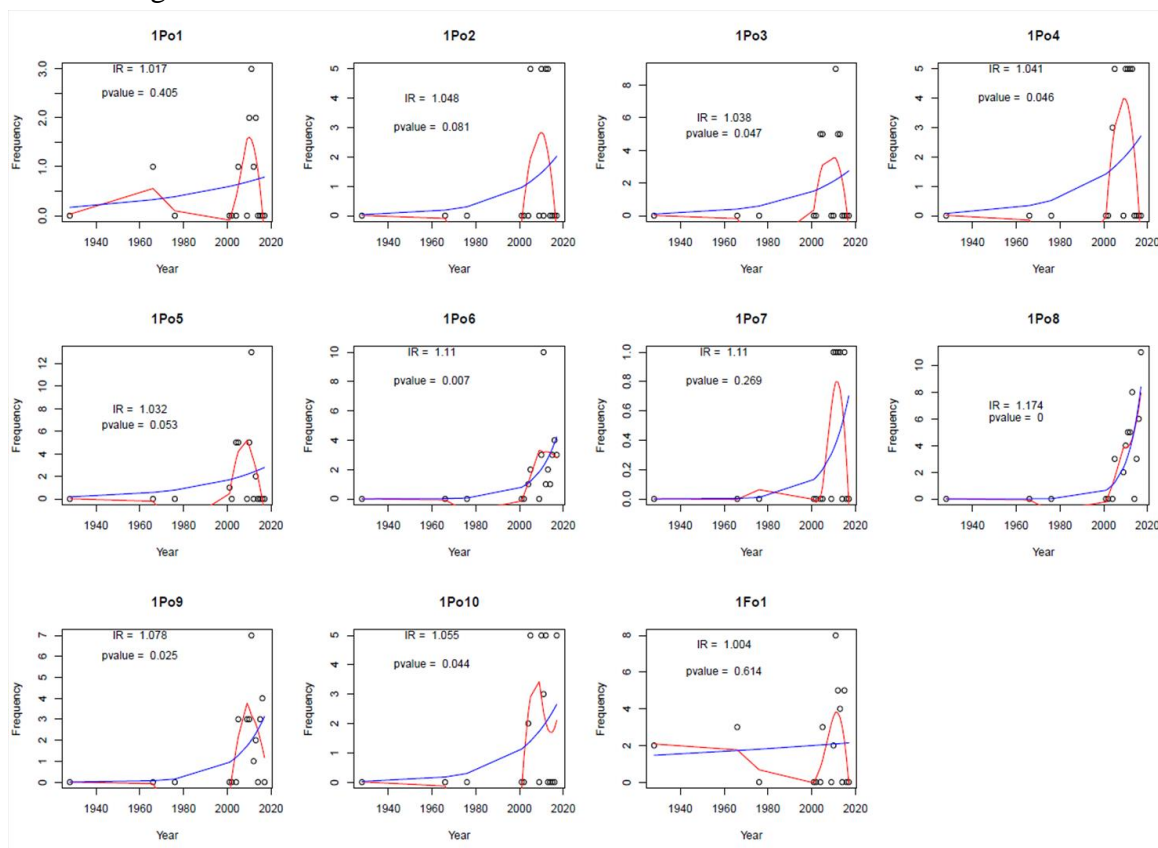
5. Given the vertical data vectors the strongest trend inferences are associated with the following: 3S9, 3S7, 3S1, 3S8, and 3S10.

6. Ordering the significance of sub-category variables yields the following top five: 3S9 [Social security]; 3S7 [Education]; 3S1 [Geography], 3S8 [Population]; and, 3S10 [Health care].

7. Frequencies were determined first by evidence of incident of reoccurrence and then by the weighted value (magnitude) of the reoccurrences discovered in each contributor's works.

Procedure	Description and Application
3rd Inquiry Cycle Observations and Analysis	<p>Future. The data plots representing the 3rd Inquiry or cycle sampling infers ³S₉ [Social security] represents the strongest trend among the variables (themes) being ranked has the highest in significance. Additionally, the data plots representing this cycle infer ³S₇ [Education] represents the 2nd strongest trend; with 3S1 [Geography] representing the 3rd strongest trend among variables with high-ranges of significance. Considering the outcomes as extracted from the data in the future context, social security, education, and geography demonstrate relatively high frequencies and significance that warrant additional investigation and assessment in terms of being align with the construction of a stem research question in the context of social environment factors and predictive influencers when only future data is considered.</p>

1Po1 through 1Fo1 Series

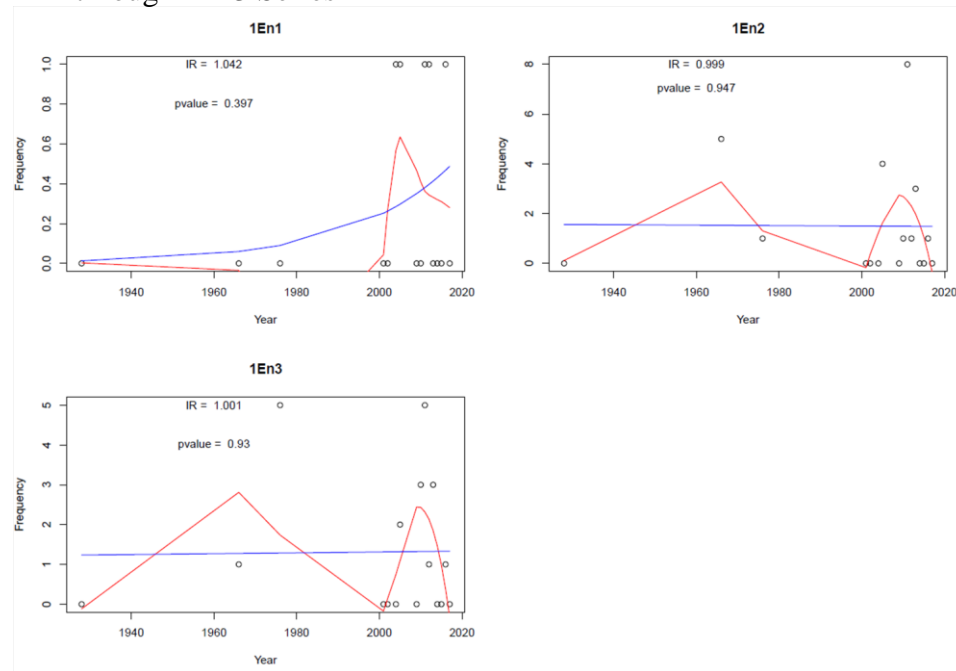


Code: Description	Association	Ranking
a. 3S1: Geography,	IR = 1.409	1 st
b. 3S2: Scale,	IR = 1.257	3 rd
c. 3S3: Growth,	IR = 1.048	
d. 3S4: Stability,	IR = 1.041	
e. 3S5: Unity,	IR = 1.280	2 nd
f. 3S6: Cultural ideology,	IR = 1.211	4 th
g. 3S7: Education,	IR = 1.191	5 th
h. 3S8: Population,	IR = 1.162	
i. 3S9: Social security,	IR = 1.151	
j. 3S10: Health care,	IR = 1.055	

Figure G15. 1st Order (historical) leadership multivariate scatter plots: Forecasts 1Po1 – 1Fo1 series.

Note. Poisson Scatter Plots.

1En1 through 1En3 Series

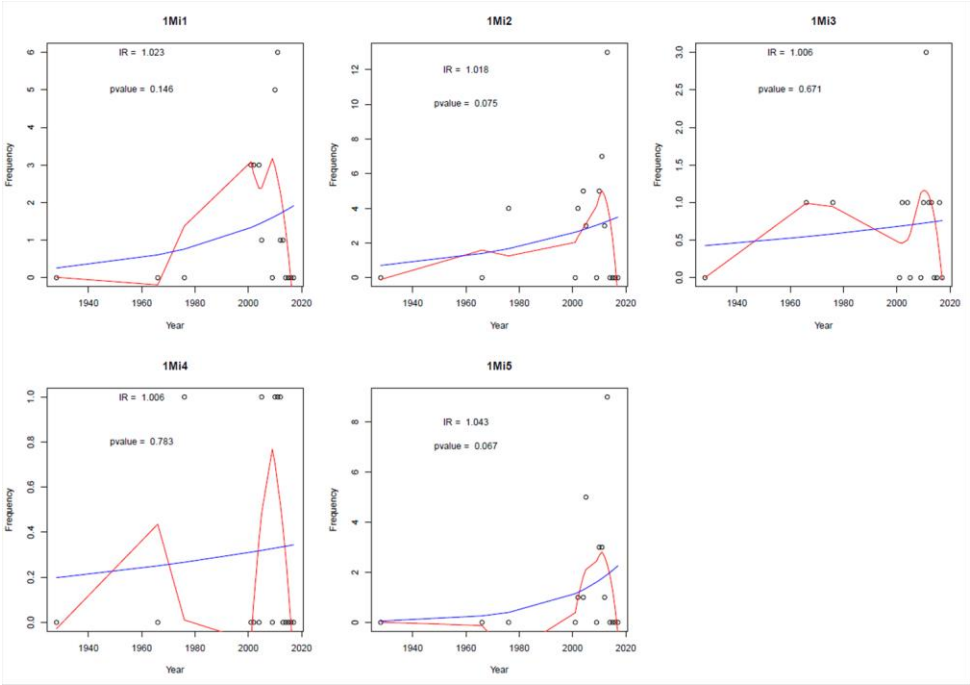


Code: Description	Association	Ranking
a. 3S1: Geography,	IR = 1.409	1 st
b. 3S2: Scale,	IR = 1.257	3 rd
c. 3S3: Growth,	IR = 1.048	
d. 3S4: Stability,	IR = 1.041	
e. 3S5: Unity,	IR = 1.280	2 nd
f. 3S6: Cultural ideology,	IR = 1.211	4 th
g. 3S7: Education,	IR = 1.191	5 th
h. 3S8: Population,	IR = 1.162	
i. 3S9: Social security,	IR = 1.151	
j. 3S10: Health care,	IR = 1.055	

Figure G16. 1st Order (historical) leadership multivariate scatter plots: Forecasts 1En1 – 1En3 series.

Note. Poisson Scatter Plots.

1Mi1 through 1Mi5 Series

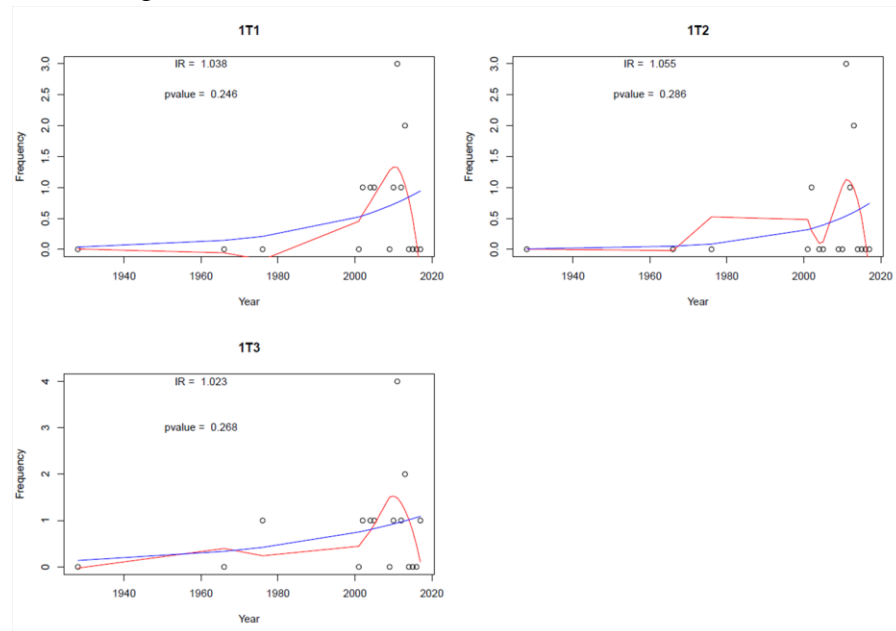


Code:	Description	Association	Ranking
a.	3S1: Geography,	IR = 1.409	1 st 3 rd
b.	3S2: Scale,	IR = 1.257	
c.	3S3: Growth,	IR = 1.048	
d.	3S4: Stability,	IR = 1.041	2 nd
e.	3S5: Unity,	IR = 1.280	
f.	3S6: Cultural ideology,	IR = 1.211	
g.	3S7: Education,	IR = 1.191	4 th 5 th
h.	3S8: Population,	IR = 1.162	
i.	3S9: Social security,	IR = 1.151	
j.	3S10: Health care,	IR = 1.055	

Figure G17. 1st Order (historical) leadership multivariate scatter plots: Forecasts 1Mi1 – 1Mi5 series.

Note. Poisson Scatter Plots.

1T1 through 1T3 Series



Code: Description	Association	Ranking
a. 3S1: Geography,	IR = 1.409	1 st
b. 3S2: Scale,	IR = 1.257	3 rd
c. 3S3: Growth,	IR = 1.048	
d. 3S4: Stability,	IR = 1.041	
e. 3S5: Unity,	IR = 1.280	2 nd
f. 3S6: Cultural ideology,	IR = 1.211	4 th
g. 3S7: Education,	IR = 1.191	5 th
h. 3S8: Population,	IR = 1.162	
i. 3S9: Social security,	IR = 1.151	
j. 3S10: Health care,	IR = 1.055	

Figure G18. 1st Order (historical) leadership multivariate scatter plots: Forecasts 1T1 – 1T3 series.

Note. Poisson Scatter Plots.

Procedure	Description and Application
1st Inquiry Cycle Observations and Analysis	
<p>Historical (All Series). The data plots representing the 1st Inquiry or cycle sampling infers 1Po6 [Cultural ideology] represents the strongest trend among the variables (themes) being ranked has the highest in significance. Additionally, the data plots representing this cycle infer 1Po7 [Educational] represents the 2nd strongest trend among the variables in the high range of significance. Considering the data outcomes were extracted in a historical context, cultural ideology and education demonstrate a relatively high incident frequency and significance that warrant further investigation and assessment in terms of being align with and integrated into the construction of a stem research question in the context of social environment factors as predictive influencers should “historical” data be considered.</p>	

2Po1 through 2Fo1 Series

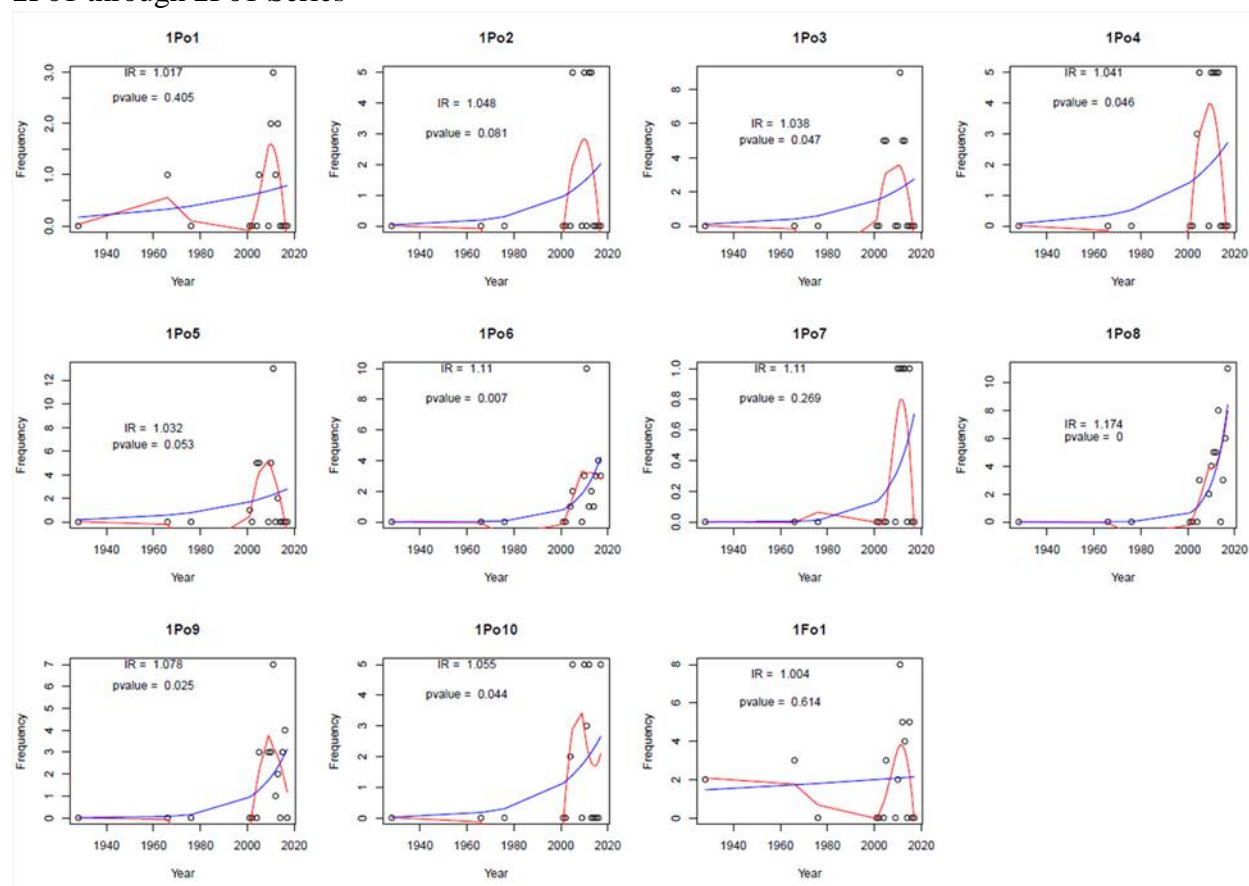


Figure G19. 2nd Order (present) leadership multivariate scatter plots: Forecasts 2Po1 – 2Fo1 series.

Note. Poisson Scatter Plots.

2En1 through 2En3 Series

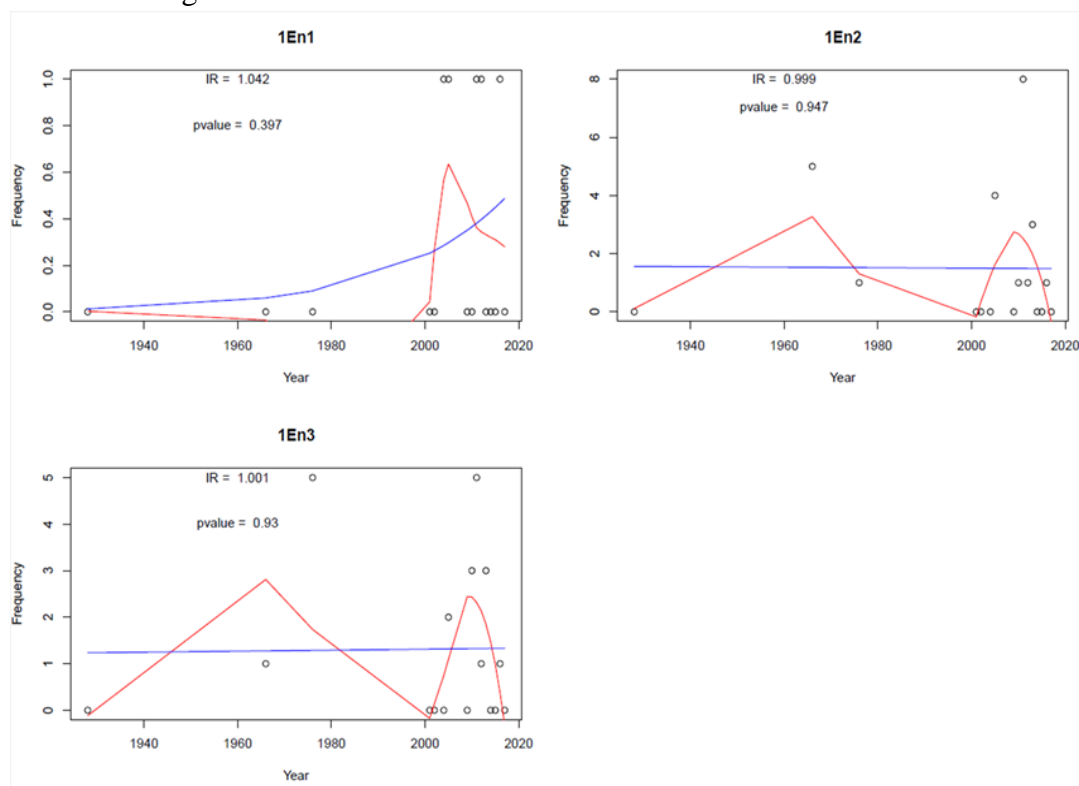


Figure G20. 2nd Order (present) leadership multivariate scatter plots: Forecasts 2En1 – 2En3 series.

Note. Poisson Scatter Plots.

2Mi1 through 2Mi3 Series

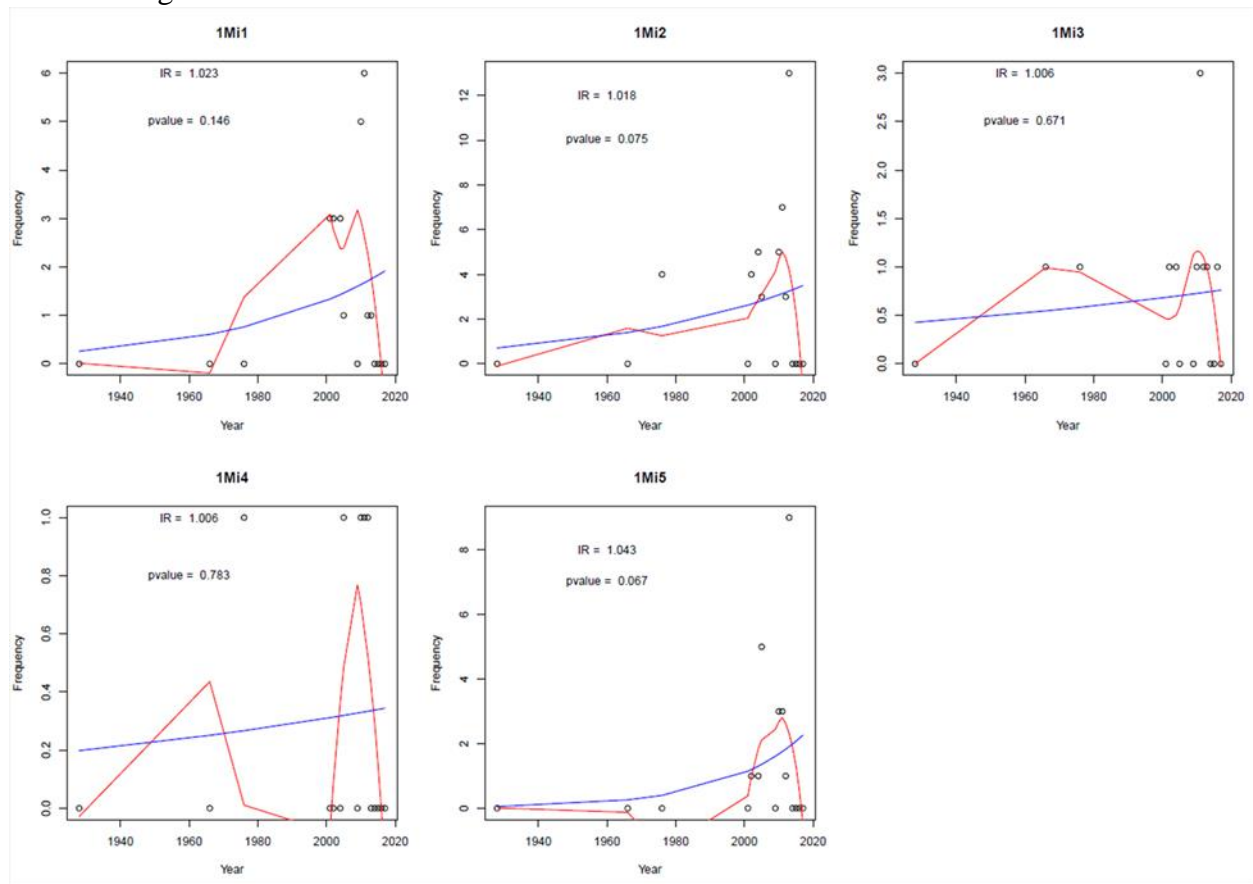


Figure G21. 2nd Order (present) leadership multivariate scatter plots: Forecasts 2Mi1 – 2Mi3 series.

Note. Poisson Scatter Plots.

2E1 through 2E16 Series

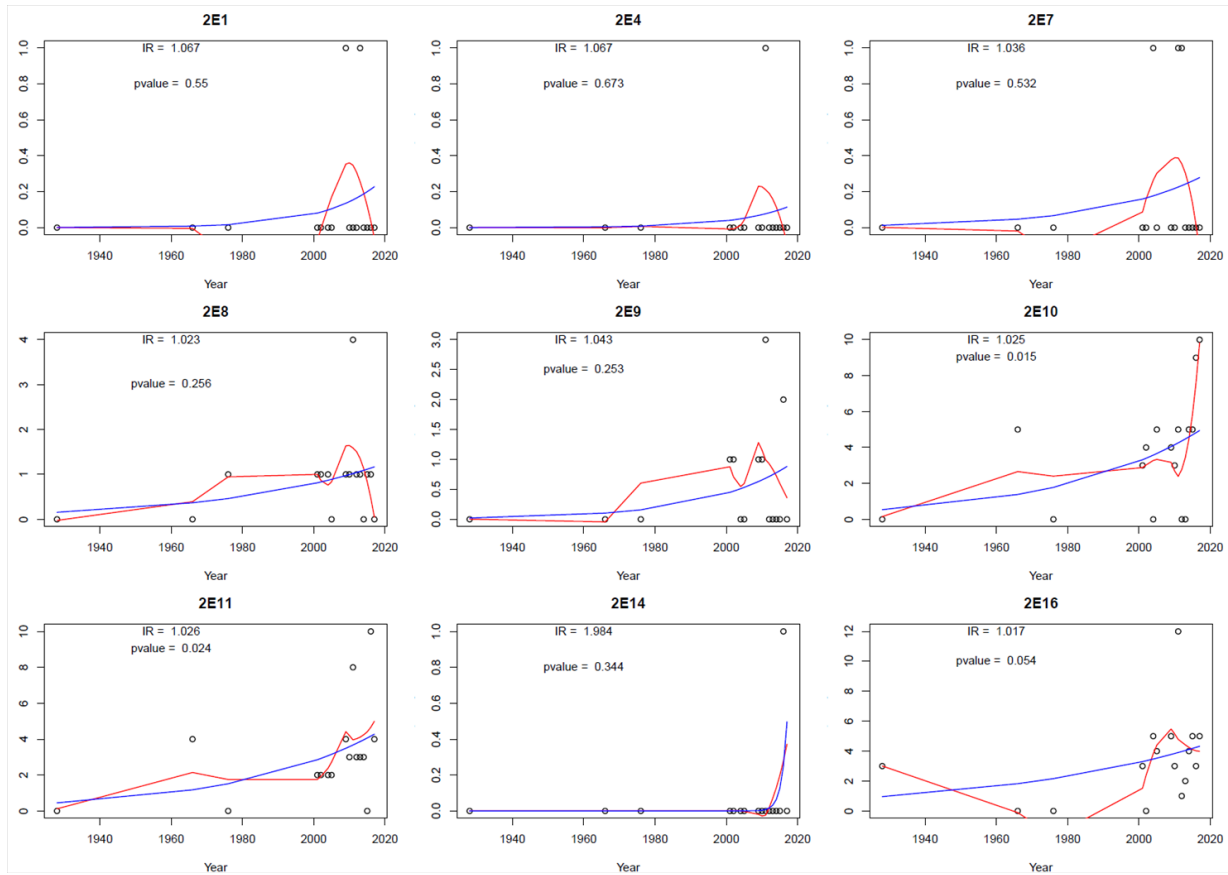


Figure G22. 2nd Order (present) leadership multivariate scatter plots: Forecasts 2E1 – 2E16 series.

Note. Poisson Scatter Plots.

2S1 through 2P10 Series

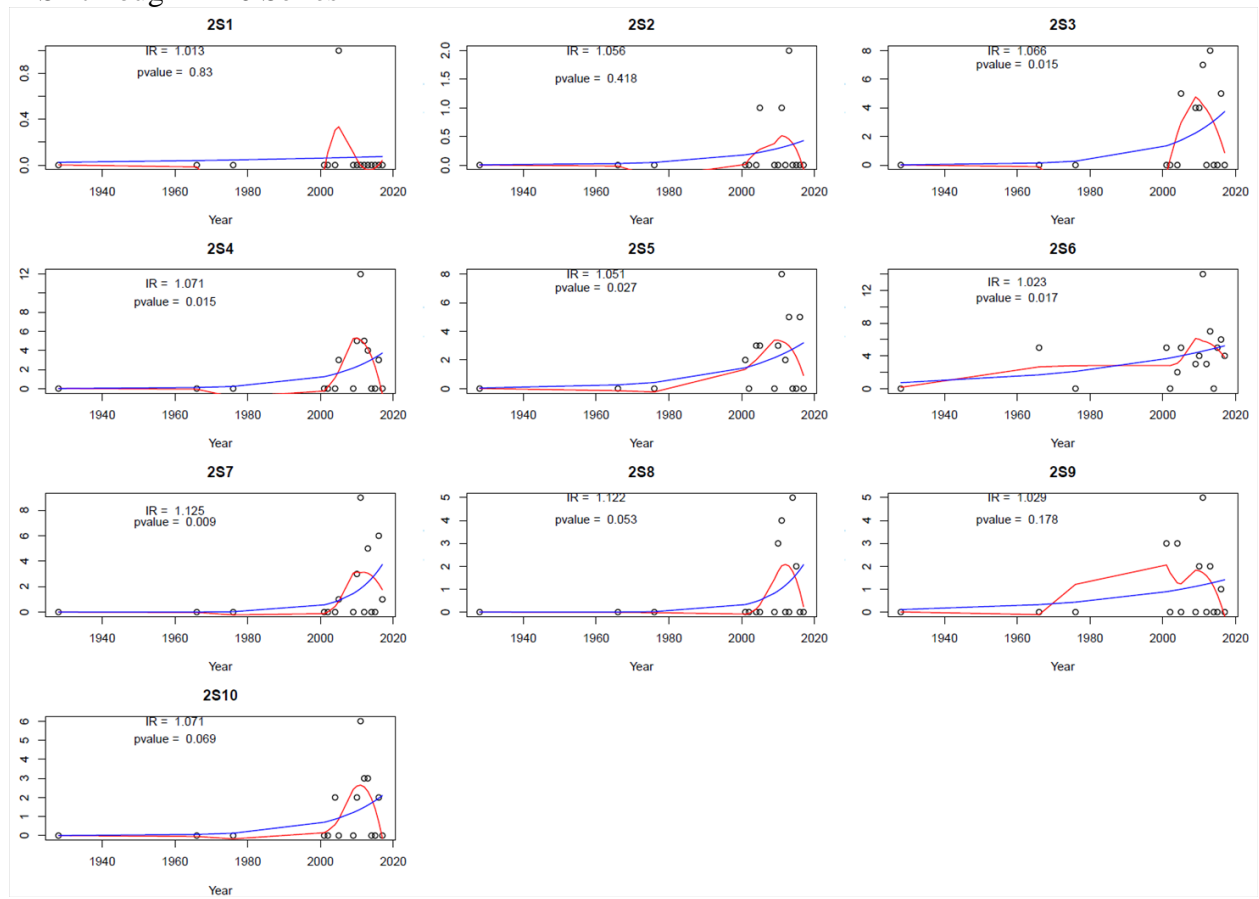


Figure G23. 2nd Order (present) leadership multivariate scatter plots: Forecasts 2S1 – 2P10 series.

Note. Poisson Scatter Plots.

2P1 through 2P19 Series

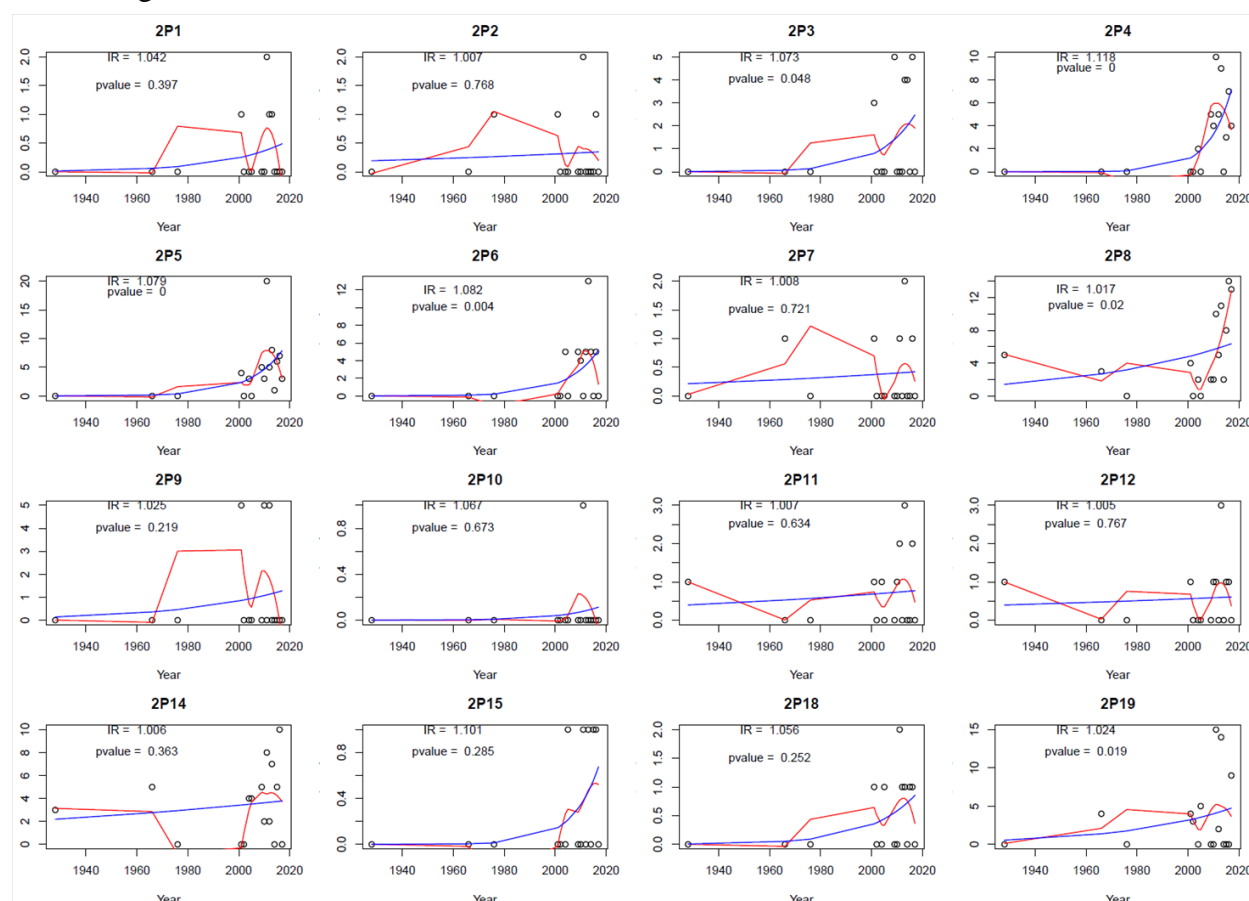


Figure G24. 2nd Order (present) leadership multivariate scatter plots: Forecasts 2P1 – 2P19 series.

Procedure	Description and Application
<p>2nd Inquiry Cycle Observations and Analysis: Present. The data plots representing the 1st Inquiry or cycle sampling infers 1Po6 [Cultural ideology] represents the strongest trend among the variables (themes) being ranked has the highest in significance. Additionally, the data plots representing this cycle infer 1Po7 [Educational] represents the 2nd strongest trend among the variables in the high range of significance. Considering the data outcomes were extracted in a historical context, cultural ideology and education demonstrate a relatively high incident frequency and significance that warrant further investigation and assessment in terms of being align with and integrated into the construction of a stem research question in the context of social environment factors as predictive influencers should historical data be considered.</p>	

3Po1 through 3Fo3 Series

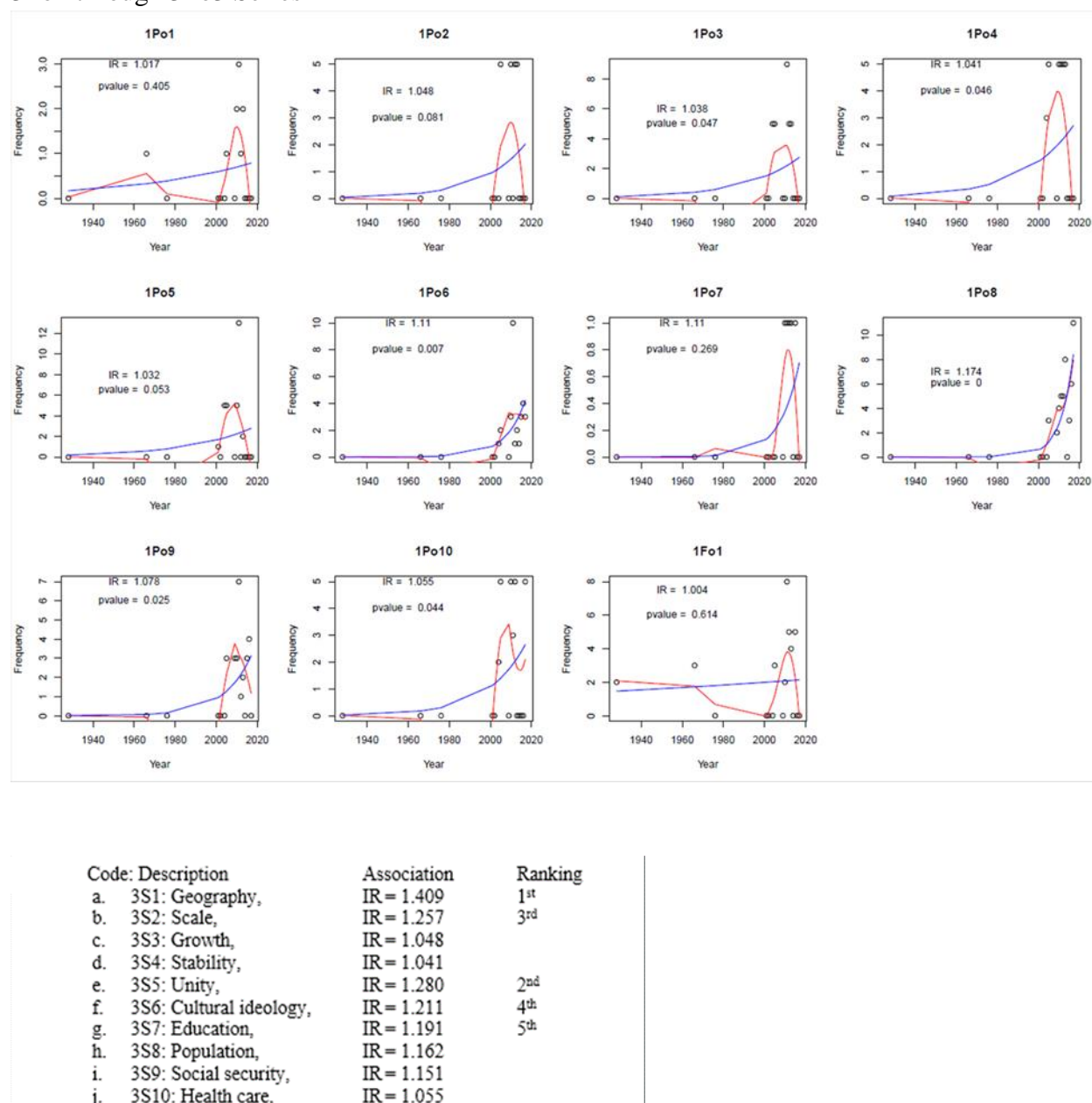


Figure G25. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3Po1 – 3Fo3 series.

Note. Poisson Scatter Plots.

3En1 through 3En3 Series

3En1 through 3En3 Series

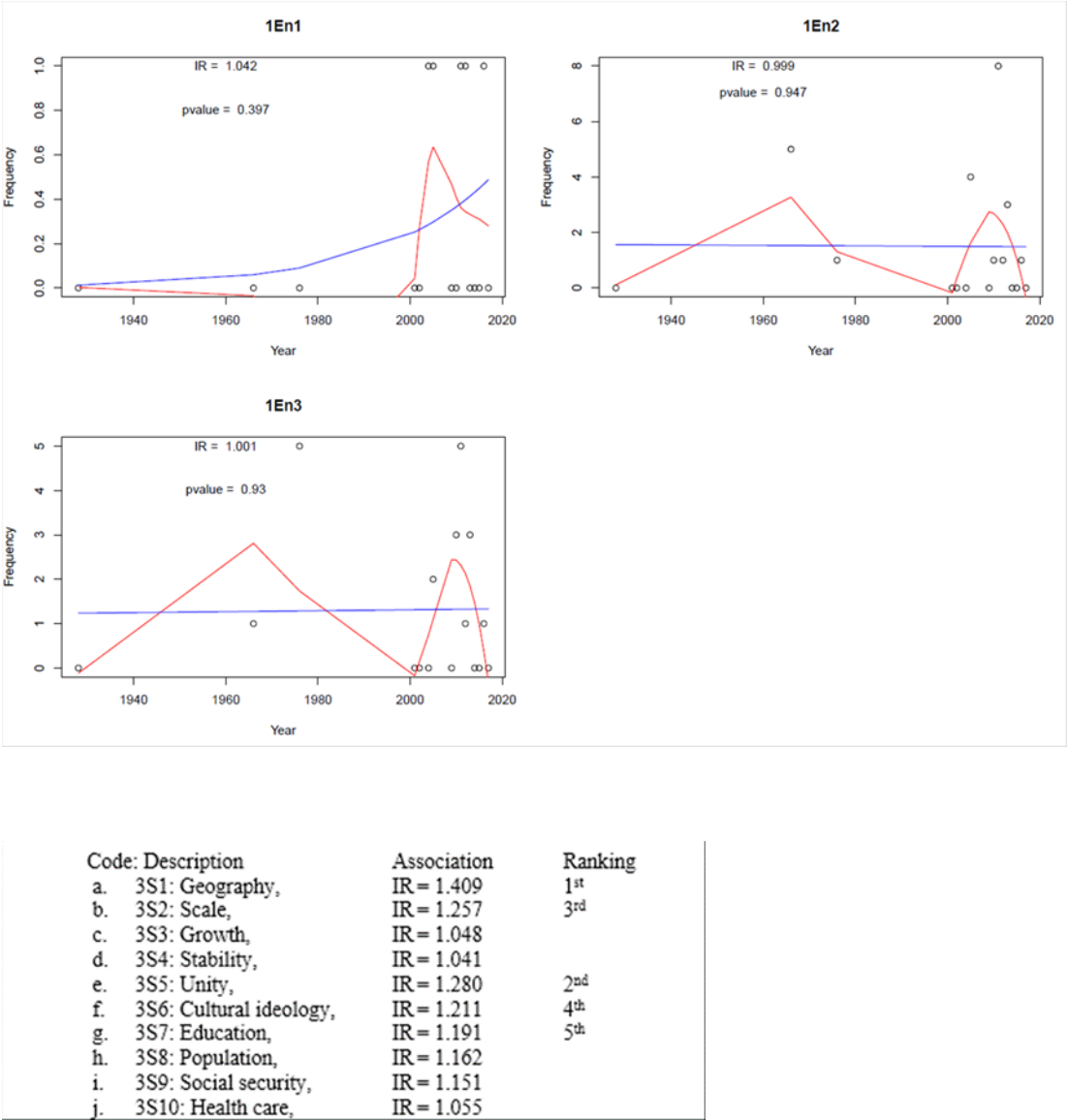


Figure G26. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3En1 – 3En3 series.

Note. Poisson Scatter Plots.

3E1 through 3E17 Series

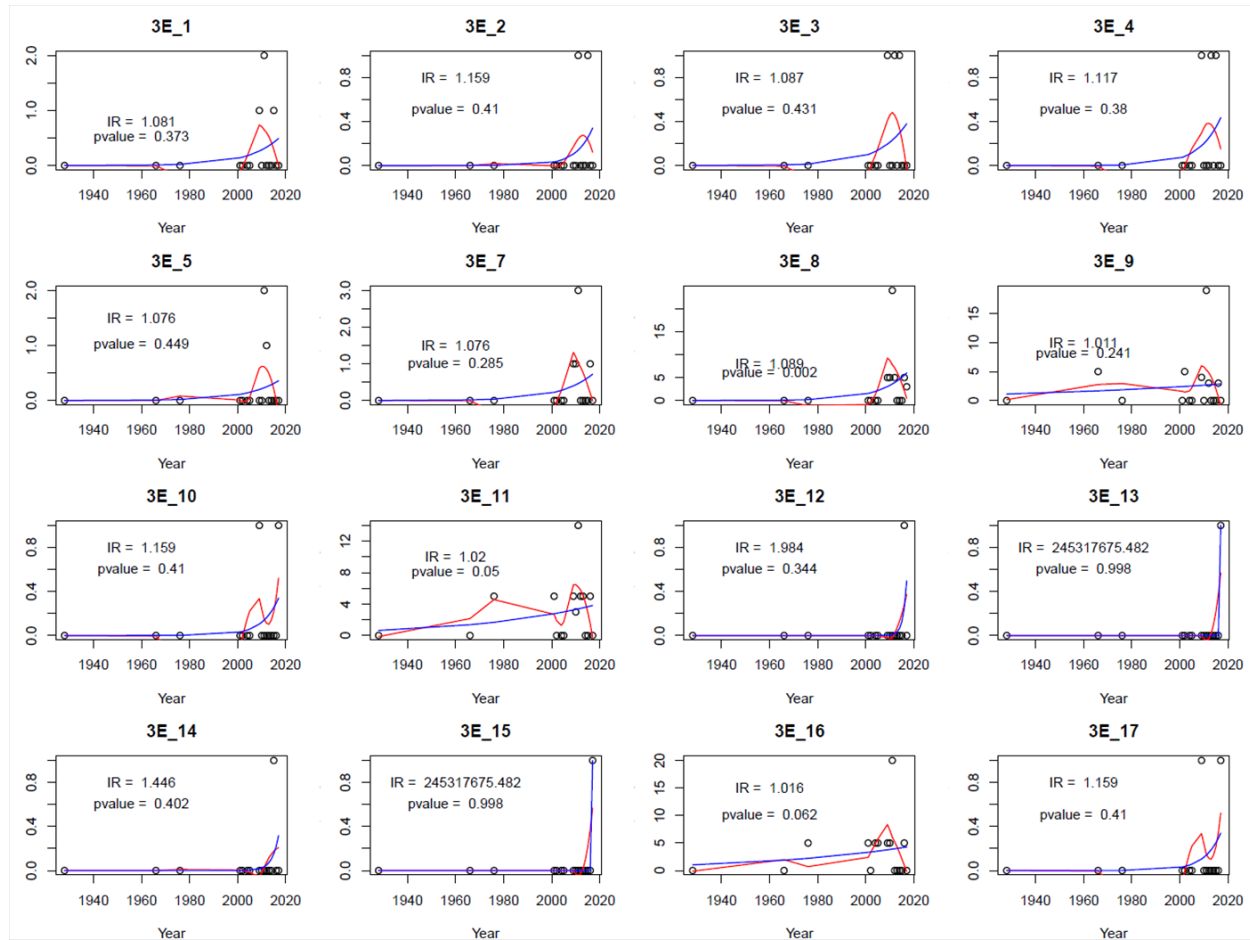


Figure G27. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3E1 – 3E17 series.

Note. Poisson Scatter Plots.

3S1 through 3S10 Series

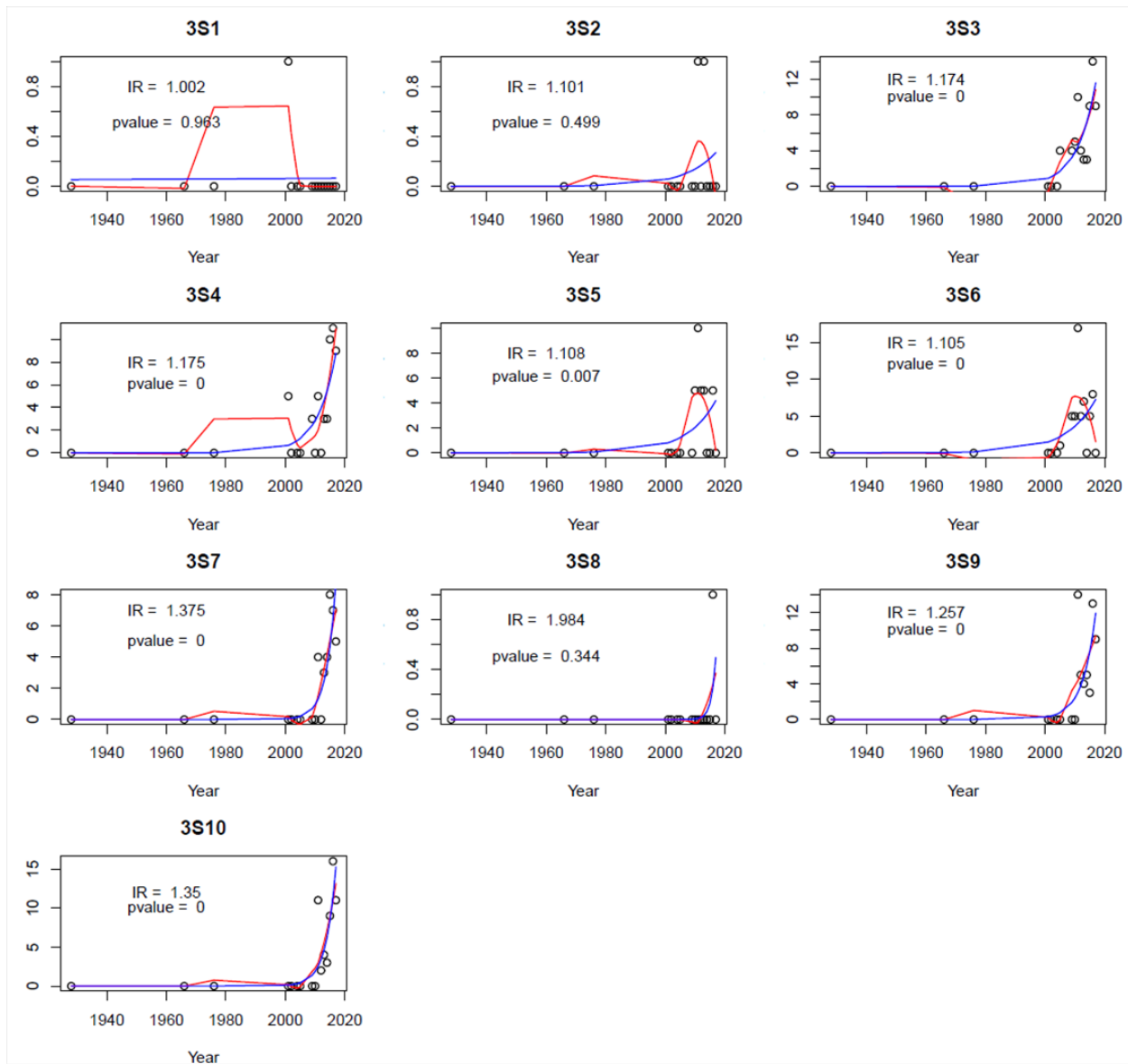


Figure G28. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3S1 – 3S10 series.

Note. Poisson Scatter Plots.

3P1 through 3P19 Series

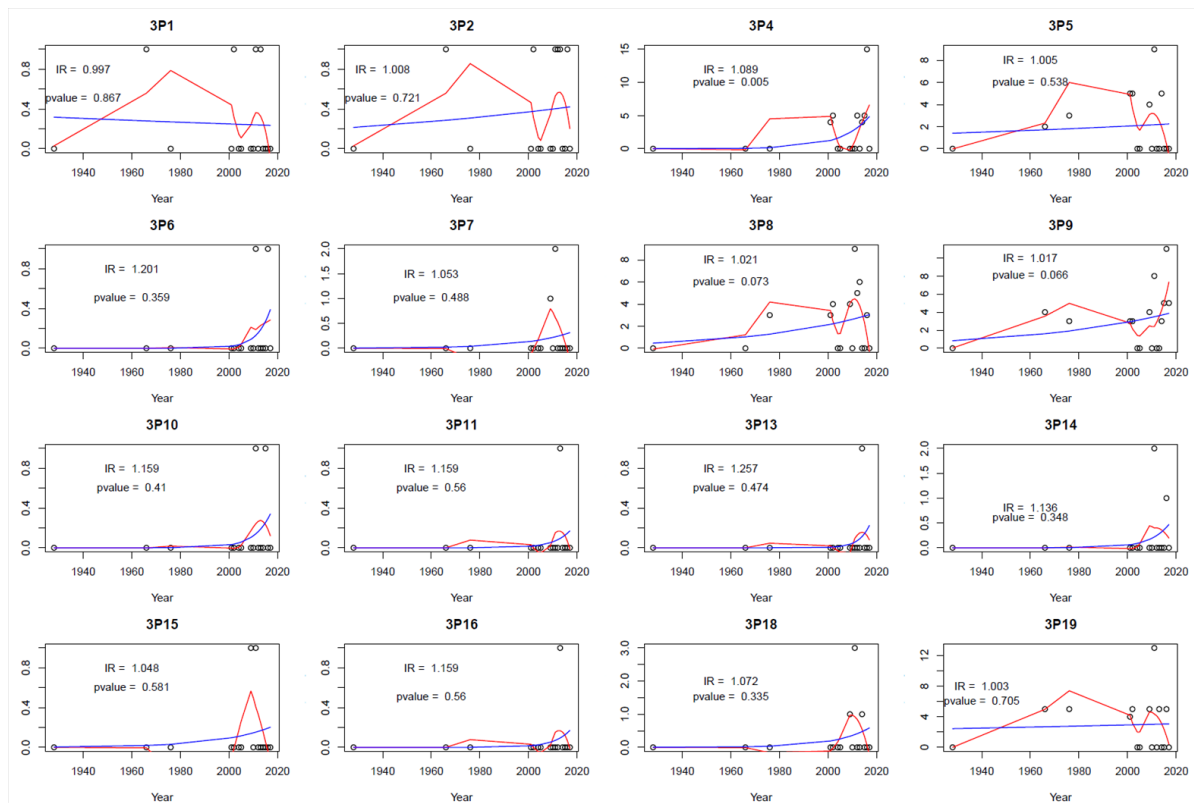


Figure G29. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3P1 – 3P19 series.

Note. Poisson Scatter Plots.

3Mi1 through 3Mi6 Series

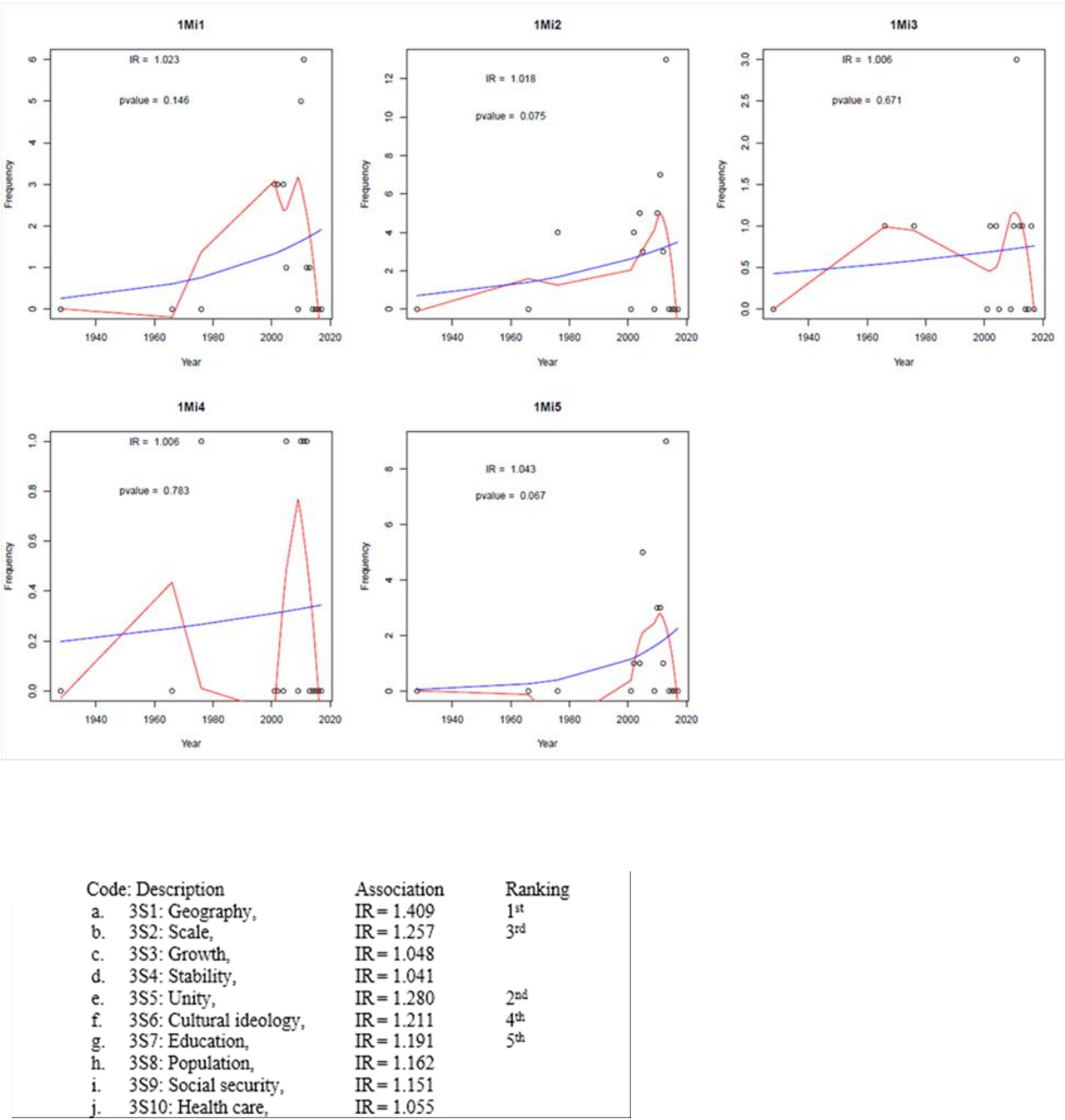
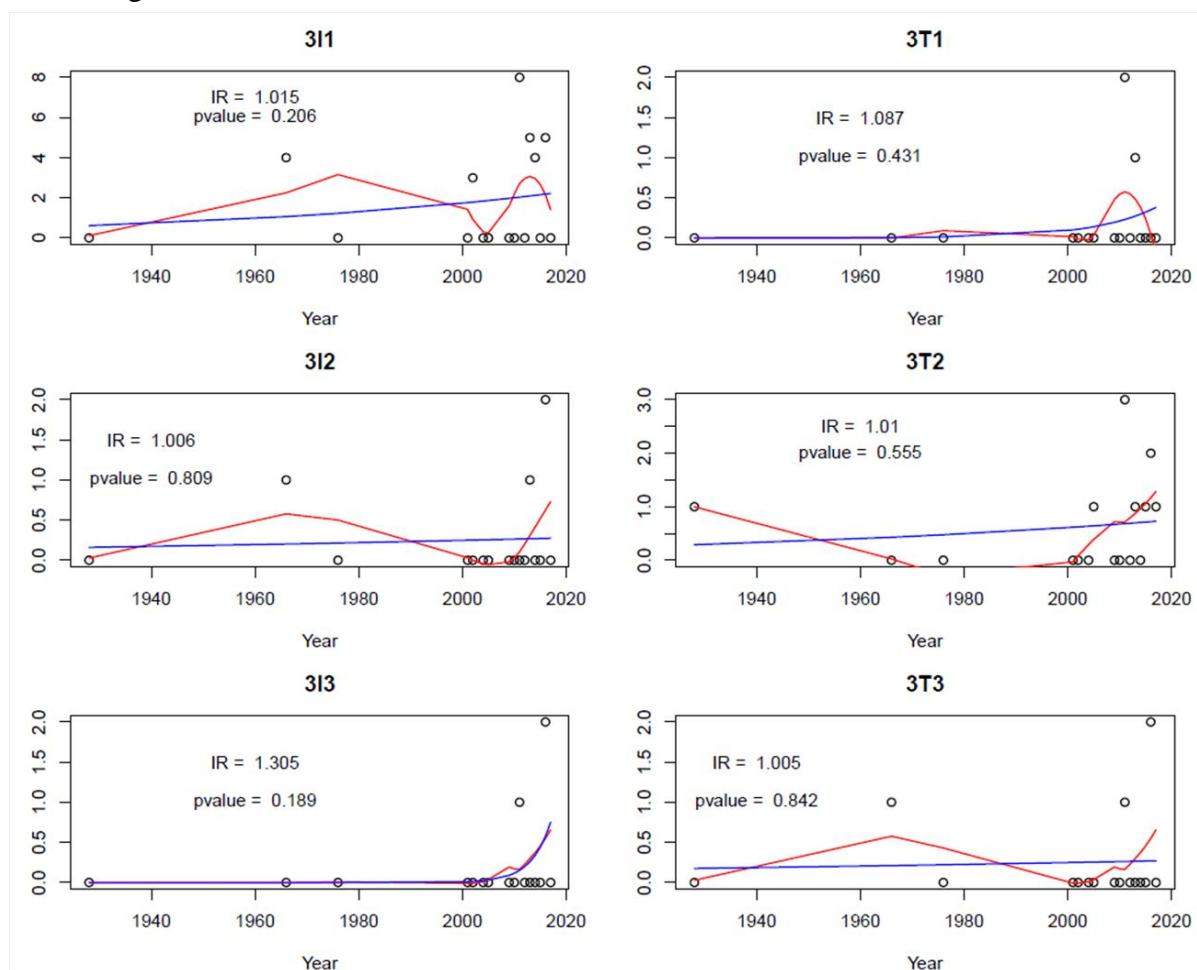


Figure G30. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3Mi1 – 3Mi6 series.

Note. Poisson Scatter Plots.

3I1 through 3T3 Series



Code: Description	Association	Ranking
a. 3S1: Geography,	IR = 1.409	1 st
b. 3S2: Scale,	IR = 1.257	3 rd
c. 3S3: Growth,	IR = 1.048	
d. 3S4: Stability,	IR = 1.041	
e. 3S5: Unity,	IR = 1.280	2 nd
f. 3S6: Cultural ideology,	IR = 1.211	4 th
g. 3S7: Education,	IR = 1.191	5 th
h. 3S8: Population,	IR = 1.162	
i. 3S9: Social security,	IR = 1.151	
j. 3S10: Health care,	IR = 1.055	

Figure G31. 3rd Order (historic) leadership multivariate scatter plots: Forecasts 3I3 – 3T3 series.

Note. Poisson Scatter Plots.

Procedure	Description and Application
3 rd Inquiry Cycle Observations and Analysis	<p>Future. The data plots representing the 1st Inquiry or cycle sampling infers 1Po6 [Cultural ideology] represents the strongest trend among the variables (themes) being ranked has the highest in significance. Additionally, the data plots representing this cycle infer 1Po7 [Educational] represents the 2nd strongest trend among the variables in the high range of significance. Considering the data outcomes were extracted in a historical context, cultural ideology and education demonstrate a relatively high incident frequency and significance that warrant further investigation and assessment in terms of being align with and integrated into the construction of a stem research question in the context of social environment factors as predictive influencers should historical data be considered.</p>

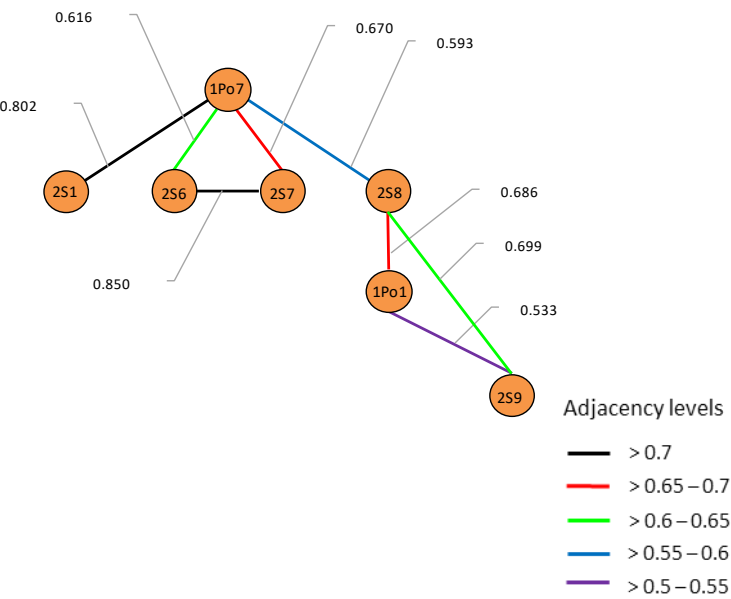


Figure G32. 1st – 2nd Order network analyzer for social cluster links.

Note. MSeExcel and R Software CSV tables; estractef from literature inquiry data.

1. Estimated correlations between theme counts as extracted from Pearson’s coefficient table. (See Table 2.9.)
2. Once the Pearson’s correlation coefficient table was developed, the information is presented as a network. This interpretive illustrates how closely the themes are linked to each other.
3. All the themes identified in the literature reviewed were examined in the Pearson correlation analysis.

Data:

1. Pearson correlation calculations based on original sample data.
2. Also see Appendix B, Figure B1 and Table B5 Social themeing: Frequency and distribution analysis (interpretive).
3. All theme category and sub-category descriptive and pattern codes are published in the index and appendices of this study.

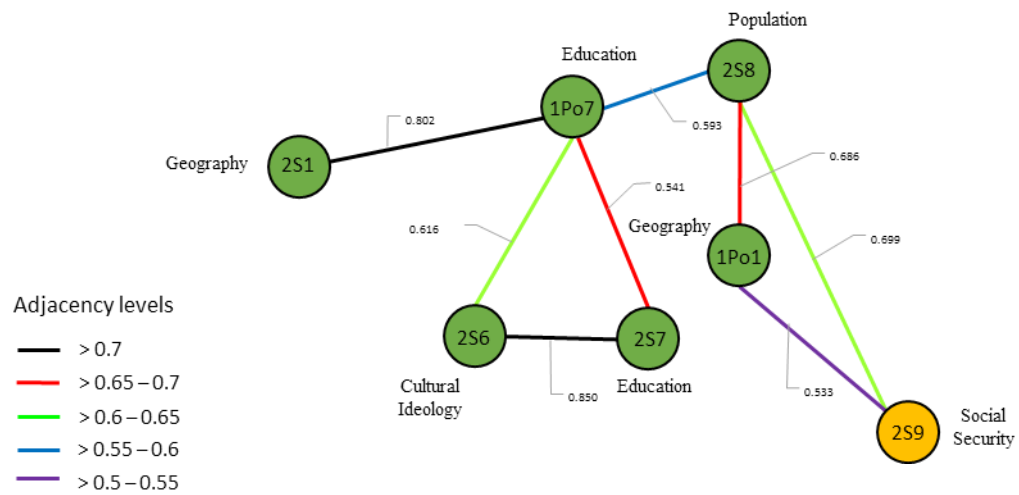


Figure G33. 1st – 2nd Order network analyzer for social security cluster links.

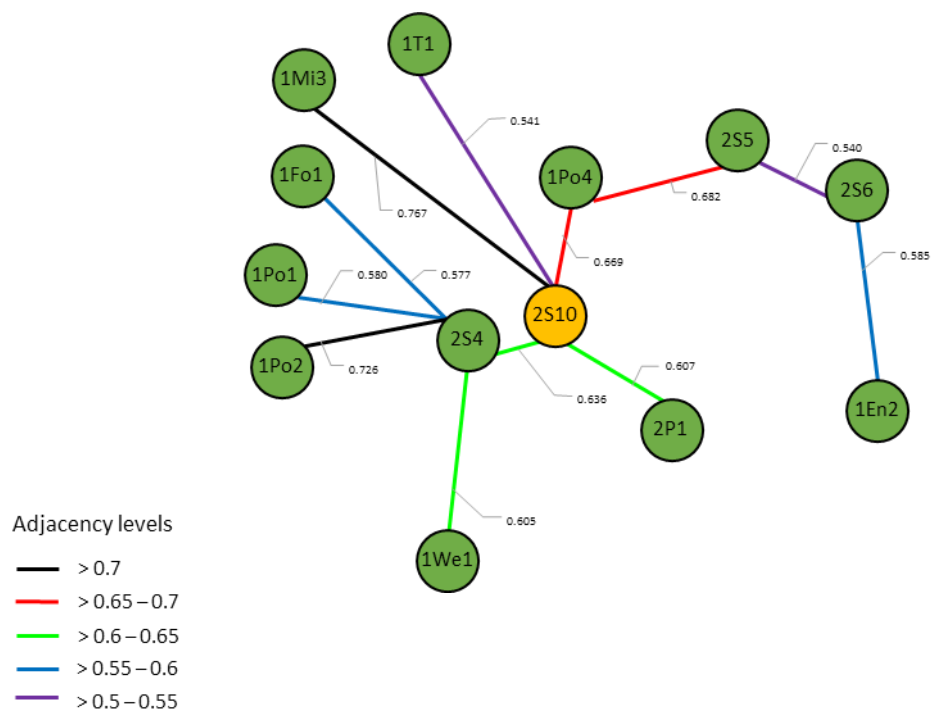


Figure G34. 1st – 2nd Order network analyzer for health care cluster links.

Significance

This study found the following categories (topics) factors (theme-words), and sub-themes (variables) represent those that likely probable to be associated as influencers and or drivers of China's leader's social program and decisional processes. They are listed as follows.

Social Environment with Leadership emphasis (Data frame 1a.).

- a. Historic geography (1Po1 = 0.751, IR = 1.231 or ranked 1st)
- b. Historic growth (1Po3 = 0.536, IR = 1.042 or ranked 2nd)
- c. Historic cultural ideology (1Po6 = 0.728, IR = 1.040 or ranked 3rd)
- d. Historic social security (1Po9 = 0.606, IR not evaluated, or ranked 4th)

See Volume II, Appendix G, Figure G.1, Box and Whiskers Plot, Social Factor Inquiry Series 1a of 6; and, Table G.23, Box Plot: Data table supporting box plots: Social Factor Inquiry Series 1a of 6. *Not all of the factors (variables) achieved a ranked IR status in terms of future predictability.*

See, Appendix G, Figures G13-32 Multivariate Analysis, Scatter Plot Forecasts – 1st Inquiry, Historical.

- a. Network analyzer linked relationships (Data Frame 1a):
 - (1.) Present cultural ideology to present education (2S6 to 2S7, $r = 0.850$, ranked 1st);
 - (2.) Historic education to present geography (1Po7 to 2S1, $r = 0.802$, ranked 2nd);
 - (3.) Present population, aging to health care (2S8 to 2S9, $r = 0.699$, ranked 3rd);
 - (4.) Historic geography to present population, aging (1Po1 to 2S8, $r = 0.686$, ranked 4th);
 - (5.) Historic to present education (1Po7 to 2S7, $r = 0.670$, ranked 5th).

Also see Volume II, Appendix G, Figure G.14, Network Analyzer, Social Cluster Plot, 1st – 2nd Orders. Due to the size of the social data frame the category as divided into two data frames.

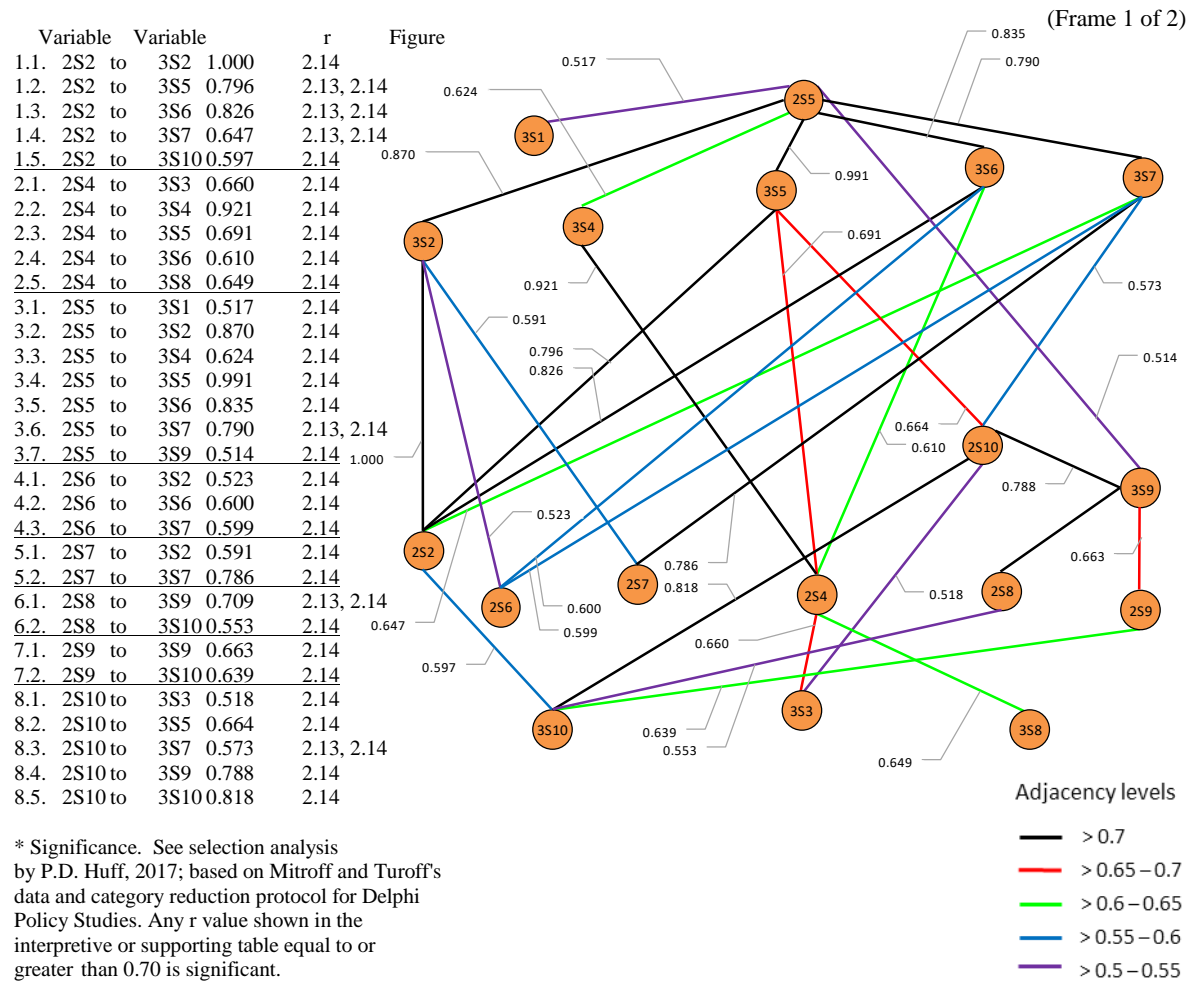


Figure G35. 2nd – 3rd Order network analyzer for social cluster links.

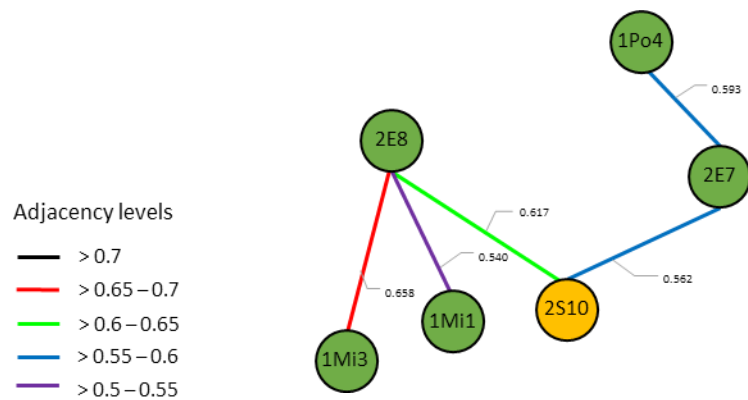


Figure G36. 2nd – 3rd Order network analyzer for health care cluster links.

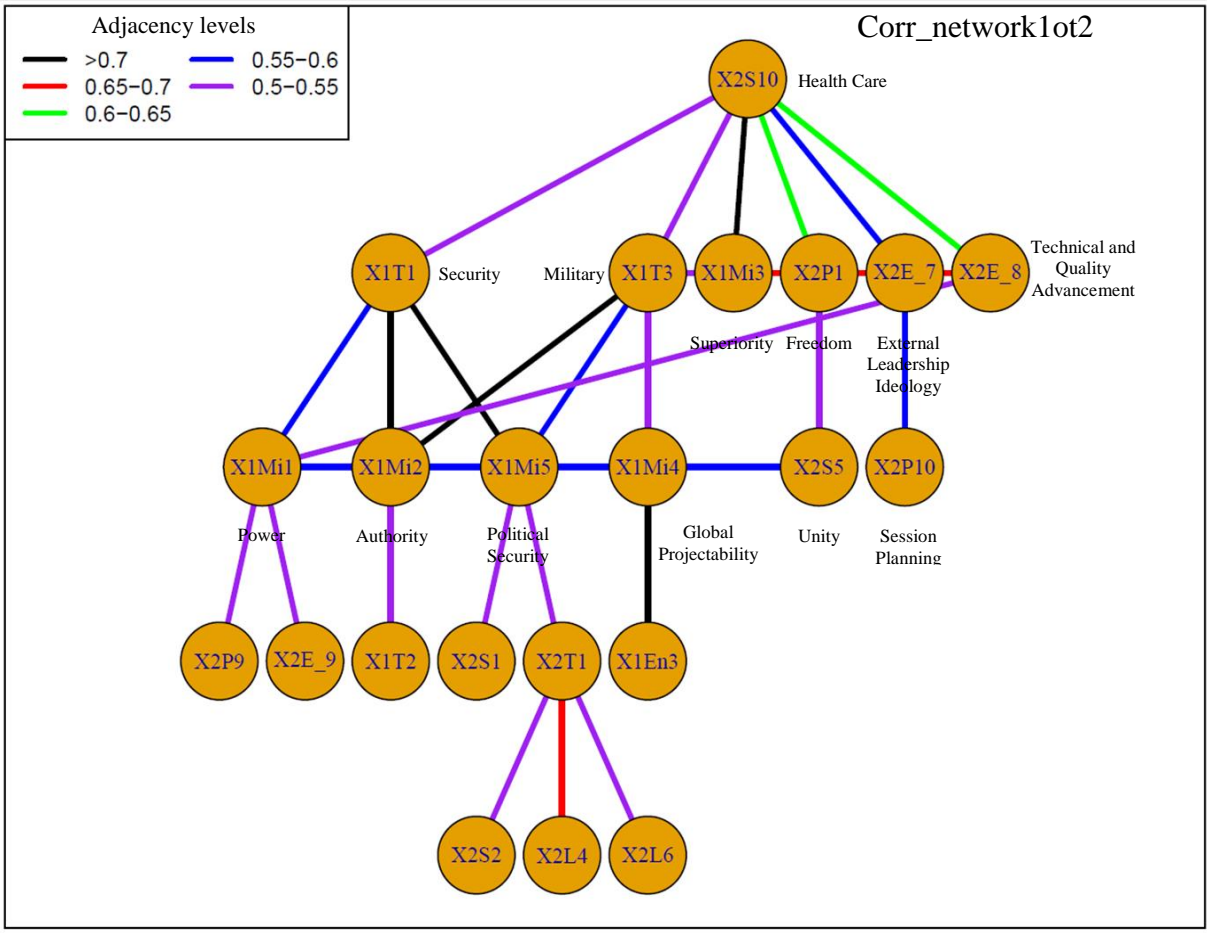


Figure G37. 1st – 2nd Order network analyzer for leadership cluster links: Other findings of interest.

Table G31.

Social Network Analyzer Formulas For Centralization and Total Deviation.

Formulas	Description and Application
SNA Formulas:	
Centralization:	$C(G) = \sum_{i=1}^{ V } \left[\left(\max_{v \in V} c(v, G) \right) - c(v_i, G) \right]$
Total deviation from the maximum observe	$C(G) = V [c^*(G) - \bar{c}(G)]$
Where,	$c^*(G) = \max_{v \in V} c(v, G) \text{ and } \bar{c}(G) = \frac{1}{ V } \sum_{i=1}^{ V } c(v_i, G)$

Table G32.

Corr_network1others_vs2

	X1P01	X1P02	X1P03	X1P04	X1P05	X1P06	X1P07	X2S1	X2S2	X2S3	X2S4	X2S5	X2S6	X2S7	X2S8	X2S9	X2S10	X3S1	X3S2	X3S3	X3S4	X3S5	X3S6	X3S7	X3S8	X3S9	X3S10
X1P01	1.000	0.177	0.069	0.257	0.404	0.209	0.379	0.142	0.226	0.097	-0.087	0.186	0.101	0.051	0.686	0.533	0.384	0.112	0.226	0.053	-0.122	0.167	0.084	0.083	0.162	0.401	0.314
X1P02		1.000	0.697	0.646	-0.287	0.058	0.118	-0.102	0.217	-0.016	0.500	0.131	0.272	0.156	0.167	0.037	0.233	-0.011	0.217	0.472	0.357	0.101	0.130	0.405	0.309	0.075	0.269
X1P03			1.000	0.453	-0.209	0.246	0.419	0.303	0.141	0.302	0.546	0.280	0.378	0.453	0.167	0.193	0.459	0.053	0.141	0.579	0.499	0.306	0.502	0.542	0.435	0.266	0.236
X1P04				1.000	-0.398	0.280	0.253	-0.017	0.359	0.025	0.201	0.231	0.419	0.338	0.100	0.711	0.319	0.011	0.359	0.722	0.089	0.128	0.228	0.188	0.041	0.159	-0.030
X1P05					1.000	0.170	0.226	0.327	0.115	0.217	0.094	0.238	-0.093	-0.085	0.406	0.277	0.057	0.217	0.115	-0.053	0.084	0.261	0.162	0.135	0.448	0.223	-0.493
X1P06						1.000	0.433	0.332	0.163	0.518	-0.072	0.186	0.290	0.286	0.197	0.236	0.297	0.080	0.290	0.420	0.309	0.420	0.309	0.420	0.309	0.420	0.309
X1P07							1.000	0.802	0.425	0.485	0.170	0.447	0.516	0.670	0.593	0.297	0.376	0.480	0.426	0.004	0.145	0.432	0.292	0.641	0.405	0.600	0.343
X2S1								1.000	0.325	0.460	0.147	0.355	0.441	0.652	0.348	0.197	0.196	0.428	0.325	0.018	0.133	0.348	0.225	0.658	0.365	0.478	0.106
X2S2									1.000	0.044	0.490	0.870	0.523	0.591	0.309	0.357	0.489	1.000	0.276	0.382	0.796	0.826	0.647	0.350	0.399	0.597	
X2S3										1.000	0.163	0.197	0.327	0.302	0.222	0.100	0.009	0.391	0.044	0.396	0.137	0.230	0.169	0.340	0.430	0.201	-0.140
X2S4											1.000	0.671	0.295	0.219	0.034	0.185	0.383	0.270	0.490	0.660	0.921	0.691	0.610	0.483	0.649	0.261	0.219
X2S5												1.000	0.491	0.486	0.299	0.451	0.651	0.517	0.870	0.624	0.991	0.835	0.790	0.499	0.514	0.490	
X2S6													1.000	0.850	0.077	-0.016	0.155	0.165	0.523	0.104	0.193	0.461	0.600	0.599	0.037	0.059	0.234
X2S7														1.000	0.193	0.084	0.278	0.232	0.591	0.252	0.144	0.435	0.464	0.786	0.114	0.142	0.304
X2S8															1.000	0.699	0.550	0.459	0.309	0.064	0.005	0.282	0.176	0.138	0.421	0.709	0.553
X2S9																1.000	0.754	0.334	0.357	0.250	0.190	0.456	0.320	0.371	0.379	0.663	0.839
X2S10																	1.000	0.319	0.498	0.518	0.401	0.664	0.377	0.356	0.788	0.681	

1. Estimated correlations between theme counts as extracted from Pearson's coefficient tables.
2. Once the Pearson's correlation coefficient table was developed, the information is presented as a network. This interpretive illustrates how closely the themes are linked to each other.
3. All the themes identified in the literature reviewed were examined in the Pearson correlation analysis.

Significance**Social Environment with Leadership emphasis. (Date frame 1b and 1c.)**

- a. Present *cultural ideology* (2S6 = 0.7862, IR not evaluated, or ranked 1st);
- b. Future *growth* (3S3 = 0.5583, IR not evaluated, or ranked 2nd);
- c. Future *health care* (3S10 = 0.5272, IR not evaluated, or ranked 3rd);
- d. Future *social security* (3S9 = 0.4565, IR not evaluated, or ranked 4th);
- e. Future *cultural ideology* (3S6 = 0.4491, IR = 1.211 or 5th ranked);
- f. Present (2S5 = 0.4449, IR 1.280 or 2nd ranked); future (3S4 = 0.4210, IR not ranked 6th).

See Volume II, Appendix G, Figure G.2, Box and Whiskers Plot, Social Factor Inquiry Series 1b of 6; and, Table G.24,

Box Plot. Data table supporting box plots: Leadership - Social Factor Inquiry Series 1b of 6. Not all of the factors (variables) achieved a ranked IR status in terms of future predictability. See, Appendix G, social: multivariate analysis, scatter plot forecasts – 2nd and 3rd Inquiry, present and future.

- a. Network analyzer linked relationships.
 Present to future scale (2S2 to 3S2, $r = 1.0$, ranked 1st);
 Present to future unity (2S5 to 3S5, $r = 0.991$, ranked 2nd);
 Present to future stability (2S4 to 3S4, $r = 0.921$, ranked 3rd);
 Present unity to future scale (2S5 to 3S2, $r = 0.870$, ranked 4th);
 Present scale to future unity (2S2 to 2S5, $r = 0.870$, ranked 5th);
 Present health care to future health care (2S10 to 3S10, $r = 0.818$, ranked 6th); and, Present scale to future unity (2S2 to 3S5, $r = 0.796$, ranked 7th);
 See Appendix G, Figures G.42, Network Analyzer, Social Cluster Plot, 1st – 2nd Orders pertaining.
 Present scale to present unity (2S2 to 2S5 = 0.870, $r = 0.870$ ranked 1st);
 Present cultural ideology to present education (2S6 to 2S7 = 0.850, ranked 2nd); Present unity to cultural ideology (2S5 to 2S6 = 0.835, ranked 3rd);
 Future scale to cultural ideology (3S2 to 3S6 = 0.826, ranked 4th),
 Present scale to future cultural ideology (2S2 to 3S6 = 0.826, ranked 5th);
 Future unity to future cultural ideology (3S5 to 3S6 = 0.800, ranked 6th).
- b. Consolidated data discovered in other data frames.
 Historic population, aging (1Po8 = 0.559, IR not ranked), see Figure G.13;
 Historic cultural ideology (1Po6 = 0.556, IR 1.040 or ranked 5th), see Figure G.13;
 Historic social security (1Po9 = 0.310, IR not ranked), see Figure G.13;
 Present health care to historic superiority (2S10 to 1Mi3 = 0.767), see Figure G.13; Historic stability to historic scale (1Po4 to 1Po2 = 0.839); present stability to historic scale (2S4 to 1Po2 = 0.726), see Figure G.13.
- c. Consolidated data frame hierarchy (1a., through 1c; and other frames). Revised order for the top ranked combine factors = 1.0 to 0.800:
 (1) Present to future scale (2S2 to 3S2, $r = 1.0$, ranked 1st);
 (2) Present to future unity (2S5 to 3S5, $r = 0.991$, ranked 2nd);
 (3) Present to future stability (2S4 to 3S4, $r = 0.921$, ranked 3rd);
 (4) Present unity to future scale (2S5 to 3S2, $r = 0.870$, ranked 4th);
 (5) Present scale to future unity (2S2 to 2S5, $r = 0.870$, ranked 5th);
 (6) Future unity to future cultural ideology (3S5 to 3S6 = 0.800, ranked 6th).
 (7) Historic stability to historic scale (1Po4 to 1Po2 = 0.839);
 (8) Present cultural ideology to present education (2S6 to 2S7 = 0.850, ranked 2nd); (9.) Present unity to cultural ideology (2S5 to 2S6 = 0.835, ranked 3rd);
 (10) Future scale to cultural ideology (3S2 to 3S6 = 0.826, ranked 4th),
 (11) Present scale to future cultural ideology (2S2 to 3S6 = 0.826, ranked 5th);
 (12) Historic education to present geography (1Po7 to 2S1, $r = 0.802$, ranked 2nd);
 (13) Future unity to future cultural ideology (3S5 to 3S6 = 0.800, ranked 6th).

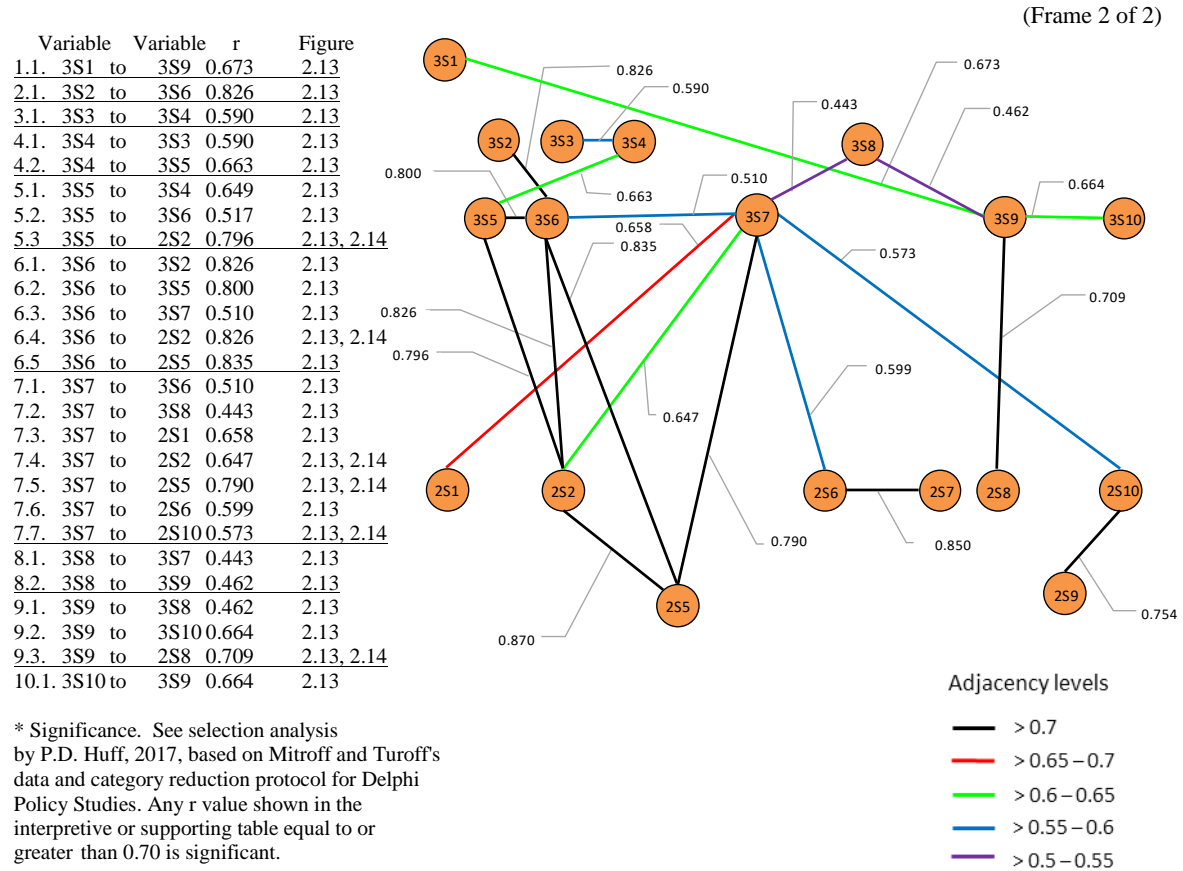


Figure G38. 2nd – 3rd Order network analyzer for social cluster links.

Table G33.

2nd – 3rd Order Network Analyzer for Social Cluster Links

	X1Po1	X1Po2	X1Po3	X1Po4	X1Po5	X1Po6	X1Po7	X2S1	X2S2	X2S3	X2S4	X2S5	X2S6	X2S7	X2S8	X2S9	X2S10	X3S1	X3S2	X3S3	X3S4	X3S5	X3S6	X3S7	X3S8	X3S9	X3S10
X1Po1	1.000																										
X1Po2		1.000																									
X1Po3			1.000																								
X1Po4				1.000																							
X1Po5					1.000																						
X1Po6						1.000																					
X1Po7							1.000																				
X2S1								1.000																			
X2S2									1.000																		
X2S3										1.000																	
X2S4											1.000																
X2S5												1.000															
X2S6													1.000														
X2S7														1.000													
X2S8															1.000												
X2S9																1.000											
X2S10																	1.000										
X3S1																		1.000									
X3S2																			1.000								
X3S3																				1.000							
X3S4																					1.000						
X3S5																						1.000					
X3S6																							1.000				
X3S7																								1.000			
X3S8																									1.000		
X3S9																										1.000	

Note. Network Analyzer Program applied to R software data; Pearson's correlation coefficient table.

1. Estimated correlations between theme counts as extracted from Pearson's coefficient table. (See Table 2.9.)
2. Once the Pearson's correlation coefficient table was developed, the information is presented as a network. This interpretive illustrates how closely the themes are linked to each other.
3. All the themes identified in the literature reviewed were examined in the Pearson correlation analysis.

Data:

1. Also see themeing: Frequency and distribution analysis (interpretive).
2. Theme category and sub-category descriptive and pattern codes are referenced in the index.

Significance

Political Environment.

Present leadership behavior (2P8 = 0.405, IR = not ranked);

Present internal leadership ideology (2P5 = 0.365, IR = 1st ranked).

Also see Volume II, Appendix G, Figure G.3, Box and Whiskers Plot, Political Factor Inquiry Series 2 of 6; and, data table supporting box plots: Leadership – Political Inquiry Series 2 of 6. Not all of the factors (variables) achieved a ranked IR status in terms of future predictability.

See, Volume II, Appendix G.8, Social: Multivariate Analysis, Scatter Plot Forecasts – 1st and 2nd Inquiry, historical and present.

- a. Network Analyzer linked relationships (Data Frame 1 of 2). None were found associated with the political environment in the Network Analyzer linked relationships, (Frame 1 of 2). See Appendix G, Network Analyzer, Social Cluster Plot, 1st Order, (Frame 1 of 2).
- b. Network analyzer linked relationships, (Data Frame 2 of 2).
Present global influence to present global projectability (2P18 to 2P15 = 0.737).
See Volume II, Appendix G, Figure G.18, Network Analyzer, Social Cluster Plot, 1st – 2nd Order, (Frame 2 of 2)
- c. Consolidated data discovered in other data frames.
Future global projectability to future external leadership ideology (3P15 to 3P7 = 0.801).
Future global influence to future external leadership ideology (3P18 to 3P7 = 0.743).
- d. Consolidated data frame hierarchy (Data Frames 1-2, and other frames). Revised order for the top ranked combine factors = 1.0 to 0.800:

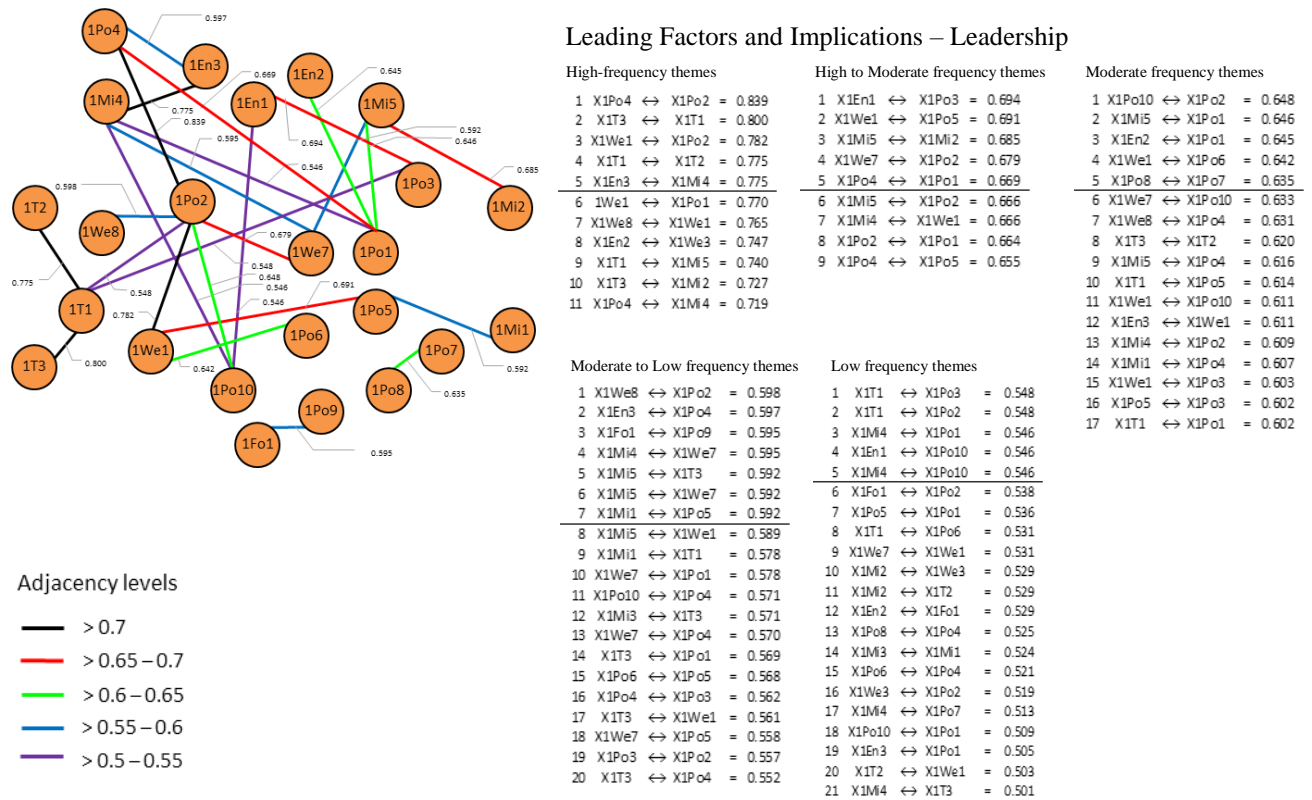


Figure G39. 1st Order network analyzer for leadership cluster links: Other findings of interest.

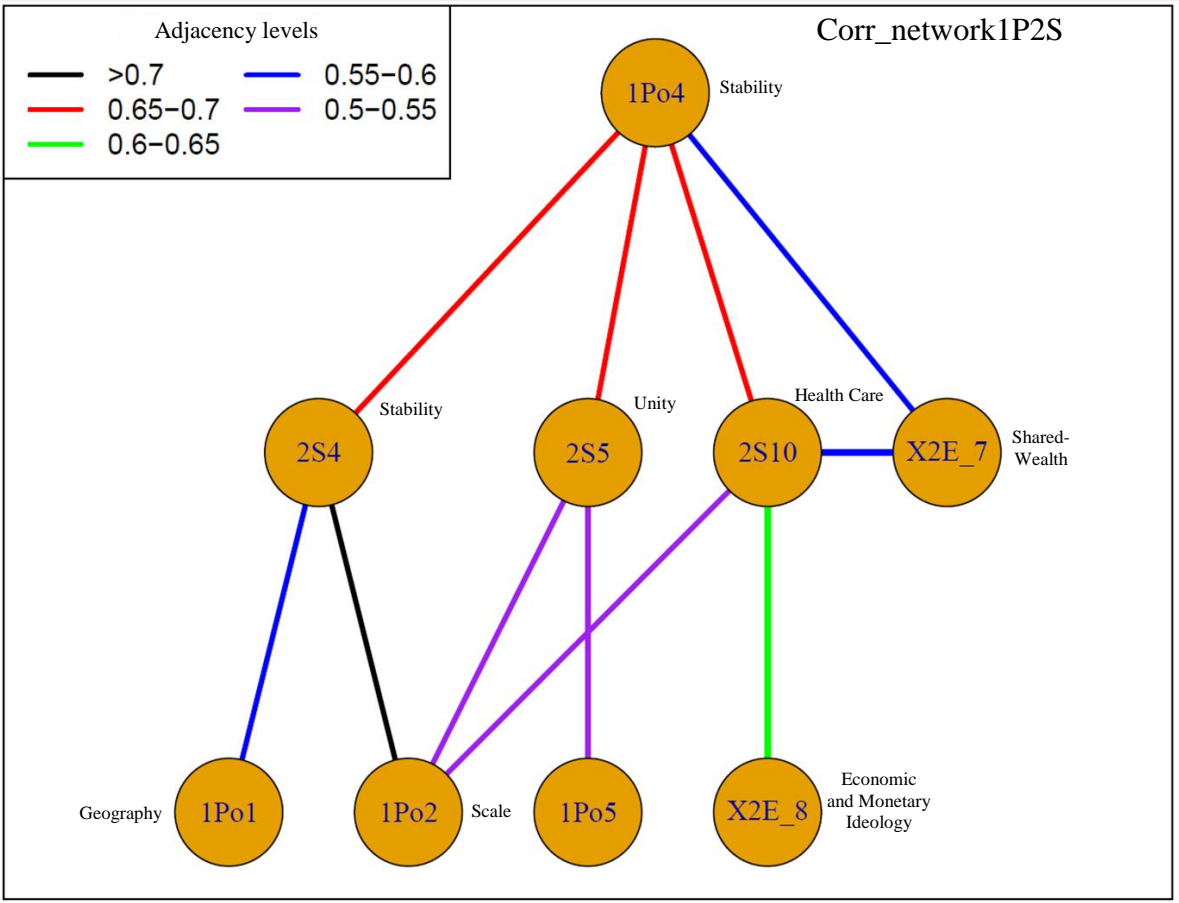


Figure G40. 1st Order network analyzer for leadership cluster links.

Legend

Adjacency levels	Statistical significance
— > 0.7	High
— > 0.65 – 0.699	High to moderate
— > 0.6 – 0.649	Moderate
— > 0.55 – 0.599	Moderate to low
— > 0.5 – 0.549	Low

High-frequency themes defined

- 1 Stability(X1Po4) to Scale(X1Po2)
- 2 Military(X1T3) to Security(X1T1)
- 3 Balance of Trade(X1We1) to Scale(X1Po2)
- 4 Security(X1T1) to Advancement(X1T2)
- 5 Natural Energy Resources(X1En3) to Global Projectability(X1Mi4)

Table G34.

Pearson's Correlation Coefficient Tables: Leadership Themes 1st Order

(Variables 1Po1 to 1Mi5)

	X1Po1	X1Po2	X1Po3	X1Po4	X1Po5	X1Po6	X1Po7	X1Po8	X1Po9	X1Po10	X1Fo1	X1We1	X1We2	X1We3	X1We4	X1We7	X1We8	X1En1	X1En2	X1En3	X1T1	X1T2	X1T3	X1M1	X1M2	X1M3	X1M4	X1M5
X1Po1	1	0.664368	0.31531	0.669114	0.536254	0.40787	0.376346	0.253477	0.33785	0.50899	0.457899	0.770541	0.072216	0.405889	0.072216	0.577727	0.780867	0.206383	0.644687	0.505202	0.60163	0.375823	0.568704	0.458235	0.427001	0.409375	0.546308	0.646241
X1Po2		1	0.556631	0.839287	0.399602	0.26262	0.342624	0.456452	0.362954	0.648161	0.538457	0.781736	-0.11323	0.518545	0.283069	0.679366	0.597703	0.342624	0.390312	0.452635	0.547723	0.235702	0.438529	0.346124	0.489525	0.298541	0.609911	0.656708
X1Po3			1	0.562462	0.603118	0.214902	-0.00836	0.051213	0.133634	0.489554	0.390069	0.602748	0.304005	0.105933	0.204005	0.405849	0.684228	0.371189	0.175703	0.548248	0.321093	0.414968	0.079719	0.437832	0.132504	0.225817	0.431802	
X1Po4				1	0.650509	0.520939	0.479267	0.525104	0.234642	0.571103	0.390295	0.849940	-0.14255	0.415426	0.213819	0.570183	0.611101	0.383413	0.327584	0.596707	0.689545	0.339123	0.552077	0.607404	0.462209	0.45101	0.7139	0.616236
X1Po5					1	0.568469	0.215305	0.139223	0.139363	0.48571	0.067919	0.691311	0.199795	0.219684	0.199795	0.558402	0.471942	0.456446	0.309722	0.447132	0.614032	0.181293	0.466928	0.591769	0.376523	0.18235	0.456446	0.465527
X1Po6						1	0.292145	0.309073	0.044282	0.413281	0.012276	0.64161	0.102225	0.177332	0.102225	0.34075	0.387793	0.211948	0.111438	0.374596	0.531128	0.39013	0.312333	0.38351	0.194981	0.202148	0.372342	0.26609
X1Po7							1	0.634555	-0.04033	0.286848	0.067087	0.438286	-0.12932	0.139979	-0.12932	0.232767	0.271582	0.026087	-0.0823	0.292936	0.236316	0.161515	0.126878	0.395302	0.144702	0.197755	0.513043	0.055904
X1Po8								1	0.017602	0.407438	0.057015	0.466446	-0.25129	0.122426	0.197821	0.272673	0.247331	0.030559	-0.05671	0.252914	0.129315	0.055648	0.122862	0.171857	0.00136	-0.01833	0.433223	0.13452
X1Po9									1	0.157365	0.89543	0.200775	-0.17327	0.172023	0.106629	0.386529	0.406264	0.210623	0.325154	0.044402	-0.01433	0.19422	0.092919	0.080253	-0.04576	0.235456	0.147884	0.187843
X1Po10										1	0.237959	0.611484	0.093572	0.148954	0.247691	0.632987	0.420213	0.545936	0.239363	0.209033	0.458558	0.080206	0.333979	0.292157	0.340155	0.088527	0.545936	0.39262
X1Fo1											1	0.347877	-0.17736	0.166144	0.055426	0.210618	0.469386	0.119265	0.523909	0.118169	0.107246	0.046151	0.166006	0.010288	0.036649	0.263048	0.223622	0.210856
X1We1												1	0.193122	0.381914	0.193122	0.531085	0.764584	0.438286	0.469417	0.611179	0.700649	0.502519	0.560968	0.442764	0.411329	0.292786	0.665546	0.588589
X1We2													1	0.352282	-0.07692	-0.07692	0.100423	0.232767	0.217571	0.461257	0.08269	0.160128	0.297922	-0.16389	0.264097	0.060846	0.232767	-0.05986
X1We3														1	-0.09608	0.352282	0.252675	-0.16151	0.192487	0.746809	0.223772	0.066667	0.372104	0.293696	0.529403	0.430644	0.441473	0.35166
X1We4															1	0.461538	0.100423	0.232767	0.217571	0.051251	0.08269	-0.16013	0.019861	-0.06413	-0.00978	-0.2231	0.232767	0.312591
X1We7																1	0.406059	0.232767	0.312759	0.358755	0.372104	-0.16013	0.297922	0.434662	0.332567	0.060846	0.59485	0.591028
X1We8																	1	0.271582	0.699294	0.450902	0.434154	0.299938	0.415994	0.298893	0.164319	0.339609	0.477104	0.384683
X1En1																		1	0.237743	0.017232	0.43093	0.161515	0.313857	0.059894	0.282827	0.197755	0.269955	0.243741
X1En2																			1	0.380518	0.226573	0.113228	0.33706	0.022674	0.124497	0.329853	0.237743	0.333904
X1En3																				1	0.358104	0.228615	0.489617	0.375053	0.377983	0.472954	0.775418	0.350066
X1T1																					1	0.774597	0.800641	0.578915	0.783343	0.46875	0.43093	0.73997
X1T2																						1	0.620374	0.252163	0.529403	0.37996	0.161515	0.456881
X1T3																							1	0.480194	0.727356	0.570806	0.500835	0.59245
X1M1																								1	0.391426	0.524176	0.462383	0.295107
X1M2																									1	0.459062	0.328869	0.685026
X1M3																										1	0.388692	0.145548
X1M4																											1	0.368965
X1M5																												1
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Median	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0.357	0.714	1.036	1	1.107	1.071	0.179	1.679	0.929	0.893	1.143	0.214	0.071	0.107	0.071	0.357	1.679	0.179	0.857	0.75	0.357	0.25	0.464	0.821	1.571	0.393	0.179	0.821
Q3	1	0	0	0	1.25	2	0	3	2	0	2.25	0	0	0	0	0	4.25	0	1	1	1	0.25	1	1	3.25	1	0	1
Max	2	5	5	5	5	4	1	5	5	5	5	5	1	1	1	5	5	1	5	5	1	1	5	5	1	1	5	5
n	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
M_error	0.207	0.66	0.751	0.734	0.729	0.439	0.144	0.699	0.561	0.679	0.674	0.155	0.097	0.117	0.097	0.486	0.856	0.144	0.55	0.51	0.181	0.163	0.188	0.524	0.764	0.184	0.144	0.562
Lower	0.15	0.054	0.285	0.266	0.378	0.633	0.034	0.98	0.368	0.214	0.469	0.06	-0.026	-0.01	-0.026	-0.129	0.823	0.034	0.308	0.24	0.176	0.087	0.276	0.297	0.807	0.209	0.034	0.26
Upper	0.564	1.374	1.787	1.734	1.836	1.51	0.323	2.377	1.489	1.572	1.817	0.369	0.169	0.224	0.169	0.843	2.534	0.323	1.407	1.26	0.538	0.413	0.652	1.346	2.335	0.577	0.323	1.383
LowerPol	0.179	0.445	0.703	0.674	0.762	0.732	0.064	1.243	0.616	0.587	0.791	0.085	0.012	0.027	0.012	0.179	1.243	0.064	0.558	0.473	0.179	0.107	0.255	0.53	1.152	0.204	0.064	0.53
UpperPol	0.626	1.075	1.46	1.417	1.544	1.502	0.384	2.205	1.333	1.29	1.586	0.434	0.22	0.278	0.22	0.626	2.205	0.384	1.247	1.118	0.626	0.483	0.764	1.204	2.083	0.673	0.384	1.204

Note. Categorical variable data extracted from critical reviews of leadership environmental literature. CSV data-social/correlation

Significance

Economic Environment. Historic supply and efficiency (1En2 = 1.087, IR = 0.999); historic natural energy resources (1En3 = 0.973, IR = 1.001); historic fuel resources (1En1 = 0.568, IR = 1.042); present wealth (2E11 = 0.379, IR not ranked); present growth (2E16 = 0.292, IR not ranked); technical and quality advancements (2E10 = 0.278, IR not ranked); present economic and monetary ideology (2E8 = 0.276, IR not ranked); and, future economic and monetary ideology (3E8 = 0.203, IR not ranked). Also see Volume II, Appendix G, Box and Whiskers Plot, Economic Factor Inquiry Series 3 of 6; and, Table G.26, Data table supporting box plots, Leadership – Economic Inquiry Series 3 of 6.

a. Network Analyzer linked relationships, (Frame 1).

Future environmental responsibility to present balance of trade (3E2 to 2E4 = 0.694);

Future natural energy resources to future session planning (3E14 to 3P10 = 0.694);

Future natural energy resources to future environmental responsibility (3E14 to 3E2 = 0.694);

Future energy to future technical and quality advancements (3E15 to 3E10 = 0.694).

See Volume II, Appendix G, Network Analyzer, Social Cluster Plot, 2nd and 3rd Orders.

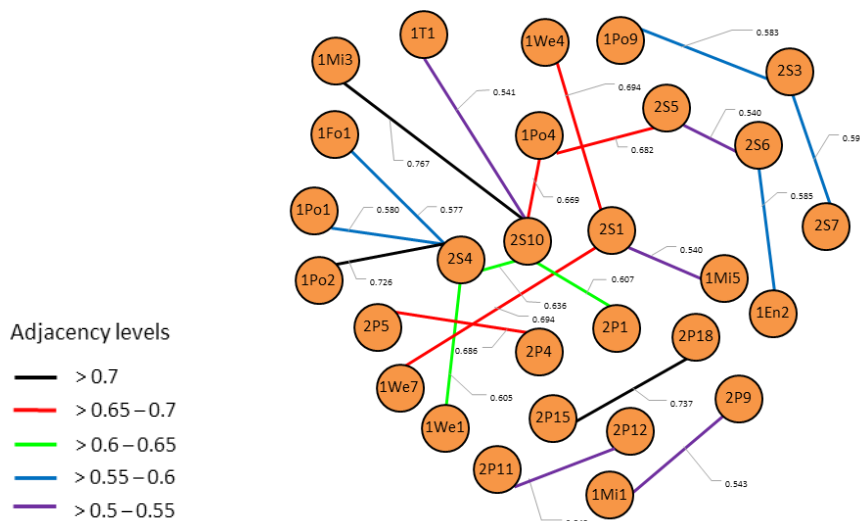
b. Consolidated data discovered in other data frames.

historic balance of trade to historic scale (1We1 to 1Po2 = 0.782).

See historic natural energy resources to historic global projectability (1En3 to 1Mi4 = 0.775).

c. Consolidated data frame hierarchy (Data Frame 1, and other frames). Revised order for the top ranked combine factors = 1.0 to 0.800:

(Frame 2 of 2)



Note. Categorical variable data extracted from critical reviews of leadership environmental literature.

Figure G41. 1st – 2nd Order network analyzer for leadership cluster links.

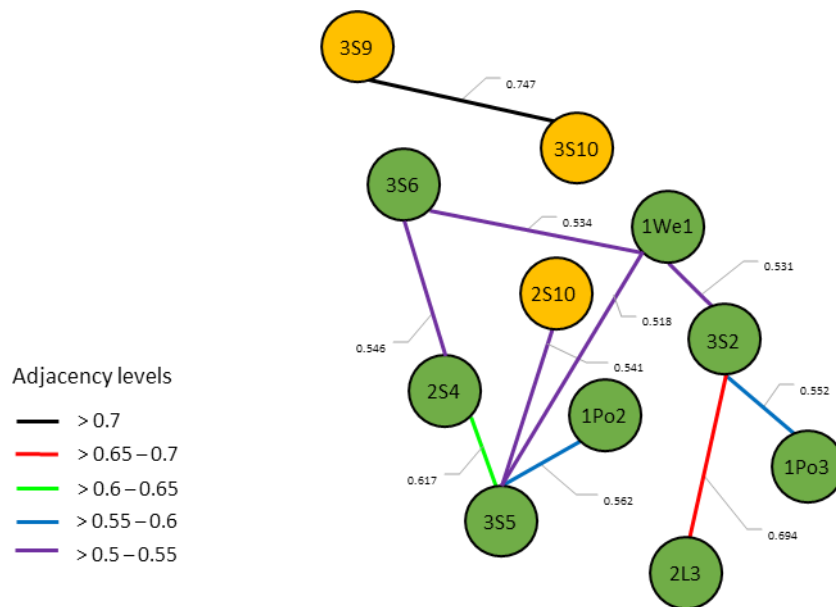


Figure G42. 2nd – 3rd Order network analyzer for social security and health care cluster links.

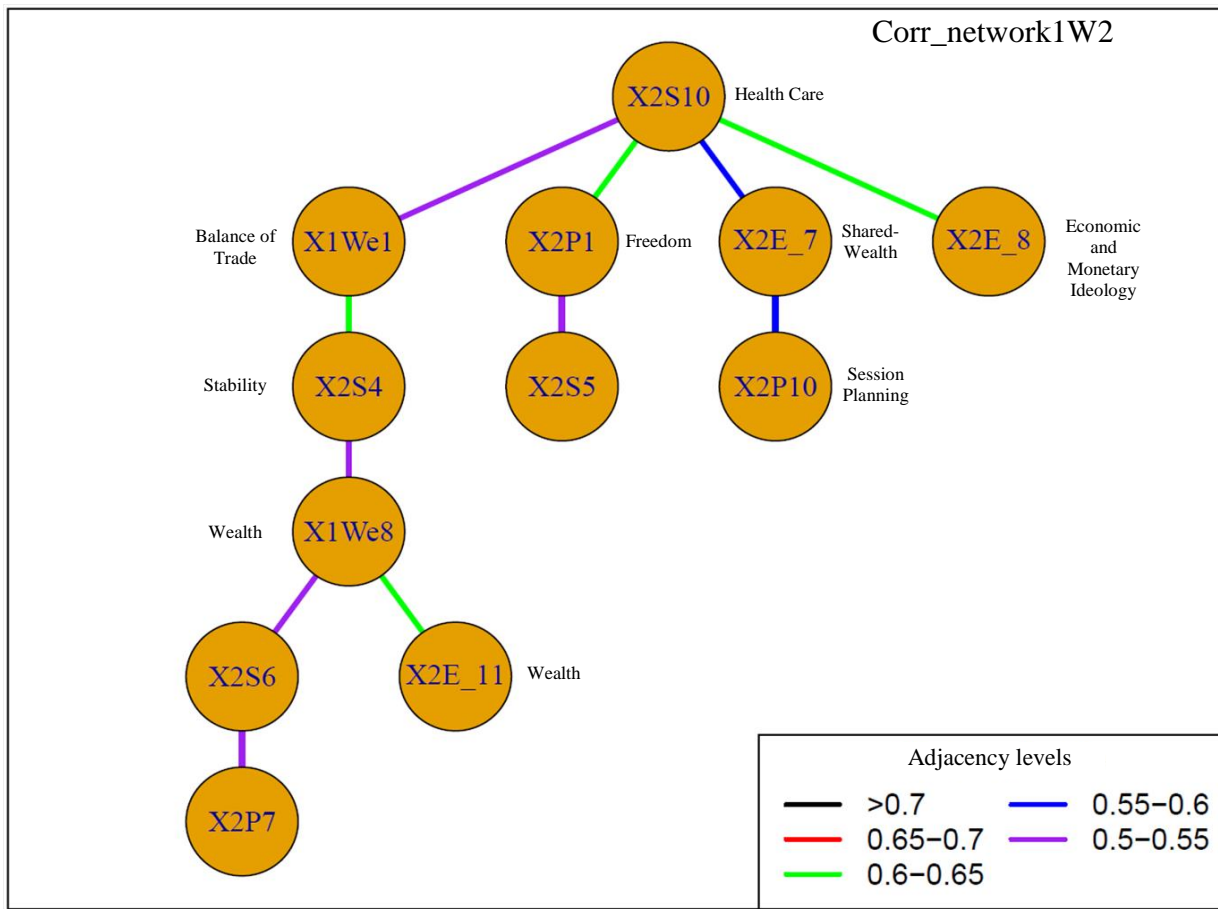


Figure G43. 1st – 2nd Order network analyzer for leadership cluster links: Other findings of interest.

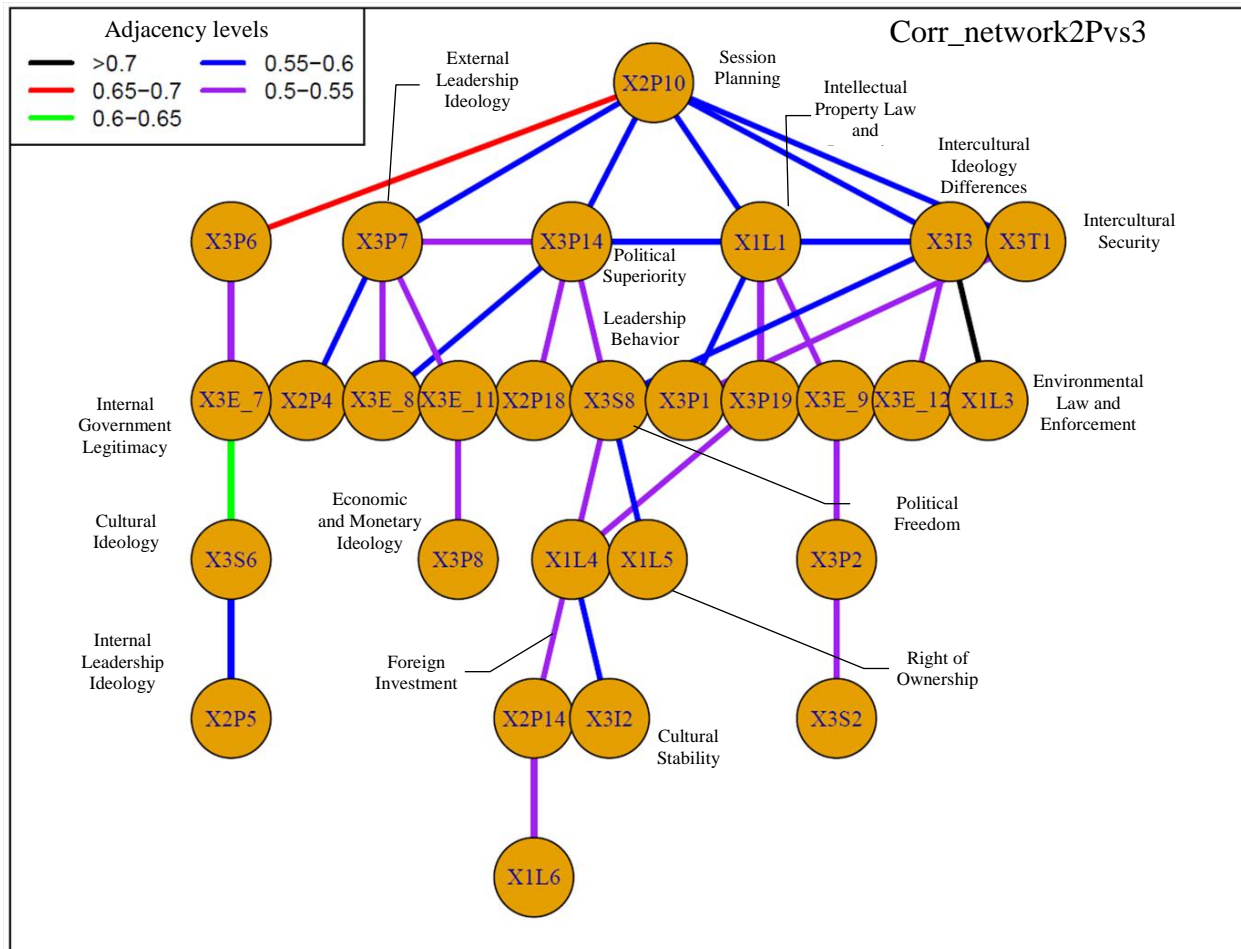


Figure G44. 1st – 2nd Order network analyzer for leadership cluster links: Other findings

of interest.

Leading Factors and Implications – Leadership

Legend

Adjacency levels	Statistical significance
— > 0.7	High-frequency themes
— > 0.65 – 0.699	High to moderate frequency
— > 0.6 – 0.649	Moderate frequency themes
— > 0.55 – 0.599	Moderate to low frequency
— > 0.5 – 0.549	Low frequency themes

High-frequency themes defined

- 1 Stability(X2S4) to Scale(X1Po2)
- 2 Health Care(X2S10) to Superiority(X1Mi3)
- 3 Global Influence(X2P18) to Global Projectability(X2P15)

High-frequency themes

1 X2S10 ↔ X1Mi3 = 0.767
2 X2P18 ↔ X2P15 = 0.737
3 X2S4 ↔ X1Po2 = 0.726

High to Moderate frequency themes

1 X2S7 ↔ X2S3 = 0.590
2 X2S6 ↔ X1En2 = 0.585
3 X2S3 ↔ X1Po9 = 0.583
4 X2S4 ↔ X1Po1 = 0.580
5 X2S4 ↔ X1Fo1 = 0.577
6 X2S5 ↔ X1Mi1 = 0.568
7 X2S10 ↔ X2S3 = 0.559

Moderate frequency themes

1 X2S10 ↔ X2S4 = 0.636
2 X2P1 ↔ X2S10 = 0.607
3 X2S4 ↔ X1We1 = 0.605

Moderate to Low frequency themes

1 X2S1 ↔ X1We4 = 0.694
2 X2S1 ↔ X1We7 = 0.694
3 X2P5 ↔ X2P4 = 0.686
4 X2S5 ↔ X1Po4 = 0.682
5 X2S10 ↔ X1Po4 = 0.669
6 X2S4 ↔ X1Po4 = 0.662
7 X2S5 ↔ X2S4 = 0.658
8 X2S3 ↔ X2S2 = 0.657

Low frequency themes

1 X2P9 ↔ X1Mi1 = 0.543
2 X2P12 ↔ X2P11 = 0.542
3 X2S10 ↔ X1T1 = 0.541
4 X2S1 ↔ X1Mi5 = 0.540
5 X2S6 ↔ X2S5 = 0.540
6 X2P1 ↔ X2S5 = 0.539
7 X2P7 ↔ X2S6 = 0.534
8 X2S10 ↔ X1Po2 = 0.531
9 X2P18 ↔ X1Po7 = 0.531
10 X2P18 ↔ X2P1 = 0.531
11 X2S10 ↔ X1T3 = 0.525
12 X2S5 ↔ X1Po5 = 0.525
13 X2S6 ↔ X1We8 = 0.521
14 X2S5 ↔ X1Po2 = 0.519

15 X2P9 ↔ X1Po2 = 0.519
16 X2P2 ↔ X2P1 = 0.513
17 X2P15 ↔ X1Po7 = 0.513
18 X2S10 ↔ X1We1 = 0.513
19 X2S4 ↔ X1We8 = 0.507
20 X2S2 ↔ X1Po3 = 0.505
21 X2S10 ↔ X2S7 = 0.503

Table G35.2nd – 3rd Order R Structured CSV Data Sample

(Variables 2S1 to 2P19)

	X2S1	X2S2	X2S3	X2S4	X2S5	X2S6	X2S7	X2S8	X2S9	X2S10	X2P1	X2P2	X2P3	X2P4	X2P5	X2P6	X2P7	X2P8	X2P9	X2P10	X2P11	X2P12	X2P14	X2P15	X2P18	X2P19
X1P01	0.225494	0.106299	0.314092	0.580296	0.450139	0.483031	0.309524	0.050243	0.015033	0.472781	0.376346	0.036421	0.138975	0.469323	0.350877	0.207517	0.135978	0.039190	0.405889	0.225494	0.276090	0.248895	0.206022	0.304221	0.164677	0.343033
X1P02	0.471405	0.416667	0.496284	0.726211	0.519451	0.460994	0.326400	0.078776	0.141421	0.531482	0.342624	0.190347	0.062875	0.304492	0.087440	0.325368	0.035533	-0.090122	0.518545	-0.078567	0.089562	0.156098	0.156967	0.076139	0.193649	0.146685
X1P03	0.383240	0.505362	0.349871	0.440180	0.373669	0.263356	0.212510	-0.200783	0.122222	0.367545	0.225847	-0.242576	-0.019151	0.037912	0.292991	0.216515	-0.053091	-0.190457	0.109793	-0.100126	0.132504	-0.166003	0.071773	-0.008365	0.068079	0.146109
X1P04	0.395644	0.314733	0.355648	0.662043	0.682385	0.450075	0.486609	0.014168	0.192876	0.669098	0.479267	0.000000	-0.011197	0.428969	0.220162	0.317661	0.000000	0.415426	0.395644	0.075168	0.039303	0.246740	0.239633	0.284423	0.167079	
X1P05	0.387469	0.294091	0.349758	0.365584	0.524713	0.348619	0.427879	-0.007128	0.213286	0.284764	0.118848	0.022392	-0.138024	0.080364	0.304957	0.054679	-0.163985	-0.204247	0.159964	0.387469	0.220170	0.077688	0.092946	0.215305	0.087616	0.132734
X1P06	0.153687	-0.025078	0.171181	0.346661	0.256576	0.247736	0.383862	0.355605	0.269544	0.404072	0.131752	-0.108838	-0.009368	0.114543	0.066882	-0.069941	-0.331499	0.038216	0.078026	0.484707	0.049414	0.173812	-0.060074	0.211948	0.029139	0.147145
X1P07	-0.089730	0.076139	0.054064	0.335570	0.322421	0.285810	0.194235	0.035987	-0.064606	0.338639	0.209565	0.026087	-0.213308	0.382530	0.297926	0.233575	-0.016233	0.185267	0.441473	0.412759	0.006819	0.278111	0.193994	0.513043	0.530791	0.046474
X1P08	0.137266	0.236096	0.187834	0.345276	0.357790	0.239446	0.272961	-0.141350	-0.184753	0.254924	0.231891	-0.120440	-0.097011	0.331087	0.047138	0.153636	0.025350	0.247079	0.345020	-0.176211	-0.004422	0.188862	0.323890	0.323087	0.258383	
X1P09	0.248208	0.225620	0.583368	0.416621	0.264528	0.348852	0.379166	0.037093	-0.094135	0.375380	0.210623	0.022407	0.051300	0.232981	0.199856	0.229804	0.088656	-0.151414	0.094135	-0.120231	0.010543	0.290325	0.489622	0.147884	0.296340	-0.138136
X1P010	0.439223	0.081020	0.254987	0.411893	0.281610	0.304134	-0.027141	0.038195	0.027499	0.246126	0.027759	-0.231329	0.236984	0.150487	0.078991	0.158168	-0.259103	0.007567	0.469777	0.095483	0.007256	0.139000	0.010939	0.027759	0.125156	0.209166
X1P011	0.199988	0.310021	0.180893	0.576942	0.302918	0.425529	0.146320	0.000000	-0.101532	0.391615	0.432337	0.077270	-0.097521	0.178861	0.136968	0.009101	0.250472	0.027271	0.230756	-0.123070	0.017537	0.116144	0.309849	-0.141627	0.308395	
X1W01	0.368514	0.284268	0.452534	0.605076	0.495955	0.421218	0.443170	0.000000	0.040022	0.512887	0.438286	-0.016233	-0.026547	0.324589	0.307597	0.158557	-0.060606	0.031441	0.389194	0.368514	0.114568	0.013312	0.095952	0.211027	0.247717	0.291884
X1W02	-0.053376	-0.113228	0.046684	-0.181467	-0.237822	-0.223703	-0.145885	-0.107036	-0.128103	-0.171033	-0.129315	0.232767	-0.126886	-0.241338	0.024752	-0.148441	-0.217072	-0.096077	-0.053376	0.060846	-0.190885	-0.271232	-0.129315	-0.175412	0.000000	
X1W03	-0.066667	0.188562	0.330410	0.368310	0.239548	0.093135	0.361991	0.133687	0.213333	0.340211	0.139979	0.139979	0.122363	0.157893	-0.055646	0.184056	0.100504	-0.238681	0.253333	-0.066667	0.194212	0.256076	-0.051329	-0.161515	-0.219089	-0.110637
X1W04	0.693889	0.283069	0.191921	0.294884	0.406599	0.134222	-0.064189	-0.107036	-0.128103	-0.171033	-0.129315	-0.129315	-0.126886	-0.103431	-0.183162	-0.189466	-0.144841	-0.061226	-0.096077	-0.053376	-0.223100	-0.190885	0.350136	0.232767	0.131559	0.066435
X1W07	0.693889	0.283069	0.482397	0.453668	0.406599	0.402665	0.180897	0.214071	0.096077	0.095019	-0.129315	0.129315	0.126886	0.034477	-0.113857	0.063155	-0.144841	-0.294996	0.352282	-0.053376	0.060846	0.106047	0.143013	0.232767	0.131559	0.066435
X1W08	0.281760	0.147819	0.375978	0.507287	0.401922	0.520601	0.260010	0.139735	-0.087255	0.449805	0.477104	0.066000	0.199261	0.412915	0.353198	0.247349	0.150725	-0.070452	0.252675	0.281760	0.049502	-0.003612	0.334500	0.066660	0.229000	0.241339
X1E01	0.412759	0.076139	0.347054	0.122025	0.177976	0.105298	0.084365	-0.179937	0.010768	0.338639	0.026087	-0.217391	-0.213308	-0.081143	0.111514	0.318511	-0.243492	-0.024328	0.139979	-0.089730	0.006819	-0.121228	0.240415	0.269565	0.324372	0.046474
X1E02	0.415168	0.250200	0.253079	0.288712	0.311920	0.585272	0.080462	-0.170293	-0.093413	0.201565	0.301751	0.177735	-0.089722	0.097515	0.052506	-0.167466	0.469417	-0.171204	0.045291	0.018871	0.129073	0.014997	0.364403	0.045720	0.170548	0.399302
X1E03	0.177812	0.150878	0.210812	0.332487	0.342459	0.183111	0.423780	-0.030563	0.021337	0.116515	0.292936	0.410788	-0.063085	0.211298	0.029684	-0.030056	0.032167	-0.159460	0.149362	0.443310	0.013513	0.042393	0.000857	0.155084	0.058435	0.075879
X1T01	0.258199	0.121716	0.203521	0.451102	0.399970	0.168331	0.222687	0.115060	0.378692	0.541352	0.236316	-0.152911	0.159312	0.277962	0.215518	0.271560	-0.207600	0.164539	0.223772	0.258199	0.163517	0.034199	-0.060964	0.041703	0.023570	0.392786
X1T02	-0.111111	0.000000	-0.010798	0.283315	0.079849	-0.039915	0.182210	0.031830	0.200000	0.435153	0.376867	-0.053838	0.062889	0.276825	0.278232	0.131468	-0.100504	0.034759	0.066667	0.333333	0.042200	-0.044151	-0.236112	-0.053838	0.000000	0.474156
X1T03	0.206725	0.209235	0.062947	0.415834	0.364652	0.080864	0.143136	0.027636	0.264607	0.525021	0.313857	0.126878	0.251175	0.258155	0.172552	0.114147	-0.137126	-0.306107	0.140573	0.206725	0.130919	-0.027381	-0.090405	-0.060100	0.045291	0.411683
X1M01	0.024722	-0.094398	0.038920	0.363511	0.567810	0.335700	0.309735	0.148725	0.453894	0.473539	0.395302	0.261139	-0.066605	0.252302	0.200392	0.111155	0.004472	-0.123226	0.542893	0.440050	0.208543	0.143423	0.030809	0.059894	0.194987	0.110773
X1M02	0.135744	0.237564	0.241405	0.310070	0.290704	0.022756	0.038585	0.122494	0.425557	0.401135	0.006577	-0.177589	-0.139833	0.113984	-0.018884	0.409566	-0.061392	-0.339723	0.187326	0.149318	0.314638	0.145636	-0.100333	-0.085506	-0.139406	0.787766
X1M03	-0.154807	-0.119416	0.039662	0.394732	0.329708	0.200540	0.352336	0.084664	0.337760	0.766621	0.388862	0.197755	-0.189581	0.200977	-0.019578	0.216473	0.114568	-0.239210	0.194212	0.239247	0.048128	0.067698	0.269153	0.006819	0.138749	0.070076
X1M04	0.412759	0.076139	0.151277	0.495728	0.394643	0.225640	0.249171	0.035987	-0.064606	0.338639	0.209565	0.269565	-0.213308	0.243428	0.064911	0.063702	-0.243492	-0.129125	0.441473	0.412759	0.184117	-0.121228	0.054716	0.269565	0.324372	0.046474
X1M15	0.539951	0.391593	0.413050	0.407937	0.362827	0.220495	0.260845	0.027763	0.171677	0.280968	0.118516	0.194545	-0.018285	0.295111	0.127119	0.311248	-0.054267	-0.115016	0.119066	0.023075	0.234750	0.236566	0.021746	0.118516	0.022749	0.045661
X2S1	1	0.471405	0.204617	0.282134	0.341494	0.012147	-0.074271	-0.088889	-0.118678	-0.089730	-0.089730	-0.088945	-0.167462	-0.223723	-0.131468	-0.100504	-0.132835	-0.066667	-0.037037	-0.154807	-0.132453	0.195049	0.412759	0.304290	0.276591	
X2S2		1	0.656622	0.375627	0.361357	0.329821	0.365576	-0.157552	-0.023570	0.041959	0.076139	-0.190347	0.062257	-0.152246	-0.065580	0.092962	0.284868	-0.195222	-0.144121	-0.078567	0.089562	0.156098	0.156967	0.076139	0.193649	0.146685
X2S3			1	0.356399	0.322812	0.193997	0.322812	0.589844	-0.064958	-0.019757	0.211440	-0.043600	-0.287758	0.079738	0.370505	0.042323	-0.278114	0.028074	-0.118775	0.077956	0.256005	0.327751	0.347054	0.147854	0.033758	
X2S4				1	0.658316	0.422184	0.426749	0.173597	0.243179	0.616042	0.443242	0.039178	0.099778	0.366001	0.293413	0.121053	0.007719	-0.167414	0.434417	0.094438	-0.023923	0.075052	0.174506	-0.038133	0.174575	0.058772
X2S5					1	0.5379028	0.298553	-0.053134	0.364113	0.559106	0.322421	-0.088582	0.132271	0.361132	-0.010547	0.328979	0.282134	0.329708	0.177976	0.400839	0.177976	0.400839	0.177976	0.376124	0.159017	
X2S6						1	0.595919	-0.062255	0.335285	0.320539	0.466322	0.165469	0.123001	0.203392	0.238977	-0.057723	0.533543	-0.106831	0.391166	0.093135	0.153354	0.185040	0.392956	0.225640	0.459109	0.375364
X2S7							1	-0.056838	0.029154	0.503127	0.304106	0.080214	0.149079	0.188892	0.186848	-0.018313	-0.027445	0.021865	0.465648	-0.035387	0.223645	0				

Significance**Legal Environment.**

Present cultural stability (2L2 = 1.7139, IR not ranked);

Present environmental law and enforcement (2L3 = 1.4802, IR not ranked);

Present intellectual law and protection (2L1 = 1.3079, IR not ranked);

Future intellectual law and protection (3L1 = 0.7694, IR not ranked);

Future real property law and protection (3L2 = 0.4338, IR not ranked);

Future environmental law and enforcement (3L3 = 0.3512, IR not ranked).

Also see Volume II, Appendix G, Figure G8 box and whiskers plot, leadership legal factor inquiry Series 4 of 6; Table G.29, Data table supporting box plots: Leadership legal factor inquiry series 4 of 6.

a. Network Analyzer linked relationships, (Frame 1 of 3)

Present real property law and protection to present foreign investment (2L6 to 2L4 = 0.876);

Present right of ownership to real property law and protection (2L5 to 2L2 = 0.757)

Also see Volume II, Appendix G, Figure G.19, Network Analyzer, Social Cluster Plot, 1st – 2nd Orders.

b. Consolidated data discovered in other data frames. None found.

c. Consolidated data frame hierarchy (Frame 1, and other Frames). Revised order for the *top ranked combine factors* = 1.0 to 0.800:

(Frame 2 of 2)

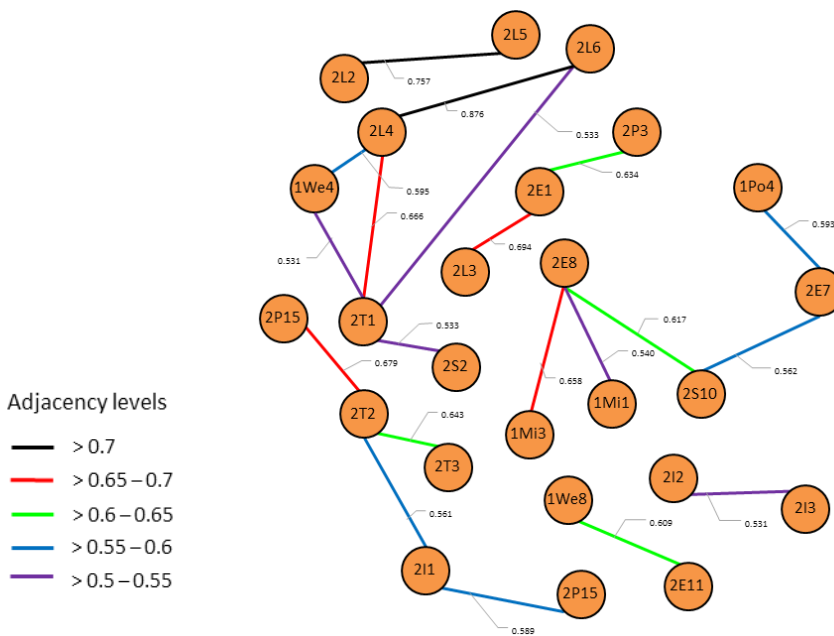


Figure G45. 1st – 2nd Order network analyzer leadership cluster links.

Note. R software Network Analyzer, Leadership Factors.

(Frame 2 of 2)

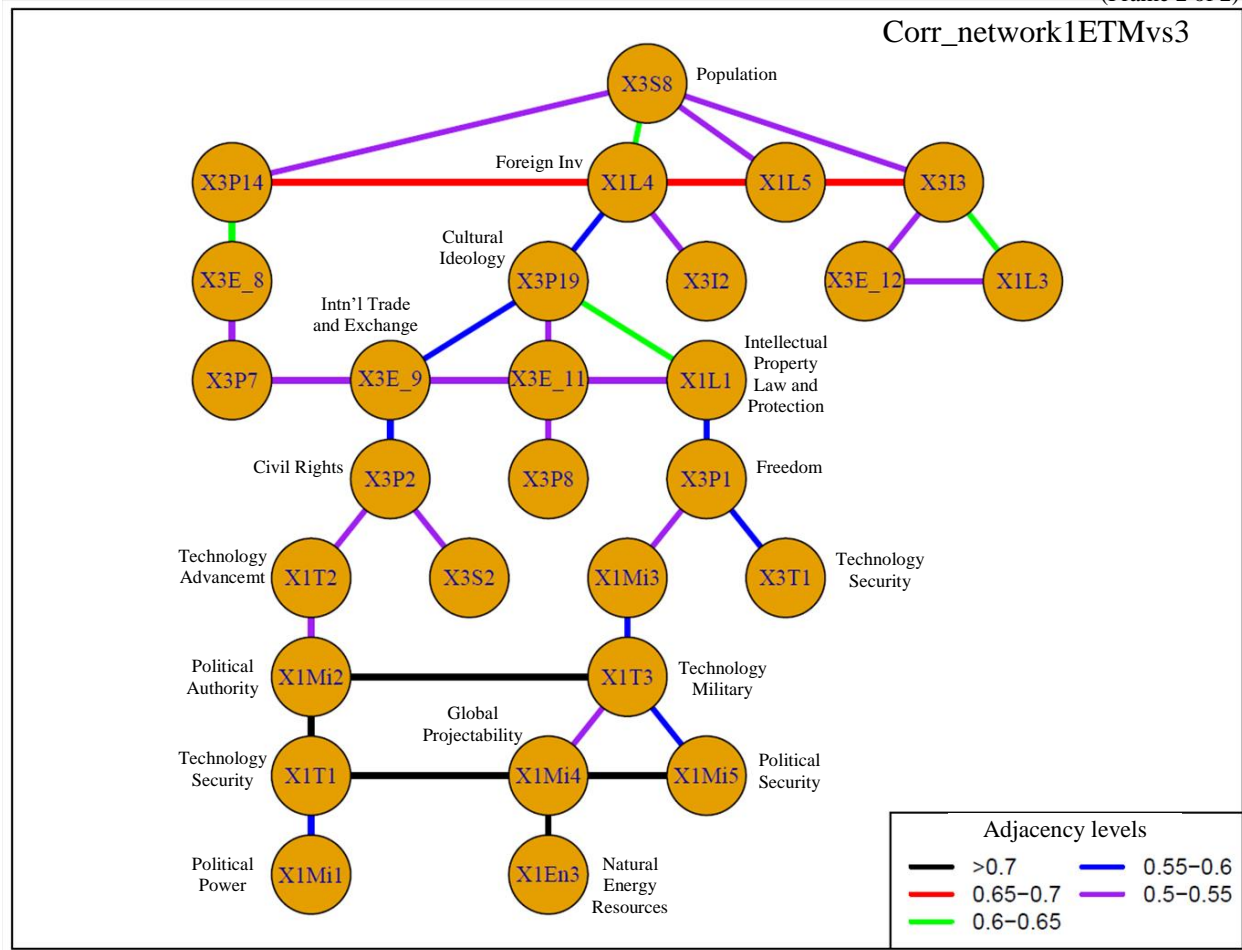


Figure G46. 1st – 3rd Order network analyzer leadership cluster links.

Legend

Adjacency levels

- > 0.7
- > 0.65 – 0.699
- > 0.6 – 0.649
- > 0.55 – 0.599
- > 0.5 – 0.549

Statistical significance

- High-frequency themes
- High to moderate frequency
- Moderate frequency themes
- Moderate to low frequency
- Low frequency themes

Leading Factors and Implications – Leadership

High-frequency themes

- 1 X2L6 ↔ X2L4 = 0.876
- 2 X2L5 ↔ X2L2 = 0.757

High to Moderate frequency themes

- 1 X2L3 ↔ X2E_1 = 0.694
- 2 X2T2 ↔ X2P15 = 0.679
- 3 X2T1 ↔ X2L4 = 0.666
- 4 X2E_8 ↔ X1Mi3 = 0.658

Moderate frequency themes

- 1 X2T3 ↔ X2T2 = 0.643
- 2 X2E_1 ↔ X2P3 = 0.634
- 3 X2E_8 ↔ X2S10 = 0.617
- 4 X2E_11 ↔ X1We8 = 0.609

Moderate to Low frequency themes

- 1 X2L4 ↔ X1We4 = 0.595
- 2 X2E_7 ↔ X1Po4 = 0.593
- 3 X2I1 ↔ X2P15 = 0.589
- 4 X2E_7 ↔ X2S10 = 0.562
- 5 X2T2 ↔ X2I1 = 0.561
- 6 X2E_7 ↔ X2P10 = 0.556
- 7 X2L3 ↔ X1We3 = 0.556

Low frequency themes

- 1 X2E_8 ↔ X1Mi1 = 0.540
- 2 X2T1 ↔ X2S2 = 0.533
- 3 X2T1 ↔ X2L6 = 0.533
- 4 X2I3 ↔ X2I2 = 0.531
- 5 X2T1 ↔ X1We4 = 0.531
- 6 X2T1 ↔ X1Mi5 = 0.530
- 7 X2E_9 ↔ X1Mi1 = 0.529
- 8 X2T2 ↔ X2P18 = 0.510
- 9 X2E_8 ↔ X1T3 = 0.501

High-frequency themes defined

- 1 International Commerce Law(X2L6) to Foreign Investment(X2L4)
- 2 Right of Ownership(X2L5) to Real Property Law and Protection(X2L2)

SPELIT-I Category Codes

1. S = Social Environment
2. P = Political Environment
3. E = Economic Environment
4. L = Legal Environment
5. I = Intercultural Environment
6. T = Technology
7. I = (E) Infrastructure

Table G36.

2nd – 3rd Order Pearson Correlation Coefficient Table: Leadership Themes

(Variables 2E1 to 2T3)

	X2E_1	X2E_4	X2E_7	X2E_8	X2E_9	X2E_10	X2E_11	X2E_14	X2E_16	X2E_17	X2L1	X2L2	X2L3	X2L4	X2L5	X2L6	X2I1	X2I2	X2I3	X2T1	X2T2	X2T3
X1Po1	0.072216	-0.12527	0.195428	0.260378	0.109514	0.008636	0.372438	-0.12527	0.172098	-0.1813	0.036421	0.036421	0.225494	0.036421	0.036421	-0.07972	-0.10859	0.073821	-0.08021	0.135978	-0.00212	0.058222
X1Po2	0.283069	-0.07857	0.188562	0.204124	-0.06244	-0.01354	0.276607	-0.07857	0.007196	0.035533	0.076139	0.076139	0.471405	0.342624	0.076139	0.125	-0.09729	0.056119	-0.15092	0.284268	-0.11302	-0.09129
X1Po3	0.204005	0.286567	0.399812	0.197343	-0.35807	-0.0839	0.103546	-0.10013	0.115415	-0.05309	-0.00836	0.38324	0.225847	-0.00836	0.043945	-0.00641	-0.01695	0.126009	0.340407	-0.05405	-0.01337	
X1Po4	0.213819	-0.09891	0.593465	0.3304	0.039303	-0.15342	0.335331	-0.09891	0.13588	-0.04473	0	0	0.395644	0.239633	0	0.052455	-0.035	0.220779	0.054285	0.178937	0	0
X1Po5	-0.01537	0.188402	0.398844	0.277066	0.040963	0.03247	0.164085	-0.1102	0.338257	-0.25402	-0.17052	-0.17052	0.088869	0.07062	-0.12819	0.138662	0.347535	0.27996	0.151124	0.127836	0.151443	
X1Po6	-0.01704	-0.17733	0.276637	0.307148	0.155022	0.012225	0.203482	-0.01182	0.152664	-0.25664	-0.10884	-0.02864	0.153687	0.051555	0.051555	-0.02508	0.065879	0.444377	0.355773	-0.03208	0.235081	0.21062
X1Po7	-0.12932	-0.08973	0.441473	0.09325	0.078441	-0.31857	0.00468	-0.08973	0.100258	-0.01623	-0.21739	0.026087	-0.08973	0.026087	0.026087	0.076139	0.144451	-0.03685	0.011491	-0.01623	0.296113	0.236316
X1Po8	0.12297	-0.17436	0.309405	-0.09639	-0.08698	-0.0032	0.136417	-0.07049	-0.05063	-0.09732	-0.17077	-0.19177	0.137266	0.181558	-0.07011	0.125918	0.209031	0.30308	-0.05939	0.034624	0.188664	0.048852
X1Po9	0.293229	0.138728	-0.13873	0.384455	0.135975	-0.03188	0.279781	0.397688	0.271895	-0.09202	-0.16581	0.398839	0.138728	0.022407	0.398839	-0.11771	-0.12025	0.172582	0.100671	0.083656	0.057128	-0.06448
X1Po10	-0.13761	-0.09548	0.277283	0.099229	-0.129	0.167852	0.283869	-0.09548	0.371128	-0.01727	-0.23133	-0.23133	-0.09548	0.027759	-0.23133	-0.20255	-0.03547	0.352258	0.178521	-0.01727	-0.07401	-0.03846
X1Fo1	0.133022	0.199988	0.011532	0.19984	-0.1406	-0.04905	0.124368	-0.12307	-0.08735	0.006958	0.067087	0.171444	0.307674	0.067087	0.171444	-0.03263	-0.31433	-0.15246	-0.0394	0.153066	-0.22259	-0.14299
X1We1	0.193122	-0.1005	0.381914	0.348155	0.013312	0.023095	0.323258	-0.1005	0.138069	-0.06061	-0.01623	-0.01623	0.368514	0.211027	-0.01623	0.035533	0.1452	0.134601	0.064352	0.151515	0.133233	0.1557
X1We2	-0.07692	-0.05338	-0.09608	0.27735	-0.19089	0.055195	-0.15312	-0.05338	0.004888	0.193122	0.232767	-0.12932	-0.05338	-0.12932	-0.12932	-0.11323	0.363535	0.004766	0.375941	-0.14484	0.302604	0.372104
X1We3	0.352282	-0.06667	0.12	0.34641	0.00883	-0.17235	0.052157	-0.06667	-0.16485	0.100504	0.441473	0.139979	0.555556	0.139979	0.139979	0.188562	-0.0688	0.061507	-0.01423	0.100504	0.04325	-0.01721
X1We4	-0.07692	-0.05338	-0.09608	-0.27735	-0.19089	0.377164	-0.05568	-0.05338	0.004888	-0.14484	-0.12932	-0.12932	-0.05338	0.59485	-0.12932	0.283069	0.099146	0.33836	0.034176	0.531085	0.365835	0.08269
X1We7	-0.07692	-0.05338	-0.09608	0	0.106047	0.248376	0.139198	-0.05338	0.210202	-0.14484	-0.12932	-0.12932	-0.05338	0.232767	-0.12932	-0.11323	0.099146	0.33836	0.034176	0.531085	0.365835	0.08269
X1We8	0.344932	-0.14239	0.252675	0.330596	0.131222	0.127832	0.609168	-0.14239	0.339347	-0.04111	0.024956	0.06606	0.28176	0.06606	0.06606	-0.07712	-0.09192	-0.05545	-0.05626	-0.00274	0.032045	0.237025
X1En1	-0.12932	-0.08973	0.441473	0.279751	-0.3209	-0.01546	0.201245	-0.12759	0.330397	-0.01623	-0.21739	0.026087	-0.08973	0.026087	0.026087	-0.19035	-0.27779	0.277798	0.333233	-0.01263	0.211075	0.041703
X1En2	0.122384	-0.11623	-0.04529	0.098058	-0.03749	0.196769	0.398633	-0.11323	0.095057	-0.18777	0.365758	0.173735	0.283069	0.237743	0.173735	0.040032	0.058422	-0.06066	0.096666	0.110953	0.116568	0.226573
X1En3	0.153752	-0.10669	0.234711	0.343176	0.070655	-0.12871	0.139113	-0.10669	-0.09445	0.096502	0.430788	-0.05169	0.320061	0.155084	-0.05169	0.075439	0.229627	0.036522	0.224451	0.032167	0.219668	0.247918
X1T1	0.08269	-0.14344	0.464758	0.447214	0.125397	-0.12855	0.112225	-0.14344	0.086706	-0.2076	-0.15291	-0.15291	0.258199	0.041703	-0.15291	-0.09129	-0.12434	0.012807	-0.01837	0.1557	-0.10438	-0.08889
X1T2	0.160128	-0.11111	0.333333	0.412393	0.132453	-0.21064	0.028976	-0.11111	-0.15264	-0.1005	-0.05384	-0.05384	0.333333	-0.05384	0	0	-0.12776	-0.30753	0.17279	0.100504	-0.08462	-0.08607
X1T3	0.019861	-0.17916	0.372104	0.50128	0.125954	-0.19714	0.039535	-0.17916	0.051749	-0.13713	-0.0601	-0.0601	0.206725	-0.0601	-0.0601	-0.17541	0.008533	0.05045	0.079491	0.037398	-0.02915	0.053376
X1Mi1	-0.06413	-0.11372	0.459827	0.539527	0.528504	-0.07925	0.269491	-0.11372	0.200603	-0.05814	-0.20843	-0.20843	0.024722	-0.14135	-0.14135	-0.16782	-0.23573	0.207925	-0.02849	-0.18337	-0.11673	-0.11873
X1Mi2	0.127158	-0.14932	0.187326	0.38794	-0.04315	-0.24682	-0.11859	-0.14932	-0.08205	-0.10437	0.052619	-0.13155	0.325785	0.006577	-0.13155	-0.06479	-0.15969	-0.08847	-0.06953	0.153481	-0.12635	-0.09989
X1Mi3	0.060846	-0.15481	0.430644	0.658145	0.229729	-0.36625	0.326643	0.239247	-0.058	-0.06365	0.197755	0.239247	-0.18412	0.197755	-0.11942	-0.21784	0.049005	0.027033	-0.24187	-0.02263	-0.14172	
X1Mi4	-0.12932	-0.08973	0.441473	0.279751	0.078441	-0.10207	0.135723	-0.08973	0.054238	0.211027	0.026087	-0.21739	-0.08973	0.026087	-0.21739	-0.19035	0.188897	0.233333	0.195343	-0.01623	0.211075	0.236316
X1Mi5	0.219479	-0.10614	0.041535	0.07194	-0.07152	-0.0517	0.032495	-0.10614	0.080728	-0.22959	-0.00671	-0.00671	0.410732	0.306353	-0.00671	0.048949	-0.07144	0.009277	-0.08569	0.530148	-0.08708	-0.06077
X2S1	-0.05338	-0.03704	-0.06667	-0.19245	-0.13245	0.26171	0.028976	-0.03704	0.193435	-0.1005	-0.09873	-0.09873	-0.03704	0.412759	-0.09873	-0.07857	0.298117	0.188489	0.213432	0.368514	0.209974	0.258199
X2S2	0.283069	0.471405	-0.14142	-0.20412	-0.28098	-0.15572	-0.15367	-0.07857	-0.19428	-0.2132	0.076139	0.076139	0.471405	0.342624	0.076139	0.125	0.097293	-0.1894	-0.05092	0.533002	0.119665	0.127116
X2S3	0.482397	0.28434	-0.21379	0.16832	-0.1044	-0.0031	0.198052	0.385119	0.130865	-0.13999	-0.0436	0.200559	0.385119	0.200559	0.200559	0.01527	0.171597	0.055594	-0.0991	0.315797	0.161718	-0.03067
X2S4	0.1361	0.314795	0.236096	0.245358	0.118832	-0.20209	0.127246	-0.12592	-0.09946	-0.09254	-0.09152	0.068639	0.314795	0.228798	0.068639	0.141903	-0.3216	0.030917	-0.27211	0.355928	-0.05061	-0.1463
X2S5	0.084388	-0.01597	0.148411	0.248946	0.239025	-0.14404	0.187413	-0.16502	0.097019	-0.17816	-0.03869	0.033532	0.282134	0.394643	0.033532	0.28231	-0.14832	0.214354	-0.07949	0.22631	0.140987	-0.00412
X2S6	0.223703	-0.03104	0.093135	0.207404	0.283728	0.048154	0.396711	-0.15522	0.18481	-0.02248	0.105298	0.105298	0.217315	0.22564	0.165469	0.065896	-0.15652	-0.06375	-0.0142	0.084244	0.039040	0.024047
X2S7	0.262593	0.352273	0.157915	0.231438	0.043442	-0.33008	0.241814	0.465648	-0.06341	-0.22342	0.084365	0.304106	0.465648	0.084365	0.359041	0.085895	0.132875	0.221613	-0.01815	0.238066	0.105061	-0.08468
X2S8	-0.10704	-0.07427	-0.13369	0.110264	0.147561	0.192004	-0.01937	-0.07427	0.020406	-0.20154	-0.17994	-0.17994	-0.07427	-0.17994	-0.17994	-0.15755	-0.3219	-0.08621	-0.19701	-0.20154	-0.2828	0
X2S9	0.096077	-0.08889	0.12	0.404145	0.362039	-0.18958	-0.05216	-0.08889	-0.02035	-0.03015	0.010768	-0.06461	0.222222	0.010768	-0.06461	0.058926	-0.33022	-0.0754	-0.17075	-0.1005	-0.33846	-0.34427
X2S10	0.228045	-0.11868	0.561743	0.61667	0.162433	-0.49771	0.33357	0.250543	0.095406	-0.07157	-0.01917	0.338639	0.435153	-0.01917	0.338639	0.041959	-0.22044	0.109493	-0.02533	-0.07157	-0.04575	-0.17364
X2P1	0.232767	-0.08973	0.441473	0.466252	0.278111	-0.31857	0.332288	-0.08973	0.100258	0.211027	0.026087	0.269565	0.412759	0.026087	0.269565	0.076139	-0.21112	-0.17145	-0.08043	-0.01623	-0.00152	0.041703
X2P2	-0.12932	-0.08973	0.139979	0.279751	0.47778	-0.14537	0.070202	-0.08973	0.054238	0.211027	0.269565	0.026087	-0.08973	0.026087	0.026087	0.076139	0.144451	-0.03685	0.125343	-0.24349	0.168557	0.236316
X2P3	0.634432	-0.08805	-0.15848	0.063557	0.291546	0.055639	0.497489	-0.08805	0.094075	0.451292	0.298632	0.014221	0.381529	0.014221	0.298632	0.062257	-0.27776	-0.23333	-0.02655	-0.08692	0.068199	
X2P4	0.379246	-0.16746	0.387555	0.195342	0.313701	-0.25975	0.318181	-0.16746	0.269491	0.021639	0.011592	0.243428	0.215308	0.197061	0.197061	0.304492	-0.25181	0.014952	-0.04158	0.151475	-0.07085	-0.0

Significance

Intercultural Environment. Present cultural stability (2I2 = 1.8978, IR not ranked); present ideology differences (2I3 = 1.6587, IR not ranked); present openness (2I1 = 1.6014, IR not ranked); future openness (3I1 = 0.9612, not ranked). Also see Volume II, Appendix G, Figure G.6, Box and Whiskers Plot, Leadership Intercultural Factor Inquiry Series 5 of 5; Table G.28, Data table supporting box plots: Leadership – Intercultural Factor Inquiry Series 5 of 5.

- Network Analyzer linked relationships, (Frame 1). None found.
- Consolidated data discovered in other data frames. None found.
- Consolidated data frame hierarchy (Frame 1, and other Frames). Revised order for the top ranked combine factors = 1.0 to 0.800: None found.

Technology Environment.

Historic military (1T3 = 1.455, IR = 1.023, or 3rd ranked);

Historic security (1T1 = 1.132, IR = 1.038 or 2nd ranked);

Present advancement (2T2 = 1.131, IR not ranked);

Present military (2T3 = 1.131, IR not ranked);

Future advancement (3T2 = 1.096, IR not ranked).

Also see Volume II, Appendix G, Figure G.7, Box and Whiskers Plot, Leadership Technology Factor Inquiry Series 5 of 5; and, data table supporting box plots: Leadership – Technology Factor Inquiry Series 5 of 5.

- Network Analyzer linked relationships, (Frame 1).
Future security to present education (3T1 to 2S7 = 0.770).
- Consolidated data discovered in other data frames.
Historic military to historic security (1T3 to 1T1 = 0.800).
Historic security to historic advancement (1T1 to 1T2 = 0.775).
Consolidated data frame hierarchy (Frame 1, and other Frames). Revised order for the top ranked combine factors = 1.0 to 0.800: None found.

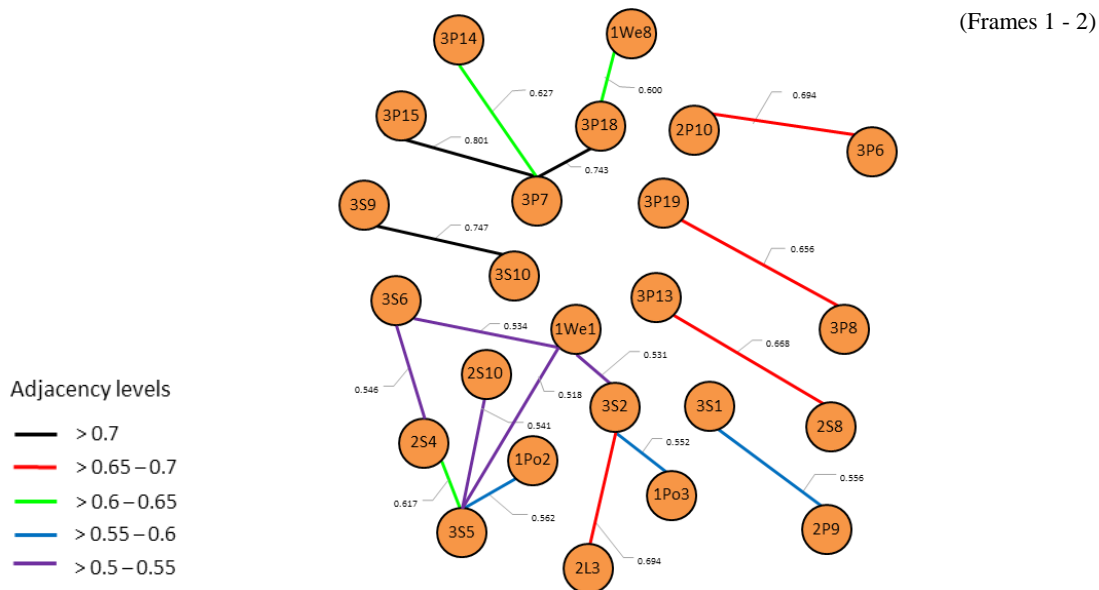


Figure G47. 2nd – 3rd Order network analyzer leadership cluster links.

Note. R software Network Analyzer, Leadership Factors.

(Frame 1 of 2)

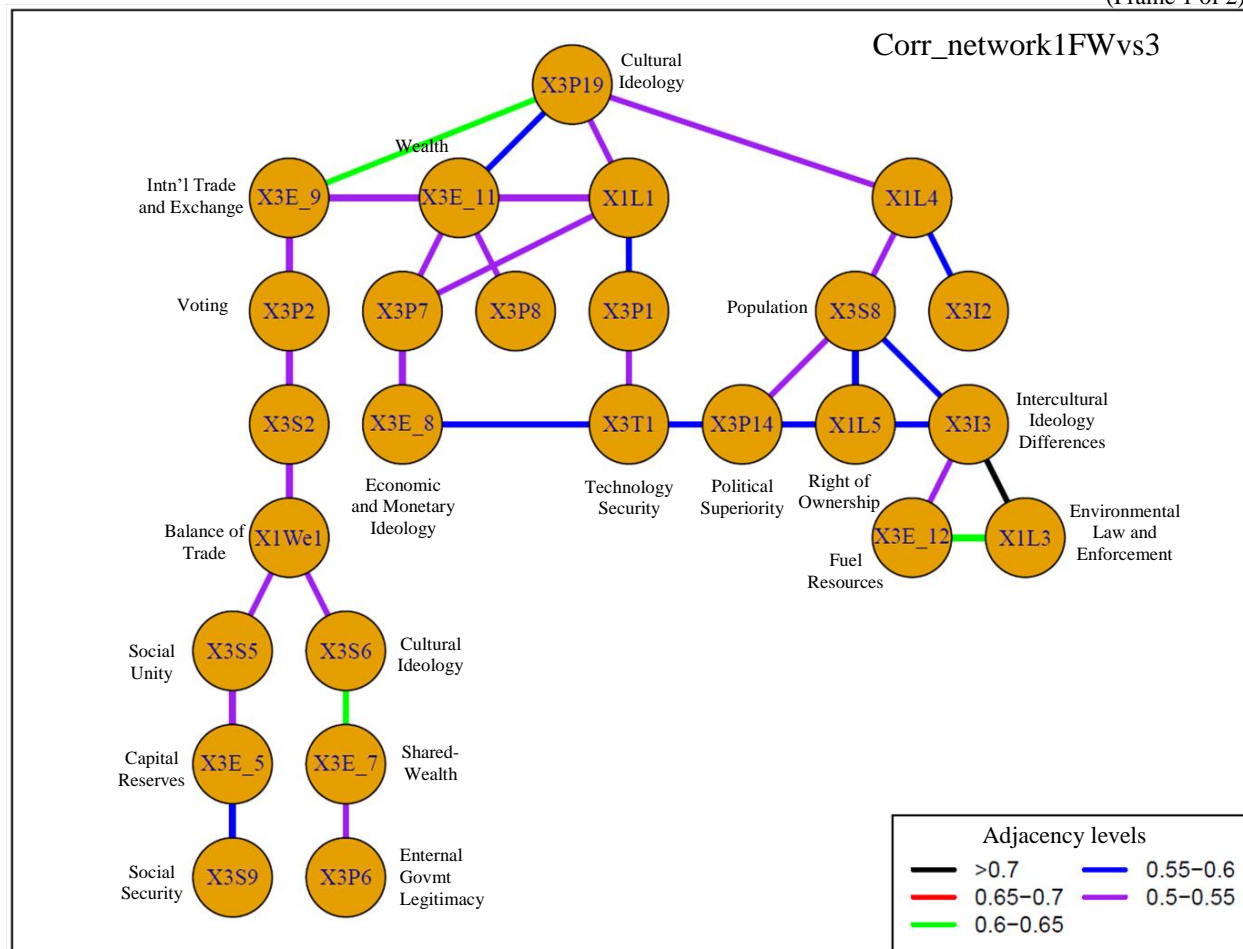


Figure G48. Network analyzer leadership cluster links (other findings of interest).

Legend

Adjacency levels	Statistical significance
— > 0.7	High-frequency themes
— > 0.65 – 0.699	High to moderate frequency
— > 0.6 – 0.649	Moderate frequency themes
— > 0.55 – 0.599	Moderate to low frequency
— > 0.5 – 0.549	Low frequency themes

High-frequency themes defined

- 1 Global Projectability(X3P15) to Ext. Leadership Behavior(X3P7)
- 2 Health Care(X3S10) to Superiority(X3S9)
- 3 Global(X3P18) to Exterior Leadership Ideology(X3P7)

SPELIT-I Category Codes

1. S = Social Environment
2. P = Political Environment
3. E = Economic Environment
4. L = Legal Environment
5. I = Intercultural Environment
6. T = Technology
7. I = (E) Infrastructure

High to Moderate frequency themes

1 X3S2	↔	X2L3	=	0.694
2 X3P6	↔	X2P10	=	0.694
3 X3P13	↔	X2S8	=	0.668
4 X3P19	↔	X3P8	=	0.656

Moderate to Low frequency themes

1 X3S1	↔	X2P9	=	0.556
2 X3S2	↔	X1Po3	=	0.552
3 X3S5	↔	X1Po2	=	0.562

Low frequency themes

1 X3S2	↔	X1We1	=	0.531
2 X3S5	↔	X1We1	=	0.518
3 X3S5	↔	X2S10	=	0.541
4 X3S6	↔	X1We1	=	0.534
5 X3S6	↔	X2S4	=	0.546
6 X3S6	↔	X3S5	=	0.522
7 X3S7	↔	X2S8	=	0.502
8 X3P1	↔	X1M3	=	0.508
9 X3P2	↔	X1T2	=	0.503
10 X3P2	↔	X3S2	=	0.531
11 X3P2	↔	X3P1	=	0.533
12 X3P5	↔	X2P2	=	0.532
13 X3P7	↔	X2E_9	=	0.503
14 X3P14	↔	X2P18	=	0.548
15 X3P18	↔	X2E_16	=	0.514
16 X3P19	↔	X3P9	=	0.543

Table G37.

2nd – 3rd Order Pearson Correlation Coefficient Table: Leadership Themes (Variables 3S1 to 3P19)

	X3S1	X3S2	X3S3	X3S4	X3S5	X3S6	X3S7	X3S8	X3S9	X3S10	X3P1	X3P2	X3P4	X3P5	X3P6	X3P7	X3P8	X3P9	X3P10	X3P11	X3P13	X3P14	X3P15	X3P16	X3P18	X3P19
X1Po1	-0.12527	0.324971	-0.00642	-0.33689	0.41304	0.32384	-0.31343	-0.12527	-0.18288	-0.29322	0.29619	-0.2713	-0.02627	0.07216	0.195428	0.143906	-0.19211	0.072216	-0.12527	-0.12527	0.195428	0.072216	-0.12527	-0.12527	0.206383	0.034603
X1Po2	-0.07857	0.283069	0.174524	-0.20123	0.562402	0.340768	-0.08698	-0.07857	0.069095	-0.10116	0.125	0.284268	-0.02127	-0.24717	-0.11323	-0.14142	-0.38335	-0.11323	-0.07857	-0.07857	-0.11323	-0.07857	-0.11323	-0.11323	-0.19305	-0.29937
X1Po3	-0.10013	0.552307	0.146013	-0.1039	0.386864	0.32315	-0.18309	-0.10013	0.255966	0.062238	0.043945	0.384129	-0.12524	-0.31499	-0.1443	-0.18023	-0.0348	-0.24788	-0.1443	-0.10013	-0.18023	-0.1443	-0.10013	-0.10013	-0.00836	-0.18596
X1Po4	-0.09891	0.213819	0	-0.30761	0.424815	0.38765	-0.1752	-0.09891	-0.06959	-0.23652	0.314733	0.178937	-0.11603	-0.12258	0.21849	0.118693	0.032157	-0.33487	-0.14255	-0.09891	-0.09891	0.118693	-0.14255	-0.09891	0	-0.17678
X1Po5	-0.01066	0.343238	0.110852	-0.18436	0.216458	0.367858	-0.31207	-0.1102	-0.13724	-0.2197	0.135734	0.016077	-0.34193	-0.10946	0.199795	0.100244	-0.13984	-0.1115	-0.15881	-0.1102	-0.1102	0.100244	-0.15881	-0.1102	0.215305	0.015883
X1Po6	-0.17733	0.34075	0.089893	-0.143823	0.34527	0.134077	-0.14106	-0.17733	0.04758	-0.1182	0.150471	0.047774	-0.20482	-0.22653	0.075863	-0.2447	0.078026	-0.2447	0.075863	-0.1182	-0.1182	0.177332	-0.25556	-0.17733	0.211948	-0.12826
X1Po7	-0.08973	0.12932	0.188588	-0.17236	0.223667	0.567161	-0.14106	-0.08973	0.19778	-0.13664	0.067139	-0.01623	-0.099716	-0.00667	0.079976	0.239214	-0.1176	0.232767	0.412759	-0.08973	0.139979	-0.12932	-0.1176	-0.08973	0.117731	0.065497
X1Po8	-0.17436	-0.02673	0.220919	-0.08989	0.481574	0.424747	-0.12691	-0.07409	0.064274	0.085983	0.070829	-0.05034	-0.0636	-0.72126	0.347524	0.122426	0.043823	-0.25084	-0.10158	0.34502	-0.17436	0.0601	-0.10158	0.34502	0.07011	-0.11724
X1Po9	-0.12023	0.013329	0.305791	-0.15989	0.075913	0.073265	-0.11116	0.397688	-0.01383	0	-0.11771	0.068379	-0.050748	-0.072337	0.045087	0.205466	-0.0967	0.293229	-0.12023	-0.12023	0.482775	0.073131	-0.12023	0.210633	0.210633	0.021633
X1Po10	-0.09548	0.093572	0.200679	-0.06603	0.328803	0.202236	-0.2093	-0.09548	0.044001	-0.20654	-0.20255	0.127824	-0.08616	-0.30038	-0.13761	-0.17187	-0.02359	-0.30615	-0.13761	-0.09548	-0.09548	-0.17187	-0.13761	-0.09548	-0.07588	-0.23426
X1Fo1	-0.12307	0.133022	0.070973	-0.1576	0.274565	0.075685	-0.018734	-0.12307	0.098762	-0.02971	0.138694	0.250472	-0.03323	-0.06893	-0.17736	0.101532	0.031676	-0.36458	0.10618	-0.12307	-0.12307	0.101532	0.10618	-0.12307	-0.03727	-0.20746
X1We1	-0.105	0.531085	0.163146	-0.15015	0.517987	0.533572	-0.18915	-0.105	0.067764	-0.12941	0.284268	0.363636	-0.13301	-0.13733	0.19122	0.100504	0.105286	-0.11676	-0.14484	-0.105	-0.105	0.100504	-0.14484	-0.105	0.211027	-0.00272
X1We2	-0.05338	0.461538	0.022801	0.034176	0.061132	0.075665	-0.18318	-0.05338	0.04082	-0.06871	-0.11323	0.191321	-0.18302	-0.045795	-0.07692	-0.09608	0.190885	-0.348486	-0.07692	-0.05338	-0.05338	-0.09608	-0.07692	-0.05338	0.232767	-0.40371
X1We3	-0.06667	0.352282	-0.10442	-0.12806	0.40298	0.133793	-0.02214	-0.06667	-0.09185	-0.11445	0.188562	0.100504	-0.2286	-0.03178	-0.09608	-0.12	-0.06502	-0.13941	-0.09608	-0.06667	-0.12	-0.06502	-0.06667	-0.12	-0.06608	-0.06667
X1We4	-0.05338	-0.07692	0.022801	0.034176	-0.15283	0.137797	-0.18318	-0.05338	0.0798	0.068727	-0.11323	-0.14484	-0.154124	-0.16792	0.461538	-0.09608	-0.21402	-0.03721	-0.05338	-0.05338	-0.09608	-0.07692	-0.05338	-0.09608	-0.07692	-0.05338
X1We7	-0.05338	-0.07692	0.278174	-0.22924	0.230774	0.134077	-0.14106	-0.05338	-0.24679	-0.27491	-0.11323	-0.14484	-0.18302	-0.16792	0.461538	-0.09608	-0.21402	-0.03721	-0.05338	-0.05338	-0.09608	-0.07692	-0.05338	-0.09608	-0.07692	-0.05338
X1We8	-0.14239	0.406559	0.064452	-0.18041	0.320968	0.396385	-0.19755	-0.14239	-0.02958	-0.28867	0.371773	0.045526	-0.17442	0.271779	0.109423	0.456269	0.219652	0.014783	0.100423	-0.14239	0.156929	0.252675	0.349492	-0.14239	0.14239	0.179391
X1E1	-0.08973	0.232767	0.274499	-0.21832	0.126749	0.064348	-0.30795	-0.08973	0.156247	0	-0.19035	0.438286	-0.15473	-0.28228	-0.12932	-0.16151	0.184759	0.062545	-0.12932	-0.08973	-0.08973	0.139979	-0.12932	-0.08973	0.020687	0.065607
X1E2	-0.11323	0.407946	-0.12092	-0.2175	0.167505	0.039394	-0.19847	-0.11323	-0.14439	-0.26728	0.390312	0.409673	-0.26905	-0.109739	-0.19079	0.192487	0.018406	-0.03135	-0.12751	-0.11323	-0.11323	0.192487	0.215751	-0.11323	0.237743	0.23303
X1E3	-0.10669	0.256254	-0.1428	-0.26999	0.273622	0.263924	-0.16142	-0.10669	-0.18452	-0.28782	0.370139	0.096502	-0.23746	-0.11785	0.256254	0.149362	0.096348	-0.01062	-0.15375	-0.10669	-0.10669	0.149362	-0.15375	-0.10669	0.081588	0.228236
X1E4	-0.14344	0.372104	-0.17893	-0.38576	0.470959	0.270326	-0.18103	-0.14344	-0.0328	-0.29552	0.334719	0.33735	-0.12944	-0.10666	-0.20689	-0.01721	0.164778	-0.25996	-0.20672	-0.14344	-0.14344	-0.01721	-0.20672	-0.14344	-0.04173	-0.05827
X1T1	-0.11111	0.480384	-0.17529	-0.21343	0.445399	0.287222	-0.0369	-0.11111	0.18566	-0.08175	0.471405	0.502519	-0.02052	0.031777	0.160128	0.066667	0.373277	-0.05532	-0.16013	-0.11111	-0.11111	0.066667	-0.16013	-0.11111	0.161515	0.117346
X1T3	-0.17916	0.297922	-0.26963	-0.55593	0.334011	0.076997	-0.31582	-0.17916	-0.12241	-0.31941	0.233882	0.211921	-0.26613	0.061749	0.019861	0.140573	0.285264	-0.33622	0.019861	-0.17916	-0.17916	0.140573	0.019861	-0.17916	0.126878	0.036047
X1M1	0.301607	-0.06413	-0.24121	-0.28176	0.202919	0.155436	-0.28299	-0.11372	-0.3596	-0.47113	0.346124	0.004472	-0.061352	0.233545	0.210631	0.174144	-0.1413	-0.06413	-0.11372	-0.11372	-0.11372	-0.06413	-0.11372	-0.11372	0.059894	0.128136
X1M2	-0.14932	0.323567	-0.23659	-0.34548	0.424949	0.059218	-0.18634	-0.14932	-0.13609	-0.3583	0.137679	0.239431	-0.2119	-0.17987	-0.25159	-0.26877	0.152991	-0.35955	-0.21519	0.135744	-0.14932	-0.26877	-0.21519	0.135744	-0.22363	-0.02977
X1M3	-0.15481	0.068046	-0.38836	-0.35872	0.330895	0.059688	-0.22591	-0.23947	-0.09778	-0.28993	0.567599	0.471003	-0.02574	0.255863	0.194212	0.318754	-0.04905	0.068046	-0.15481	-0.15481	0.068046	-0.38836	-0.15481	0.068046	-0.15481	0.006819
X1M4	-0.08973	0.12932	0.08973	-0.08973	0.481574	0.073265	-0.11116	-0.08973	0.19778	-0.13664	0.067139	-0.01623	-0.099716	-0.00667	0.079976	0.239214	-0.1176	0.232767	0.412759	-0.08973	0.139979	-0.12932	-0.1176	-0.08973	0.117731	0.065497
X1M5	-0.10614	0.312591	-0.1037	-0.28663	0.288064	0.101979	-0.15359	-0.10614	-0.15382	-0.26146	0.186007	0.11057	-0.24736	-0.22205	-0.05986	-0.11253	-0.0195	-0.37637	-0.10614	-0.10614	-0.11253	-0.15297	-0.10614	-0.10614	-0.13893	-0.24782
X2S1	-0.03704	-0.05338	0.148722	-0.176	-0.10605	-0.07721	-0.12711	-0.03704	-0.17063	-0.07537	-0.06757	-0.1005	-0.127	-0.11651	-0.05338	-0.06667	-0.14851	-0.18071	-0.05338	-0.03704	-0.03704	-0.06667	-0.05338	-0.03704	-0.08973	-0.14714
X2S2	-0.08787	0.283069	0.174523	-0.15092	0.142475	0.248957	-0.08698	-0.08787	0.069095	0.050581	0.125	0.295333	-0.2694	-0.24717	-0.11323	-0.14142	-0.38335	-0.11323	0.074105	-0.07857	-0.14142	-0.11323	0.074105	-0.19305	-0.29937	0.06569
X2S3	-0.11877	0.049778	0.276637	-0.13597	0.256267	0.391069	-0.24027	-0.11877	0.084514	0.07415	0.01527	0.270218	-0.17993	-0.21944	0.17117	0.028074	0.026134	-0.10756	-0.17117	0.183561	-0.11877	0.084514	-0.11877	0.084514	0.054064	0.107588
X2S4	-0.12592	0.1361	0.053789	-0.28129	0.617422	0.545995	-0.1394	-0.12592	0.294838	0.060799	0.083473	0.106778	-0.30409	-0.15455	0.215492	0.103882	0.008529	-0.44982	0.056708	-0.12592	-0.12592	0.038428	0.056708	-0.12592	-0.03813	-0.10172
X2S5	0.133082	0.084388	-0.16509	-0.22155	0.336874	0.376865	-0.21982	-0.13502	-0.04822	-0.23304	0.124216	-0.11075	-0.012489	-0.00569	0.239548	0.032883	-0.44897	0.084388	-0.133082	-0.16509	-0.22155	0.239548	-0.133082	-0.16509	0.133082	0.033532
X2S6	0.341494	0.134222	-0.00265	0.031273	0.266671	0.287351	-0.07905	-0.15522	-0.22115	-0.23984	0.197659	0.084244	-0.2073	0.056231	0.04764	0.242151	-0.00336	-0.15148	0.223703	0.093135	-0.2794	0.093135	0.223703	0.093135	0.045128	0.114943
X2S7	-0.10123	0.262593	0.125576	-0.21529	0.222956	0.318398	-0.12148	-0.10123	0.065646	0.156326	0.239826	0.238066	-0.20913	-0.10229	0.262593	0.157915	-0.0373	-0.08041	-0.14588	-0.10123	-0.10123	-0.08041	-0.14588	-0.10123	0.02943	0.093135
X2S8	-0.07427	-0.10704	0.095811	0.006794	0.285344	0.204335	-0.501596	-0.07427	0.320053	0.095631	-0.15755	-0.20154	0.093825	0.120364	-0.10704	-0.13369	-0.29781	-0.08135	-0.10704	-0.07427	0.095811	-0.13369	-0.10704	-0.07427	0.179937	-0.28358
X2S9	-0.1777																									

Significance**Technology Environment.**

Historic military (1T3 = 1.455, IR = 1.023, or 3rd ranked);

Historic security (1T1 = 1.132, IR = 1.038 or 2nd ranked);

Present advancement (2T2 = 1.131, IR not ranked);

Present military (2T3 = 1.131, IR not ranked);

Future advancement (3T2 = 1.096, IR not ranked).

Also see Volume II, Appendix G, Figure G.7, Box and Whiskers Plot, Leadership Technology Factor Inquiry Series 5 of 5; and, data table supporting box plots: Leadership, Technology Factor Inquiry Series 5 of 5.

a. Network Analyzer linked relationships, (Frame 1).

b. Future security to present education (3T1 to 2S7 = 0.770).

c. Consolidated data discovered in other data frames.

d. Historic military to historic security (1T3 to 1T1 = 0.800).

e. Historic security to historic advancement (1T1 to 1T2 = 0.775).

Consolidated data frame hierarchy (Frame 1, and other Frames). Revised order for the top ranked combine factors = 1.0 to 0.800: None found.

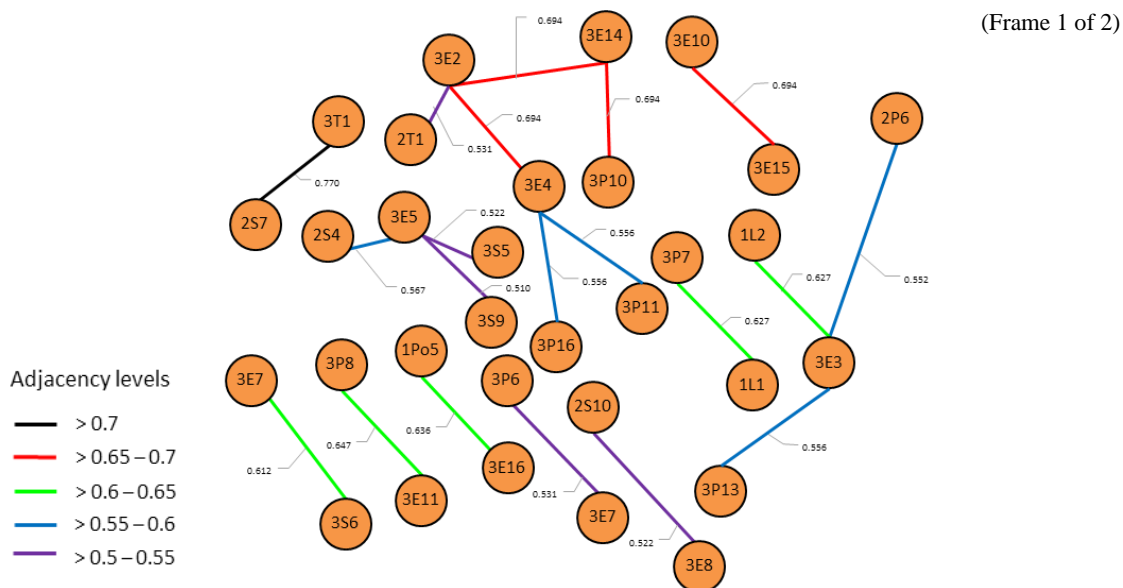


Figure G49. 2nd – 3rd Order network analyzer leadership cluster links.

Note. R software Network Analyzer, Leadership Factors.

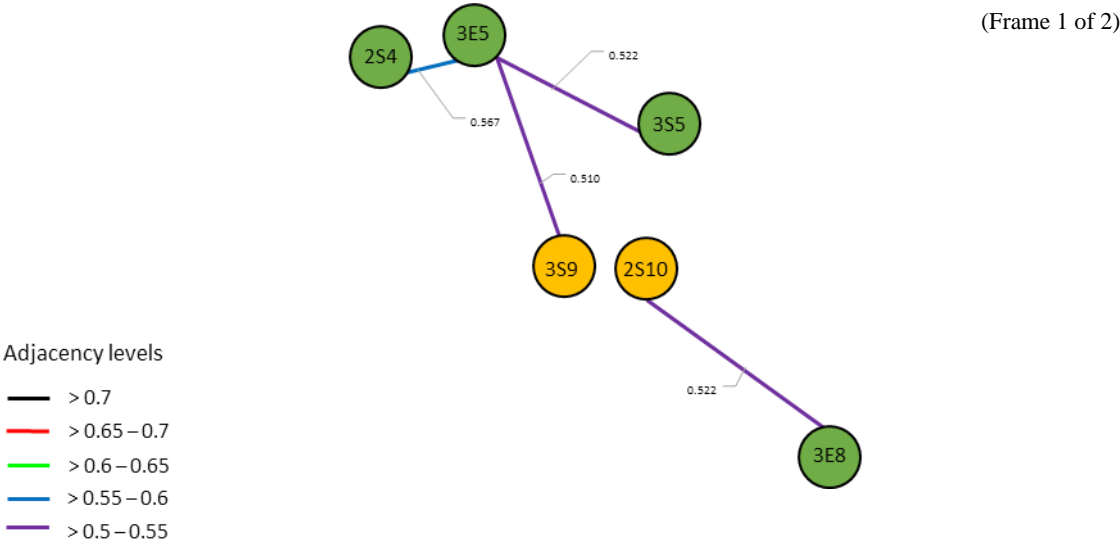


Figure G50. 2nd – 3rd Order network analyzer social security and health care cluster links.

Note. R software Network Analyzer, Social Security and Health Care Factors.

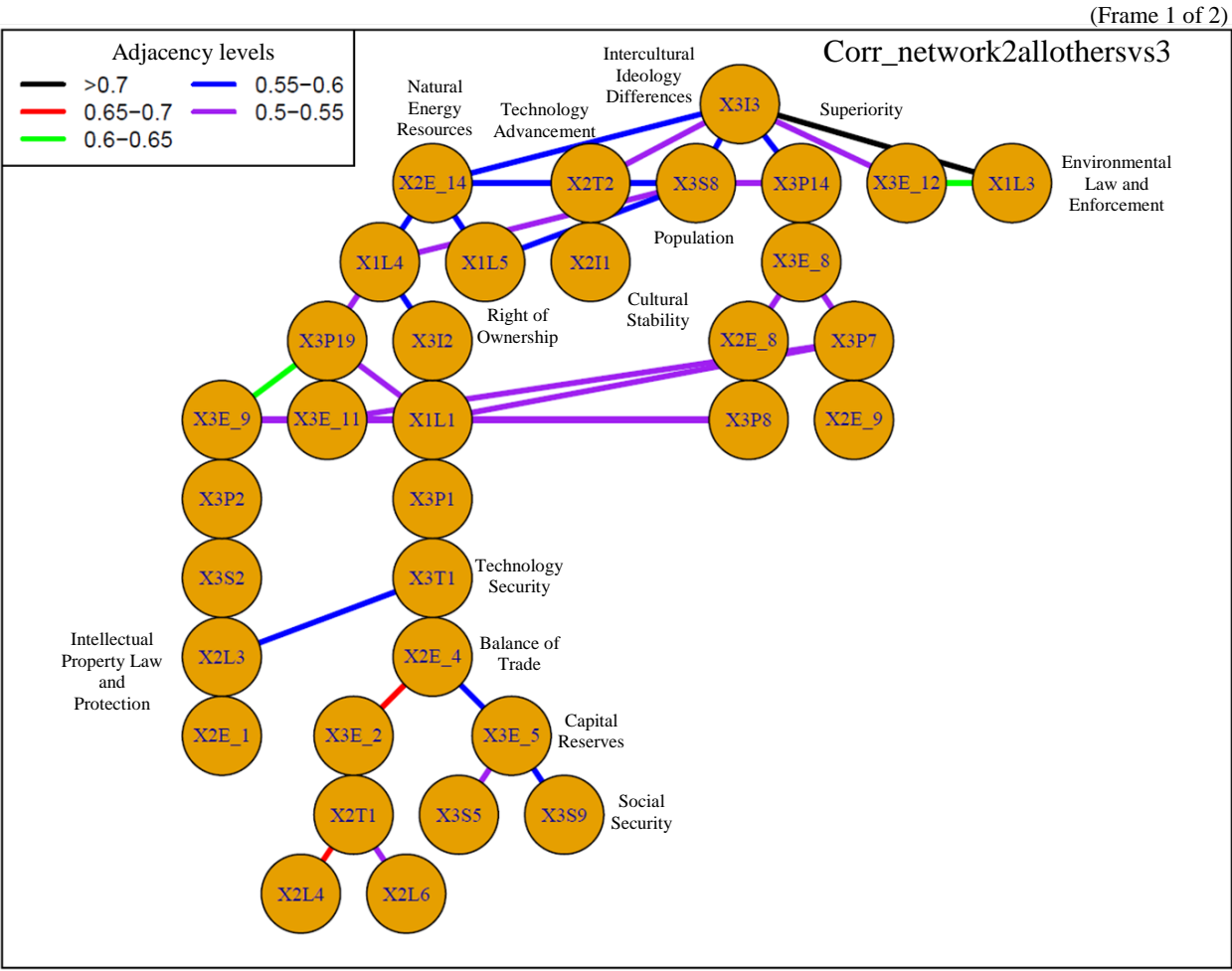


Figure G51. Network analyzer leadership clusters: Other findings of interest.

Legend		Leading Factors and Implications – Leadership		
Adjacency levels	Statistical significance	High-frequency themes	High to Moderate frequency themes	Moderate frequency themes
> 0.7	High-frequency themes	1 X3T1 ↔ X2S7 = 0.770	1 X3E_2 ↔ X2E_4 = 0.694	1 X3E_7 ↔ X3S6 = 0.612
> 0.65 – 0.699	High to moderate frequency		2 X3E_14 ↔ X3P10 = 0.694	2 X3E_11 ↔ X3P8 = 0.647
> 0.6 – 0.649	Moderate frequency themes		3 X3E_14 ↔ X3E_2 = 0.694	3 X3E_16 ↔ X1Po5 = 0.636
> 0.55 – 0.599	Moderate to low frequency		4 X3E_15 ↔ X3E_10 = 0.694	4 X1L1 ↔ X3P7 = 0.627
> 0.5 – 0.549	Low frequency themes			5 X1L2 ↔ X3E_3 = 0.627
				6 X1L2 ↔ X1L1 = 0.627
				7 X1L4 ↔ X1L3 = 0.627
				8 X1L4 ↔ X1L4 = 0.627
				9 X1L5 ↔ X1L4 = 0.627
				10 X1L6 ↔ X1L1 = 0.627
				11 X1L6 ↔ X1L2 = 0.627
				12 X1L6 ↔ X1L4 = 0.627
				13 X3I3 ↔ X3P14 = 0.627
				14 X3T3 ↔ X2L1 = 0.609

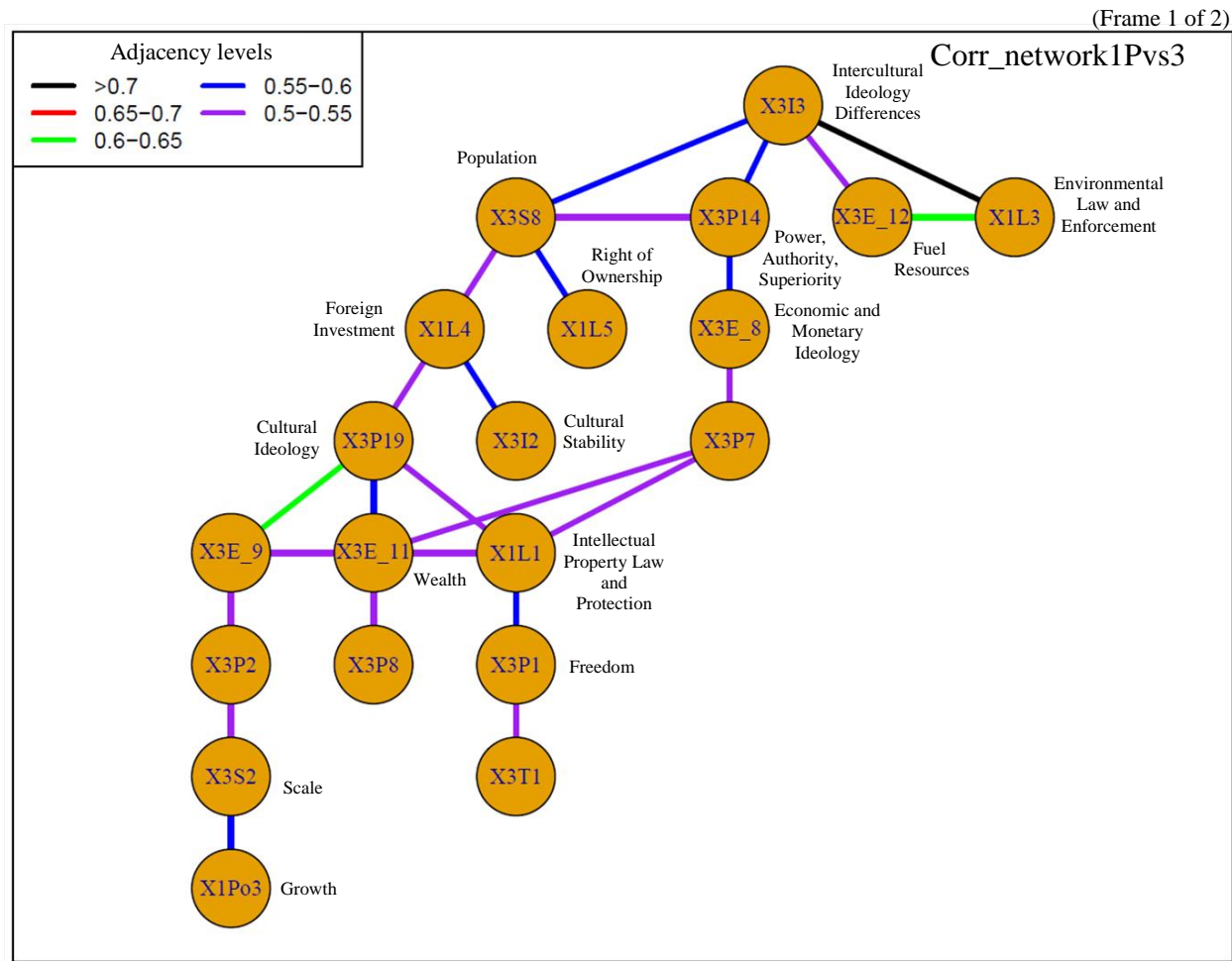


Figure G52. Network analyzer leadership clusters: Other findings of interest.

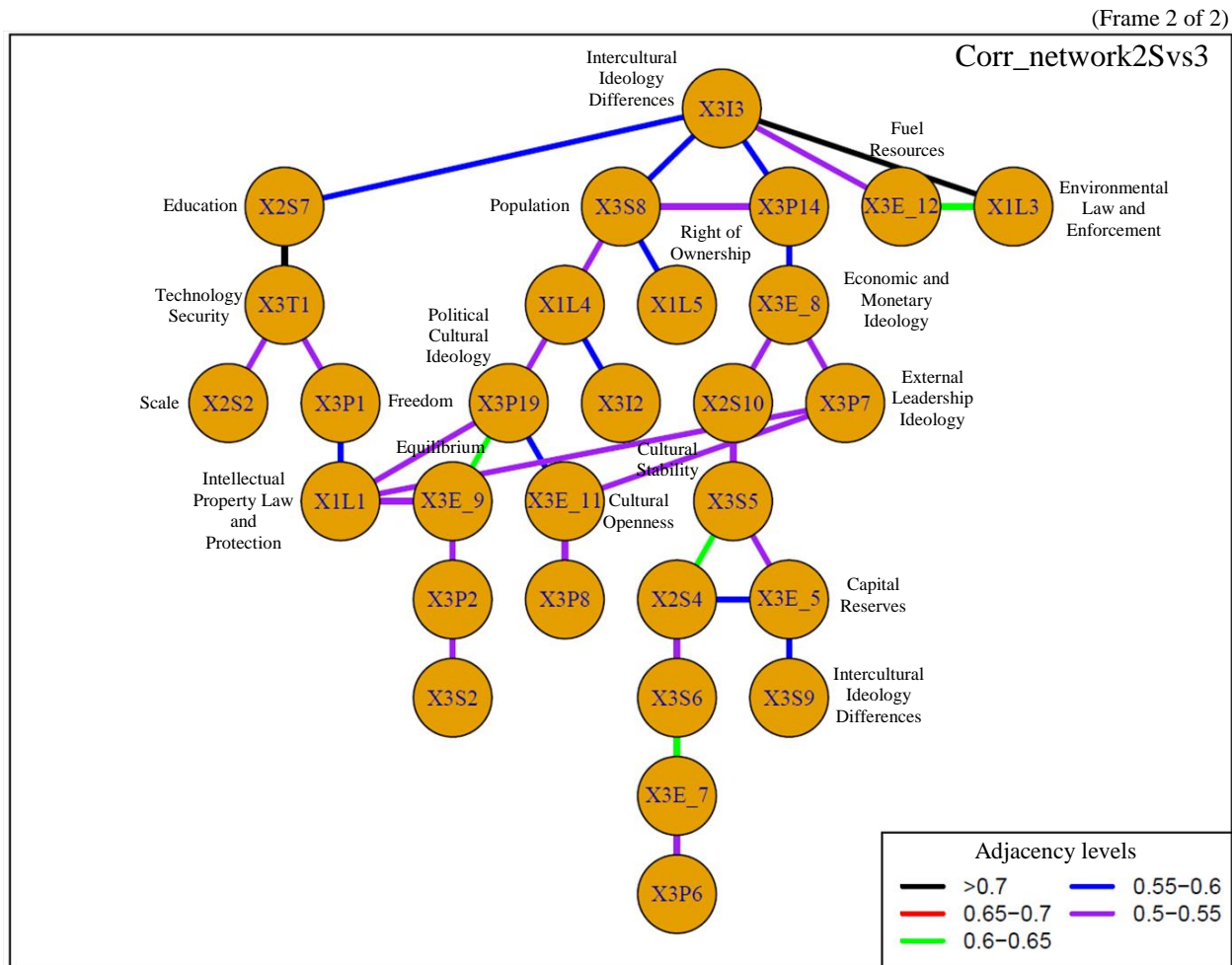


Figure G53. Network analyzer leadership clusters: Other findings of interest.

Note. High and High to Moderate frequency themes defined

- 1 Security(X3T1) to Education(X2S7)
- 2 Environmental Responsibility(X3E2) to Natural Energy Resources(X3E14)
- 3 Natural Energy Resources(X3E14) to Succession Planning(X3P10)
- 4 Natural Energy Resources(X3E14) to Environmental Responsibility(X3E2)
- 5 Energy(X3E15) to Technical & Quality Advancements(X3E10)

Moderate to Low frequency themes

1 X3E_3	↔	X2P6	= 0.552
2 X3E_3	↔	X3P13	= 0.556
3 X3E_4	↔	X3P11	= 0.556
4 X3E_4	↔	X3P16	= 0.556
5 X3E_5	↔	X2S4	= 0.567
6 X3E_5	↔	X2E_4	= 0.556
7 X3E_7	↔	X1Po6	= 0.567
8 X3E_8	↔	X3E_7	= 0.569
9 X3E_9	↔	X3E_8	= 0.561
10 X3E_14	↔	X3E_4	= 0.556
11 X3E_16	↔	X3E_11	= 0.593
12 X1L1	↔	X2P10	= 0.556
13 X1L4	↔	X2E_14	= 0.556
14 X1L4	↔	X3S8	= 0.556
15 X1L5	↔	X2E_14	= 0.556
16 X1L5	↔	X3S8	= 0.556
17 X3I1	↔	X2P7	= 0.563
18 X3I3	↔	X2S7	= 0.566
19 X3I3	↔	X2P10	= 0.556
20 X3I3	↔	X2E_14	= 0.556
21 X3I3	↔	X3S8	= 0.556
22 X3I3	↔	X3E_12	= 0.556
23 X3I3	↔	X1L3	= 0.556
24 X3T1	↔	X2P10	= 0.556
25 X3T1	↔	X2E_4	= 0.556
26 X3T1	↔	X2L3	= 0.556

Low frequency themes

1 X3E_2	↔	X2T1	= 0.531
2 X3E_5	↔	X3S5	= 0.522
3 X3E_5	↔	X3S9	= 0.510
4 X3E_7	↔	X3P6	= 0.531
5 X3E_8	↔	X2S10	= 0.522
6 X3E_8	↔	X2E_8	= 0.516
7 X3E_8	↔	X3P7	= 0.504
8 X3E_8	↔	X3P14	= 0.504
9 X3E_9	↔	X3P2	= 0.530
10 X3E_9	↔	X3P19	= 0.524
11 X3E_11	↔	X3P7	= 0.504
12 X3E_11	↔	X3P19	= 0.521
13 X1L1	↔	X3P1	= 0.519
14 X1L1	↔	X3P19	= 0.504
15 X1L1	↔	X3E_9	= 0.546
16 X1L4	↔	X2P14	= 0.524
17 X1L4	↔	X3P19	= 0.504
18 X1L6	↔	X2P14	= 0.524
19 X3I2	↔	X1L4	= 0.519
20 X3I3	↔	X2T2	= 0.536
21 X3I3	↔	X3I2	= 0.519
22 X3T1	↔	X2S2	= 0.519
23 X3T1	↔	X3P1	= 0.519
24 X3T3	↔	X1L1	= 0.519
25 X3T3	↔	X3I3	= 0.519

Table G38.

R Structured CSV Data for Variables 3E1 to 3T3

(Variables 3E1 to 3T3)

	X3E_1	X3E_2	X3E_3	X3E_4	X3E_5	X3E_7	X3E_8	X3E_9	X3E_10	X3E_11	X3E_12	X3E_13	X3E_14	X3E_15	X3E_16	X3E_17	X3T1	X3T2	X3T3
X1P01	-0.09772	-0.18054	-0.01503	-0.22549	-0.01503	0.29633	0.376557	0.12766	-0.18054	0.234076	-0.12527	-0.12527	-0.12527	-0.12527	0.27609	-0.18054	0.195428	0.195428	-0.12527
X1P02	-0.16667	-0.11323	-0.188562	-0.14142	-0.188562	0.059453	0.146804	-0.12642	-0.11323	0.057445	-0.07857	-0.07857	-0.07857	-0.07857	0.089562	-0.14142	-0.188562	-0.07857	-0.14142
X1P03	0.240021	0.134345	0.102793	-0.18023	0.341808	-0.05309	0.236037	0.169437	-0.1443	-0.03889	-0.10172	-0.12013	-0.12013	-0.1007	0.27944	-0.1443	-0.18023	-0.18023	-0.2573
X1P04	-0.20982	-0.14255	-0.118693	-0.17804	-0.118693	0.178937	0.224993	0.008842	-0.14255	0.146438	-0.09891	-0.09891	-0.09891	-0.09891	0.263089	-0.14255	0.118693	-0.09891	-0.17804
X1P05	0.18852	0.065352	-0.19836	-0.19836	-0.19836	-0.01269	0.372022	0.194151	-0.15881	-0.0381	-0.1102	-0.1102	-0.1102	-0.1102	0.061638	-0.15881	-0.19836	-0.1102	-0.19836
X1P06	0.062966	-0.1367	-0.12059	-0.12059	-0.12059	0.078026	0.56676	0.331346	-0.15914	-0.25556	0.006844	0.153887	0.153887	-0.1182	-0.17733	0.139237	-0.1367	0.078026	-0.12059
X1P07	-0.13035	0.23267	0.19979	0.19979	0.19979	0.444747	0.11027	0.269177	-0.13035	0.092123	-0.08973	-0.08973	-0.08973	-0.08973	0.417579	-0.13035	0.19979	-0.08973	-0.13035
X1P08	-0.20462	-0.10158	0.12426	0.247079	-0.02223	0.184565	0.178121	-0.13431	0.276373	0.273088	-0.07049	-0.14143	-0.03388	0.34502	-0.05718	0.048139	0.12426	-0.10158	-0.10158
X1P09	0.294287	0.013129	0.094315	0.016647	0.016647	0.025097	0.466567	0.009094	0.106629	0.109496	-0.12023	-0.12023	-0.12023	-0.12023	0.246566	0.106629	0.016647	0.094315	-0.12023
X1P10	-0.03241	-0.13761	-0.148954	-0.17187	-0.148954	0.184954	0.079784	0.147909	-0.07992	0.242563	-0.05338	-0.05338	-0.05338	-0.05338	0.344791	-0.07992	-0.09608	-0.05338	-0.148954
X1P11	0.190881	0.05426	-0.13052	-0.21251	0.29567	-0.23656	0.15997	0.004125	-0.17736	0.019996	-0.1207	-0.1207	-0.1207	-0.1207	0.017537	-0.17736	-0.29567	-0.1207	-0.13052
X1P12	0.010553	-0.14682	0.105054	-0.18091	0.09304	0.06306	0.178006	0.194604	-0.14682	0.06306	-0.1005	-0.1005	-0.1005	-0.1005	0.027876	-0.14682	0.105054	-0.18091	-0.14682
X1W01	0.28369	-0.07692	-0.09608	-0.09608	-0.09608	0.193122	0.099734	0.147909	-0.07692	0.242563	-0.05338	-0.05338	-0.05338	-0.05338	0.344791	-0.07692	-0.09608	-0.05338	-0.09608
X1W02	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W03	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W04	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W05	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W06	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W07	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W08	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W09	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W10	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W11	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W12	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W13	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W14	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W15	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W16	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W17	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W18	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W19	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W20	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W21	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W22	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W23	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W24	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W25	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W26	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W27	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W28	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W29	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W30	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W31	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W32	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W33	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W34	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W35	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W36	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W37	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W38	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W39	-0.14142	-0.09608	-0.12	-0.12	-0.12	0.105004	-0.0081	-0.23241	-0.09608	0.149642	-0.06667	-0.06667	-0.06667	-0.06667	0.149122	-0.09608	-0.12	-0.12	-0.09608
X1W40	-0.14142	-0.09608	-0.12	-0.12	-0.12														

Table G39.

R Scan 3rd Order Standard Deviations (M_error) and IQR Calculations

(Variables 3E1 to 3T3)

	X3E_1	X3E_2	X3E_3	X3E_4	X3E_5	X3E_7	X3E_8	X3E_9	X3E_10	X3E_11	X3E_12	X3E_13	X3E_14	X3E_15	X3E_16	X3E_17	X3I1	X3I2	X3I3	X3I4	X3I5	X3I6	X3I1	X3I2	X3I3	X3T1	X3T2	X3T3
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Median	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0.143	0.071	0.107	0.107	0.107	0.214	1.679	1.393	0.071	1.679	0.036	0.036	0.036	0.036	1.964	0.071	0.107	0.107	0.036	0.107	0.107	0.107	1.096	0.143	0.107	0.107	0.357	0.143
Q3	0	0	0	0	0	0	5	3.25	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0.75	0	0	0	1	0
Max	1	1	1	1	1	1	5	5	1	5	1	1	1	1	5	1	1	1	1	1	1	1	5	1	1	1	1	1
n	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
M_error	0.132	0.097	0.117	0.117	0.117	0.155	0.862	0.783	0.097	0.862	0.07	0.07	0.07	0.07	0.921	0.097	0.117	0.117	0.07	0.117	0.117	0.117	0.687	0.132	0.117	0.117	0.181	0.132
Lower	0.011	-0.026	-0.01	-0.01	-0.01	0.06	0.817	0.61	-0.026	0.817	-0.034	-0.034	-0.034	-0.034	1.043	-0.026	-0.01	-0.01	-0.034	-0.01	-0.01	-0.01	0.348	0.011	-0.01	-0.01	0.176	0.011
Upper	0.275	0.369	0.224	0.224	0.224	0.369	2.54	2.176	0.369	2.54	0.106	0.106	0.106	0.106	2.885	0.169	0.224	0.224	0.106	0.224	0.224	0.224	1.723	0.275	0.224	0.224	0.538	0.275
LowerPoi	0.044	0.012	0.027	0.027	0.027	0.085	1.243	1	0.012	1.243	0.002	0.002	0.002	0.002	1.49	0.012	0.027	0.027	0.002	0.027	0.027	0.027	0.703	0.044	0.027	0.027	0.179	0.044
UpperPoi	0.332	0.22	0.278	0.278	0.278	0.434	2.205	1.877	0.22	2.205	0.157	0.157	0.157	0.157	2.53	0.22	0.278	0.278	0.157	0.278	0.278	0.278	1.46	0.332	0.278	0.278	0.626	0.332

Note. CSV data_leadership /Pearson correlation tables/correlation_3rd (b) order_1st scan_restructured data (7/31/2018) with supporting analysis table. This data and analysis table applies frequency weights (number of occurrences per theme) and declining generational relevancy (DGR).

Significance**Technology Environment.**

Historic military (1T3 = 1.455, IR = 1.023, or 3rd ranked);

Historic security (1T1 = 1.132, IR = 1.038 or 2nd ranked);

Present advancement (2T2 = 1.131, IR not ranked);

Present military (2T3 = 1.131, IR not ranked);

Future advancement (3T2 = 1.096, IR not ranked).

Also see Volume II, Box and Whiskers Plot, Leadership Technology Factor Inquiry Series 5 of 5.

a. Network Analyzer linked relationships, (Frame 1).

Future security to present education (3T1 to 2S7 = 0.770).

b. Consolidated data discovered in other data frames.

Historic military to historic security (1T3 to 1T1 = 0.800).

Historic security to historic advancement (1T1 to 1T2 = 0.775).

Consolidated data frame hierarchy (Frame 1, and other Frames). Revised order for the top ranked combine factors = 1.0 to 0.800: None found.

Table G40.

R Scan 1 Of Sample Data: 1st Order Social Themes (Unweighted)

(Incident of unweighted theme reoccurrence – by contributor)												
				Coded Variable		1st Inquiry						
				1	2	3	4	5	6	7	8	
				Ge1	Sc1	Gr1	St1	Un1	Cu1	Ed1	Po1	
Random Samples												
Scan		Year	DGR	Sample No.	1Po1	1Po2	1Po3	1Po4	1Po5	1Po6	1Po7	1Po8
1	Beardson	2013	0.975	1	0	0	0	0	1	0	0	1
1	Brown	2009	0.950	2	0	0	0	0	0	0	0	0
1	China Scope	2011	0.963	3	0	0	0	0	0	0	0	0
1	Cohen	2001	0.900	4	0	0	0	0	0	0	0	0
1	Diamond	2005	0.925	5	0	1	1	1	0	0	0	1
1	Farrel	2013	0.975	6	0	0	0	0	0	1	0	0
1	Ferguson	2011	0.963	7	1	1	1	1	0	1	0	0
1	Friedman	2002	0.906	8	0	1	1	1	0	0	0	0
1	Jacques	2010	0.956	9	0	0	1	0	0	1	0	0
1	Johnson	2004	0.919	10	1	1	1	1	0	1	0	0
1	Kissinger	2013	0.975	11	1	1	1	1	0	1	1	0
1	Lowe	1966	0.681	12	0	0	0	1	0	1	0	1
1	Nash	1928	0.446	13	0	0	0	0	0	0	0	0
1	Smith	1976	0.746	14	0	0	0	0	0	0	0	0
1	Tselichtchev	2012	0.969	15	1	0	1	1	0	1	1	0
1	Vogel	2011	0.963	16	1	1	1	1	0	1	1	1
1	Xiaoping	2011	0.963	17	0	0	1	1	0	1	1	1
1	Zhu	2011	0.963	18	0	0	0	0	1	1	0	0
1	Others-1	2014	0.981	19	1	1	1	1	1	1	1	0
1	Others-2	2015	0.988	20	1	0	1	0	1	1	1	0
1	Others-3	2015	0.988	21	1	0	0	0	1	1	1	0
1	Others-4	2016	0.994	22	1	0	0	0	1	1	1	0
1	Others-5	2016	0.994	23	1	0	0	0	1	1	1	0
1	Others-6	2016	0.994	24	1	0	0	0	1	0	0	0
1	Others-7	2016	0.994	25	1	0	0	0	1	0	0	0
1	Others-8	2017	1.000	26	1	0	0	0	1	0	0	0
1	Others-9	2017	1.000	27	1	0	0	0	1	0	0	1
1	Others-10	2017	1.000	28	1	0	0	0	1	0	0	0
Categorical Variables - Confidence Intervals												
Alpha					0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Confidence Coefficient					1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960
Standard Dev (Sigma)					0.508	0.496	0.510	0.513	0.504	0.487	0.499	0.422
Mean (Average)					0.536	0.250	0.393	0.357	0.429	0.536	0.321	0.214
Sample Size (n)					28	28	28	28	28	28	28	28
Max					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Min					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Range					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Upper Bound (Fence)					0.724	0.434	0.582	0.547	0.615	0.716	0.506	0.371
Lower Bound (Fence)					0.348	0.066	0.204	0.167	0.242	0.355	0.137	0.058
Margin of Error					0.188	0.184	0.189	0.190	0.187	0.180	0.185	0.156
Confidence Interval					0.188	0.184	0.189	0.190	0.187	0.180	0.185	0.156
Margin of Error for Vector (N)											0.186	0.182
Frequency Quotient					0.536	0.250	0.393	0.357	0.429	0.536	0.321	0.321
Frequency Quotient Mean											0.403	0.372
Q1					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Q3					1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
IQR					1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
Quartile Variation Coefficient (QD)					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Note. Extracted from the literature.

Table G41.

R Scan 1 Of Sample Data: 2nd Order Social Themes (Unweighted)

(Incident of unweighted theme reoccurrence – by contributor)

				2nd Inquiry										
				1	2	3	4	5	6	7	8	9	10	
				Ge2	Sc2	Gr2	St2	Un2	Cu2	Ed2	Po2	So2	He2	
Random Samples														
Scan		Year	DGR	Sample No.	2S1	2S2	2S3	2S4	2S5	2S6	2S7	2S8	2S9	2S10
1	Beardson	2013	0.975	1	0	0	1	1	1	1	0	0	0	0
1	Brown	2009	0.950	2	0	0	0	0	0	0	0	0	0	0
1	China Scope	2011	0.963	3	0	0	0	0	0	0	0	0	0	0
1	Cohen	2001	0.900	4	0	0	0	1	0	0	0	0	0	0
1	Diamond	2005	0.925	5	0	0	1	1	0	0	0	0	0	0
1	Farrel	2013	0.975	6	0	0	0	0	0	0	0	0	0	0
1	Ferguson	2011	0.963	7	0	0	1	0	0	0	0	0	0	0
1	Friedman	2002	0.906	8	0	0	0	0	0	0	0	0	0	0
1	Jacques	2010	0.956	9	0	0	1	0	0	0	0	0	0	0
1	Johnson	2004	0.919	10	0	0	0	0	0	0	0	1	1	1
1	Kissinger	2013	0.975	11	0	0	1	0	0	1	1	0	0	0
1	Lowe	1966	0.681	12	0	0	0	0	0	0	0	0	0	0
1	Nash	1928	0.446	13	0	0	0	0	0	0	0	0	0	0
1	Smith	1976	0.746	14	0	0	0	0	0	0	0	0	0	0
1	Tselichtchev	2012	0.969	15	0	0	0	0	0	0	0	1	1	1
1	Vogel	2011	0.963	16	0	0	1	0	0	1	1	1	0	0
1	Xiaoping	2011	0.963	17	1	0	1	0	0	1	1	0	0	0
1	Zhu	2011	0.963	18	0	0	0	0	0	0	0	0	0	0
1	Others-1	2014	0.981	19	1	1	1	1	1	1	1	1	1	1
1	Others-2	2015	0.988	20	1	0	1	1	1	0	0	1	1	1
1	Others-3	2015	0.988	21	1	0	1	0	0	0	0	1	1	0
1	Others-4	2016	0.994	22	1	0	1	0	0	0	0	1	1	0
1	Others-5	2016	0.994	23	1	0	1	0	0	0	0	1	1	0
1	Others-6	2016	0.994	24	1	0	0	0	0	0	0	1	1	0
1	Others-7	2016	0.994	25	0	0	0	0	0	0	0	1	1	0
1	Others-8	2017	1.000	26	0	0	0	0	0	0	0	1	1	0
1	Others-9	2017	1.000	27	0	0	0	0	0	0	0	1	0	0
1	Others-10	2017	1.000	28	0	0	0	0	0	0	0	0	0	0
Categorical Variables - Confidence Intervals														
Alpha					0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Confidence Coefficient					1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960
Standard Dev (Sigma)					0.464	0.229	0.511	0.444	0.366	0.452	0.419	0.506	0.496	0.410
Mean (Average)					0.250	0.036	0.429	0.179	0.107	0.179	0.143	0.429	0.357	0.143
Sample Size (n)					28	28	28	28	28	28	28	28	28	28
Max					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Min					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Range					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Upper Bound (Fence)					0.422	0.121	0.618	0.343	0.243	0.346	0.298	0.616	0.541	0.295
Lower Bound (Fence)					0.078	-0.049	0.239	0.014	-0.029	0.011	-0.012	0.241	0.173	-0.009
Margin of Error					0.172	0.085	0.189	0.165	0.136	0.168	0.155	0.188	0.184	0.152
Confidence Interval					0.172	0.085	0.189	0.165	0.136	0.168	0.155	0.188	0.184	0.152
Margin of Error for Vector (N)														0.159
Frequency Quotient					0.250	0.036	0.429	0.179	0.179	0.179	0.143	0.464	0.357	0.143
Frequency Quotient Mean														0.236
Q1					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Q3					1.000	0.000	1.000	0.250	0.000	0.500	0.000	1.000	0.000	0.000
IQR					1.000	0.000	1.000	0.250	0.000	0.500	0.000	1.000	0.000	0.000
Quartile Variation Coefficient (QD)					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Note. Extracted from the literature.

R Scan 1 Of Sample Data: 3rd Order Social Themes (Unweighted)

3rd Inquiry

[illegible]

Note. Extracted from the literature.

Table G43.

R Scan 2 Of Sample Data: 1st Order Social Themes (Weighted)

(Incident of weighted theme reoccurrence – by contributor)												
1st Inquiry												
Coded Variable												
1 2 3 4 5 6 7 8												
Ge1 Sc1 Gr1 St1 Un1 Cu1 Ed1 Po1												
Random Samples												
Scan		Year	DGR	Sample No.	1Po1	1Po2	1Po3	1Po4	1Po5	1Po6	1Po7	1Po8
2	Beardson	2013	0.975	1	0	0	0	0	2	0	0	3
2	Brown	2009	0.950	2	0	0	0	0	0	0	0	0
2	China Scope	2011	0.963	3	0	0	0	0	0	0	0	0
2	Cohen	2001	0.900	4	0	0	0	0	0	0	0	0
2	Diamond	2005	0.925	5	0	5	5	2	0	0	0	5
2	Farrel	2013	0.975	6	0	0	0	0	0	5	0	0
2	Ferguson	2011	0.963	7	5	1	1	3	0	5	0	0
2	Friedman	2002	0.906	8	0	1	1	3	0	0	0	0
2	Jacques	2010	0.956	9	0	0	1	0	0	5	0	0
2	Johnson	2004	0.919	10	5	3	3	2	0	5	0	0
2	Kissinger	2013	0.975	11	4	2	1	3	0	5	2	0
2	Lowe	1966	0.681	12	0	0	0	2	0	4	0	1
2	Nash	1928	0.446	13	0	0	0	0	0	0	0	0
2	Smith	1976	0.746	14	0	0	0	0	0	0	0	0
2	Tselichtchev	2012	0.969	15	5	0	1	2	0	3	3	0
2	Vogel	2011	0.963	16	5	3	3	2	0	2	4	1
2	Xiaoping	2011	0.963	17	0	0	4	1	0	4	5	2
2	Zhu	2011	0.963	18	0	0	0	0	4	5	0	0
2	Others-1	2014	0.981	19	5	2	2	3	2	4	5	0
2	Others-2	2015	0.988	20	3	0	4	0	3	5	3	0
2	Others-3	2015	0.988	21	1	0	0	0	1	4	2	0
2	Others-4	2016	0.994	22	5	0	0	0	4	4	5	0
2	Others-5	2016	0.994	23	5	0	0	0	5	5	2	0
2	Others-6	2016	0.994	24	2	0	0	0	1	0	0	0
2	Others-7	2016	0.994	25	5	0	0	0	2	0	0	0
2	Others-8	2017	1.000	26	4	0	0	0	2	0	0	0
2	Others-9	2017	1.000	27	5	0	0	0	3	0	0	1
2	Others-10	2017	1.000	28	5	0	0	0	2	0	0	0
Categorical Variables - Confidence Intervals												
Alpha					0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Confidence Coefficient					1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960
Standard Dev (Sigma)					2.355	1.449	1.625	1.273	1.524	2.229	1.898	1.238
Mean (Average)					2.286	0.607	0.929	0.821	1.107	2.321	1.107	0.464
Sample Size (n)					28	28	28	28	28	28	28	28
Max					5.000	5.000	5.000	3.000	5.000	5.000	5.000	5.000
Min					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Range					5.000	5.000	5.000	3.000	5.000	5.000	5.000	5.000
Upper Bound (Fence)					3.158	1.144	1.531	1.293	1.672	3.147	1.810	0.923
Lower Bound (Fence)					1.413	0.070	0.326	0.350	0.543	1.496	0.404	0.006
Margin of Error					0.872	0.537	0.602	0.471	0.564	0.826	0.703	0.459
Confidence Interval (-:mean)					3.199	1.169	1.559	1.315	1.698	3.186	1.843	0.944
Confidence Interval (+:mean)					-1.373	-0.045	-0.298	-0.328	-0.516	-1.457	-0.371	0.016
Margin of Error Mean for Vector (N _j)											0.654	0.595

Note. Extracted from the literature.

Table G44.

R Scan 2 Of Sample Data: 2nd Order Social Themes (Weighted)

(Incident of weighted theme reoccurrence – by contributor)														
2nd Inquiry														

Note. Extracted from the literature.

Table G45.

R Scan 2 Of Sample Data: 3rd Order Social Themes (Weighted)

(Incident of weighted theme reoccurrence – by contributor)

				3rd Inquiry										
				1	2	3	4	5	6	7	8	9	10	
				Ge3	Sc3	Gr3	St3	Un3	Cu3	Ed3	Po3	So3	He3	
Random Samples														
Scan		Year	DGR	Sample No.	3S1	3S2	3S3	3S4	3S5	3S6	3S7	3S8	3S9	3S10
2	Beardson	2013	0.975	1	0	0	4	3	1	2	0	0	0	0
2	Brown	2009	0.950	2	0	0	0	0	0	0	0	0	0	0
2	China Scope	2011	0.963	3	0	0	0	0	0	0	0	0	0	0
2	Cohen	2001	0.900	4	0	0	0	4	0	0	0	0	0	0
2	Diamond	2005	0.925	5	0	0	5	5	0	0	0	5	0	0
2	Farrel	2013	0.975	6	0	0	0	0	0	0	0	0	0	0
2	Ferguson	2011	0.963	7	0	0	4	0	0	0	0	0	0	0
2	Friedman	2002	0.906	8	0	0	0	0	0	0	0	0	0	0
2	Jacques	2010	0.956	9	0	0	5	0	0	0	0	0	0	0
2	Johnson	2004	0.919	10	0	0	5	0	0	0	0	0	4	4
2	Kissinger	2013	0.975	11	0	0	0	0	0	0	0	0	0	0
2	Lowe	1966	0.681	12	0	0	0	0	0	0	0	0	0	0
2	Nash	1928	0.446	13	0	0	0	0	0	0	0	0	0	0
2	Smith	1976	0.746	14	0	0	0	0	0	0	0	0	0	0
2	Tselichthev	2012	0.969	15	0	0	0	0	0	0	0	0	5	5
2	Vogel	2011	0.963	16	0	0	0	0	0	0	0	0	0	0
2	Xiaoping	2011	0.963	17	0	0	0	0	0	0	4	0	0	0
2	Zhu	2011	0.963	18	0	0	0	0	0	0	0	0	0	0
2	Others-1	2014	0.981	19	2	3	4	4	3	3	5	4	5	5
2	Others-2	2015	0.988	20	1	0	5	5	2	0	4	5	5	0
2	Others-3	2015	0.988	21	3	0	0	0	0	0	0	3	4	0
2	Others-4	2016	0.994	22	1	0	0	0	0	0	0	2	5	0
2	Others-5	2016	0.994	23	0	0	0	0	0	0	0	5	0	0
2	Others-6	2016	0.994	24	0	0	0	0	0	0	0	0	0	0
2	Others-7	2016	0.994	25	0	0	0	0	0	0	0	0	0	0
2	Others-8	2017	1.000	26	0	0	0	0	0	0	0	0	0	0
2	Others-9	2017	1.000	27	0	0	0	0	0	0	0	0	0	0
2	Others-10	2017	1.000	28	0	0	0	0	0	0	0	0	0	0
Categorical Variables - Confidence Intervals														
Alpha				0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Confidence Coefficient				1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960	1.960
Standard Dev (Sigma)				0.780	0.688	2.257	1.905	0.801	0.806	1.599	1.894	1.759	1.759	1.759
Mean (Average)				0.250	0.107	1.143	0.750	0.214	0.179	0.464	0.857	1.273	0.500	0.500
Sample Size (n)				28	28	28	28	28	28	28	28	28	28	28
Max				3.000	3.000	5.000	5.000	3.000	3.000	5.000	5.000	5.000	5.000	5.000
Min				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Range				3.000	3.000	5.000	5.000	3.000	3.000	5.000	5.000	5.000	5.000	5.000
Upper Bound (Fence)				0.539	0.362	1.979	1.456	0.511	0.477	1.056	1.559	1.924	1.151	1.151
Lower Bound (Fence)				-0.039	-0.148	0.307	0.044	-0.083	-0.120	-0.128	0.155	0.621	-0.151	-0.151
Margin of Error				0.289	0.255	0.836	0.706	0.297	0.298	0.592	0.702	0.651	0.651	0.651
Confidence Interval (-:mean)				0.552	0.374	2.018	1.489	0.525	0.491	1.084	1.592	1.955	1.182	1.182
Confidence Interval (+:mean)				0.052	0.160	-0.268	-0.011	0.096	0.134	0.156	-0.123	-0.591	0.182	0.182
Margin of Error Mean for Vector (N _j)														0.528
Frequency Quotient				0.143	0.036	0.250	0.179	0.107	0.071	0.107	0.214	0.214		0.107
														0.143
Median				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Q1				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Q3				0.000	0.000	4.000	0.750	0.000	0.000	0.000	1.000	3.000	0.000	0.000
IQR				0.000	0.000	4.000	0.750	0.000	0.000	0.000	1.000	3.000	0.000	0.000
Quartile Variation Coefficient (QD)				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Note. Extracted from the literature.

R Scan 1-2 CSV Sample Data File: 1st – 3rd Order Social Themes (Unweighted and Weighted)

Note. Extracted from literature CSV data.

R Scan 1-2 CSV Sample Data: 1st Order Leadership Themes (Unweighted and Weighted)

Note. Extracted from literature CVS data.

1. The above data frame covers scans 1 and 2 as related to variables 1Po1 through 1Mi5.
2. A total of 31 variables are depicted that represent the full range of those investigated in the 1st Order.

R Scan 1-2 CSV Sample Data: 2nd Order (a) Leadership Themes (Unweighted and

(Variables 2S1 to 2P19)

id	station	year	DGR	Sample_N251	252	253	254	255	256	257	258	259	2510	2P1	2P2	2P3	2P4	2P5	2P6	2P7	2P8	2P9	2P10	2P11	2P12	2P13	2P14	2P15	2P16	2P17	2P18	2P19
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			

1. The above data frame covers scans 1 and 2 as related to variables 2S1 through 1P19.
2. The 29 variables depicted represent a segment or partial data set of the total investigated in the 2nd Order.
3. Scan 1 = A single incident of occurrence has been discovered in the referenced author's literature.
4. Scan 2 = Represents a range or degree to which a specific variant was discovered within the referenced author's literature. The range = (1 to 5). Wherein, 1 = a single occurrence or slightly more than 1; and, 5 = five occurrences or slightly more than 5.

Table G49.

R Scan 1-2 CSV Sample Data: 2nd Order (b) Leadership Themes (Unweighted and

Weighted) (Variables 2E1 to 2T3)

scan	citation	year	DGR	Sample_N	2E_1	2E_2	2E_3	2E_4	2E_5	2E_6	2E_7	2E_8	2E_9	2E_10	2E_11	2E_12	2E_13	2E_14	2E_15	2E_16	2E_17	2T1	2I2	2I3	2I4	2I5	2I6	2I1	2I2	2I3	2T1	2T2	2T3		
1	Beardson	2013	0.975	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0		
1	Brown	2009	0.95	2	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0			
1	ChinaDisc	2011	0.9625	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0			
1	Cohen	2001	0.9	4	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0			
1	Diamond	2005	0.925	5	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	1	1	1	1	1			
1	Farrel	2013	0.975	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1			
1	Fergusson	2011	0.9625	7	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1	Friedman	2002	0.9063	8	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1	Jacquets	2020	0.9563	9	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0		
1	Johnson	2004	0.9588	10	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0		
1	Kissinger	2013	0.975	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0		
1	Low	1966	0.6813	12	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1	Nash	1938	0.4463	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0		
1	Smith	1976	0.7463	14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	1	1		
1	Tselichsch	2012	0.9688	15	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Vager	2011	0.9625	16	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	1	1	
1	Xiaoping	2011	0.9625	17	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	1	1	
1	Zhu	2011	0.9625	18	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0	1	1	0	1	1	
1	Others-1	2014	0.9813	19	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
1	Others-2	2015	0.9875	20	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	
1	Others-3	2015	0.9875	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	1	1	0	1	1	1	1	
1	Others-4	2016	0.9938	22	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	1	0	0	0	
1	Others-5	2016	0.9938	23	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	
1	Others-6	2016	0.9938	24	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	1	0	
1	Others-7	2016	0.9938	25	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	0	1	0	1	1	1	0	1	1	1	
1	Others-8	2017	1	26	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	
1	Others-9	2017	1	27	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	1	
1	Others-10	2017	1	28	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
2	Beardson	2013	0.975	1	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	0	0	0	
2	Brown	2009	0.95	2	1	0	0	0	0	0	0	1	1	4	4	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	ChinaDisc	2011	0.9625	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
2	Cohen	2001	0.9	4	0	0	0	0	0	0	0	1	1	3	2	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Diamond	2005	0.925	5	0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	4	0	0	0	0	1	0	0	5	4	4	1	4	1	1	
2	Farrel	2013	0.975	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5	1	
2	Fergusson	2011	0.9625	7	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Friedman	2002	0.9063	8	0	0	0	0	0	0	0	1	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Jacquets	2020	0.9563	9	0	0	0	0	0	0	0	1	1	3	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0	0	0	0	
2	Johnson	2004	0.9588	10	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0
2	Kissinger	2013	0.975	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
2	Low	1966	0.6813	12	0	0	0	0	0	0	0	0	0	5	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
2	Nash	1938	0.4463	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	
2	Smith	1976	0.7463	14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	4	2	5	0	4	1	
2	Tselichsch	2012	0.9688	15	0	0	0	0	0	0	1	1	0	0	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Vager	2011	0.9625	16	0	0	0	0	0	0	0	1	0	5	2	0	0	0	0	4	0	0	0	0	0	0	0	0	5	2	4	0	4	1	
2	Xiaoping	2011	0.9625	17	0	0	0	0	0	0	1	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	4	4	4	0	5	1	
2	Zhu	2011	0.9625	18	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	5	0	0	0	1	0	0	1	0	0	2	3	0	3	1	
2	Others-1	2014	0.9813	19	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
2	Others-2	2015	0.9875	20	0	0	0	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0	0	
2	Others-3	2015	0.9875	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	1	1	1	4	0	5	1	5	1	1	
2	Others-4	2016	0.9938	22	0	0	0	0	0	0	0	0	1	4	2	0	0	0	0	0	0	0	1	0	0	1	0	1	4	1	1	0	0	0	
2	Others-5	2016	0.9938	23	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	3	0	0	1	0	0	1	0	5	5	3	0	5	0	
2	Others-6	2016	0.9938	24	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	1	5	0
2	Others-7	2016	0.9938	25	0	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	1	1	0	0	0	1	0	2	4	3	0	5	1	1	
2	Others-8	2017	1	26	0	0	0	0	0	0	0	0	0	3																					

R Scan 1-2 CSV Sample Data: 3rd Order (a) Leadership Themes (Unweighted and

(Variables 3S1 to 3P19)

author	year	DGR	Sample_N51	S52	S53	S54	S55	S56	S57	S58	S59	S510	SP1	1P1	1P2	1P3	1P4	1P5	1P6	1P7	1P8	1P9	1P10	1P11	1P12	1P13	1P14	1P15	1P16	1P17	1P18	1P19			
1	Beardson	2013	0.975	1	0	1	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1	Brown	2009	0.95	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	1	1			
1	ChinaNSC	2011	0.9625	3	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1	Cohen	2001	0.9	4	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1		
1	Diamond	2005	0.925	5	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
1	Farrell	2013	0.975	6	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0		
1	Ferguson	2011	0.9625	7	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Friedman	2002	0.9603	8	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	
1	Jacques	2020	0.9663	9	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Johnson	2004	0.9188	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Kissinger	2013	0.975	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Lower	1966	0.6813	12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
1	Nash	1938	0.4463	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Smith	1976	0.7463	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	
1	Tielchitch	2012	0.9688	15	0	0	1	1	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
1	Vogel	2011	0.9625	16	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	
1	Xiaoqing	2011	0.9625	17	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	1	1	
1	Zhu	2011	0.9625	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	
2	Others-1	2014	0.9813	19	0	0	3	3	0	0	4	0	5	3	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-2	2015	0.9875	20	0	0	4	5	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-3	2015	0.9875	21	0	0	4	5	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-4	2016	0.9938	22	0	0	5	5	3	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-5	2016	0.9938	23	0	0	5	5	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-6	2016	0.9938	24	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-7	2016	0.9938	25	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-8	2017	1	26	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-9	2017	1	27	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-10	2017	1	28	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Beardson	2013	0.975	1	0	1	0	3	5	4	3	0	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Brown	2009	0.95	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2	ChinaNSC	2011	0.9625	3	0	0	5	1	2	5	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Cohen	2001	0.9	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Diamond	2005	0.925	5	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Farrell	2013	0.975	6	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Ferguson	2011	0.9625	7	0	0	0	0	5	2	4	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Friedman	2002	0.9603	8	0	0	0	0	0	0	0	0	0	0	1	1	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Jacques	2020	0.9663	9	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Johnson	2004	0.9188	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Kissinger	2013	0.975	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Lower	1966	0.6813	12	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Nash	1938	0.4463	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Smith	1976	0.7463	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Tielchitch	2012	0.9688	15	0	0	4	0	5	5	0	5	2	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Vogel	2011	0.9625	16	0	0	1	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Xiaoqing	2011	0.9625	17	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Zhu	2011	0.9625	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Others-1	2014	0.9813	19	0	0	3	3	0	0	4	0	5	3	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-2	2015	0.9875	20	0	0	4	5	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-3	2015	0.9875	21	0	0	4	5	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-4	2016	0.9938	22	0	0	5	5	3	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-5	2016	0.9938	23	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-6	2016	0.9938	24	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-7	2016	0.9938	25	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-8	2017	1	26	0	0	0	5	0	0	2	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Others-9	2017	1	27	0	0	4																												

1. The above data frame covers scans

1. The above data frame covers scans 1 and 2 as related to variables 2S1 through 3P19.
2. The 29 variables depicted represent a segment or partial data set of the total investigated in the 3rd Order. The two tables represent the entire data frame.
3. Scan 1 = A single incident of occurrence has been discovered in the referenced author's literature.
4. Scan 2 = Represents a range or degree to which a specific variant was discovered within the referenced author's literature. The range = (1 to 5). Wherein, 1 = a single occurrence or slightly more than 1; and, 5 = five occurrences or slightly more than 5.

R Scan 1-2 CSV Sample Data: 3rd Order (b) Leadership Themes (Unweighted and

Weighted)

[illegible]

1. The above data frame covers scans 1 and 2 as related to variables 2E1 through 2T3.

2. The 29 variables depicted represent a segment or partial data set of the total investigated in the 3rd Order. The two tables represent the entire data frame.
3. Scan 1 = A single incident of occurrence has been discovered in the referenced author's literature.
4. Scan 2 = Represents a range or degree to which a specific variant was discovered within the referenced author's literature. The range = (1 to 5). Wherein, 1 = a single occurrence or slightly more than 1; and, 5 = five occurrences or slightly more than 5.

Table G52.

Social Network Analysis and Pearson Correlation Coefficients

Procedure	Description and Application
	<p>Social Network Analysis and Pearson Correlation Coefficients</p> <p>So how do these analytics contribute towards identifying significant variables (themes) in the social data frame? The SNA technique provides a descriptive statistical analysis that is expressed in a graphic format that greatly eases interpreting a range of sample frequency observations (fo). The SNA clearly demonstrates direct variable (theme) associations, correlation strengths, and links to variables (themes) within a single sample or in the context of a series of sample frames. The SNA is greatly supported and complimented by the Pearson Correlation (PC) Coefficient analysis. In fact, it offers considerably detailed statistical resultants that are critical to researchers when they desire to track the links graphically expressed in the SNA graphic. In addition, the PC allows researchers to consider and test the significance of a wide array of variables (themes) that are present along the fringe of a central discovery or insight. As such, the PC offers the researcher a broader lens from which to view the data frame and ensure that these fringe observations are not additional contributors to those themes that are clearly identified as significant influencers or drivers of a predictive discovery. Given this, a SNA analysis was conducted using the sample data from the 1st and 2nd inquiry orders or cycles in order to identify which historical variable would be detected as the most significant theme (node). The results indicated that 1Po7: Historical Education represented a theme of high significance with a strong correlation to 2S1: Present Geography with an adjacency level = 0.802. Interestingly, another pair of themes (nodes) emerged that indicated a strong correlation and adjacency level = 0.850 between 2S6: Present Cultural Ideology and 2S7: Present Education. What occurs next is the analysis of the 2nd and 3rd Order Inquires (Present and Future) in which the resultants expressed the following significant themes and adjacency levels: 3S1 to 3S9 = 0.673; 3S2 to 3S6 = 0.826; 3S3 to 3S4 = 0.590; 3S4 to 3S5 = 0.663; 3S5 to 2S2 = 0.796; 3S6 to 2S5 = 0.835; 3S7 to 2S10 = 0.573, 3S8 to 3S9 = 0.462; and, 3S9 to 2S8 = 0.709. In all these cases, the links between the theme nodes are considered to be significant and drive further investigation. Given this, a third SNA was conducted using the 2nd and 3rd Order Inquiry or the "Present and Future" sample data. In this final analysis, the SNA and supporting PC analytic inferred the following: *2S2 to 3S2 = 1.000; 2S2 to 3S5 = 0.796; 2S2 to 3S6 = 0.826; *2S4 to 3S4 = 0.921; 2S5 to 3S2 = 0.870; 2S8 to 3S5 = 0.991; 2S5 to 3S6 = 0.835; 2S5 to 3S7 = 0.790; 2S7 to 3S7 = 0.786; 2S8 to 3S9 = 0.709; 2S10 to 3S9 = 0.788; and, *2S10 to 3S10 = 0.818. Those underlined are considered to have the highest significance as a result of implementing the two analysis techniques. * Note, that where a specific variable (theme) in one sample has a high correlation to the same variable (theme) in another sample; the two are disqualified from selection and construction of a bivariate stem research question. Given this, 2S5 to 3S2 = 0.870, or Present Unity and Future Scale; and, 2S8 to 3S5 = 0.991, or Present Population and Future Unity demonstrated the highest significance as themes to be considered for integration into a stem research question.</p> <p>Social Network Analysis and Pearson Correlation Coefficients</p> <p>So how do these analytics contribute towards identifying significant variables (themes) in the leadership data frame? The SNA technique provides a clear and concise descriptive.</p>

Table G53.

Social Themes: Overall Assessments and Estimated Predictive(s)

4th Inquiry Data: Social Security & Health Care Themeing

(N4) "Leading" Assessment, Literature Review by: Contributor																				(N4) "Leading" Assessment, By: Delphi Panel									
Columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Theme Code & Category/Sub-category (a)	IFD	Weighted Average DGR	Z-Score (Scan 1)	M_error	RFMD	IFDM_Mean	IR	Multivariate (P-value)	Pearson r	NA	SFDC	IQR	RSFA	Ranking	Hypotheses (Ho) Null w/Strong Correlations	Accepted (True or False)	Research Hypotheses (Ha) Alternatives w/ Strong Correlations	Accepted (True or False) Selected for RQKn	Chief Criteria Used for Selection	IQR	Hypotheses (Ho) Null w/Strong Correlations	Accepted (True or False) Alternatives w/ Strong Correlations	Research Hypotheses (Ha) Alternatives w/ Strong Correlations	Accepted (True or False) Selected for RQKn	Remarks/Reason				
a. 1Po1:Geography	28	0.077	0.536	3.8677	0.188	0.7510	0.304	1.231	0.000	0.686	X258	15	1.000	73.319	1st		1Po1 to 258	TRUE	Yes	a.					1Po1 to 258				
b. 1Po3:Growth	28	0.056	0.393	4.2368	0.184	0.5360	0.123	1.042	0.053	0.579	X353	11	1.000	35.133		1Po3 to 353	TRUE		b.					1Po3 to 353					
c. 1Po6:Cultural ideology	28	0.082	0.536	3.8677	0.188	0.7280	0.309	1.040	0.003	0.518	X253	16	1.000	49.058		1Po6 to 253	TRUE		c.					1Po6 to 253					
d. 1Po7:Education	28	0.046	0.321	4.5807	0.176	0.4496	0.147	1.200	0.000	0.802	X251	9	1.000	51.764		1Po7 to 251	TRUE		d.					1Po7 to 251					
e. 253:Growth	28	0.043	0.429	4.1104	0.187	0.4165	0.204	1.151	0.000	0.430	X358	12	1.000	55.441	4th		253 to 358	FALSE	No	e.					253 to 358				
f. 258:Population	28	0.046	0.464	4.0083	0.187	0.4208	0.218	1.195	0.000	0.709	X359	12	1.000	62.308	2nd		258 to 359	TRUE	Yes	f.					258 to 359				
g. 259:Social Security	28	0.043	0.429	4.1104	0.181	0.3507	0.176	1.195	0.000	0.754	X2510	12	1.000	57.179	3rd		259 to 2510	TRUE	Yes	g.					259 to 2510				
h. 2510:Health Care	28	0.043	0.429	4.1104	0.132	0.1377	0.090	1.072	0.060	0.818	X3510	12	0.000	52.553		2510 to 3510	TRUE		h.					2510 to 3510					
i. 351:Geography	28	0.014	0.143	6.6150	0.132	0.1411	0.033	1.409	0.030	0.673	X359	4	0.000	41.560		351 to 359	TRUE		i.					351 to 359					
j. 354:Stability	28	0.018	0.179	5.9521	0.144	0.1703	0.100	1.041	0.086	0.663	X355	5	0.000	42.748		354 to 355	TRUE		j.					354 to 355					
k. 359:Social Security	28	0.029	0.286	4.8132	0.155	0.2085	0.133	1.151	0.003	0.664	X3510	8	0.000	44.791		359 to 3510	TRUE		k.					359 to 3510					
l. 3510:Health Care	28	0.025	0.250	5.1025	0.117	0.1025	0.066	1.055	0.132	1.000	X3510	7	0.000	42.750		3510 to 3510	TRUE		l.					3510 to 3510					
m. Relative Weights	3	5	3	1	4	5	4	5	5			3																	
n. Column Means	0.044	0.366	4.615	0.164	0.368	0.159	1.149	0.031	0.691			10	0.583	50.717															
o. Max	0.082	0.536	6.615	0.188	0.751	0.309	1.409	0.132	1.000			16	1.000	73.319															
p. Min	0.014	0.143	3.868	0.117	0.103	0.033	1.040	0.000	0.430			4	0.000	35.133															

Positive Criteria Used in Selection

Negative Criteria Used in Selection

Leading Research Hypotheses (Ha) Restated:

(Also, see Summary of Analysis, Findings, and Determinations)

1. (corr(1Po1, 258))

= China's **geography** and **aging population** are influencers that drive its' leadership in shaping emerging internal policies.

2. (corr(253, 358))

= China's **growth** and its' **aging population** are influencers that drive the leadership in shaping internal policies.

3. (corr(258, 359))

= China's **population** is driving its' **social security and health care programs** are influencing its' leadership in shaping internal policies.

Calculation Methods

1. Column 1:

= Unweighted Incident Average, Incident Frequency Distribution Mean (IFD).

2. Column 2:

= Weighted Average = Frequency Distribution Mean (Mean) X Cumulative Weight (CW) or Declining Generational Relevancy (DGR).

3. Column 3:

= Z-Score for Median (Scan 1), (Z-score) calculated using the unweighted theme frequency sample data as extracted from the associated tables.

4. Column 4:

= M_error, (M_error) extracted from the associated tables.

5. Column 5:

= Saldana's Incident Frequency Magnitude Distribution (IFMD) by Contributor Table, extracted from associated tables.

6. Column 6:

= Cumulative Weighted Incident Magnitude Frequency Mean Distribution IFDM, Extracted from associated tables.

7. Column 7:

= IR, extracted from associated tables.

8. Column 8:

= Multivariate P-Value, extracted from associated tables.

9. Column 9:

= Pearson correlation for r, extracted from associated tables.

10. Column 10:

= Network Analyzer, extracted from associated r program software analytics.

11. Column 12:

= SFDC, extracted from the associated tables.

12. Column 13:

= IQR, extracted from the associated tables.

13. Column 14:

= $S1RWC1*0.077 + S1RWC2*0.536 + S1RWC3*3.8677 + S1RWC5*0.751 + S1RWC6*0.304 + S1RWC7*1.231 + S1RWC8*0 + S1RWC9*0.686 + S1RWC12$ (the SFDC in Column 12)

14. Column 16:

= Null Hypotheses, coded themes found to have strong correlations with the primary theme of interest.

15. Column 18:

= Research Hypotheses, coded themes found to have strong correlations with the primary themes of interest.

16. Column 24:

= Null Hypotheses selected for level of agreement or consensus testing via the Delphi process, represents findings extracted from the survey outcome(s).

17. Column 26:

= Research Hypotheses, coded themes selected for level of agreement or consensus testing via the Delphi process, represents findings extracted from the survey outcome(s).

Definitions

1. IFD

= Unweighted Incident Average, Incident Frequency Distribution Mean (IFD), represented in Column 1.

2. DGR, CW

= Declining Generational Relevancy (DGR) Cumulative Weight (CW). See Figure F.1. in Appendix F, Factor represented in Column 2.

3. Z-Score

= Z-Score for the unweighted reoccurring theme frequency themes or variables observed in the associated table = Scan (1), represented in Column 3.

4. M_error

= Mean error within the stipulated sample, represented in Column 4.

5. RFMD

= Relative Frequency Magnitude Distribution. See factor represented in the calculation of Column 5.

6. IFDM

= Cumulative Weighted Incident Frequency Magnitude (IFDM) Mean Distribution represented in Column 6.

7. IR

= Isotonic regression statistical inference or fit of an isotonic curve to a series of mean experimental results. The IR does not assume any form for the targeted function, such as linearity assumed by a linear regression. See Column 7.

8. Multivariate P-Value

= Multivariate P-Value, extracted from the associated table as represented in Column 8.

9. Pearson r

= Pearson Correlation for r, as represented in Column 9.

10. NA

= Network Analyzer (NA), Variable Correlation for r, represented in Column 10.

12. SFDC

= Saldana Frequency Distribution by Contributor, represented in Column 12.

13. IQR

= Descriptive statistic, Interquartile Range (IQR), the middle 50% (technically H-spread) measure of a statistical dispersion being equal to the difference between 75th and 25th percentiles, or between upper and lower quartile expressed as $IQR = Q3 - Q1$. The IQR represents the first quartile subtracted from the third quartile. These quartiles are clearly represented on a box plot associated with

14. RSFA

= Ranking Score Analysis Finding, or the Weighted Positive Selection Criteria represented in Column 14.

15. Ranking

= Overall Ordinal Ranking for any RQKn Data Selection Range. See Column 15.

Note. Extracted from the literature inquiry analysis.

1. Table data is extracted from a number of supporting evaluations, analytics, and tests as referenced.
2. The information presented presents only assessed outcomes pertaining to the social category and sub-categories.
3. The table does not report the responses collected from the Delphi Policy survey panel.
4. Delphi Policy survey response findings analysis to the study's RQKn stem research questions.



Table:

1. Final rankings determined upon the completion of the Delphi Policy Study and findings.
2. IQRs determined upon the completion of the Delphi Policy Study and findings.
3. Variable selections determined upon the completion of the Delphi Policy Study and findings.

Table G54.

*Leadership Themes: Overall Assessments and Estimated Predictive(s)***4th Inquiry Data: Leadership Themeing**

(N4) "Leading" Agreement, Literature Review by: Contributor												RQKn: 3									(N4) "Leading" Agreement, By: Delphi Panel												RQKn: 3								
Columns		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	29												
Theme Code & Category/Sub-category		IFD	Weighted Average DGR			Z-Score (Scan 1)			M_error	RFMD	IFDM_Mean	IR	Multivariate (P-value)		Pearson r	NA	SFDC	IQR	RSAF	Ranking	Hypotheses (Ho) Null w/Strong Correlations	Accepted (True or False)	Research Hypotheses (Ha) Alternatives w/ Strong Correlations	Accepted (True or False)	Selected for RQKn		Chief Criteria Used for Selection	IQR	Hypotheses (Ho) Null w/Strong Correlations	Accepted (True or False)	Research Hypotheses (Ha) Alternatives w/ Strong Correlations	Accepted (True or False)	Remarks/Reason								
a.	2P8:Leadership Behavior	56	0.757	0.762	4.1623	0.152	0.7510	0.304	1.231	0.000	0.819	X2510	15	0.000	73.319	1st						2P8 to 2510	TRUE	Yes							2P8 to 2510		a.								
b.	2P19:Cultural Ideology	56	0.724	0.748	3.0981	0.133	0.5360	0.123	1.042	0.053	0.544	X2E8	11	1.500	35.133				2P19 to 2E8	FALSE									2P19 to 2E8		b.										
c.	2P5:Int. Leadership Ideology	56	0.691	0.690	3.8677	0.143	0.7280	0.309	1.040	0.003	0.572	X2E8	16	1.500	49.058				1P5 to 2E8	FALSE								1P5 to 2E8		c.											
d.	1P08 Population	56	0.526	0.698	3.3677	0.134	0.5280	0.289	1.124	0.033	0.451	X2P2	16	1.500	47.528				1P08 to 2P2	FALSE								1P08 to 2P2		d.											
e.	2E16:Growth	56	0.493	0.5150	4.0083	0.151	0.4496	0.147	1.200	0.000	0.766	X2P11	9	0.000	51.764				1P16 to 2P11	TRUE								1P16 to 2P11		e.											
f.	2I2:Cultural Stability	56	0.493	0.513	4.0901	0.178	0.4165	0.204	1.151	0.000	0.710	X3P1	12	0.000	55.441	4th						2I2 to 3P1	TRUE	Yes					2I2 to 3P1		f.										
g.	2P14:Power, Authority, Superiority	56	0.493	0.482	3.8677	0.161	0.4208	0.218	1.195	0.000	0.544	X2P19	12	1.500	62.308	2nd						2P14 to 2P19	TRUE	Yes					2P14 to 2P19		g.										
h.	2E8:Economic & Monetary Ideology	56	0.461	0.466	3.9004	0.171	0.3507	0.176	1.195	0.000	0.795	X2P12	12	0.000	57.179	3rd						2E8 to 2P12	TRUE	Yes					2E8 to 2P12		h.										
i.	2510:Int. Government Legitimacy	56	0.461	0.481	4.1607	0.118	0.1377	0.090	1.072	0.060	0.818	X2P10	12	1.000	52.553				2510 to 2P10	TRUE								2510 to 2P10		i.											
j.	3E11:Wealth	56	0.329	0.6480	6.8150	0.125	0.1411	0.033	1.409	0.030	0.710	X2P8	4	1.500	41.560				3511 to 2P8	TRUE								3511 to 2P8		j.											
k.	Relative Weights		3	5	3	1	4	5	4	5	5					3																k.									
l.	Column Means		0.543	0.600	4.134	0.147	0.446	0.189	1.166	0.018	0.673		12	0.850																		l.									
m.	Max		0.757	0.762	6.815	0.178	0.751	0.309	1.409	0.060	0.819		16	1.500																		m.									
n.	Min		0.329	0.466	3.098	0.118	0.138	0.033	1.040	0.000	0.451		4	0.000																		n.									

 = Positive Criteria Used in Selection
 = Negative Criteria Used in Selection

Leading Research Hypotheses (Ha) Restated: (Also, see Summary of Analysis, Findings, and Determinations)

1. (corr(1P01, 258)) = China's geography and aging population are influencers that drive its' leadership in shaping emerging internal policies.
2. (corr(253, 358)) = China's growth and its' aging population are influencers that drive the leadership in shaping internal policies.
3. (corr(258, 359)) = China's population is driving its' social security and health care programs, are influencing its' leadership in shaping internal policies.

Calculation Methods

1. Column 1: = Unweighted Incident Average, Incident Frequency Distribution Mean (IFD).
2. Column 2: = Weighted Average = Frequency Distribution Mean (Mean) X Cumulative Weight (CW) or Declining Generational Relevancy (DGR).
3. Column 3: = Z-Score for Median (Scan 1), (Z-score) calculated using the unweighted theme frequency sample data as extracted from the associated tables.
4. Column 4: = M_error, (M_error) extracted from the associated tables.
5. Column 5: = Saldaña's Incident Frequency Magnitude Distribution (IFMD) by Contributor Table, extracted from associated tables.
6. Column 6: = Cumulative Weighted Incident Frequency Magnitude Distribution IFDM, extracted from associated tables.
7. Column 7: = IR, extracted from associated tables.
8. Column 8: = Multivariate P-Value, extracted from associated tables.
9. Column 9: = Pearson correlation for r, extracted from associated tables.
10. Column 10: = Network Analyzer, extracted from associated program software analytics.
11. Column 12: = SFDC, extracted from the associated tables.
12. Column 13: = IQR, extracted from the associated tables.
13. Column 14: = $S_{1RWC1} \times 0.07 + S_{1RWC2} \times 0.58 + S_{1RWC3} \times 0.867 + S_{1RWC4} \times 0.751 + S_{1RWC5} \times 0.304 + S_{1RWC6} \times 1.231 + S_{1RWC7} \times 0.686 + S_{1RWC8} \times 0.686 + S_{1RWC9} \times 0.686 + S_{1RWC10} \times 0.686 + S_{1RWC11} \times 0.686 + S_{1RWC12} \times 0.686$ (the SFDC in Column 12)
14. Column 16: = Null Hypotheses, coded themes found to have strong correlations with the primary theme of interest.
15. Column 18: = Research Hypotheses, coded themes found to have strong correlations with the primary themes of interest.
16. Column 24: = Null Hypotheses selected for level of agreement or consensus testing via the Delphi process, represents findings extracted from the survey outcome(s).
17. Column 26: = Research Hypotheses, coded themes selected for level of agreement or consensus testing via the Delphi process, represents findings extracted from the survey outcome(s).

Definitions

1. IFD = Unweighted Incident Average, Incident Frequency Distribution Mean (IFD), extracted from Table E 5. Leading themeing: Frequency distribution analysis - 4th Order; represented in Column 1.
2. DGR, CW = Declining Generational Relevancy (DGR) Cumulative Weight (CW). See Figure F.1. In Appendix F, Factor is calculated based on the DGR for each Contributor's publication date and calculated CW to theme incident observed; represented in Column 2.
3. Z-Score = Z-Score for the unweighted reoccurring theme frequency themes or variables observed in the associated table = Scan (1), represented in Column 3.
4. M_error = Mean error within the stipulated sample, represented in Column 4.
5. RFMD = Relative Frequency Magnitude Distribution. See factor represented in the calculation of Column 5.
6. IFDM = Cumulative Weighted Incident Frequency Magnitude (IFDM) Mean Distribution represented in Column 6.
7. IR = Isotonic regression statistical inference or fit of an isotonic curve to a series of mean experimental results. The IR does not assume any form for the targeted function, such as linearity assumed by a linear regression. See Column 7.
8. Multivariate P-Value = Multivariate P-Value, extracted from the associated table as represented in Column 8.
9. Pearson r = Pearson Correlation for r, as represented in Column 9.
10. NA = Network Analyzer (NA), Variable Correlation for r, represented in Column 10.
12. SFDC = Saldaña Frequency Distribution by Contributor, represented in Column 12.
13. IQR = Descriptive statistic, Interquartile Range (IQR), the middle 50% [technically H-spread] measure of a statistical dispersion being equal to the difference between 75th and 25th percentiles, or between upper and lower quartile expressed as $IQR = Q3 - Q1$. The IQR represents the first quartile subtracted from the third quartile. These quartiles are clearly represented on a box plot associated with
14. RSAFE = Ranking Score Analysis Finding, or the Weighted Positive Selection Criteria represented in Column 14.
15. Ranking = Overall Ordinal Ranking for any RQKn Data Selection Range. See Column 15.

Note. Extracted from the literature inquiry analysis.

1. Table data is extracted from a number of supporting evaluations, analytics, and tests as referenced.
2. The information presented presents only assessed outcomes pertaining to the social category and sub-categories.
3. The table does not report the responses collected from the Delphi Policy survey panel.
4. Delphi Policy survey response findings analysis to the study's RQKn stem research questions.

Table:

1. Final rankings determined upon the completion of the Delphi Policy Study and findings.
2. IQRs determined upon the completion of the Delphi Policy Study and findings.
3. Variable selections determined upon the completion of the Delphi Policy Study and findings.

Table G55.

R Software Script and Program Coding Supporting Outcomes

Line	Script
1	R version 3.4.1 (2017-06-30) -- "Single Candle"
2	Copyright (C) 2017 The R Foundation for Statistical Computing
3	Platform: x86_64-w64-mingw32/x64 (64-bit)
4	R is free software and comes with ABSOLUTELY NO WARRANTY.
5	You are welcome to redistribute it under certain conditions.
6	Type 'license()' or 'licence()' for distribution details.
7	R version 3.4.1 (2017-06-30) -- "Single Candle"
8	Copyright (C) 2017 The R Foundation for Statistical Computing
9	Platform: x86_64-w64-mingw32/x64 (64-bit)
10	R is free software and comes with ABSOLUTELY NO WARRANTY.
11	You are welcome to redistribute it under certain conditions.
12	Type 'license()' or 'licence()' for distribution details.
13	R is a collaborative project with many contributors.
14	Type 'contributors()' for more information and
15	'citation()' on how to cite R or R packages in publications.
16	Type 'demo()' for some demos, 'help()' for on-line help, or
17	'help.start()' for an HTML browser interface to help.
18	Type 'q()' to quit R.
19	setwd("C:/OneDrive/patrick")
20	library(doBy)
21	library(ggplot2)
22	require(xts)
23	require(quantmod)
24	require(igraph)
25	setwd("C:/Onedrive/upwork/patrick") dat <- read.csv("Leadership_final2.csv")
26	refweights <- 100-0.625*(2017-dat\$year) dat <- cbind(refweights, dat)
27	scan1 <- subset(dat, dat\$scan==1)
28	#Calculating cumulative weights ncitation <- nrow(scan1)
29	cumweights_1 <- round((colSums(scan1\$refweights*scan1[, 7:16]))/(ncitation*10 * ncol(scan1[, 7:16]])), 3)
30	cumweights_2 <- round((colSums(scan1\$refweights*scan1[, 17:18]))/(ncitation*10 * ncol(scan1[, 17:18]])), 3)
31	cumweights_3 <- round((colSums(scan1\$refweights*scan1[, 19:26]))/(ncitation*10 * ncol(scan1[, 19:26]])), 3)
32	cumweights_4 <- round((colSums(scan1\$refweights*scan1[, 27:29]))/(ncitation*10 * ncol(scan1[, 27:29]])), 3)
33	cumweights_5 <- round((colSums(scan1\$refweights*scan1[, 30:32]))/(ncitation*10 * ncol(scan1[, 30:32]])), 3)
34	cumweights_6 <- round((colSums(scan1\$refweights*scan1[, 33:37]))/(ncitation*10 * ncol(scan1[, 33:37]])), 3) #round 2
35	cumweights_7 <- round((colSums(scan1\$refweights*scan1[, 38:47]))/(ncitation*10 * ncol(scan1[, 38:47]])), 3)
36	cumweights_8 <- round((colSums(scan1\$refweights*scan1[, 48:66]))/(ncitation*10 * ncol(scan1[, 48:66]])), 3)
37	cumweights_9 <- round((colSums(scan1\$refweights*scan1[, 67:83]))/(ncitation*10 * ncol(scan1[, 67:83]])), 3)
38	cumweights_10 <- round((colSums(scan1\$refweights*scan1[, 84:89]))/(ncitation*1 * ncol(scan1[, 84:89]])), 3)
39	cumweights_11 <- round((colSums(scan1\$refweights*scan1[, 90:92]))/(ncitation*1 * ncol(scan1[, 90:92]])), 3)
40	cumweights_12 <- round((colSums(scan1\$refweights*scan1[, 93:95]))/(ncitation*1 * ncol(scan1[, 93:95]])), 3)
41	cumweights_13 <- round((colSums(scan1\$refweights*scan1[, 96:105]))/(ncitation*10 * ncol(scan1[, 96:105]])), 3)
42	cumweights_14 <- round((colSums(scan1\$refweights*scan1[, 106:124]))/(ncitation*10 * ncol(scan1[, 106:124]])), 3)
43	cumweights_15 <- round((colSums(scan1\$refweights*scan1[, 125:141]))/(ncitation*10 * ncol(scan1[, 125:141]])), 3)
44	cumweights_16 <- round((colSums(scan1\$refweights*scan1[, 142:147]))/(ncitation*10 * ncol(scan1[, 142:147]])), 3)
45	cumweights_17 <- round((colSums(scan1\$refweights*scan1[, 148:150]))/(ncitation*10 * ncol(scan1[, 148:150]])), 3)
46	cumweights_18 <- round((colSums(scan1\$refweights*scan1[, 151:153]))/(ncitation*10 * ncol(scan1[, 151:153]])), 3)
47	cumweights_Importance <- sort(c(cumweights_1, cumweights_2, cumweights_3, cumweights_4, cumweights_5,
48	cumweights_6, cumweights_7, cumweights_8, cumweights_9, cumweights_10, cumweights_11,
49	cumweights_12, cumweights_13, cumweights_14, cumweights_15, cumweights_16, cumweights_17, cumweights_18),
50	decreasing = TRUE)[1:4] # the largest 4 weights cumweights_5# Calculating mean cumulative weights

(continued)

2

Line	Script
51	mean_cum_weight1 <- mean(cumweights_1) #AC19
52	mean_cum_weight2 <- mean(cumweights_2) #AC44
53	mean_cum_weight3 <- mean(cumweights_3) #AC70
54	mean_cum_weight4 <- mean(cumweights_4)
55	mean_cum_weight5 <- mean(cumweights_5)
56	mean_cum_weight6 <- mean(cumweights_6)
57	mean_cum_weight7 <- mean(cumweights_7)
58	mean_cum_weight8 <- mean(cumweights_8)
59	mean_cum_weight9 <- mean(cumweights_9)
60	mean_cum_weight10 <- mean(cumweights_10)
61	mean_cum_weight11 <- mean(cumweights_11)
62	mean_cum_weight12 <- mean(cumweights_12)
63	mean_cum_weight13 <- mean(cumweights_13)
64	mean_cum_weight14 <- mean(cumweights_14)
65	mean_cum_weight15 <- mean(cumweights_15)
66	mean_cum_weight16 <- mean(cumweights_16)
67	mean_cum_weight17 <- mean(cumweights_17)
68	mean_cum_weight18 <- mean(cumweights_18)
69	#Writing weights in csv files
70	setwd("C:/Onedrive/upwork/patrick/leadership")
71	write.csv(c(cumweights_1, mean_cum_weight1), "cumweight1l.csv")
72	write.csv(c(cumweights_2, mean_cum_weight2), "cumweight2l.csv")
73	write.csv(c(cumweights_3, mean_cum_weight3), "cumweight3l.csv")
74	write.csv(c(cumweights_4, mean_cum_weight4), "cumweight4l.csv")
75	write.csv(c(cumweights_5, mean_cum_weight5), "cumweight5l.csv")
76	write.csv(c(cumweights_6, mean_cum_weight6), "cumweight6l.csv")
77	write.csv(c(cumweights_7, mean_cum_weight7), "cumweight7l.csv")
78	write.csv(c(cumweights_8, mean_cum_weight8), "cumweight8l.csv")
79	write.csv(c(cumweights_9, mean_cum_weight9), "cumweight9l.csv")
80	write.csv(c(cumweights_10, mean_cum_weight10), "cumweight10l.csv")
81	write.csv(c(cumweights_11, mean_cum_weight11), "cumweight11l.csv")
82	write.csv(c(cumweights_12, mean_cum_weight12), "cumweight12l.csv")
83	write.csv(c(cumweights_13, mean_cum_weight13), "cumweight13l.csv")
84	write.csv(c(cumweights_14, mean_cum_weight14), "cumweight14l.csv")
85	write.csv(c(cumweights_15, mean_cum_weight15), "cumweight15l.csv")
86	write.csv(c(cumweights_16, mean_cum_weight16), "cumweight16l.csv")
87	write.csv(c(cumweights_17, mean_cum_weight17), "cumweight17l.csv")
88	write.csv(c(cumweights_18, mean_cum_weight18), "cumweight18l.csv") #boxplot #for P
89	wmdat1 <- cbind(weight = cumweights_1, order = rep(1, length(cumweights_1)))
90	wmdat2 <- cbind(weight = cumweights_8, order = rep(2, length(cumweights_8)))
91	wmdat3 <- cbind(weight = cumweights_14, order = rep(3, length(cumweights_14)))
92	wmdat <- as.data.frame(rbind(wmdat1, wmdat2, wmdat3))
93	wmdat\$order <- as.factor(wmdat\$order)
94	order_name <- c("1st", "2nd", "3rd")
95	ggplot(wmdat, aes(x = order, y = weight)) +
96	geom_boxplot(width=0.2) +

(continued)

Line	Script
97	<code>geom_smooth(method = "loess", aes(group=1), lty = "dashed") +</code>
98	<code>theme_bw() + scale_x_discrete(labels= order_name) +</code>
99	<code>xlabs("Order of inquiry") +</code>
100	<code>ylabs("Frequency distribution") summary(wpd1) summary(wpd2) summary(wpd3) #for E</code>
101	<code>wedat1 <- cbind(weight = cumweights_4, order = rep(1, length(cumweights_4)))</code>
102	<code>wedat2 <- cbind(weight = cumweights_9, order = rep(2, length(cumweights_9)))</code>
103	<code>wedat3 <- cbind(weight = cumweights_15, order = rep(3, length(cumweights_15)))</code>
104	<code>wedat <- as.data.frame(rbind(wedat1, wedat2, wedat3))</code>
105	<code>wedat\$order <- as.factor(wedat\$order)</code>
106	<code>order_name <- c("1st", "2nd", "3rd")</code>
107	<code>ggplot(wedat, aes(x = order, y = weight)) +</code>
108	<code>geom_boxplot(width=0.2) +</code>
109	<code>geom_smooth(method = "loess", aes(group=1), lty = "dashed") +</code>
110	<code>theme_bw() + scale_x_discrete(labels= order_name) +</code>
111	<code>xlabs("Order of inquiry") +</code>
112	<code>ylabs("Frequency distribution") summary(wedat1) summary(wedat2) summary(wedat3) #for I</code>
113	<code>widat2 <- cbind(weight = cumweights_11, order = rep(2, length(cumweights_11)))</code>
114	<code>widat3 <- cbind(weight = cumweights_17, order = rep(3, length(cumweights_17)))</code>
115	<code>widat <- as.data.frame(rbind(widat2, widat3))</code>
116	<code>widat\$order <- as.factor(widat\$order)</code>
117	<code>order_name <- c("2nd", "3rd")</code>
118	<code>ggplot(widat, aes(x = order, y = weight)) +</code>
119	<code>geom_boxplot(width=0.2) +</code>
120	<code>geom_smooth(method = "loess", aes(group=1), lty = "dashed") +</code>
121	<code>theme_bw() + scale_x_discrete(labels= order_name) +</code>
122	<code>xlabs("Order of inquiry") + ylabs("Frequency distribution") summary(widat2) summary(widat3) #for T</code>
123	<code>widat1 <- cbind(weight = cumweights_5, order = rep(1, length(cumweights_5)))</code>
124	<code>widat2 <- cbind(weight = cumweights_12, order = rep(2, length(cumweights_12)))</code>
125	<code>widat3 <- cbind(weight = cumweights_18, order = rep(3, length(cumweights_18)))</code>
126	<code>widat <- as.data.frame(rbind(widat1, widat2, widat3))</code>
127	<code>widat\$order <- as.factor(widat\$order)</code>
128	<code>order_name <- c("1st", "2nd", "3rd")</code>
129	<code>ggplot(widat, aes(x = order, y = weight)) +</code>
130	<code>geom_boxplot(width=0.2) +</code>
131	<code>geom_smooth(method = "loess", aes(group=1), lty = "dashed") +</code>
132	<code>theme_bw() + scale_x_discrete(labels= order_name) +</code>
133	<code>xlabs("Order of inquiry") +</code>
134	<code>ylabs("Frequency distribution") summary(widat1) summary(widat2) summary(widat3) #for S</code>
135	<code>wsdat2 <- cbind(weight = cumweights_7, order = rep(2, length(cumweights_7)))</code>
136	<code>wsdat3 <- cbind(weight = cumweights_18, order = rep(3, length(cumweights_13)))</code>
137	<code>wsdat <- as.data.frame(rbind(wsdat2, wsdat3))</code>
138	<code>wsdat\$order <- as.factor(wsdat\$order)</code>
139	<code>order_name <- c("2nd", "3rd")</code>
140	<code>ggplot(wsdat, aes(x = order, y = weight)) +</code>
141	<code>geom_boxplot(width=0.2) +</code>
142	<code>geom_smooth(method = "loess", aes(group=1), lty = "dashed") +</code>

(continued)

Line	Script
143	theme_bw() + scale_x_discrete(labels= order_name) +
144	xlab("Order of inquiry") +
145	ylab("Frequency distribution") summary(wsdat2) summary(wsdat3) #Calculate Citation totals
146	cit_tot_1 <- rowSums(scan1[, 7:37]) #citation sub total at order 1 row 19
147	cit_tot_2 <- rowSums(scan1[, 38:95]) #Citation subtotal at order 2 row 44
148	cit_tot_3 <- rowSums(scan1[, 96:153]) #Citation subtotal at order 3 row 70
149	#Citation subtotal output table cit_tot <- data.frame(cit_tot_1 , cit_tot_2, cit_tot_3)
150	row.names(cit_tot) <- scan1\$citation write.csv(cit_tot, "cit_tot.csv") # Poisson regression
151	scan2 <- subset(dat, dat\$scan==2)
152	scan2 <- scan2[-which(names(scan2) %in% c("X3E_6", "X3P17", "X1Fo2", "X1We5", "X1We6", "X2P13", "X2P16", "X2P17",
153	"X2E_2", "X2E_3", "X2E_5", "X2E_6", "X2E_12", "X2E_13", "X2E_15", "X3P3", "X3P12"))]
154	na.omit(sums(scan2))#order 1 # for P par(mfrow = c(3,4)) with (sumscan2, { lo <- loess(X1Po1.sum~year)
155	#these columns are excluded because of sumscan2 <- with(scan2, summaryBy(. ~ year, FUN = sum, data=scan2)) sumscan2 <-
156	mod <- glm(X1Po1.sum~year, poisson(link = "log"))
157	plot(year, X1Po1.sum, main = "1Po1", ylab = "Frequency", xlab = "Year")
158	lines(year, predict(lo), col = "red")
159	lines(year, exp(predict(mod)), col = "blue")
160	text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
161	text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
162	#abline(lm(X1Po1.sum~year), col = "green")
163	lo <- loess(X1Po2.sum~year)
164	mod <- glm(X1Po2.sum~year, poisson(link = "log"))
165	plot(year, X1Po2.sum, main = "1Po2", ylab = "Frequency", xlab = "Year") lines(year, predict(lo), col = "red")
166	lines(year, exp(predict(mod)), col = "blue") text(1960, 4, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
167	text(1960, 3, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))) #abline(lm(X1Po1.sum~year), col = "green")
168	lo <- loess(X1Po3.sum~year) mod <- glm(X1Po3.sum~year, poisson(link = "log"))
169	plot(year, X1Po3.sum, main = "1Po3", ylab = "Frequency", xlab = "Year") lines(year, predict(lo), col = "red")
170	lines(year, exp(predict(mod)), col = "blue")
171	text(1960, 6, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
172	text(1960, 5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
173	lo <- loess(X1Po4.sum~year) mod <- glm(X1Po4.sum~year, poisson(link = "log"))
174	plot(year, X1Po4.sum, main = "1Po4", ylab = "Frequency", xlab = "Year") lines(year, predict(lo), col = "red")
175	lines(year, exp(predict(mod)), col = "blue" text(1960, 5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
176	text(1960, 4, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
177	lo <- loess(X1Po5.sum~year) mod <- glm(X1Po5.sum~year, poisson(link = "log"))
178	plot(year, X1Po5.sum, main = "1Po5", ylab = "Frequency", xlab = "Year")
179	lines(year, predict(lo), col = "red")
180	lines(year, exp(predict(mod)), col = "blue")
181	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
182	text(1960, 6.5, paste("pvalue = ", round(summary(mod)\$coefficients[2], 3)))
183	lo <- loess(X1Po6.sum~year)
184	mod <- glm(X1Po6.sum~year, poisson(link = "log"))
185	plot(year, X1Po6.sum, main = "1Po6", ylab = "Frequency", xlab = "Year")
186	lines(year, predict(lo), col = "red")
187	lines(year, exp(predict(mod)), col = "blue")

(continued)

Line	Script
188	text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
189	text(1960, 8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
190	lo <- loess(X1Po7.sum~year)
191	mod <- glm(X1Po7.sum~year, poisson(link = "log"))
192	plot(year, X1Po7.sum, main = "1Po7", ylab = "Frequency", xlab = "Year")
193	lines(year, predict(lo), col = "red")
194	lines(year, exp(predict(mod)), col = "blue")
195	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
196	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
197	lo <- loess(X1Po8.sum~year)
198	mod <- glm(X1Po8.sum~year, poisson(link = "log"))
199	plot(year, X1Po8.sum, main = "1Po8", ylab = "Frequency", xlab = "Year")
200	lines(year, predict(lo), col = "red")
201	lines(year, exp(predict(mod)), col = "blue")
202	text(1960, 7, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
203	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
204	lo <- loess(X1Po9.sum~year)
205	mod <- glm(X1Po9.sum~year, poisson(link = "log"))
206	plot(year, X1Po9.sum, main = "1Po9", ylab = "Frequency", xlab = "Year")
207	lines(year, predict(lo), col = "red")
208	lines(year, exp(predict(mod)), col = "blue")
209	text(1960, 7, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
210	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
211	lo <- loess(X1Po10.sum~year)
212	mod <- glm(X1Po10.sum~year, poisson(link = "log"))
213	plot(year, X1Po10.sum, main = "1Po10", ylab = "Frequency", xlab = "Year")
214	lines(year, predict(lo), col = "red")
215	lines(year, exp(predict(mod)), col = "blue")
216	text(1960, 5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
217	text(1960, 4, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
218	lo <- loess(X1Fo1.sum~year)
219	mod <- glm(X1Fo1.sum~year, poisson(link = "log"))
220	plot(year, X1Fo1.sum, main = "1Fo1", ylab = "Frequency", xlab = "Year")
221	lines(year, predict(lo), col = "red")
222	lines(year, exp(predict(mod)), col = "blue")
223	text(1960, 7.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
224	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))) #for We
225	par(mfrow = c(2,3)) with (sumscan2, {lo <- loess(X1We1.sum~year)
226	mod <- glm(X1We1.sum~year, poisson(link = "log"))
227	plot(year, X1We1.sum, main = "1We1", ylab = "Frequency", xlab = "Year")
228	lines(year, predict(lo), col = "red")
229	lines(year, exp(predict(mod)), col = "blue")
230	text(1960, 2, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
231	text(1960, 1.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
232	#abline(lm(X1Po1.sum~year), col = "green")

(continued)

Line	Script
233	lo <- loess(X1We2.sum~year)
234	mod <- glm(X1We2.sum~year, poisson(link = "log"))
235	plot(year, X1We2.sum, main = "1We2", ylab = "Frequency", xlab = "Year")
236	lines(year, predict(lo), col = "red")
237	lines(year, exp(predict(mod)), col = "blue")
238	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
239	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
240	#abline(lm(X1Po1.sum~year), col = "green")
241	lo <- loess(X1We3.sum~year)
242	mod <- glm(X1We3.sum~year, poisson(link = "log"))
243	plot(year, X1We3.sum, main = "1We3", ylab = "Frequency", xlab = "Year")
244	lines(year, predict(lo), col = "red")
245	lines(year, exp(predict(mod)), col = "blue")
246	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
247	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
248	lo <- loess(X1We4.sum~year)
249	mod <- glm(X1We4.sum~year, poisson(link = "log"))
250	plot(year, X1We4.sum, main = "1We4", ylab = "Frequency", xlab = "Year")
251	lines(year, predict(lo), col = "red")
252	lines(year, exp(predict(mod)), col = "blue")
253	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
254	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
255	lo <- loess(X1We7.sum~year)
256	mod <- glm(X1We7.sum~year, poisson(link = "log"))
257	plot(year, X1We7.sum, main = "1We7", ylab = "Frequency", xlab = "Year")
258	lines(year, predict(lo), col = "red")
259	lines(year, exp(predict(mod)), col = "blue")
260	text(1960, 5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
261	text(1960, 4, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
262	lo <- loess(X1We8.sum~year)
263	mod <- glm(X1We8.sum~year, poisson(link = "log"))
264	plot(year, X1We8.sum, main = "1We8", ylab = "Frequency", xlab = "Year")
265	lines(year, predict(lo), col = "red")
266	lines(year, exp(predict(mod)), col = "blue")
267	text(1960, 15, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
268	text(1960, 12, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
269	#for En
270	par(mfrow = c(2,2))
271	with (sumscan2, {
272	lo <- loess(X1En1.sum~year)
273	mod <- glm(X1En1.sum~year, poisson(link = "log"))
274	plot(year, X1En1.sum, main = "1En1", ylab = "Frequency", xlab = "Year")
275	lines(year, predict(lo), col = "red")
276	lines(year, exp(predict(mod)), col = "blue")
277	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))

(continued)

Line	Script
278	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
279	#abline(lm(X1Po1.sum~year), col = "green")
280	lo <- loess(X1En2.sum~year)
281	mod <- glm(X1En2.sum~year, poisson(link = "log"))
282	plot(year, X1En2.sum, main = "1En2", ylab = "Frequency", xlab = "Year")
283	lines(year, predict(lo), col = "red")
284	lines(year, exp(predict(mod)), col = "blue")
285	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
286	text(1960, 7, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
287	#abline(lm(X1Po1.sum~year), col = "green")
288	lo <- loess(X1En3.sum~year)
289	mod <- glm(X1En3.sum~year, poisson(link = "log"))
290	plot(year, X1En3.sum, main = "1En3", ylab = "Frequency", xlab = "Year")
291	lines(year, predict(lo), col = "red")
292	lines(year, exp(predict(mod)), col = "blue")
293	text(1960, 5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
294	text(1960, 4, paste("pvalue = ", round(summary(mod)\$coefficients[2,3]))) #for T
295	par(mfrow = c(2,2))
296	with (sumscan2, {
297	lo <- loess(X1T1.sum~year)
298	mod <- glm(X1T1.sum~year, poisson(link = "log"))
299	plot(year, X1T1.sum, main = "1T1", ylab = "Frequency", xlab = "Year")
300	lines(year, predict(lo), col = "red")
301	lines(year, exp(predict(mod)), col = "blue")
302	text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
303	text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
304	#abline(lm(X1Po1.sum~year), col = "green")
305	lo <- loess(X1T2.sum~year)
306	mod <- glm(X1T2.sum~year, poisson(link = "log"))
307	plot(year, X1T2.sum, main = "1T2", ylab = "Frequency", xlab = "Year")
308	lines(year, predict(lo), col = "red")
309	lines(year, exp(predict(mod)), col = "blue")
310	text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
311	text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
312	#abline(lm(X1Po1.sum~year), col = "green")
313	lo <- loess(X1T3.sum~year)
314	mod <- glm(X1T3.sum~year, poisson(link = "log"))
315	plot(year, X1T3.sum, main = "1T3", ylab = "Frequency", xlab = "Year")
316	lines(year, predict(lo), col = "red")
317	lines(year, exp(predict(mod)), col = "blue")
318	text(1960, 4, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
319	text(1960, 3, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))#For Mi
320	par(mfrow = c(2,3))
321	with (sumscan2, {
322	lo <- loess(X1Mi1.sum~year)

(continued)

Line	Script
323	<code>mod <- glm(X1Mi1.sum~year, poisson(link = "log"))</code>
324	<code>plot(year, X1Mi1.sum, main = "1Mi1", ylab = "Frequency", xlab = "Year")</code>
325	<code>lines(year, predict(lo), col = "red")</code>
326	<code>lines(year, exp(predict(mod)), col = "blue")</code>
327	<code>text(1960, 6, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
328	<code>text(1960, 5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))</code>
329	<code>#abline(lm(X1Po1.sum~year), col = "green")</code>
330	<code>lo <- loess(X1Mi2.sum~year)</code>
331	<code>mod <- glm(X1Mi2.sum~year, poisson(link = "log"))</code>
332	<code>plot(year, X1Mi2.sum, main = "1Mi2", ylab = "Frequency", xlab = "Year")</code>
333	<code>lines(year, predict(lo), col = "red")</code>
334	<code>lines(year, exp(predict(mod)), col = "blue")</code>
335	<code>text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
336	<code>text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))</code>
337	<code>#abline(lm(X1Po1.sum~year), col = "green")</code>
338	<code>lo <- loess(X1Mi3.sum~year)</code>
339	<code>mod <- glm(X1Mi3.sum~year, poisson(link = "log"))</code>
340	<code>plot(year, X1Mi3.sum, main = "1Mi3", ylab = "Frequency", xlab = "Year")</code>
341	<code>lines(year, predict(lo), col = "red")</code>
342	<code>lines(year, exp(predict(mod)), col = "blue")</code>
343	<code>text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
344	<code>text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))</code>
345	<code>lo <- loess(X1Mi4.sum~year)</code>
346	<code>mod <- glm(X1Mi4.sum~year, poisson(link = "log"))</code>
347	<code>plot(year, X1Mi4.sum, main = "1Mi4", ylab = "Frequency", xlab = "Year")</code>
348	<code>lines(year, predict(lo), col = "red")</code>
349	<code>lines(year, exp(predict(mod)), col = "blue")</code>
350	<code>text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
351	<code>text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))</code>
352	<code>lo <- loess(X1Mi5.sum~year)</code>
353	<code>mod <- glm(X1Mi5.sum~year, poisson(link = "log"))</code>
354	<code>plot(year, X1Mi5.sum, main = "1Mi5", ylab = "Frequency", xlab = "Year")</code>
355	<code>lines(year, predict(lo), col = "red")</code>
356	<code>lines(year, exp(predict(mod)), col = "blue")</code>
357	<code>text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
358	<code>text(1960, 7, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))} }#order 2 #for 5 par(mfrow =c(4,3),</code>
359	<code>mar = c(4, 3, 3, 2)) with (sumscan2, {lo <- loess(X2S1.sum~year)mod <- glm(X2S1.sum~year, poisson(link = "log"))</code>
360	<code>plot(year, X2S1.sum, main = "2S1", ylab = "Frequency", xlab = "Year")</code>
361	<code>lines(year, predict(lo), col = "red")</code>
362	<code>lines(year, exp(predict(mod)), col = "blue")</code>
363	<code>text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
364	<code>text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
365	<code>lo <- loess(X2S2.sum~year)</code>
366	<code>mod <- glm(X2S2.sum~year, poisson(link = "log"))</code>
367	<code>plot(year, X2S2.sum, main = "2S2", ylab = "Frequency", xlab = "Year")</code>

(continued)

Line	Script
368	lines(year, predict(lo), col = "red")
369	lines(year, exp(predict(mod)), col = "blue")
370	text(1960, 2, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
371	text(1960, 1.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
372	#abline(lm(X1Po1.sum~year), col = "green")
373	lo <- loess(X2S3.sum~year)
374	mod <- glm(X2S3.sum~year, poisson(link = "log"))
375	plot(year, X2S3.sum, main = "2S3", ylab = "Frequency", xlab = "Year")
376	lines(year, predict(lo), col = "red")
377	lines(year, exp(predict(mod)), col = "blue")
378	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
379	text(1960, 7, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
380	lo <- loess(X2S4.sum~year)
381	mod <- glm(X2S4.sum~year, poisson(link = "log"))
382	plot(year, X2S4.sum, main = "2S4", ylab = "Frequency", xlab = "Year")
383	lines(year, predict(lo), col = "red")
384	lines(year, exp(predict(mod)), col = "blue")
385	text(1960, 11, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
386	text(1960, 9, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
387	lo <- loess(X2S5.sum~year)
388	mod <- glm(X2S5.sum~year, poisson(link = "log"))
389	plot(year, X2S5.sum, main = "2S5", ylab = "Frequency", xlab = "Year")
390	lines(year, predict(lo), col = "red")
391	lines(year, exp(predict(mod)), col = "blue")
392	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
393	text(1960, 7, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
394	lo <- loess(X2S6.sum~year)
395	mod <- glm(X2S6.sum~year, poisson(link = "log"))
396	plot(year, X2S6.sum, main = "2S6", ylab = "Frequency", xlab = "Year")
397	lines(year, predict(lo), col = "red")
398	lines(year, exp(predict(mod)), col = "blue")
399	text(1960, 13, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
400	text(1960, 11, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
401	lo <- loess(X2S7.sum~year)
402	mod <- glm(X2S7.sum~year, poisson(link = "log"))
403	plot(year, X2S7.sum, main = "2S7", ylab = "Frequency", xlab = "Year")
404	lines(year, predict(lo), col = "red")
405	lines(year, exp(predict(mod)), col = "blue")
406	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
407	text(1960, 7, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
408	lo <- loess(X2S8.sum~year)
409	mod <- glm(X2S8.sum~year, poisson(link = "log"))
410	plot(year, X2S8.sum, main = "2S8", ylab = "Frequency", xlab = "Year")
411	lines(year, predict(lo), col = "red")
412	lines(year, exp(predict(mod)), col = "blue")

(continued)

Line	Script
457	text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
458	text(1960, 9, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
459	lo <- loess(X2P5.sum~year)
460	mod <- glm(X2P5.sum~year, poisson(link = "log"))
461	plot(year, X2P5.sum, main = "2P5", ylab = "Frequency", xlab = "Year")
462	lines(year, predict(lo), col = "red")
463	lines(year, exp(predict(mod)), col = "blue")
464	text(1960, 20, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
465	text(1960, 18, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
466	lo <- loess(X2P6.sum~year)
467	mod <- glm(X2P6.sum~year, poisson(link = "log"))
468	plot(year, X2P6.sum, main = "2P6", ylab = "Frequency", xlab = "Year")
469	lines(year, predict(lo), col = "red")
470	lines(year, exp(predict(mod)), col = "blue")
471	text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
472	text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
473	lo <- loess(X2P7.sum~year)
474	mod <- glm(X2P7.sum~year, poisson(link = "log"))
475	plot(year, X2P7.sum, main = "2P7", ylab = "Frequency", xlab = "Year")
476	lines(year, predict(lo), col = "red")
477	lines(year, exp(predict(mod)), col = "blue")
478	text(1960, 2, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
479	text(1960, 1.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
480	lo <- loess(X2P8.sum~year)
481	mod <- glm(X2P8.sum~year, poisson(link = "log"))
482	plot(year, X2P8.sum, main = "2P8", ylab = "Frequency", xlab = "Year")
483	lines(year, predict(lo), col = "red")
484	lines(year, exp(predict(mod)), col = "blue")
485	text(1960, 13, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
486	text(1960, 11, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
487	lo <- loess(X2P9.sum~year)
488	mod <- glm(X2P9.sum~year, poisson(link = "log"))
489	plot(year, X2P9.sum, main = "2P9", ylab = "Frequency", xlab = "Year")
490	lines(year, predict(lo), col = "red")
491	lines(year, exp(predict(mod)), col = "blue")
492	text(1960, 5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
493	text(1960, 4, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
494	lo <- loess(X2P10.sum~year)
495	mod <- glm(X2P10.sum~year, poisson(link = "log"))
496	plot(year, X2P10.sum, main = "2P10", ylab = "Frequency", xlab = "Year")
497	lines(year, predict(lo), col = "red")
498	lines(year, exp(predict(mod)), col = "blue")
499	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
500	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
501	lo <- loess(X2P11.sum~year)

(continued)

Line	Script
502	<code>mod <- glm(X2P11.sum~year, poisson(link = "log"))</code>
503	<code>plot(year, X2P11.sum, main = "2P11", ylab = "Frequency", xlab = "Year")</code>
504	<code>lines(year, predict(lo), col = "red")</code>
505	<code>lines(year, exp(predict(mod)), col = "blue")</code>
506	<code>text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
507	<code>text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
508	<code>lo <- loess(X2P12.sum~year)</code>
509	<code>mod <- glm(X2P12.sum~year, poisson(link = "log"))</code>
510	<code>plot(year, X2P12.sum, main = "2P12", ylab = "Frequency", xlab = "Year")</code>
511	<code>lines(year, predict(lo), col = "red")</code>
512	<code>lines(year, exp(predict(mod)), col = "blue")</code>
513	<code>text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
514	<code>text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
515	<code>lo <- loess(X2P14.sum~year)</code>
516	<code>mod <- glm(X2P14.sum~year, poisson(link = "log"))</code>
517	<code>plot(year, X2P14.sum, main = "2P14", ylab = "Frequency", xlab = "Year")</code>
518	<code>lines(year, predict(lo), col = "red")</code>
519	<code>lines(year, exp(predict(mod)), col = "blue")</code>
520	<code>text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
521	<code>text(1960, 8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
522	<code>lo <- loess(X2P15.sum~year)</code>
523	<code>mod <- glm(X2P15.sum~year, poisson(link = "log"))</code>
524	<code>plot(year, X2P15.sum, main = "2P15", ylab = "Frequency", xlab = "Year")</code>
525	<code>lines(year, predict(lo), col = "red")</code>
526	<code>lines(year, exp(predict(mod)), col = "blue")</code>
527	<code>text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
528	<code>text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
529	<code>lo <- loess(X2P18.sum~year)</code>
530	<code>mod <- glm(X2P18.sum~year, poisson(link = "log"))</code>
531	<code>plot(year, X2P18.sum, main = "2P18", ylab = "Frequency", xlab = "Year")</code>
532	<code>lines(year, predict(lo), col = "red")</code>
533	<code>lines(year, exp(predict(mod)), col = "blue")</code>
534	<code>text(1960, 2, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
535	<code>text(1960, 1.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
536	<code>lo <- loess(X2P19.sum~year)</code>
537	<code>mod <- glm(X2P19.sum~year, poisson(link = "log"))</code>
538	<code>plot(year, X2P19.sum, main = "2P19", ylab = "Frequency", xlab = "Year")</code>
539	<code>lines(year, predict(lo), col = "red")</code>
540	<code>lines(year, exp(predict(mod)), col = "blue")</code>
541	<code>text(1960, 15, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
542	<code>text(1960, 12, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))#for E</code>
543	<code>par(mfrow = c(3,3))</code>
544	<code>with(sumscan2, {</code>
545	<code>lo <- loess(X2E_1.sum~year)</code>
546	<code>mod <- glm(X2E_1.sum~year, poisson(link = "log"))</code>

(continued)

Line	Script
547	plot(year, X2E_1.sum, main = "2E1", ylab = "Frequency", xlab = "Year")
548	lines(year, predict(lo), col = "red")
549	lines(year, exp(predict(mod)), col = "blue")
550	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
551	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
552	#abline(lm(X1Po1.sum~year), col = "green")
553	lo <- loess(X2E_4.sum~year)
554	mod <- glm(X2E_4.sum~year, poisson(link = "log"))
555	plot(year, X2E_4.sum, main = "2E4", ylab = "Frequency", xlab = "Year")
556	lines(year, predict(lo), col = "red")
557	lines(year, exp(predict(mod)), col = "blue")
558	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
559	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
560	#abline(lm(X1Po1.sum~year), col = "green")
561	lo <- loess(X2E_7.sum~year)
562	mod <- glm(X2E_7.sum~year, poisson(link = "log"))
563	plot(year, X2E_7.sum, main = "2E7", ylab = "Frequency", xlab = "Year")
564	lines(year, predict(lo), col = "red")
565	lines(year, exp(predict(mod)), col = "blue")
566	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
567	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
568	lo <- loess(X2E_8.sum~year)
569	mod <- glm(X2E_8.sum~year, poisson(link = "log"))
570	plot(year, X2E_8.sum, main = "2E8", ylab = "Frequency", xlab = "Year")
571	lines(year, predict(lo), col = "red")
572	lines(year, exp(predict(mod)), col = "blue")
573	text(1960, 4, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
574	text(1960, 3, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
575	lo <- loess(X2E_9.sum~year)
576	mod <- glm(X2E_9.sum~year, poisson(link = "log"))
577	plot(year, X2E_9.sum, main = "2E9", ylab = "Frequency", xlab = "Year")
578	lines(year, predict(lo), col = "red")
579	lines(year, exp(predict(mod)), col = "blue")
580	text(1960, 3, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
581	text(1960, 2.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
582	lo <- loess(X2E_10.sum~year)
583	mod <- glm(X2E_10.sum~year, poisson(link = "log"))
584	plot(year, X2E_10.sum, main = "2E10", ylab = "Frequency", xlab = "Year")
585	lines(year, predict(lo), col = "red")
586	lines(year, exp(predict(mod)), col = "blue")
587	text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
588	text(1960, 9, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
589	lo <- loess(X2E_11.sum~year)
590	mod <- glm(X2E_11.sum~year, poisson(link = "log"))
591	plot(year, X2E_11.sum, main = "2E11", ylab = "Frequency", xlab = "Year")

(continued)

Line	Script
592	lines(year, predict(lo), col = "red")
593	lines(year, exp(predict(mod)), col = "blue")
594	text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
595	text(1960, 9, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
596	lo <- loess(X2E_14.sum~year)
597	mod <- glm(X2E_14.sum~year, poisson(link = "log"))
598	plot(year, X2E_14.sum, main = "2E14", ylab = "Frequency", xlab = "Year")
599	lines(year, predict(lo), col = "red")
600	lines(year, exp(predict(mod)), col = "blue")
601	text(1960, 1, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
602	text(1960, .8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3)))
603	lo <- loess(X2E_16.sum~year)
604	mod <- glm(X2E_16.sum~year, poisson(link = "log"))
605	plot(year, X2E_16.sum, main = "2E16", ylab = "Frequency", xlab = "Year")
606	lines(year, predict(lo), col = "red")
607	lines(year, exp(predict(mod)), col = "blue")
608	text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
609	text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4],3))) }
610	#####
611	# Plot for order 3 #for S
612	par(mfrow = c(4,3), mar = c(4, 3, 3, 2))
613	with (sumscan2, {lo <- loess(X3S1.sum~year)
614	mod <- glm(X3S1.sum~year, poisson(link = "log"))
615	plot(year, X3S1.sum, main = "3S1", ylab = "Frequency", xlab = "Year")
616	lines(year, predict(lo), col = "red")
617	lines(year, exp(predict(mod)), col = "blue")
618	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
619	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
620	#abline(lm(X1Po1.sum~year), col = "green")
621	lo <- loess(X3S2.sum~year)
622	mod <- glm(X3S2.sum~year, poisson(link = "log"))
623	plot(year, X3S2.sum, main = "3S2", ylab = "Frequency", xlab = "Year")
624	lines(year, predict(lo), col = "red")
625	lines(year, exp(predict(mod)), col = "blue")
626	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
627	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
628	lo <- loess(X3S3.sum~year)
629	mod <- glm(X3S3.sum~year, poisson(link = "log"))
630	plot(year, X3S3.sum, main = "3S3", ylab = "Frequency", xlab = "Year")
631	lines(year, predict(lo), col = "red")
632	lines(year, exp(predict(mod)), col = "blue")
633	text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
634	text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
635	lo <- loess(X3S4.sum~year)
636	mod <- glm(X3S4.sum~year, poisson(link = "log"))

(continued)

Line	Script
637	plot(year, X3S4.sum, main = "3S4", ylab = "Frequency", xlab = "Year")
638	lines(year, predict(lo), col = "red")
639	lines(year, exp(predict(mod)), col = "blue")
640	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
641	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
642	lo <- loess(X3S5.sum~year)
643	mod <- glm(X3S5.sum~year, poisson(link = "log"))
644	plot(year, X3S5.sum, main = "3S5", ylab = "Frequency", xlab = "Year")
645	lines(year, predict(lo), col = "red")
646	lines(year, exp(predict(mod)), col = "blue")
647	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
648	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
649	lo <- loess(X3S6.sum~year)
650	mod <- glm(X3S6.sum~year, poisson(link = "log"))
651	plot(year, X3S6.sum, main = "3S6", ylab = "Frequency", xlab = "Year")
652	lines(year, predict(lo), col = "red")
653	lines(year, exp(predict(mod)), col = "blue")
654	text(1960, 15, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
655	text(1960, 12, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
656	lo <- loess(X3S7.sum~year)
657	mod <- glm(X3S7.sum~year, poisson(link = "log"))
658	plot(year, X3S7.sum, main = "3S7", ylab = "Frequency", xlab = "Year")
659	lines(year, predict(lo), col = "red")
660	lines(year, exp(predict(mod)), col = "blue")
661	text(1960, 7, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
662	text(1960, 5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
663	lo <- loess(X3S8.sum~year)
664	mod <- glm(X3S8.sum~year, poisson(link = "log"))
665	plot(year, X3S8.sum, main = "3S8", ylab = "Frequency", xlab = "Year")
666	lines(year, predict(lo), col = "red")
667	lines(year, exp(predict(mod)), col = "blue")
668	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
669	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
670	lo <- loess(X3S9.sum~year)
671	mod <- glm(X3S9.sum~year, poisson(link = "log"))
672	plot(year, X3S9.sum, main = "3S9", ylab = "Frequency", xlab = "Year")
673	lines(year, predict(lo), col = "red")
674	lines(year, exp(predict(mod)), col = "blue")
675	text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
676	text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
677	lo <- loess(X3S10.sum~year)
678	mod <- glm(X3S10.sum~year, poisson(link = "log"))
679	plot(year, X3S10.sum, main = "3S10", ylab = "Frequency", xlab = "Year")
680	lines(year, predict(lo), col = "red")
681	lines(year, exp(predict(mod)), col = "blue")

(continued)

Line	Script
682	text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
683	text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))) dev.off()
684	par(mfrow = c(4,4), mar = c(4, 3, 3, 2)) with (sumscan2, {lo <- loess(X3P1.sum~year)
685	mod <- glm(X3P1.sum~year, poisson(link = "log"))
686	plot(year, X3P1.sum, main = "3P1", ylab = "Frequency", xlab = "Year")
687	lines(year, predict(lo), col = "red")
688	lines(year, exp(predict(mod)), col = "blue")
689	text(1940, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
690	text(1940, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))
691	#abline(lm(X1Po1.sum~year), col = "green")
692	lo <- loess(X3P2.sum~year)
693	mod <- glm(X3P2.sum~year, poisson(link = "log"))
694	plot(year, X3P2.sum, main = "3P2", ylab = "Frequency", xlab = "Year")
695	lines(year, predict(lo), col = "red")
696	lines(year, exp(predict(mod)), col = "blue")
697	text(1940, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
698	text(1940, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))
699	lo <- loess(X3P4.sum~year)
700	mod <- glm(X3P4.sum~year, poisson(link = "log"))
701	plot(year, X3P4.sum, main = "3P4", ylab = "Frequency", xlab = "Year")
702	lines(year, predict(lo), col = "red")
703	lines(year, exp(predict(mod)), col = "blue")
704	text(1960, 12, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
705	text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))
706	lo <- loess(X3P5.sum~year)
707	mod <- glm(X3P5.sum~year, poisson(link = "log"))
708	plot(year, X3P5.sum, main = "3P5", ylab = "Frequency", xlab = "Year")
709	lines(year, predict(lo), col = "red")
710	lines(year, exp(predict(mod)), col = "blue")
711	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
712	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))
713	lo <- loess(X3P6.sum~year)
714	mod <- glm(X3P6.sum~year, poisson(link = "log"))
715	plot(year, X3P6.sum, main = "3P6", ylab = "Frequency", xlab = "Year")
716	lines(year, predict(lo), col = "red")
717	lines(year, exp(predict(mod)), col = "blue")
718	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
719	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))
720	lo <- loess(X3P7.sum~year)
721	mod <- glm(X3P7.sum~year, poisson(link = "log"))
722	plot(year, X3P7.sum, main = "3P7", ylab = "Frequency", xlab = "Year")
723	lines(year, predict(lo), col = "red")
724	lines(year, exp(predict(mod)), col = "blue")
725	text(1960, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
726	text(1960, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))

(continued)

Line	Script
727	<code>lo <- loess(X3P8.sum~year)</code>
728	<code>mod <- glm(X3P8.sum~year, poisson(link = "log"))</code>
729	<code>plot(year, X3P8.sum, main = "3P8", ylab = "Frequency", xlab = "Year")</code>
730	<code>lines(year, predict(lo), col = "red")</code>
731	<code>lines(year, exp(predict(mod)), col = "blue")</code>
732	<code>text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
733	<code>text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
734	<code>lo <- loess(X3P9.sum~year)</code>
735	<code>mod <- glm(X3P9.sum~year, poisson(link = "log"))</code>
736	<code>plot(year, X3P9.sum, main = "3P9", ylab = "Frequency", xlab = "Year")</code>
737	<code>lines(year, predict(lo), col = "red")</code>
738	<code>lines(year, exp(predict(mod)), col = "blue")</code>
739	<code>text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
740	<code>text(1960, 8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
741	<code>lo <- loess(X3P10.sum~year)</code>
742	<code>mod <- glm(X3P10.sum~year, poisson(link = "log"))</code>
743	<code>plot(year, X3P10.sum, main = "3P10", ylab = "Frequency", xlab = "Year")</code>
744	<code>lines(year, predict(lo), col = "red")</code>
745	<code>lines(year, exp(predict(mod)), col = "blue")</code>
746	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
747	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
748	<code>lo <- loess(X3P11.sum~year)</code>
749	<code>mod <- glm(X3P11.sum~year, poisson(link = "log"))</code>
750	<code>plot(year, X3P11.sum, main = "3P11", ylab = "Frequency", xlab = "Year")</code>
751	<code>lines(year, predict(lo), col = "red")</code>
752	<code>lines(year, exp(predict(mod)), col = "blue")</code>
753	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
754	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
755	<code>lo <- loess(X3P13.sum~year)</code>
756	<code>mod <- glm(X3P13.sum~year, poisson(link = "log"))</code>
757	<code>plot(year, X3P13.sum, main = "3P13", ylab = "Frequency", xlab = "Year")</code>
758	<code>lines(year, predict(lo), col = "red")</code>
759	<code>lines(year, exp(predict(mod)), col = "blue")</code>
760	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
761	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
762	<code>lo <- loess(X3P14.sum~year)</code>
763	<code>mod <- glm(X3P14.sum~year, poisson(link = "log"))</code>
764	<code>plot(year, X3P14.sum, main = "3P14", ylab = "Frequency", xlab = "Year")</code>
765	<code>lines(year, predict(lo), col = "red")</code>
766	<code>lines(year, exp(predict(mod)), col = "blue")</code>
767	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
768	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
769	<code>lo <- loess(X3P15.sum~year)</code>
770	<code>mod <- glm(X3P15.sum~year, poisson(link = "log"))</code>
771	<code>plot(year, X3P15.sum, main = "3P15", ylab = "Frequency", xlab = "Year")</code>

(continued)

Line	Script
772	lines(year, predict(lo), col = "red")
773	lines(year, exp(predict(mod)), col = "blue")
774	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
775	text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
776	lo <- loess(X3P16.sum~year)
777	mod <- glm(X3P16.sum~year, poisson(link = "log"))
778	plot(year, X3P16.sum, main = "3P16", ylab = "Frequency", xlab = "Year")
779	lines(year, predict(lo), col = "red")
780	lines(year, exp(predict(mod)), col = "blue")
781	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
782	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
783	lo <- loess(X3P18.sum~year)
784	mod <- glm(X3P18.sum~year, poisson(link = "log"))
785	plot(year, X3P18.sum, main = "3P18", ylab = "Frequency", xlab = "Year")
786	lines(year, predict(lo), col = "red")
787	lines(year, exp(predict(mod)), col = "blue")
788	text(1960, 2, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
789	text(1960, 1.5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
790	lo <- loess(X3P19.sum~year)
791	mod <- glm(X3P19.sum~year, poisson(link = "log"))
792	plot(year, X3P19.sum, main = "3P19", ylab = "Frequency", xlab = "Year")
793	lines(year, predict(lo), col = "red")
794	lines(year, exp(predict(mod)), col = "blue")
795	text(1940, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
796	text(1940, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))))dev.off()#For E
797	par(mfrow = c(4,4), mar = c(4, 3, 3, 2))with (sumscan2, {lo <- loess(X3E_1.sum~year)
798	mod <- glm(X3E_1.sum~year, poisson(link = "log"))
799	plot(year, X3E_1.sum, main = "3E_1", ylab = "Frequency", xlab = "Year")
800	lines(year, predict(lo), col = "red")
801	lines(year, exp(predict(mod)), col = "blue")
802	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
803	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
804	#abline(lm(X1Po1.sum~year), col = "green")
805	lo <- loess(X3E_2.sum~year)
806	mod <- glm(X3E_2.sum~year, poisson(link = "log"))
807	plot(year, X3E_2.sum, main = "3E_2", ylab = "Frequency", xlab = "Year")
808	lines(year, predict(lo), col = "red")
809	lines(year, exp(predict(mod)), col = "blue")
810	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
811	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
812	lo <- loess(X3E_3.sum~year)
813	mod <- glm(X3E_3.sum~year, poisson(link = "log"))
814	plot(year, X3E_3.sum, main = "3E_3", ylab = "Frequency", xlab = "Year")
815	lines(year, predict(lo), col = "red")
816	lines(year, exp(predict(mod)), col = "blue")

(continued)

Line	Script
817	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
818	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
819	lo <- loess(X3E_4.sum~year)
820	mod <- glm(X3E_4.sum~year, poisson(link = "log"))
821	plot(year, X3E_4.sum, main = "3E_4", ylab = "Frequency", xlab = "Year")
822	lines(year, predict(lo), col = "red")
823	lines(year, exp(predict(mod)), col = "blue")
824	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
825	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
826	lo <- loess(X3E_5.sum~year)
827	mod <- glm(X3E_5.sum~year, poisson(link = "log"))
828	plot(year, X3E_5.sum, main = "3E_5", ylab = "Frequency", xlab = "Year")
829	lines(year, predict(lo), col = "red")
830	lines(year, exp(predict(mod)), col = "blue")
831	text(1960, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
832	text(1960, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
833	lo <- loess(X3E_7.sum~year)
834	mod <- glm(X3E_7.sum~year, poisson(link = "log"))
835	plot(year, X3E_7.sum, main = "3E_7", ylab = "Frequency", xlab = "Year")
836	lines(year, predict(lo), col = "red")
837	lines(year, exp(predict(mod)), col = "blue")
838	text(1960, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
839	text(1960, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
840	lo <- loess(X3E_8.sum~year)
841	mod <- glm(X3E_8.sum~year, poisson(link = "log"))
842	plot(year, X3E_8.sum, main = "3E_8", ylab = "Frequency", xlab = "Year")
843	lines(year, predict(lo), col = "red")
844	lines(year, exp(predict(mod)), col = "blue")
845	text(1960, 8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
846	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
847	lo <- loess(X3E_9.sum~year)
848	mod <- glm(X3E_9.sum~year, poisson(link = "log"))
849	plot(year, X3E_9.sum, main = "3E_9", ylab = "Frequency", xlab = "Year")
850	lines(year, predict(lo), col = "red")
851	lines(year, exp(predict(mod)), col = "blue")
852	text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
853	text(1960, 8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
854	lo <- loess(X3E_10.sum~year)
855	mod <- glm(X3E_10.sum~year, poisson(link = "log"))
856	plot(year, X3E_10.sum, main = "3E_10", ylab = "Frequency", xlab = "Year")
857	lines(year, predict(lo), col = "red")
858	lines(year, exp(predict(mod)), col = "blue")
859	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
860	text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
861	lo <- loess(X3E_11.sum~year)

(continued)

Line	Script
862	<code>mod <- glm(X3E_11.sum~year, poisson(link = "log"))</code>
863	<code>plot(year, X3E_11.sum, main = "3E_11", ylab = "Frequency", xlab = "Year")</code>
864	<code>lines(year, predict(lo), col = "red")</code>
865	<code>lines(year, exp(predict(mod)), col = "blue")</code>
866	<code>text(1960, 10, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
867	<code>text(1960, 8, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
868	<code>lo <- loess(X3E_12.sum~year)</code>
869	<code>mod <- glm(X3E_12.sum~year, poisson(link = "log"))</code>
870	<code>plot(year, X3E_12.sum, main = "3E_12", ylab = "Frequency", xlab = "Year")</code>
871	<code>lines(year, predict(lo), col = "red")</code>
872	<code>lines(year, exp(predict(mod)), col = "blue")</code>
873	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
874	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
875	<code>lo <- loess(X3E_13.sum~year)</code>
876	<code>mod <- glm(X3E_13.sum~year, poisson(link = "log"))</code>
877	<code>plot(year, X3E_13.sum, main = "3E_13", ylab = "Frequency", xlab = "Year")</code>
878	<code>lines(year, predict(lo), col = "red")</code>
879	<code>lines(year, exp(predict(mod)), col = "blue")</code>
880	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
881	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
882	<code>lo <- loess(X3E_14.sum~year)</code>
883	<code>mod <- glm(X3E_14.sum~year, poisson(link = "log"))</code>
884	<code>plot(year, X3E_14.sum, main = "3E_14", ylab = "Frequency", xlab = "Year")</code>
885	<code>lines(year, predict(lo), col = "red")</code>
886	<code>lines(year, exp(predict(mod)), col = "blue")</code>
887	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
888	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
889	<code>lo <- loess(X3E_15.sum~year)</code>
890	<code>mod <- glm(X3E_15.sum~year, poisson(link = "log"))</code>
891	<code>plot(year, X3E_15.sum, main = "3E_15", ylab = "Frequency", xlab = "Year")</code>
892	<code>lines(year, predict(lo), col = "red")</code>
893	<code>lines(year, exp(predict(mod)), col = "blue")</code>
894	<code>text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
895	<code>text(1960, .6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
896	<code>lo <- loess(X3E_16.sum~year)</code>
897	<code>mod <- glm(X3E_16.sum~year, poisson(link = "log"))</code>
898	<code>plot(year, X3E_16.sum, main = "3E_16", ylab = "Frequency", xlab = "Year")</code>
899	<code>lines(year, predict(lo), col = "red")</code>
900	<code>lines(year, exp(predict(mod)), col = "blue")</code>
901	<code>text(1960, 15, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
902	<code>text(1960, 10, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
903	<code>lo <- loess(X3E_17.sum~year)</code>
904	<code>mod <- glm(X3E_17.sum~year, poisson(link = "log"))</code>
905	<code>plot(year, X3E_17.sum, main = "3E_17", ylab = "Frequency", xlab = "Year")</code>
906	<code>lines(year, predict(lo), col = "red")</code>

(continued)

Line	Script
907	lines(year, exp(predict(mod)), col = "blue")
908	text(1960, .8, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
909	text(1960, .5, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3))) dev.off()
910	# "X3I1.sum" "X3I2.sum" "X3I3.sum"
911	# [133] "X3T1.sum" "X3T2.sum" "X3T3.sum"
912	par(mfrow = c(3,2))
913	with(sumsca2, {lo <- loess(X3I1.sum~year)
914	mod <- glm(X3I1.sum~year, poisson(link = "log"))
915	plot(year, X3I1.sum, main = "3I1", ylab = "Frequency", xlab = "Year")
916	lines(year, predict(lo), col = "red")
917	lines(year, exp(predict(mod)), col = "blue")
918	text(1960, 7, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
919	text(1960, 6, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
920	#abline(lm(X1Po1.sum~year), col = "green")
921	lo <- loess(X3T1.sum~year)
922	mod <- glm(X3T1.sum~year, poisson(link = "log"))
923	plot(year, X3T1.sum, main = "3T1", ylab = "Frequency", xlab = "Year")
924	lines(year, predict(lo), col = "red")
925	lines(year, exp(predict(mod)), col = "blue")
926	text(1960, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
927	text(1960, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
928	#abline(lm(X1Po1.sum~year), col = "green")
929	lo <- loess(X3I2.sum~year)
930	mod <- glm(X3I2.sum~year, poisson(link = "log"))
931	plot(year, X3I2.sum, main = "3I2", ylab = "Frequency", xlab = "Year")
932	lines(year, predict(lo), col = "red")
933	lines(year, exp(predict(mod)), col = "blue")
934	text(1940, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
935	text(1940, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
936	#abline(lm(X1Po1.sum~year), col = "green")
937	lo <- loess(X3T2.sum~year)
938	mod <- glm(X3T2.sum~year, poisson(link = "log"))
939	plot(year, X3T2.sum, main = "3T2", ylab = "Frequency", xlab = "Year")
940	lines(year, predict(lo), col = "red")
941	lines(year, exp(predict(mod)), col = "blue")
942	text(1960, 2.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
943	text(1960, 2, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))
944	#abline(lm(X1Po1.sum~year), col = "green")
945	lo <- loess(X3I3.sum~year)
946	mod <- glm(X3I3.sum~year, poisson(link = "log"))
947	plot(year, X3I3.sum, main = "3I3", ylab = "Frequency", xlab = "Year")
948	lines(year, predict(lo), col = "red")
949	lines(year, exp(predict(mod)), col = "blue")
950	text(1960, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))
951	text(1960, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))

(continued)

Line	Script
952	<code>#abline(lm(X1Po1.sum~year), col = "green")</code>
953	<code>lo <- loess(X3T3.sum~year)</code>
954	<code>mod <- glm(X3T3.sum~year, poisson(link = "log"))</code>
955	<code>plot(year, X3T3.sum, main = "3T3", ylab = "Frequency", xlab = "Year")</code>
956	<code>lines(year, predict(lo), col = "red")</code>
957	<code>lines(year, exp(predict(mod)), col = "blue")</code>
958	<code>text(1940, 1.5, paste("IR = ", (round(exp(mod\$coefficients)[2], 3))))</code>
959	<code>text(1940, 1, paste("pvalue = ", round(summary(mod)\$coefficients[2,4], 3)))</code>
960	<code>#abline(lm(X1Po1.sum~year), col = "green")) } dev.off()</code>
961	<code>#Getting summary statistics for scan 1 and 2</code>
962	<code># function for required summary statistics</code>
963	<code>sumstat <- function(x){x <- na.omit(x)nobs <- length(x) s <- sqrt(var(x))</code>
964	<code>error <- qnorm(0.975)*s/sqrt(nobs)lower <- mean(x) – error upper <- mean(x) + error</code>
965	<code>sstat <- t(t(as.vector(summary(x)))[1:6]))</code>
966	<code>lowerpoi <- exp(confint(glm(x~1, poisson())))[1]</code>
967	<code>upperpoi <- exp(confint(glm(x~1, poisson())))[2]</code>
968	<code>rbind(sstat, nobs, error, lower, upper, lowerpoi, upperpoi)} # Scan 1</code>
969	<code>scan10 <- scan1[-which(names(scan1) %in% c("X3E_6", "X3P17", "X1Fo2", "X1We5",</code>
970	<code>"X1We6", "X2P13", "X2P16", "X2P17", "X2E_2", "X2E_3", "X2E_5", "X2E_6", "X2E_12", "X2E_13", "X2E_15", "X3P3",</code>
971	<code>"X3P12"))] #these columns are excluded because of #all zero observation lscan1 <- as.list(scan10[7:136])</code>
972	<code>sumresult1 <- round(as.data.frame(lapply(lscan1, sumstat)), 3)</code>
973	<code>row.names(sumresult1) <- c("Min", "Q1", "Median", "Mean", "Q3", "Max", "n", "M_error", "Lower", "Upper",</code>
974	<code>LowerPoi, observation lscan2 <- as.list(scan20[7:136]) sumresult2 <- round(as.data.frame(lapply(lscan2, sumstat)), 3)</code>
975	<code>C:/Onedrive/upwork/patrick/leadership/sumresult_scan1.csv) #Scan2 #Scan 1 scan20 <- scan2 #all zero</code>
976	<code>"UpperPoi") names(sumresult1) <- names(lscan1) write.csv(sumresult1,</code>
977	<code>row.names(sumresult2) <- c("Min", "Q1", "Median", "Mean", "Q3", "Max", "n", "M_error", "Lower", "Upper",</code>
978	<code>C:/Onedrive/upwork/patrick/leadership/sumresult_scan2.csv)</code>
979	<code>LowerPoi, "UpperPoi")names(sumresult2) <- names(lscan2) write.csv(sumresult2,</code>
980	<code>#Correlation analysis cor <- cor(scan20[,7:136]) cor[lower.tri(cor, diag=F)] <- ""write.csv(cor, "correlation.csv")</code>
981	<code>#Graphical presentation of correlation cor_mat0<- cor(scan20[,7:136]) diag(cor_mat0)<-0 for (i in 1:10)</code>
982	<code>{for (j in 1:10){ cor_mat0[i,j]<-0}} for (i in 12:17){for (j in 12:17){cor_mat0[i,j]<-0}}</code>
983	<code>for (i in 18:20){for (j in 18:20){cor_mat0[i,j]<-0}}</code>
984	<code>for (i in 21:23){for (j in 21:23){cor_mat0[i,j]<-0}}</code>
985	<code>for (i in 24:28){for (j in 24:28){cor_mat0[i,j]<-0}}</code>
986	<code>for (i in 29:38){for (j in 29:38){cor_mat0[i,j]<-0}}</code>
987	<code>for (i in 39:54){for (j in 39:54){cor_mat0[i,j]<-0}}</code>
988	<code>for (i in 55:64){for (j in 55:64){cor_mat0[i,j]<-0}}</code>
989	<code>for (i in 65:70){for (j in 65:70){cor_mat0[i,j]<-0}}</code>
990	<code>for (i in 71:73){for (j in 71:73){cor_mat0[i,j]<-0}}</code>
991	<code>for (i in 74:76){for (j in 74:76){cor_mat0[i,j]<-0}}</code>
992	<code>for (i in 77:86){for (j in 77:86){cor_mat0[i,j]<-0}}</code>
993	<code>for (i in 87:102){for (j in 87:102){cor_mat0[i,j]<-0}}</code>
994	<code>for (i in 103:118){for (j in 103:118){cor_mat0[i,j]<-0}}</code>
995	<code>for (i in 119:124){for (j in 119:124){cor_mat0[i,j]<-0}}</code>
996	<code>for (i in 125:127){for (j in 125:127){cor_mat0[i,j]<-0}}</code>

(continued)

Line	Script
997	for (i in 128:130){for (j in 128:130){cor_mat0[i,j]<0}}
998	cor_mat0[lower.tri(cor_mat0, diag=TRUE)]<- 0
999	cor_mat0[abs(cor_mat0) < 0.5]<- 0
1000	#graph order 1 P vs second order
1001	cor_mat <- cor_mat0[c(1:10, 29: 38, 55:76), c(1:10, 29: 38, 55:76)]
1002	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1003	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1004	E(graph)[weight>0.7]\$color <- "black"
1005	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1006	E(graph)[weight>=0.6 & weight<0.65]\$color <- "green"
1007	E(graph)[weight>=0.55 & weight<0.6]\$color <- "blue"
1008	E(graph)[weight<0.55]\$color <- "purple"
1009	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1010	V(graph)\$label<- c("1Po1", "1Po2", "1Po3", "1Po4", "1Po5", "1Po6", "1Po7","1Po8", "1Po9", "1Po10",
1011	"2S1", "2S2", "2S3", "2S4", "2S5", "2S6", "2S7", "2S8","2S9", "2S10","X2E_1", "X2E_4", "X2E_7", "X2E_8", "X2E_9",
1012	"X2E_10", "X2E_11", "X2E_14", "X2E_16", "X2E_17","X2L1", "X2L2", "X2L3", "X2L4", "X2L5",
1013	"X2L6", "X2L11", "X2L12", "X2L13", "X2T1", "X2T2", "X2T3") #V(graph)\$name
1014	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1P2S.pdf',width=8)
1015	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph),
1016	vcount))]], edge.width =3,frame=T, vertex.size = 30)
1017	legend("topleft", title = "Adjucency levels", cex=1, lty = 1, lwd = 2,
1018	col = c("black", "red", "green", "blue","purple"),
1019	legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()
1020	#graph order 1 P vs second order
1021	cor_mat <- cor_mat0[c(12:17, 29:76), c(12:17, 29:76)]
1022	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1023	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1024	E(graph)[weight>0.7]\$color <- "black"
1025	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1026	E(graph)[weight>=0.6 & weight<0.65]\$color <- "green"
1027	E(graph)[weight>=0.55 & weight<0.6]\$color <- "blue"
1028	E(graph)[weight<0.55]\$color <- "purple"
1029	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1030	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(12:17, 29:76)]
1031	#V(graph)\$name
1032	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1W2.pdf',width=8)
1033	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph),
1034	vcount))]], edge.width =3,frame=T, vertex.size = 30)
1035	legend("bottomright", title = "Adjucency levels", cex=1, lty = 1, lwd = 2,
1036	col = c("black", "red", "green", "blue","purple"),
1037	legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2) dev.off()
1038	cor_mat <- cor_mat0[c(18:76), c(18:76)]
1039	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1040	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1041	for (i in 128:130){for (j in 128:130){cor_mat0[i,j]<0}}

(continued)

Line	Script
1042	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1043	E(graph)[weight>=0.6 & weight<0.65]\$color <- "green"
1044	E(graph)[weight>=0.55 & weight<0.6]\$color <- "blue"
1045	E(graph)[weight<0.55]\$color <- "purple"
1046	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1047	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(18:76)]#V(graph)\$name
1048	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1others_vs2.pdf',width=8)
1049	plot(decompose.graph(graph))[[which.max(sapply(decompose.graph(graph), vcount))]],
1050	edge.width =3,frame=T, vertex.size = 20, vertex.label.cex = .75)
1051	legend("topleft", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,
1052	col = c("black", "red", "green", "blue","purple"),
1053	legend = c(">0.7", "0.65-0.7", "0.6-0.65", "0.55-0.6", "0.5-0.55") ncol = 2)dev.off()
1054	cor_mat <- cor_mat0[c(1:10, 77:129), c(1:10, 77:129)]
1055	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1056	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1057	E(graph)[weight>0.7]\$color <- "black"
1058	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1059	E(graph)[weight>=0.6 & weight<0.65]\$color <- "green"
1060	E(graph)[weight>=0.55 & weight<0.6]\$color <- "blue"
1061	E(graph)[weight<0.55]\$color <- "purple"
1062	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1063	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(1:10, 77:129)] #V(graph)\$name
1064	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1Pvs3.pdf', width=8)
1065	plot(decompose.graph(graph))[[which.max(sapply(decompose.graph(graph), vcount))]], edge.width =3,frame=T,
1066	vertex.size = 20, vertex.label.cex = .75)
1067	legend("topleft", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,col = c("black", "red", "green",
1068	blue,"purple"),legend = c(">0.7", "0.65-0.7", "0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()
1069	cor_mat <- cor_mat0[c(11:17, 77:129), c(11:17, 77:129)]
1070	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1071	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1072	E(graph)[weight>0.7]\$color <- "black"
1073	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1074	E(graph)[weight>=0.6 & weight<0.65]\$color <- "green"
1075	E(graph)[weight>=0.55 & weight<0.6]\$color <- "blue"
1076	E(graph)[weight<0.55]\$color <- "purple"
1077	E(graph)[weight>0.7]\$color <- "black"
1078	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1079	E(graph)[weight>=0.6 & weight<0.65]\$color <- "green"
1080	E(graph)[weight>=0.55 & weight<0.6]\$color <- "blue"
1081	E(graph)[weight<0.55]\$color <- "purple"
1082	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1083	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(12:17, 29:76)]
1084	#V(graph)\$name
1085	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1W2.pdf',width=8)
1086	plot(decompose.graph(graph))[[which.max(sapply(decompose.graph(graph),

(continued)

Line	Script
1087	<code>vcount))]]], edge.width =3,frame=T, vertex.size = 30)</code>
1088	<code>legend("bottomright", title = "Adjucency levels", cex=1, lty = 1, lwd = 2,</code>
1089	<code>col = c("black", "red", "green", "blue","purple"),</code>
1090	<code>legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2) dev.off()</code>
1091	<code>cor_mat <- cor_mat0[c(18:76), c(18:76)]</code>
1092	<code>graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")</code>
1093	<code>E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]</code>
1094	<code>E(graph)[weight>0.7]\$color <- "black"</code>
1095	<code>E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"</code>
1096	<code>E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"</code>
1097	<code>E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"</code>
1098	<code>E(graph)[weight<0.55]\$color <- "purple"</code>
1099	<code>graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold</code>
1100	<code>V(graph)\$label<- names(as.data.frame(cor_mat0))[c(18:76)]#V(graph)\$name</code>
1101	<code>pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1others_vs2.pdf',width=8)</code>
1102	<code>plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]]], edge.width =3,</code>
1103	<code>frame=T, vertex.size = 20, vertex.label.cex = .75)</code>
1104	<code>legend("topleft", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,</code>
1105	<code>col = c("black", "red", "green", "blue","purple"),</code>
1106	<code>legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55") ncol = 2)dev.off()</code>
1107	<code>cor_mat <- cor_mat0[c(1:10, 77:129), c(1:10, 77:129)]</code>
1108	<code>graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")</code>
1109	<code>E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]</code>
1110	<code>E(graph)[weight>0.7]\$color <- "black"</code>
1111	<code>E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"</code>
1112	<code>E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"</code>
1113	<code>E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"</code>
1114	<code>E(graph)[weight<0.55]\$color <- "purple"</code>
1115	<code>graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold</code>
1116	<code>V(graph)\$label<- names(as.data.frame(cor_mat0))[c(1:10, 77:129)] #V(graph)\$name</code>
1117	<code>pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1Pvs3.pdf', width=8)</code>
1118	<code>plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]]], edge.width =3,frame=T,</code>
1119	<code>vertex.size = 20, vertex.label.cex = .75)</code>
1120	<code>legend("topleft", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,col = c("black", "red", "green", "blue","purple"),</code>
1121	<code>legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()</code>
1122	<code>cor_mat <- cor_mat0[c(11:17, 77:129), c(11:17, 77:129)]</code>
1123	<code>graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")</code>
1124	<code>E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]</code>
1125	<code>E(graph)[weight>0.7]\$color <- "black"</code>
1126	<code>E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"</code>
1127	<code>E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"</code>
1128	<code>E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"</code>
1129	<code>E(graph)[weight<0.55]\$color <- "purple"</code>
1130	<code>graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold</code>
1131	<code>V(graph)\$label<- names(as.data.frame(cor_mat0))[c(11:17, 77:129)] #V(graph)\$name</code>

(continued)

Line	Script
1132	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1FWvs3.pdf', width=8)
1133	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]], edge.width =3,frame=T,
1134	vertex.size = 20, vertex.label.cex = .75)
1135	legend("bottomright", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,
1136	col = c("black", "red", "green", "blue","purple"),legend = c(">0.7", "0.65-0.7","0.6-0.65",
1137	"0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()
1138	cor_mat <- cor_mat0[c(18:28, 77:129), c(18:28, 77:129)]
1139	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1140	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1141	E(graph)[weight>0.7]\$color <- "black"
1142	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1143	E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"
1144	E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"
1145	E(graph)[weight<0.55]\$color <- "purple"
1146	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1147	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(18:28, 77:129)]#V(graph)\$name
1148	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network1ETMvs3.pdf',width=8)
1149	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]], edge.width =3,frame=T,
1150	vertex.size = 20, vertex.label.cex = .75)
1151	legend("bottomright", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,
1152	col = c("black", "red", "green", "blue","purple"),legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"),
1153	ncol = 2)dev.off()
1154	cor_mat <- cor_mat0[c(29: 38, 77:129), c(29: 38, 77:129)]
1155	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1156	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1157	E(graph)[weight>0.7]\$color <- "black"
1158	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1159	E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"
1160	E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"
1161	E(graph)[weight<0.55]\$color <- "purple"
1162	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1163	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(29: 38, 77:129)]#V(graph)\$name
1164	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network2Svs3.pdf',width=8)
1165	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]], edge.width =3,frame=T,
1166	vertex.size = 20, vertex.label.cex = .75) legend("bottomright", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,
1167	col = c("black", "red", "green", "blue","purple"), legend = c(">0.7", "0.65-0.7",
1168	0.6-0.65, "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()
1169	cor_mat <- cor_mat0[c(39: 54, 77:129), c(39: 54, 77:129)]
1170	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1171	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1172	E(graph)[weight>0.7]\$color <- "black"
1173	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1174	E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"
1175	E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"
1176	E(graph)[weight<0.55]\$color <- "purple"

(continued)

Line	Script
1177	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1178	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(39: 54, 77:129)]#V(graph)\$name
1179	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network2Pvs3.pdf', width=8)
1180	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]], edge.width =3,frame=T,
1181	vertex.size = 20, vertex.label.cex = .75)
1182	legend("topleft", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,col = c("black", "red", "green",
1183	blue,"purple"), legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()
1184	cor_mat <- cor_mat0[c(55: 76, 77:129), c(55: 76, 77:129)]
1185	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1186	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1187	E(graph)[weight>0.7]\$color <- "black"
1188	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1189	E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"
1190	E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"
1191	E(graph)[weight<0.55]\$color <- "purple"
1192	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1193	V(graph)\$label<- names(as.data.frame(cor_mat0))[c(55: 76, 77:129)]#V(graph)\$name
1194	pdf('C:/Onedrive/upwork/patrick/leadership/corr_network2allothersvs3.pdf',width=8)
1195	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]], edge.width =3,frame=T,
1196	vertex.size = 20, vertex.label.cex = .65) legend("topleft", title = "Adjucency levels", cex=.75, lty = 1, lwd = 2,
1197	col = c("black", "red", "green", "blue","purple"), legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"),
1198	ncol = 2)dev.off() cor_mat <- cor_mat0[c(1:10, 55: 76), c(1:10, 55: 76)]
1199	graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1200	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1201	E(graph)[weight>0.7]\$color <- "black"
1202	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1203	E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"
1204	E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"
1205	E(graph)[weight<0.55]\$color <- "purple"
1206	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1207	V(graph)\$label<- c("1Po1", "1Po2", "1Po3", "1Po4", "1Po5", "1Po6", "1Po7", "1Po8", "1Po9", "1Po10",
1208	"X2E_1", "X2E_4", "X2E_7", "X2E_8", "X2E_9", "X2E_10", "X2E_11", "X2E_14", "X2E_16", "X2E_17",
1209	"X2L1", "X2L2", "X2L3", "X2L4", "X2L5", "X2L6", "X2I1", "X2I2", "X2I3", "X2T1", "X2T2", "X2T3") #V(graph)\$name
1210	png('C:/Onedrive/upwork/patrick/leadership/corr_network1P2others.png',width=700)
1211	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph), vcount))]], "blue","purple")
1212	edge.width =3,frame=T, vertex.size = 30) legend("topleft", title = "Adjucency levels", cex=1, lty = 1, lwd = 2,
1213	col = c("black", "red", "green",
1214	legend = c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()#graph order 2 and 3 cor_mat <-
1215	, cor_mat0[8:27, 8:27] graph <- graph.adjacency(cor_mat>=0.5, weighted=TRUE, mode="upper")
1216	E(graph)\$weight<-t(cor_mat)[abs(t(cor_mat))>0.5]
1217	E(graph)[weight>0.7]\$color <- "black"
1218	E(graph)[weight>=0.65 & weight<0.7]\$color <- "red"
1219	E(graph)[weight>=0.6 &weight<0.65]\$color <- "green"
1220	E(graph)[weight>=0.55 &weight<0.6]\$color <- "blue"
1221	E(graph)[weight<0.55]\$color <- "purple"

(continued)

Line	Script
1222	graph\$layout <- layout.reingold.tilford#layout.fruchterman.reingold
1223	#factor<-as.factor(cut(E(graph)\$weight*10,c(4,5,6,7,8),labels=c(1,10,20,30)))
1224	V(graph)\$label<- c("2S1", "2S2", "2S3", "2S4", "2S5", "2S6", "2S7", "2S8","2S9", "2S10", "3S1", "3S2", "3S3",
1225	3S4, "3S5", "3S6", "3S7", "3S8", "3S9", "3S10") #V(graph)\$name
1226	png('corr_network23.png',width=700)
1227	plot(decompose.graph(graph)[[which.max(sapply(decompose.graph(graph),vcount))]],
1228	png('corr_network23sub.png',width=700)
1229	edge.width =2,frame=T, vertex.size = 20) legend("topright", title = "Adjucency levels", cex=1, lty = 1, lwd = 2,col =
1230	c("black", "red", "green", "blue","purple"),legend=c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)
1231	dev.off() # Sub graph of 2:3 subgraph <- subgraph.edges(graph, eids=c(1,5, 17, 21, 23, 30), delete.vertices = FALSE)
1232	plot(decompose.graph(subgraph)[[which.max(sapply(decompose.graph(subgraph),vcount))]],
1233	edge.width =3, frame=T, vertex.size = 20) legend("topright",
1234	title = "Adjucency levels", cex=1, lty = 1, lwd = 2,col=c("black", "red", "green", "blue","purple")
1235	,legend=c(">0.7", "0.65-0.7","0.6-0.65", "0.55-0.6", "0.5-0.55"), ncol = 2)dev.off()

(continued)

Table G56.

Putting It All Together (Leading Themes and Supporting Hypotheses)

Procedure	Description and Application
Putting it all together	<p>After implementing the entire series of analytics and tests, it is clear each set of results is different. Given this, a selection technique was created to identify those themes which repeatedly exhibited strong inferences of significance. This selection technique is referenced as the weighted and unweighted Selection Criteria (SC) analysis; and, the Ranking Score Analysis and Finding (RSAF). This technique served to assess, evaluate, fairly weight, and ordinaly rank each of the theme outcomes identified in terms of overall significance. Once this approach was completed, the themes that demonstrated the highest level of statistical significance were selected for integration into the 1st round Delphi questionnaire as stem research statements or questions.</p> <p>Social and Leadership Environment Relevancy Determinations</p> <p>The construction and significance of each stem research question is represented in the summary of cycle assumptions, conditions, methods, analysis, tables, and interpretive(s) found in Tables E4 and H1. The variables used in each question are observed to be significantly correlated.</p> <p>The two tables summarize the analysis and findings that present the series of hypotheses that have been extracted from the literature and accepted as common claims that include the stem question variables as well as others that have similar significance and correlation. As such, the investigation into the social and leadership categories supports the construction of a set of null hypotheses that are extracted from the literature. These were then compared to closely associated alternative hypothesis that were determined to be true after having completed a deeper analysis of the sample data collected from the literature reviews. The results in some cases are surprising, however, the findings were the subject of an arduous examination and determination after applying a series of qualitative and quantitative analysis and tests.</p> <p>Summary of Analysis and Findings</p> <p>The SC and RSAF analysis, testing, findings, and ranked selection procedure identified individual theme significance together with those sharing high adjacency levels. Although the technique demonstrated that each analysis and test resulted in a range of different results associated with each of the themes investigated, the final cumulative analysis process applied produced an acceptable outcome after reflecting on the finding from the real-world perspective. The following summarizes the ranked selection findings and is intended to add clarity or meaning to what the investigative series offered in terms of this study. Each factor investigated is supported by the resultant data and determinations presented in table G53 as pertaining to the social research inquiries, and G54 as pertaining to the leadership research inquiries.</p> <p>Observations: Qualitative analysis and supporting theme selections</p> <p>As explored in Chapter One, a series of relevant literature reviews were preliminarily undertaken to identify recurring themes that appeared in numerous subject matter expert publications on the topic of China. It was discovered in the initial literature that it was common to find each reoccurring theme was referenced in terms of its historic, present, or future influence as a driver of China's leadership as they shape emerging policy. Upon completion of the initial observations and findings, the study moved to undertake a detailed and arduous investigation into the literature to identify, pattern, map, and code each theme discovered.</p> <p>Next, the investigation shifted from being a purely qualitative process to one that integrated quantitative procedures in order to better identify, track, measure, and validate differences in the data and related discoveries. Mixed-Method analysis and supporting themes selections.</p> <p>Selections were determined by overall significance and then by theme "Agreement" tendencies. Although each analytic and test resulted in inferring a differing array of theme significant outcomes and correlations, certain themes were discovered as continuing competitors for recognition and validation as the most important among the overall group.</p> <p>Vectors (1Po1, 2S8, 2S3, 3S8, 2S8, 3S9, 2S9, 2S10) when assessed using the prescriptive algorithm support a series of alternative (research) hypotheses.</p> <p>Qualitative analysis discoveries and effects of longitudinal time bias</p> <p>Question integration was inspired by the literature reviewed from Tselichtchev and "Others" as interpreted and restructured in accordance with Mitroff's IS technique.</p> <p>During the course of implementing this portion of the investigation it was discovered that the SPELIT and Saldana framing and analysis tools effective ways to extract significant data from relevant literature, however, it is critical that the data collected reflect an appropriate proportional degree of relevancy when being structured or modelled for analysis and testing. Not doing so will result in data errors and associated findings. Given this, any longitudinal study that involves a series of samples taken over extended intervals will be subject to false outcomes due to the effects of declining generational relevancy in the data. Whether this is measured by using a DGR model, or qualitatively estimated from the literature and extracted data, this bias should be evaluated and weighted in any finding.</p>

(continued)

Procedure	Description and Application
Observations: Selecting, Constructing Themes, and Findings	<p>Final selections were for integration and construction of a significant theme or set of correlated themes into the core or stem research question was the product of reassessing and reflecting on the overall findings as extracted from the data in the context of the quantitative and qualitative discoveries in samples N1 + N2 + N3. Special emphasis placed on evidence collected from a deeper final reassessment of the flow, intent, and sense of direction provided by each contributor's literature as cited in the range of reviews presented.</p> <p>The Overall Sense of Continuity or Agreement With all the Data and Evidence Collected</p> <p>A reassessment of theme or sets of correlated themes was implemented by collectively comparing the qualitative and quantitative results and findings derived from each independent cycle of analysis. As argued by this study's statistical analyst, the quantitative analytics and tests must be balanced and evaluated against real-world qualitative data, human influences, and decisional thinking that is influenced and driven by culturally accepted practices, in short, the human factor (Sharker, 2017).</p> <p>Hypotheses, Definitions of Assessment</p> <p>These are presented in this section of the study as the null hypothesis (H_0) or the core research stem question which is to be tested and accepted by the Delphi panel's survey responses. Although this procedure was based on the findings generated from a mixed-method approach to the investigation, the quantitative portion of this assessment was critical to sorting out the array of themes competing for selection as the most significant or relevant.</p> <p>This procedure heavy weighted the data outcomes extracted from the qualitative literature assessments in the determining algorithm that assisted in constructing a quantitative finding.</p> <p>The hypotheses listed above express a high degree of theme significance, strong correlations, and agreement tendency indicating each research hypothesis contains themes that are highly relevant. Given this finding, each of the alternative hypothesis could be incorporated into the Delphi survey questionnaire in conjunction with the assumed null hypotheses as claimed by the HFCL authors.</p> <p>Next to close this first category's investigation and report of findings, the following tables were constructed to clearly represent the overall analysis and series of discoveries (also see Tables B1-9). The table represents the overall analysis, findings, and interpretive outcomes that clarifies the selection of significant themes at each step of the investigative process. The series of tables support the focus and intent of the research as represented in this category or themes as longitudinally framed by the three data samples for historic, present, and future references as associated time-bias and relevancy. Each series builds upon an analytic and testing procedure that leads to the identification and selection of a set of null and alternative hypotheses derived from reoccurring themes of varying significance, relevancy and validation.</p> <p>Leading Themes Selected and Supporting Hypotheses</p> <p>The final results and overview of the social category investigation into theme significance, correlations, findings, overall ranking, relevant theme selection, and validation of the supporting hypothesis, is necessary prior to any theme being integrated into the construction of a stem research question as an investigative tool (also see Tables G54-55).</p> <p>The process as applied to this portion of the investigation as framed by the SPELIT categories and matrix represent 1/16th of the total process that will serve to assist in completing the process of identifying and constructing the subsequent Delphi Policy Survey Questionnaire inquiries.</p> <p>The following table reports the findings of this stage of the investigation where the same reporting format or table will be used to report and compare the Delphi survey questionnaire outcomes and findings. This joint reporting format is intended to ease the process of comparing and assessing the panels recorded outcomes against those presented in this initial investigation and its's supported hypothetical assumptions.</p> <p>This process will serve the goal of this study to determine which themes and hypothetical assumptions can be accepted or rejected as valid in terms of being critical factors associated with influencing China's leaders, the direction of emerging policy, and the series of predictions pertaining to China's future direction, challenges, and related implications.</p>

Table G57.

Hypotheses: Evidence, Decisional Rules and Determinations

Evidence, Decisional Rules and Determinations
<p>Hypotheses</p> <ol style="list-style-type: none"> 1. Null Hypotheses: China's <u>geography</u> has no influence to its <u>aging population</u> and therefore, no impact on its emerging internal policy {corr (¹Po₁, ²S₈)}. <ul style="list-style-type: none"> • Decision rule: If a theme RSAF ≥ 50.717 then we rejecting the null in favor of alternative hypothesis. • Given the initial sample evidence, $H_a : {}^1\text{Po}_1 \text{ RSAF } \bar{x} \geq 73.319$; where, ${}^2\text{S}_8 \text{ RSAF } \bar{x} \geq 62.308$; where the RSAF is influenced by the HFCL. ▪ There is not sufficient evidence in favor of null; and, hence the alternative hypothesis is taken to be <u>true</u> as follows. ▪ Alternative hypothesis: China's geography and present aging population are influencers that drive China's leadership in shaping emerging internal policies.

(continued)

Evidence, Decisional Rules and Distribution

Hypotheses

2. Null Hypotheses: China's present growth does not drive its' future aging population and therefore, has no impact on its emerging internal policy. {corr (2S_3 , 3S_8)}.
 - Decision rule: If a theme RSAF ≥ 50.717 then we rejecting the null in favor of alternative hypothesis.
 - Given the initial sample evidence, $H_a : ^2S_3 \text{ RSAF } \bar{x} \geq 55.441$; where, $^3S_8 \text{ RSAF } \bar{x} \geq 39.061$; where the RSAF is influenced by the HFCL.
 - There is sufficient evidence in favor of null and hence the alternative hypothesis is taken to be false as follows.
 - Alternative hypothesis: China's present growth and the prospects of its' future aging population are influencers that drive China's leadership in shaping emerging internal policies.
3. Null Hypotheses: China's present population is not driving its' future social security programs and therefore, has no impact on its emerging internal policy. {corr (2S_8 , 3S_9)}.
 - Decision rule: If a theme RSAF ≥ 50.717 then we rejecting the null in favor of alternative hypothesis.
 - Given the initial sample evidence, $H_a : ^2S_8 \text{ RSAF } \bar{x} \geq 62.308$; where, $^3S_9 \text{ RSAF } \bar{x} \geq 57.179$; where the RSAF is influenced by the HFCL.
 - There is sufficient evidence in favor of null and hence the alternative hypothesis is taken to be true as follows.
 - Alternative hypothesis: China's present population is driving its' future social security programs and is influencing its' leadership in shaping emerging internal policies.
4. Null Hypotheses: China's present social security does not drive its' future health care and therefore, has no impact on its emerging internal policy. {corr (2S_9 , $^2S_{10}$)}.
 - Decision rule: If a theme RSAF ≥ 50.717 then we rejecting the null in favor of alternative hypothesis.
 - Given the initial sample evidence, $H_a : ^2S_9 \text{ RSAF } \bar{x} \geq 57.179$; where, $^2S_{10} \text{ RSAF } \bar{x} \geq 52.553$; where the RSAF is influenced by the HFCL.
 - There is sufficient evidence in favor of null and hence the alternative hypothesis is taken to be true as follows.
5. Alternative hypothesis: China's present social security and future health care concerns are influencers that are driving China's leadership as they shape emerging internal policies.

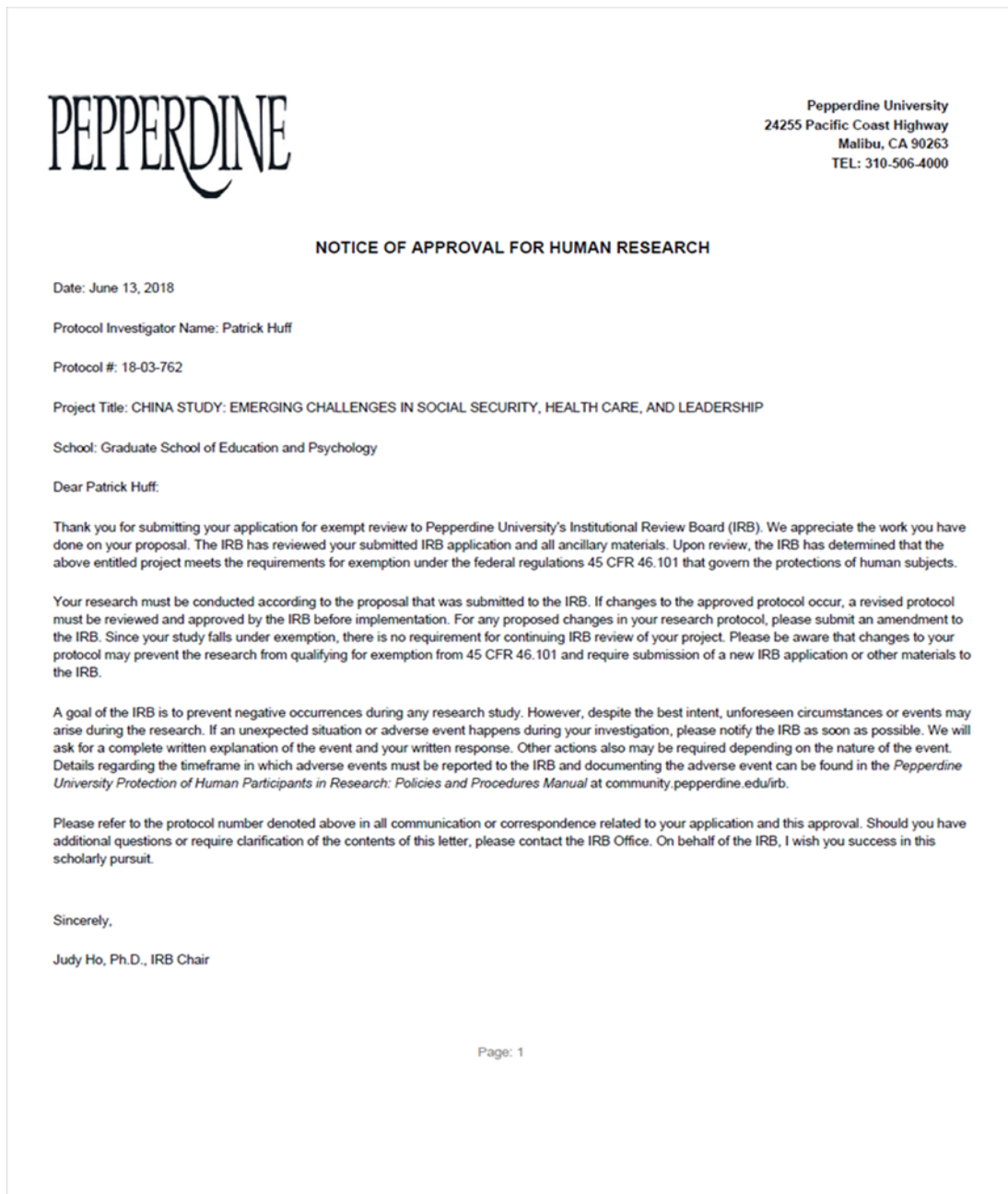


Figure G54. IRB: Approval letter.

The following information is provided to help you (the study participant) decide whether you wish to participate in this study.

The purpose of this study is to explore certain social and leadership phenomena that are occurring in China at present and to predict what the implications are for the next decade. The information collected and reported in this study is critical for those in leadership and policy setting positions to appreciate and understand as they consider the advocacy, construction, and implementation of social and governmental programs in the context of not only China but matters of State, international affairs, and direct foreign investment that will be played out on the global stage by any international actor.

This study is conducted in partial fulfillment of the requirements for the degree of Doctor of Education of Leadership (EDOL) at Pepperdine University. The results of this study can be used to develop guidelines for investigating, reviewing, assessing, and creating more effective social and leadership advocacy and its supporting policy.

In order for me to use what I learn from you in my research and publications, I am required to ask for your permission and if you would agree with one of the following arrangements. Please initial the appropriate line:

(Please initial) I agree to permit the researcher (investigator) to use my name, professional affiliation and the name of the organization I represent as a member of the panel of experts in this study. I understand that my individual responses will not be associated with my name or organization, and that results will only be presented in aggregate form.

OR

(Please initial) I agree to permit the researcher (investigator) to refer to me only by a pseudonym from a “generic organization or group” (e.g. Mr. or Mrs. Jones from any generalized organization or group). I understand my identity and the name of my organization or group will be kept confidential in this study at all times.

In either case, you should be aware that the foreseeable risks or potential discomfort to you as a result of participating in this study are minimal. Your participation in this study is voluntary. You are free to decide not to participate or to withdraw at any time without affecting your relationship with me, Pepperdine University, or any other entity. Upon your request, I will provide a copy of any published papers or professional presentations that take place as a result of this study.

Please feel free to ask any questions about this study before we begin or during the course of the study by contacting Patrick D. Huff, Principal Investigator, at [REDACTED], or Dr. Farzin Madjidi dissertation chairperson, at 310-568-5726. For information regarding your rights, please contact the IRB Chairperson at Pepperdine University, College of Education and Psychology (GSEP), EDOL programs at 310-568-5600.

Participant Signature

Date

Please also complete the questionnaire that is posted in the link provided and return this form via the return email address provided.

Figure G55. IRB: Survey participant: Informed consent form.

From: Patrick D. Huff, patrick.huff.usace@gmail.com

Date: <<DATE>>

To:

Subject: China Social Programs and Leadership Delphi Study – Invitation to Participate

Dear <<FIRST>><<LAST>>

Thank you for your participation in this important study. The information you are providing is critical to identifying those themes and sub-themes that are influencing and or driving the narrative in China between its people and senior leadership.

Your input as a subject matter expert in the context of emerging international advocacy, policy affairs, and development makes your contribution to this research extremely important as the study is constructing a predictive estimate of the direction China is going to take over the next decade specific to its leadership ideologies and social reforms.

I believe the information the study's findings will be able to offer the participants, fellow researchers, academics, and international policy and business development executives and advisors will add to their continuing efforts to decode, understand, and better adapt to China as an emerging global power and authority. Growing this understanding and knowledge is critical to sustain if not increasing your competitive edge in this ever-changing global dynamic.

Responses to the first survey have been analyzed, and of the 30 areas (themes, sub-themes, and leadership characteristics) investigated in the first survey consensus was reached on the degree of importance of nine (9) items. The 31 areas in which consensus was not reached are included in the follow-up survey available by clicking the link at the bottom of this page. Moreover, during the first-round, three new areas of interest (sub-themes) were suggested as additional areas of inquiry. These items have now been included in the second inquiry.

As to completing the second survey questions, it is critical that you score the level of importance rating as accurately as you can. This survey format includes an opportunity to contribute additional responses so as to expand your thoughts in the open-ended narrative box provided should the range of responses not adequately support your response.

In order for your input to be included in the study, I will need to receive your response by 26 November 2017.

Upon submission of this survey, your participation in the study will be complete. The data collected will be analyzed in 4 to 6 weeks after the survey period closes. Once completed, a copy of the final results will be provided assuming you check the please provide me the survey results box at the end of the survey.

If you have any questions about the study, please do not hesitate to contact me at [REDACTED] (voice or text) or via email at [REDACTED]

Once again, I wish to thank you for your participation in this important study and look forward to receiving your response.

Best regards,
Patrick D. Huff
Doctoral Candidate, Pepperdine University

Figure G56. Invitation letter (email): Participant in the China Delphi study.

<<DATE>>

<<Mr.>><<Ms.>><<First>><<Last>>
 <<address>>
 <<City>>,<<State>>,<<Zip>>
 <<Country>>

Subject: <<Invitation to Participate in the China Delphi Study>>

Dear <<Mr.>><<Ms.>><<First>><<Last>>

I wish to extend an invitation to you to participate in this critical study pertaining to an investigation into the emerging social phenomena that is occurring in China.

The information collected in this Delphi study and resulting analysis will provide valuable information to the leadership of the international advocacy, policy development, and advisory community so as to increase understanding and the ability to estimate the direction China's leaders will take in areas of social security and health care reforms. Given the information and analysis extracted from this study will add to the overall international narrative, your participation is critical in terms of the study's interests in construction a series of predictive estimates as to the direction the present leadership of China will take the country in over the next decade as pertaining to the themes investigated.

On October 1st, I will send out the first survey questionnaire. If you have already received the first survey and responded to it then please accept this letter as an extension of my appreciation for your participation.

If you have not completed received and completed the second survey, I have provided a link to access it below. The total survey takes between 17 to 20 minutes to complete. When taking this survey be sure to score your response as accurately as you can and provide any additional observation or comment in the open-ended narrative boxes provided. These observations are valued and offer additional insight to the investigator as to your thoughts.

In order for your critical input to be included in the study, I will need to receive your completed survey by 26 November 2017.

Once the survey period is closed and all responses have been received, the first survey will be complete. The collected data will be analyzed in the following 4 to 6 weeks. Once results have been analyzed you will be notified of the date that the second survey will be sent out.

If you have any questions about the study, please do not hesitate to contact me at [REDACTED] (voice or text) or via email at [REDACTED]

Once again, I wish to thank you for your participation in this important study and look forward to receiving your response.

Please review the attached "Preferred Contact Form" so that I all future correspondence can be directed to you in accordance with your wishes.

Best regards,

Patrick D. Huff
 Doctoral Candidate, Pepperdine University

Figure G57. IPDS invitation letter (email): International policy developers summit attendees.

<<DATE>>

<<Mr.>><<Ms.>><<First>><<Last>>

<<address>>

<<City>>,<<State>>,<Zip>>

<<Country>>

Subject: <<Follow-up Interviews and Protocol>>

Dear <<Mr.>><<Ms.>><<First>><<Last>>

Either the study's chief investigator or a participant may wish to expand on collecting additional information that is critical to better understanding a participant's response or position on a specific survey or research statement. In this event, the investigator and the participant agree this extended narrative should be conducted via the preferred method of contact as provided by each survey participant.

The extension of this dialogue may be at the request of the investigator or the participant. Participation in this extended dialogue is not required. Either party may wish to submit notification via return email to the other of their election not to participate in this extended dialogue. If this occurs, the notice not to participate in the extended dialogue will not be considered or treated by either party as an adverse reaction to the request.

The request for the extended dialogue may be originated by either party at any time after the acceptance to participate in the Delphi survey process, and will remain open until 6 to 8 weeks after the final results of the second survey have been provided to the participants.

Best regards,

Patrick D. Huff

Doctoral Candidate, Pepperdine University

Figure G58. Interview protocol.

<<DATE>>

<<Mr.>><<Ms.>><<First>><<Last>>
<<address>>
<<City>>,<<State>>,<<Zip>>
<<Country>>

Dear <<Mr.>><<Ms.>><<First>><<Last>>

Thank you for agreeing to participate in the second-round survey of this study.

On October 1st, I sent out the second survey questionnaire. We let me know via return email if you did not receive it so that I can send it to you again.

If you did receive the second survey and have responded to it then please disregard.

Again, this second survey is critical to the process of achieving a relevant Delphi study. The total survey takes between 17 to 20 minutes to complete. When taking this second survey be sure to score the level of importance rating as accurately as you can and provide any additional observations or comments in the open-ended narrative box provided. These observations are valued as they offer additional insight to the investigator as to your thoughts in reassessing each inquiry.

In order for your critical input to be included in the study, I will need to receive your completed survey by 26 November 2017.

Upon submission of this survey, your participation in the study will be complete. As with the first survey, the data collected will be analyzed in 4 to 6 weeks after the survey period has closed.

Once the survey period has closed and the comparative analytics are completed, a copy of the final results will be provided assuming you check the please provide me the survey results box at the end of the survey.

If you have any questions about the study, please do not hesitate to contact me at [REDACTED] (voice or text) or via email at [REDACTED]

Once again, I wish to thank you for your participation in this important study and look forward to receiving your response.

Best regards,

Patrick D. Huff
Doctoral Candidate, Pepperdine University

Figure G59. Follow-up letter (email): Survey participants.

APPENDIX H

Assembling The Evidence and Stem Research Inquiries

Table H1.

*Key Inquiries: Influencing Themes***1. Social Inquiry $SI_1 = \{2,3S9 \cup 2,3S8\}$: Will China increase its social security system due to its aging population?**

Source: Extracted from Saldana's mapping 3rd order social themeing IS frequency analysis; and, social themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK1-2).

Data: Secondary Research Question Relevancy (SQR) = .210; Factor/Theme Relevancies (3S9) = .148 and (3S8) = .148. The research value of the question (RQK) is based on the SQR formula and resultant calculation designed to evaluate its significance.

2. Social Inquiry $SI_2 = \{2,3S10 \cup 2,3S8\}$: Will China increase its health care system due to its aging population?

Source: Extracted from Saldana's mapping 3rd order social themeing IS frequency analysis; and, social themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK1-2).

Data: Secondary Research Question Relevancy (SQR) = .173; Factor/Theme Relevancies (3S10) = .147 and (3S8) = .148. The research value of the question (RQK) is based on its SQR formula and resultant calculation designed to evaluate its significance.

3. Political Inquiry $PI_1 = \{2,3P1 \cup 2,3P9 \cup 2,3P4\}$: Will China redefine its people's freedom and balance to sustain its internal government legitimacy?

Source: Extracted from Saldana's mapping, 3rd order political themeing IS frequency analysis; and, political themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK3-5).

Data: Primary Research Question Relevancy (PRQ) = .236; Factor/Theme Relevancies (3P1) = .296, (3P9) = .345, and (3P5) = .493. The research value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

4. Political Inquiry $PI_2 = \{2,3P2 \cup 2,3S5 \cup 2,3P9 \cup 2,3P1\}$: Will China redefine its civil rights to increase social unity and political-economic balance to sustain internal government legitimacy?

Source: Extracted from Saldana's mapping, 3rd order political themeing IS frequency analysis; and, political themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK3-5).

Primary Research Question Relevancy (PRQ) = .195; Factor/Theme Relevancies (3P2) = .345, (3P9) = .345, (3P9) = .345, and (3P5) = .493. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

5. Political Inquiry $PI_3 = \{2,3P8 \cup 2,3P7\}$: Is China's leadership behavior in conflict with its external leadership ideologies?

Source: Extracted from Saldana's mapping, 4th order political themeing IS frequency analysis; and, political themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK3-5).

Primary Research Question Relevancy (PQR) = .522; Factor/Theme Relevancies (3P8) = .740 and (3P7) = .691. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

(continued)

6. Political PI₄ = {_{2,3}P7 U _{2,3}P9 U _{2,3}P14}: Are China's external leadership ideologies; increasing power, authority, and superiority influencing the global political equilibrium?

Source: Extracted from Saldana's mapping, 3rd order political themeing IS frequency analysis; and, political themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK6-8).

Primary Research Question Relevancy (PQR) = .370; Factor/Theme Relevancies (3P7) = .691, (3P14) = .345 and, (3P9) = .345. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

7. Political PI₅ = {_{2,3}P5 U _{2,3}P8 U _{2,3}P19}: Will China's changing internal leadership ideology and behavior continue to influence the liberalization of the Maoist cultural ideology?

Source: Extracted from Saldana's mapping, 3rd order political themeing IS frequency analysis; and, political themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK6-8).

Primary Research Question Relevancy (PQR) = .313; Factor/Theme Relevancies (3P5) = .493, (3P8) = .740 and, (3P19) = .049. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

8. Political PI₆ = {_{2,3}P8 U _{2,3}E1 U _{2,3}E12}: Will China's present leadership behavior focus on increasing future natural resource access to sustain its present growth?

Source: Extracted from Saldana's mapping, 3rd order political themeing IS frequency analysis; and, political themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK6-8).

Primary Research Question Relevancy (PQR) = .480; Factor/Theme Relevancies (3P8) = .345, (3P11) = .197 and (3P14) = .345. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

9. Economic EI₁ = {_{2,3}P7 U _{2,3}E3 U _{2,3}E12}: Will China's external leadership ideology move it to increase its food supply to sustain growth?

Source: Extracted from Saldana's mapping, 3rd order economic themeing IS frequency analysis; and, economic themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK9).

Primary Research Question Relevancy (PQR) = .414; Factor/Theme Relevancies (3E9) = .049, (3E3) = .691 and, (3E16) = .444. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

10. Economic EI₂ = {_{2,3}E12}: Will China be confronted by a downturn in its economic growth trend?

Source: Extracted from Saldana's mapping, 3rd order economic themeing IS frequency analysis; and, economic themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK10-12).

Primary Research Question Relevancy (PQR) = .414; Factor/Theme Relevancies (3E16) = .444. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

(continued)

11. Economic EI₃ = {2,3E8}: Will China's economic and monetary ideologies be forced to transform to those of the West?

Source: Extracted from Saldana's mapping, 3rd order economic themeing IS frequency analysis; and, economic themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK10-12). Primary Research Question Relevancy (PQR) = .082; Factor/Theme Relevancies (3E8) = .493. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance.

12. Economic EI₄ = {2,3E2 U 2,3E16}: Will China improve its environment if it means reduced economic growth?

Source: Extracted from Saldana's mapping, 3rd order economic themeing IS frequency analysis; and, economic themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK10-12). Primary Research Question Relevancy (PQR) = .414; Factor/Theme Relevancies (3E2) = .740 and (3E12) = .444. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance. *Note, (3E12) is merged with the question combining the evaluation of both legal and economic factors and issues.*

13. Legal LI₁ = {2,3L1 U 2,3L4 U 2,3E16}: Will China enforce intellectual property law and protection to increase foreign investment if it means sacrificing China's economic growth?

Source: Extracted from Saldana's mapping, 3rd order legal themeing IS frequency analysis; and, legal themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK13-14). Primary Research Question Relevancy (PQR) = .321; Factor/Theme Relevancies (3L1) = .247, (3L4) = .543 and, (3E12) = .444. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance. *Note, (3E12) is merged with the question combining the evaluation of both legal and economic factors and issues.*

14. Legal LI₂ = {2,3L5 U 2,3E16}: Will China increase its citizen's right of ownership to sustain social-economic growth?

Source: Extracted from Saldana's mapping, 3rd order legal themeing IS frequency analysis; and, legal themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK13-14). Primary Research Question Relevancy (PQR) = .374; Factor/Theme Relevancies (3L5) = .592, (3E12) = .444. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance. *Note, (3E12) is merged with the question combining the evaluation of both legal and economic factors and issues.*

15. Intercultural II₁ = {2,3P12 U 2,3E5 U 2,3E11}: Will China face its cultural stability issues if they challenge its current capital reserve and wealth?

Source: Extracted from Saldana's mapping, 3rd order intercultural themeing IS frequency analysis; and, intercultural themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK15-16). Primary Research Question Relevancy (PQR) = .195; Factor/Theme Relevancies (3I2) = .296, (3E5) = .049 and, (3E11) = .197. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance. *Note, (3E5) and (3E11) are merged with the question combining the evaluation of both Intercultural and economic factors and issues.*

(continued)

16. Technology $TI_1 = \{2,3T2 \cup 2,3T3 \cup 2,3P14\}$: Will China face technology advancement and military systems challenges to obtain superiority as a global power?

Source: Extracted from Saldana's mapping, 3rd order technology themeing IS frequency analysis; and, technology themeing code search and query calculations; and, inquiry system: Research question and relevancy (RQK15-16). Primary Research Question Relevancy (PQR) = .195; Factor/Theme Relevancies (3T2) = .543, (3T3) = .296 and, (3P14) = .345. The value of the question (RQK) is based on its PQR formula and resultant calculation designed to evaluate its significance. *Note, (3P14) is merged with the question combining the evaluation of both technology and political factors and issues.*

Note. CSV restructured online survey data. Additional research questions have been developed as alternative inquiries, statements or expected outcomes (sub-hypotheses) that have been reviewed by the SDP for integration into the survey questionnaire series. These have been introduced in order to probe alternative themes and sub-themes for indicators of other possible relationships related to influencers or drivers of change pertaining to the hypotheses and problem statement.

Table:

1. Each research question has been extracted and developed by applying the SPELIT framing model and Saldana's themeing and coding techniques.
2. All questions either primary or secondary to the core research inquiry have been analyzed and evaluated to achieve the highest significance and relevancy in each area of interest in order to achieve the study's purpose, goals, and objectives.

APPENDIX I

Survey Results: Instruments, Analytics, Determinations and Findings

Table II. *Survey Participants: Pre-Qualified Selectees (Proportionalized)*

Participant Code (Non-identifying encryption)	Record No.	Experience/Position						Origin/Country/Region																											
		1	2	3	4	5	6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
		Board Level Exec.	Senior Executive	Executive Staff	Managing Executive	Technical/Ops Manager	Other	UK	Ireland	Australia	South Africa	Nigeria	Brazil	US	Canada	New Zealand	Germany	Finland	France	Poland	Greece	Spain	Israel	Turkey	Cyprus	Japan	India	China	Russia	Egypt	Afghanistan	Pakistan	Philippines	Taiwan	
_DS1001	_001	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1002	_002	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1003	_003	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
_DS1004	_004	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1005	_005	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
_DS1006	_006	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1007	_007	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1008	_008	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1009	_009	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1010	_010	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1011	_011	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1012	_012	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1013	_013	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1014	_014	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1015	_015	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
_DS1016	_016	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
_DS1017	_017	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1018	_018	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1019	_019	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
_DS1020	_020	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1021	_021	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1022	_022	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
_DS1023	_023	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
_DS1024	_024	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1025	_025	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1026	_026	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
_DS1027	_027	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
_DS1028	_028	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1029	_029	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
_DS1030	_030	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
_DS1031	_031	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1032	_032	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1033	_033	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1034	_034	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1035	_035	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
_DS1036	_036	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1037	_037	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1038	_038	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
_DS1039	_039	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
_DS1040	_040	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1041	_041	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1042	_042	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
_DS1043	_043	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
_DS1044	_044	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1045	_045	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
_DS1046	_046	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
_DS1047	_047	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
_DS1048																																			

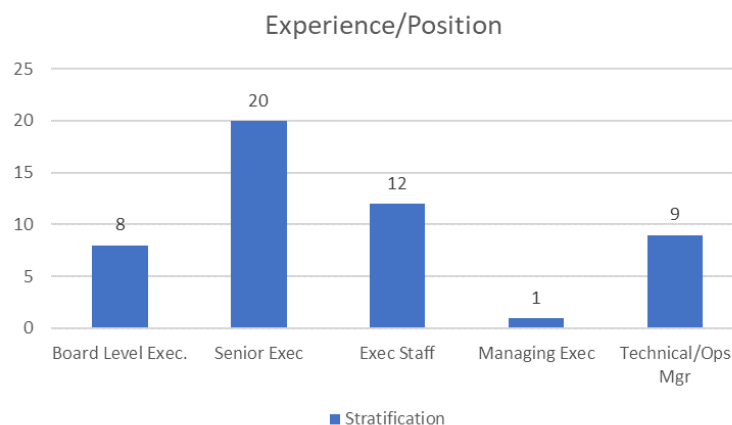


Figure 11. Survey participants: Distribution and proportional analysis.

Table I2.

Experience and Position (PsEp1): Analysis

PsEp1. Analysis: Pre-selection criteria – Experience/Position

Results

1. The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or with subject matter expertise was reduced to (n) = 50. These were selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,022 examined for the study.
2. Data is skewed to the left, meaning a significant number of responses were found in the first three categories.
3. 40.0% of the respondents held senior executive positions of responsibility; 24.0% were members of executive staffs; and, 16.0% held board-level or equivalent positions. Collectively, these three groups represent ($40 + 24 + 16 = 80.0\%$) of the sampling.
4. **Significance:**
 - a. Leaders and advisors of policy development, approval, and administration substantially hold either board-level, senior executive, or executive staff positions.
 - b. Only 20.0% of policy advice, development, approval, and administration is influenced by managing executives and technical operations managers.

Note. CSV restructured online survey data.

1. Board Level Executive = Board Level Executive = Board member, Chairman, Director, Founder, etc.
2. Senior Executive = Director, Chief Executive Officer, Dean, Department Head, Deputy Director, Minister of State, etc.
3. Executive Staff = Chief Executive's Senior Staff Member, Professor, Senior Executive Advisor, Consultant, Chief Operations Officer, etc.
4. Managing Executive = Operations Executive, Regional Administrator, Adjunct Professor, Senior Research Lab/Program Manager, etc.
5. Technical/Ops Manager = Technical Operations Expert, Researcher, Project Manager, etc.
6. Other = Subject Matter Expert, Author, Researcher, Student pursuing an advanced degree, Publication Technician, Contributing Technical Consultant, etc.
7. Survey Participants, represent post-approved IRB qualified, selection information and supporting subject non-identifiable encrypted data and record numbers.
8. Subject-prospects were digitally contacted after the IRB plan was approved. As observed only a portion of those recruited participated in the live survey rounds online.

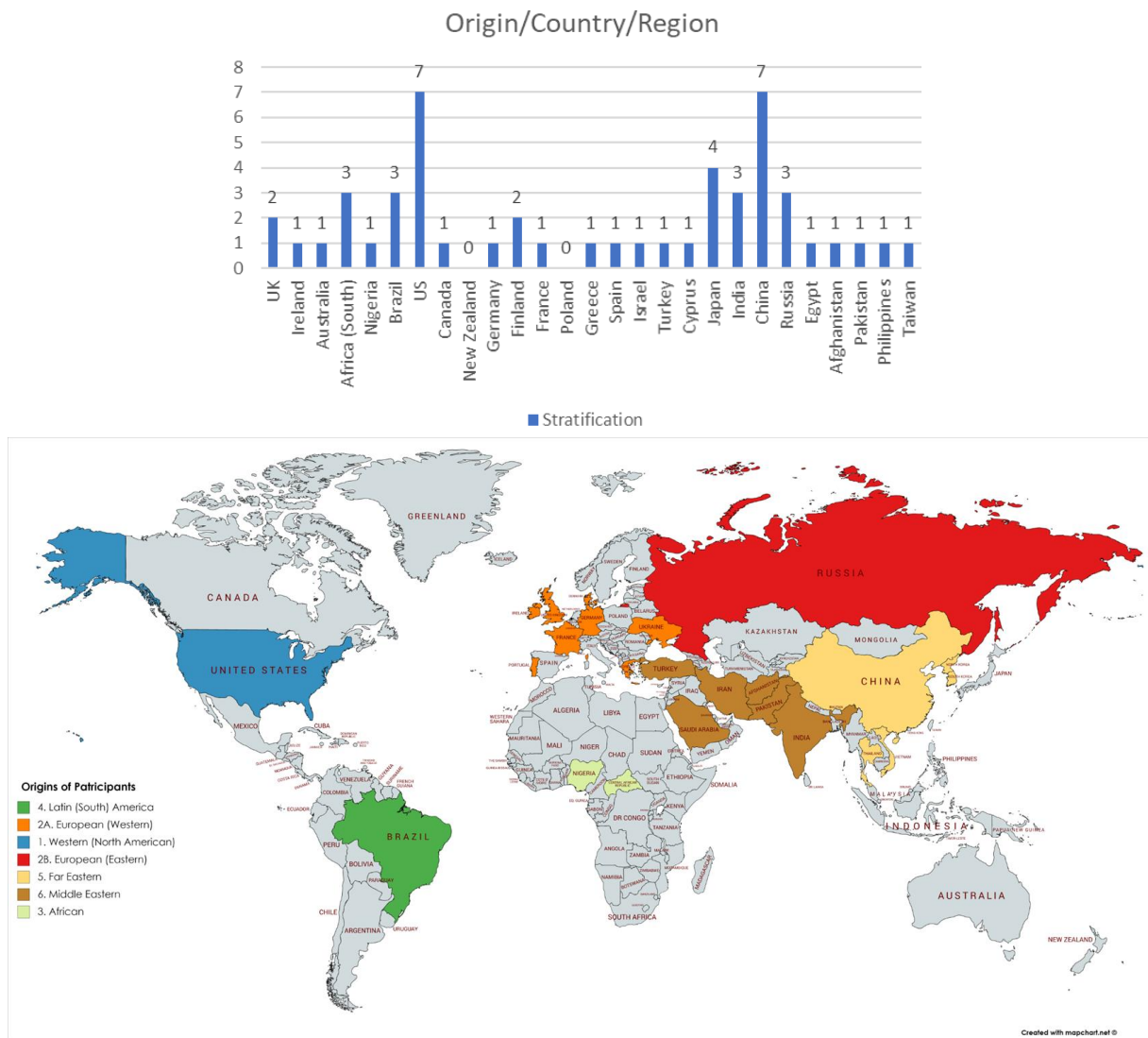


Figure I2. Homogeneity: Geographic dispersal of R3-4 participant returns.

Table I3.

Origin, Country and Region (PsOr1): Analysis

PsOr1. Analysis: Pre-selection criteria – Origin/Country/Region	
Results	
1.	The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,022.
2.	Data is skewed to the left and to the right, meaning a significant number of responses were found in those countries listed to the left beginning with the UK and ending with the U.S. (Grp1); and, those listed to the right beginning with Japan and ending with Taiwan (Grp2).
3.	36.% of the respondents were in Grp1; and, 44.0% were in Grp2. Collectively, the two groups represent 80.0% of the sample.
4.	Significance
a.	Of the countries or regions listed, Africa (South) = 06.0, Nigeria = 02.0; Brazil = 06.0; Turkey = 02.0; India = 06.0; Russia = 06.0; and Taiwan = 02.0 represent 30.0% of the targeted survey participants. Of this group, all responded with exception to Russia. This was likely due to the late delivery and cut-off dates for the survey to those contacted in Russia that volunteered to take the survey.
b.	14.0% of the targeted participants were from the U.S.; and, 14.0% of the targeted participants represented China. This proportionality (bias) was specifically established in the design of the study and associated research. Combined, U.S. and China respondents represented 28.0% of the target group. Of these two groups 30 targeted participants responded.

Note. CSV restructured online survey data.

1. Delphi survey subjects were pre-qualified and selected for origin, country, or region that bordered China, living in those countries that were members of BRICS, or represent cultural centers that represent substantial trade, commerce and cultural exchange programs with China.
2. The founding members of BRICS were Brazil, Russia, India, China, South Africa. See other references related to BRICS in this study.
3. Only those individuals that were fluent in English as a first or second language were invited to participate from the countries or regions listed. Being fluent in English was a selection criterion for participation in the survey process. Additionally, this criterion was specifically stipulated in the approved IRB.

Table I4.

Delphi Survey Participants: Pre-qualified selectees (Homogeneity)

Education				Age Group			Areas of Expertise									Dominant Leadership Characteristics										Degree of Influence					Social Media	Gender		Contact Returns	
1	2	3	4	1	2	3	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	1	1	2	1	2
Undergraduate Degree	Graduate Degree	Doctorate	Post-Doctorate	20-40 Age Group	41-60 Age Group	61-80 Age Group	Social	Political	Economic	Legal	Intercultural	Technology	Infrastructure	Asian Studies	Leadership & Policy	Achiever (1)	Activator (2)	Adaptability (3)	Competition (9)	Developer (14)	Maximizer (26)	Responsibility (29)	Self-Assurance (31)	Strategic (33)	Other (35)	Global	Regional	Multi-national	National	Provincial/State/City	Social Media/Shared Connections score	Male	Female	Contracted	Favorable Return
0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	1	1	0	1	0	0	1	1	0	1	0	0	0	0	143	1	0	1	1
0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	1	1	0	1	1	0	1	0	1	0	0	0	0	141	1	0	1	0
0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	1	1	0	0	1	0	0	0	1	107	1	0	1	1
0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	405	1	0	1	0	
0	1	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	104	1	0	1	1	
0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	164	1	0	1	1	
0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	1	104	1	0	1	1	
0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	1	0	1	1	1	0	0	0	1	0	84	0	1	1	1	
1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	0	0	0	1	0	145	1	0	1	1
0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	150	1	0	1	1	
0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	140	1	0	1	1	
1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	1	1	1	0	1	0	0	0	267	1	0	1	1	
1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	314	1	0	1	0	
1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	0	0	1	0	0	124	1	0	1	1	
0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	1	1	0	1	1	1	1	0	0	0	1	0	173	1	0	1	0	
0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	1	1	0	1	0	0	1	1	1	1	0	0	0	0	1	90	1	0	1	0	
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1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	119	1	0	1	0	
0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	1	1	1	0	0	1	0	1	1	1	0	0	0	0	1	121	1	0	1	0	
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0	0	1	0	0	1	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	173	1	0	1	0	
0	0	1	0	0	1	0	1	1	0	0	0	1	1	1	1	1	1	0	0	1	0	1	1	0	0	0	0	0	1	122	1	0	1	0	
1	0	0	0	1	0	0	1	1	1	0	0	1	1	0	1	1	1	0	1	0	1	1	1	1	0	0	0	0	1	247	1	0	1	0	
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0	1	0	0	1	0	0	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	1	1	0	1	1	1	
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0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	1	130	1	0	1	0	
12	14	19	5	20	22	8	33	34	22	19	27	24	17	33	35	48	42	37	22	32	28	47	47	36	0	14	5	10	5	16	8613	44	6	50	21
0.240	0.280	0.380	0.100	0.400	0.440	0.160	0.135	0.139	0.090	0.078	0.111	0.098	0.070	0.135	0.143	0.142	0.124	0.109																	

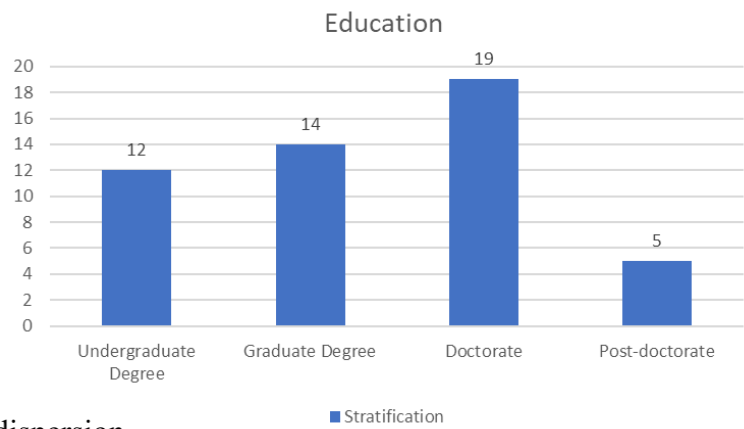


Figure I3. Education dispersion.

Table I5.

Education (PsEd1): Analysis

PsEd1. Analysis: Pre-selection criteria – Education	
1.	The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,282.
2.	Data is skewed to the left, meaning a significant number of responses were found in the first three categories.
3.	38.0% of the respondents held doctorate degrees; 28.0% held graduate degrees; and, 24.0% held undergraduate degrees. Collectively, (38 + 28+ 24 = 100), or 100.0% of the sampling.
4.	Significance:
a.	52.0% of the policy executives and administrators sampled held undergraduate or graduate degrees.
b.	48.0% of the policy advisors and developers held doctorate or post-doctorate degrees.

Note. CSV restructured online survey data.

- 1. Undergraduate Degree = Subject has obtained a bachelor’s degree from a widely recognized national or regional college or university. A degree program that normally requires five years to complete.
- 2. Graduate Degree = Subject has obtained a master’s degree from a widely recognized national or regional college or university. A degree program that normally requires two to three years to complete.
- 3. Doctorate = Subject has obtained a doctorate or post-graduate professional degree program from a widely recognized national or regional college or university. A degree program that normally requires two to three years to complete.
- 4. Post-doctorate = Subject has obtained a post-doctorate or advanced professional certification program from a widely recognized national or regional college, university, or institution. A program that normally requires between two to five years to complete.

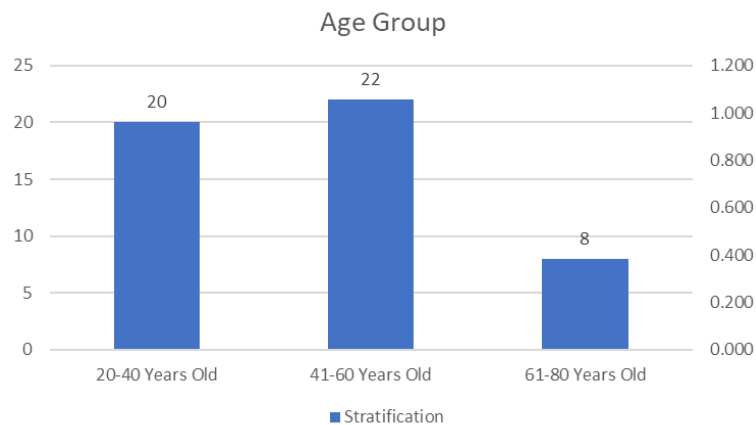


Figure I4. Age dispersion.

Table I6.

Age Group (PsAg1): Analysis

PsAg1. Analysis: Pre-selection criteria – Age Group

1. The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,282.
2. Data is skewed to the left, meaning a significant number of responses were found in the first two categories.
3. 44.0% of the respondents were in the 41-60 age group; and, 40.0% fell in the 20-40 age group. Collectively, this represents 84.0% of the sampling.
4. **Significance:**
 - a. Leadership charged with policy advisement, development, approval, and administration were largely between the ages of 20 to 60 years old.
 - b. 52.3% of policy advisement, development, approval, and administration leadership were represented in the 41-60 age group; with 47.6% represented in the 20-40 age group.

Note. CSV restructured online survey data.

1. Distribution of Delphi subjects pre-qualified and selected for survey participation.
2. Subjects were pre-qualified and selected based on a number of qualities. These included the categories represented in this series of tables and figures.
3. The age outcomes of those targeted to participate in the Delphi survey are largely associated to the work experience, present focus of employment, position, and level of education.
4. Those in the 20 to 40 age group are actively engaged in various entry or mid-level positions of organizational, institutional, or government policy development; and/or, in positions of responsibility for making or implementing policy decisions.
5. Those in the 41 to 60 age group are actively engaged in various senior levels of organizational, institutional, or government policy development; and/or, in positions of responsibility for making or implementing policy decisions.
6. Those in the 61 to 80 age group are senior level organization advisors, consultants, members of an organizational board, chairman, or widely published subject matter expert's that are active in social security, health care, and or leadership as policy analysts or developers.

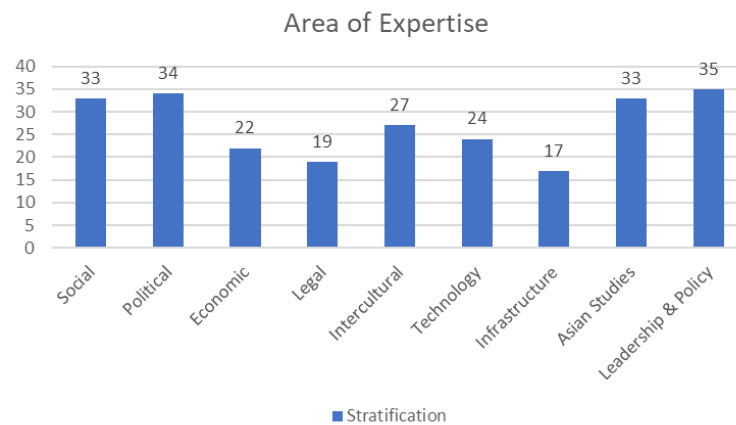


Figure I5. Area of expertise dispersion.

Table I7.

Area of Expertise (PsAe1): Analysis

PsAe1. Analysis: Pre-selection criteria – Area of Expertise

1. The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,282.
2. Data is equally distributed, meaning a significant number of responses were distributed over 7 of 9 categories.
3. The categories chosen were extracted from the SPELIT model framework; and, included infrastructure, Asian studies, leadership, and policy.
4. 14.3% of the respondents were directly involved in leadership roles associated with policy development, approval, and administration; and, 85.7% were actively engaged in other areas of expertise as listed.
5. Leadership and policy = 14.3%; Asian studies = 13.5%; political expertise = 13.9%; and, social expertise = 13.5% represented the greatest centers of expertise or collectively = 55.3% of the sample.
6. **Significance:**
 - a. Leadership, policy, Asian studies, political, and social collectively represented 55.3% of the expertise in the sample.
 - b. Political and social expertise rated the highest when viewed through the lens of the SPELIT model.

Note. CSV restructured online survey data.

1. Distribution of subject's areas of expertise.
2. See code book for a description of each category and associated theme definitions.
3. Social, political, economic, legal, intercultural, and technology are categories directly associated to Schneider-Ramirez and Mallette's SPELIT framework.
4. This researcher modified the SPELIT framework by adding infrastructure as another category of investigation.
5. The Asian, leadership, and policy areas of expertise were added in order to better focus the pre-qualification and selection of the Delphi survey subjects. Subjects with specific expertise, work experience, and or policy experience at possess an active interest or passion in Asian studies, leadership, and policy development and associated decisional processes were considered best fit for this study.

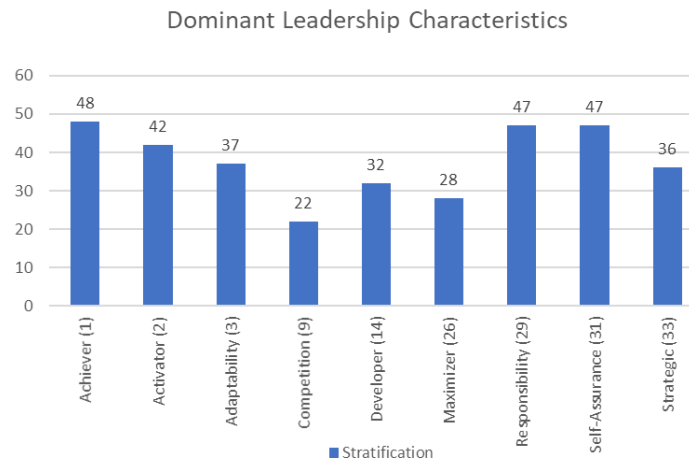


Figure I6. Dominant leadership characteristics dispersion.

Table I8.

Dominant Leadership Characteristics (PsLc1): Analysis

PsLc1. Analysis: Pre-selection criteria – Dominant Leadership Characteristics

1. The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,282.
2. Data is somewhat evenly distributed, meaning a significant number of responses were distributed over 7 of 9 categories.
3. The categories chosen were extracted from the Strengths Finder 2.0 model as a selection criterion for survey participants. The selected leadership characteristics were directly aligned to those extracted from the literature research conducted in association with China's leaders in the areas of social security, health care, and supporting policy.
4. Achiever = 14.2%; self-assurance = 13.9%; responsibility = 13.9%; strategic = 10.6%; and, adaptability = 10.9% represented the highest leadership characteristics, collectively = 63.5% of the sample.
5. **Significance:**
 - a. Achiever, responsibility, and self-assurance appear to be prominent characteristics in China's leaders.
 - b. These three characteristics are likely to influence or drive China's leadership policy in the areas of social security and health care.

Note. CSV restructured online survey data.

1. Dominant leadership characteristics were assigned by the study's SDP (sub-committee) after reviewing each prospect-subject's non-identifiable data, activity indicators, background, interests, experience, leadership positions, scale of organizational experience, achievements, and social media score.
2. Achiever (1) = See Volume I, Leadership Strengths: Future Influencing Characteristics, Styles and Traits; and, Table 5 definitions.
3. Activator (2) = See references listed above.
4. Adaptability (3) = See references listed above.
5. Competition (9) = See references listed above.
6. Developer (14) = See references listed above.
7. Maximizer (25) = See references listed above.
8. Responsibility (29) = See references listed above.
9. Self-Assurance (31) = See references listed above.
10. Strategic (33) = See references listed above.
11. Other (36) = See references listed above.

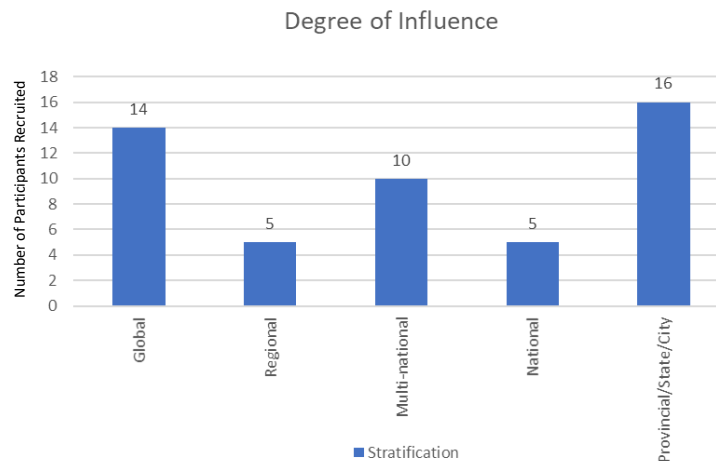


Figure 17. Degree of influence dispersion.

Table I9.

Degree of Influence Dispersion (PsDi1): Analysis

PsDi1. Analysis: Pre-selection criteria – Degree of Influence

1. The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,282.
2. Data is skewed to the right and left, meaning a significant number of responses were found to have global, regional; or national, provincial, state, and city influence over the five categories.
3. 32.0% of the recruited respondents illustrated provincial, state, or city influence; while 28.0% of the respondents illustrated global influence. Collectively, this represents 58.0% of the sampling. The remaining 42% of the respondents represented regional, multi-national, and national influence.
4. **Significance:**
 - a. 58.0% of the recruited respondents illustrated global, provincial, state, or city influence.
 - b. Respondents with regional, multi-national (intercultural), and national influence represented 42.0% of the sample.
 - c. Social media scores were considered by the SDP an indicator of connectedness within each respondent's area of expertise and the likelihood of them being actively engaged in policy narratives.

Note. CSV restructured online survey data.

1. Social Media Score = The total number of shared connections with this student investigator based on common areas of interest, background, experience, and leadership characteristics that support the study topic and investigation.
2. Global = Activities and experience at the global level.
3. Regional = Activities and experience at the regional level.
4. Multi-national = Activities and experience at the multi-national level.
5. National = Activities and experience at the national or country level.
6. Provincial/State/City = Activities and experience at the Provincial, State, or City level.
7. Contact = Digital message sent to prospect-subject. See pre-scripted Delphi survey messages/letters/participation advice notifications, statements of risk and benefits.
8. Favorable Return = Subject returned favorable digital message to the Student Investigator.

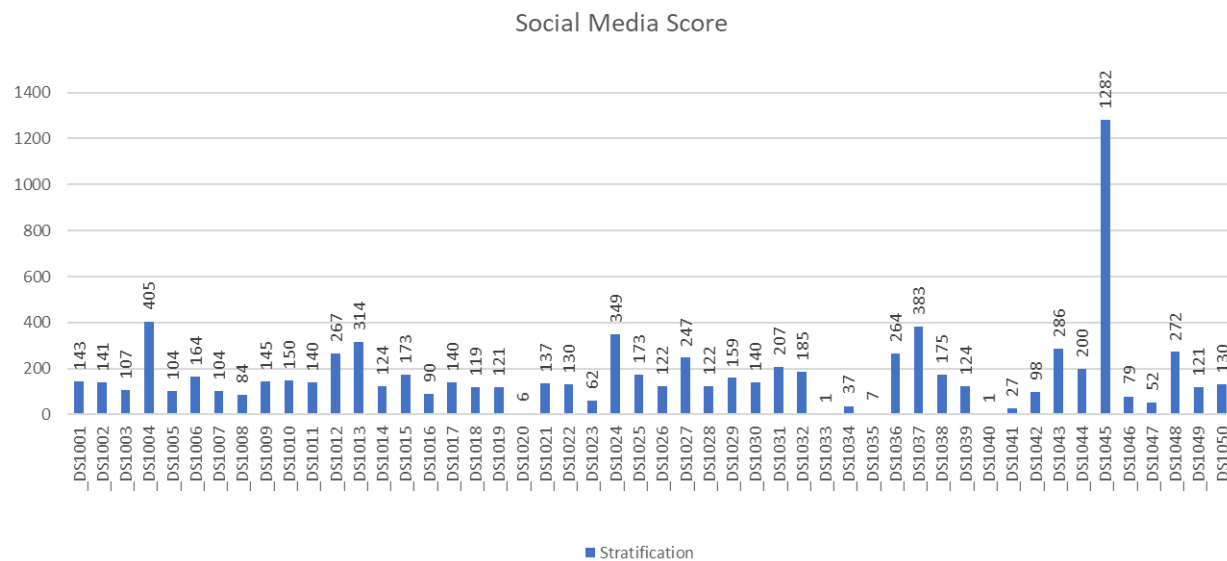


Figure I8. Social media score dispersion.

Table I10.

Social Media Dispersion (PsSm1): Analysis

PsSm1. Analysis: Pre-selection criteria – Social Media Score

1. The analysis of international survey candidates in the areas of: policy development, senior leadership executives, administrators or advisors, active international networks, and/or expertise; reduced to (n) = 50 selected with specific attention to proportionalities identified in the larger sample frame (N) = 1,282.
2. Media scores ranging from 104 to 405 are relatively evenly distributed, meaning a significant number of responses were found in the range identified. The mean media score in the sample = 172.26.
3. One notable exemption is the social media score = 1282.00 associated with a non-identified participant that is a subject matter expert and international author on the study topics.
4. **Significance:**
 - a. Media scores were found to be the highest for those associated with global, regional, or multi-national (intercultural) involvement or engagement.
 - b. Due to the non-identification or encryption of survey participants the depth of observations associated with this inquiry were limited.

Note. Source: CSV restructured online survey data.

1. Social Media Score = The total number of shared connections with this investigator based on common areas of interest, background, experience, and leadership characteristics that support the study topic and investigation.
2. Values recorded for each participant code (non-identifying encryption) were extracted from publicly viewable information (analytics) published on their LinkedIn websites.
3. The number of media connections over the range of pre-qualified selected subjects = 1 to 1,282. In the case of the subject that had acquired 1,282 connections, the subject was widely accepted as an international author and public speaker with considerable subject matter expertise in this study's areas of interest.

Table II1.

Other Notable Statistical Analytics and Techniques Applied

Procedure	Description and Application
	<p>Other notable information</p> <p>The pre-qualified Delphi selectees were extracted from a highly selective search that was scripted to identify those that best matched this study's selection criteria which additionally required the ability of each subject to speak and write English. The initial selection group produced by the search script totaled 1,282 potential subjects. After completing a review of the 1,282 potential subjects a total of 50 were considered best fit to participant in the Delphi survey.</p> <p>Selectee Contacts and favorable returns</p> <p>The table figures indicate the success or failure of this investigator's ability to contact each subject. As such, the column labeled contact = digital message(s) sent to each prospective subject. Successful attempts were recorded = 1. Unsuccessful attempts were recorded = 0. See pre-scripted Delphi survey messages/letters/participation advisory notifications, consent script, and statements of risk and benefits associated with each subject's voluntary determination to participate in the Delphi survey process. Favorable returns, decisions to voluntarily participate in this study's survey were scored = 1; where decisions not to participate or no response was returned were scored = 0. Favor returns were returned and acknowledged directly by this investigator using the same digital platform that was used to extend the invitation to participate in this study's Delphi survey process. As of the cut-off date of the table data shown, 21 out of a total of 50 subject prospects indicated an interest in volunteering to participate in the Delphi survey or approximately 42% of those queried.</p> <p>Gender Proportionment</p> <p>Interestingly, the proportionment of females represented in the sample equals 12%. This outcome is directly associated with and driven by the pre-selection criteria of this study's survey as gender was not included as a qualifier or selection criteria.</p> <p>Homogeneous vs Heterogeneous Sampling</p> <p>The pre-qualified selected sample group was extracted from a randomized data frame using only policy, Asian, leaders, academic, social security, and health care as search filters. The initial frame outcome represented a total of 1,282 randomized subjects.</p> <p>Homogeneity, Homogeneous Data and Homogeneous Sampling</p> <p>Statistically homogeneity or homogeneous data is represented by a data set that is made up of things (i.e. people, cells, traits, themes, or variables) that are similar to each other. For example, a data set made up of 20-year-old college students enrolled in Physics 101 is a homogeneous sample. In the case of this study, a data set made up of people how are employed as social policy developers or implementors represents a homogeneous sample. Why was Homogeneous Sampling applied to this study's survey process?</p> <p>In homogeneous sampling, all the items in the larger random sample data frame are selected due to similarities associated with specifically desirable traits, themes, or variables. For example, people in a homogeneous sample might share age group characteristics, geographic origins, or areas of employment expertise or interests. In this case, the selected traits were those that proved to be useful to a researcher or principal investigator. It is a type of purposive sampling is opposite a heterogeneous sampling that tends to maximize variations within a given sampling frame.</p> <p>What are the characteristics of a Homogeneous sample frame?</p> <p>Typically, researchers applying this approach to structuring data frames are attempting to achieve what Mitroff would refer to as reducing the data so as to enable the investigator to more readily extract significant observations. Therefore, the investigator seeks to construct a small data frame. In the case of this study, the investigator used sorting routines and filters that allowed the reduction of the more heterogeneous data to be reduced to smaller date set that equaled 50 subjects instead of 1,282.</p> <p>Data Frames Made up of similar themes</p> <p>The opposite of a homogeneous sample is a heterogeneous sample. For this example, you might have a heterogeneous sample of 18-21year-old students in history 112, chemistry 211 and physics 101. The same is true for a heterogeneous population [all items in the population have different characteristics] and a homogeneous population [all items in the population have the same characteristics] (Stephanie, 2018).</p> <p>Homogeneous in Data Structuring Terms</p> <p>In data analysis, a set of data is also considered homogeneous if the variables are one type (i.e. binary or categorical); if the variables are mixed (i.e. binary + categorical), then the data set is heterogeneous. This case study's data structuring is somewhat unique in that the variables are mixed (i.e. binary + categorical).</p>

(continued)

Procedure	Description and Application
	<p>That said, these have been reduced to focus on a limited number of unique commonly shared characteristics. While it's common in statistics to use "homogeneous" to mean the general sense of being the same, a data set can be analyzed mathematically to see if the data set is homogeneous. There are several ways to achieve this (Stephanie, 2018). Boxplots, variance, standard deviation, and interquartile ranges. Analysts commonly recommend the application of comparative boxplots, variance tests, standard deviation, and interquartile ranges as methods to determine statistical homogeneity (Stephanie, 2018).</p> <p>Statistical Tests</p> <p>Running statistical tests for homogeneity becomes important when performing any kind of data analysis, as many hypothesis tests run on the assumption that the data has some type of homogeneity. For example, an ANOVA test assumes that the variances of different populations are equal [i.e. homogeneous] (Stephanie, 2018).</p> <p>Chi-Square Test</p> <p>By applying this test, a researcher can identify whether two population samples come from the same or similar randomized distribution frames (if they do, then they are homogeneous). According to Stephanie, the test is run the same way as the standard chi-square test; where χ^2 is computed, and the null hypothesis (that the data comes from the same distribution) is either accepted or rejected (Stephanie, 2018).</p> <p>Homogeneity of Variance</p> <p>Homogeneity of variance (also called homoscedasticity) is used to describe a set of data that has the same variance. Visually, the data will have the same or similar data point distribution on a scatter plot. If data does not have the same variance, it will show a heteroscedastic (not the same) scatter pattern. (Stephanie, 2018).</p> <p>In this case, Dr. Yushuf Sharker reviewed and approved the data frame reduction to 50 samples (subjects) as part of the process of applying the R statistical analysis program to generate many of the analytics reported in various sections of this study (Sharker, 2017).</p>

Table I12.

*SDP Rnd1-2 Beta-Questionnaire: Participant Background and Experience Themes and Coding**(Section E)*

1. Participant Background & Experience				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme Alignment	Item No.	Survey Statement Construction	Response Scale	RQKn Code
Background	E1	Rank the following areas that best represent your work experience?	1 2 3 4 5 6 7	PB1
		1. Social; 2. Political; 3. Economic; 4. Legal; 5. Intercultural (diversity); 6. Technology; 7. Other (please specify)		
Background	E2	How many years of work experience do you have in the area(s) you indicated in the prior question?	1 2 3	PB2
		1. 1-3yrs.; 2. 4-6yrs.; 3. Other (please specify)		
Background	E3	How often do you participate in the evaluation and creation of organizational policy?	1 2 3 4 5	PB3
		1. Seldom; 2. Occasionally; 3. Regularly; 4. More often than not; 5. Repeatedly		
Background	E4	How interested are you in global events?	1 2 3 4	PB4
		1. Not interested; 2. Somewhat interested; 3. Interested; 4. Very interested		
Background	E5	How would you characterize your level of educational learning or experience?	1 2 3 4 5 6	PB5
		1. 1-12yrs. (High School Diploma or equivalent); 2. 13-17yrs. (College Bachelors Degree or equivalent); 3. 16-20yrs. (College Masters Degree or equivalent); 4. 21-22yrs. (Doctoral Degree or equivalent); 5. 23 or more yrs. (Post-Doctoral or Professional Certification equivalent); 6. Other (please specify)		
Background	E6	How would you characterize your ethnicity or nationality?	1 2 3 4 5 6 7	PB6
		1. Western (North American); 2. European (Ireland, England, Western European, Baltic States & Russia); 3. African (includes India); 4. Latin American (includes Central America); 5. Far Eastern (includes Vietnam, Thailand, China, Korean); 6. Middle Eastern (Saudi Arabia, Iran, Iraq, Pakistan, Afghanistan); 7. Other (please specify)		

Table I13.

*SDP Rnd1-2 Beta-Questionnaire: Social Themes and Coding**(Section F)*

2. Social Environment				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Social	F1	Would you agree that China will introduce a social security system due to its aging population?	1 2 3 4 5 6 7	RQK1 A1
{ ³ S ₉ , ² S ₈ } Social Security Aging Population		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F2	China's social security and health care (social program reforms) are critical to its economic growth.	1 2 3 4 5 6 7	RQK2 A2
{ ³ S ₁₀ , ² S ₈ } Health Care Aging Population		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F3	Would you agree that China will introduce a health care program due to its aging population?	1 2 3 4 5 6 7	RQK3 B1
{ ² S ₁ , ² S ₈ } Geography Aging Population		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F4	The current environment in China provides a framework for social and economic freedom (right of enjoyment) for the Chinese people.	1 2 3 4 5 6 7	RQK4 B2
{ ² S ₃ , ³ S ₈ } Growth Aging Population		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F5	The common people's social freedoms (lifestyle) are better in China now that it has been in the past.	1 2 3 4 5 6 7	RQK5 B3
{ ² S ₈ , ³ S ₉ } Aging Population Social Security		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F6	China's growth has no association with its aging population.	1 2 3 4 5 6 7	RQK6 B4
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		

(continued)

2. Social Environment				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Social	F7	China's aging population is influencing the need to increase its social security programs.	1 2 3 4 5 6 7	RQK7 B5
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Strongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F8	China's social security needs are influencing its health care needs.	1 2 3 4 5 6 7	RQK8 B6
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Strongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F9	China's education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.	1 2 3 4 5 6 7	RQK9 B7
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Strongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F10	China's education system is keeping up with the country's rapid growth.	1 2 3 4 5 6 7	RQK10 B8
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Strongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F11	China's single-child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy.	1 2 3 4 5 6 7	RQK11 B9
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Strongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Social	F12	China's emerging social ideology (policy changes) will improve the lifestyle of its "common people".	1 2 3 4 5 6 7	RQK12 B10
{ ² S ₈ , ³ S ₁₀ } Social Security Health Care		1. Definitely agree; 2. Strongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		

Table I14.

*SDP Rnd1-2 Beta-Questionnaire: Leadership Themes and Coding**(Section G)*

3. Leadership Environment				
Please identify a response that best represents your personal knowledge or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Leadership	G1	China's external leadership behavior is in conflict with its external leadership ideologies.	1 2 3 4 5 6 7	RQK13 C1
{ ² P ₈ , ² P ₇ } Leadership Behavior Ext Leadership Ideologies		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G2	China's leadership behavior is focused on increasing power, authority, and superiority as to influence the present global political equilibrium.	1 2 3 4 5 6 7	RQK14 C2
{ ² P ₇ , ² P ₉ } Ext Leadership Ideologies Equilibrium		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G3	China's changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology.	1 2 3 4 5 6 7	RQK15 C3
{ ² P ₅ , ² P ₈ } Int Leadership Ideologies Equilibrium		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G4	China's present leadership behavior is focused on increasing its future access to resources in order to sustain its present growth.	1 2 3 4 5 6 7	RQK16 C4
{ ² P ₈ , ³ P ₁₁ , ² S ₃ } Leadership Behavior Natural Resources Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G5	China's leadership will move it to increase the country's food supply to sustain its growth.	1 2 3 4 5 6 7	RQK17 C5
{ ² P ₇ , ³ P ₁₁ , ³ S ₃ } Ext Leadership Ideologies Food Supply Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G6	China's cultural ideologies are linked to its need to adopt social forms.	1 2 3 4 5 6 7	RQK18 C6
{ ² P ₇ , ³ P ₁₁ , ³ S ₃ } Ext Leadership Ideologies Food Supply Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		

(continued)

3. Leadership Environment				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Leadership	G7	The unity of China's people is linked to its government's equilibrium.	1 2 3 4 5 6 7	RQK19 C7
{ ² P ₇ , ³ P ₁₁ , ³ S ₃ } Ext Leadership Ideologies Food Supply Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G8	The unity of China's people is linked to its government's ability to achieve power, authority, and superiority.	1 2 3 4 5 6 7	RQK20 C8
{ ² P ₇ , ³ P ₁₁ , ³ S ₃ } Ext Leadership Ideologies Food Supply Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G9	(Rank the PROBABILITY) China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.	1 2 3 4 5 6 7	RQK21 C9
{ ² P ₇ , ³ P ₁₁ , ³ S ₃ } Ext Leadership Ideologies Food Supply Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		
Leadership	G10	(Rank the PROBABILITY) China's global emergence is the result of a leadership change phenomenon that is focused on power, authority, and superiority of the global economic and monetary ideology.	1 2 3 4 5 6 7	RQK22 C10
{ ² P ₇ , ³ P ₁₁ , ³ S ₃ } Ext Leadership Ideologies Food Supply Growth		1. Definitely agree; 2. Stongly agree; 3. Somewhat agree; 4. Somewhat disagree; 5. Strongly disagree; 6. Definitely disagree; 7. Other (please specify)		

Table I15.

*SDP Rnd1-2 Beta Questionnaire: Social and Legal Themes and Coding**(Section H)*

4. Social and Legal Environments				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Social	H1	H1. China will redefine his people's freedoms and social equilibrium to sustain its government's legitimacy.	1 2 3 4 5 6 7	RQK23 C1
{ ³ P ₁ , ² S ₄ , ⁴ P ₄ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Freedom Stability (Balance) Int Govnmt Legitimacy				
Legal	H2	H2. China will redefine its civil rights to increase social unity and economic balance to sustain his government's legitimacy.	1 2 3 4 5 6 7	RQK24 C2
{ ² P ₂ , ³ S ₅ , ² S ₄ , ³ P ₄ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Civil Rights Unity Stability (Balance) Int Govnmt Legitimacy				
Legal	H3	H3. China will reinforce intellectual property law and protection to increase foreign investment even if it means slowing its economic growth.	1 2 3 4 5 6 7	RQK25 C3
{ ² L ₁ , ³ L ₄ , ³ E ₁₆ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Intellectual Prop & Prot Foreign Investment Growth				
Legal	H4	H4. China will increase citizen's right of ownership in order to sustain its economic growth.	1 2 3 4 5 6 7	RQK25 C3
{ ² L ₁ , ³ L ₄ , ³ E ₁₆ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Intellectual Prop & Prot Foreign Investment Growth				
Legal	H5	H5. China's emerging legal policy changes will improve the freedom (myself) of its "common people".	1 2 3 4 5 6 7	RQK26 C4 C12
{ ⁴ L ₅ , ² E ₁₆ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Right of Ownership Growth				

Table I16.

*SDP Rnd1-2 Beta-Questionnaire: Economic and Technology Themes and Coding**(Section I)*

5. Economic and Technology Environments				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Economic	I1	China will be confronted by a downturn in its economic growth.	1 2 3 4 5 6 7	RQK27 C5
{ ² E ₁₆ } Growth		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Economic	I2	China's economic growth is beneficial to the global community.	1 2 3 4 5 6 7	RQK28 C6
{ ² E ₈ } Economic & Monetary Id		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Economic	I3	China's economic and monetary ideologies will be forced to transform to those of the West.	1 2 3 4 5 6 7	RQK29 C7
{ ² E ₂ , ³ E ₁₆ } Environmental Growth		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Technology	I4	China will reduce its environmental waste and emissions even if it means slowing its economic growth.	1 2 3 4 5 6 7	RQK30 C8 C14
{ ³ T ₂ , ³ T ₃ , ³ P ₁₄ } Technology Military Power		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Technology	I5	China will focus on increasing his technology and military systems in order to obtain dominance as a global power.	1 2 3 4 5 6 7	RQK30 C8 C14
{ ³ T ₂ , ³ T ₃ , ³ P ₁₄ } Technology Military Power		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Technology	I6	China's emerging economic policy changes will improve lifestyle of its "common people".	1 2 3 4 5 6 7	RQK30 C8
{ ³ T ₂ , ³ T ₃ , ³ P ₁₄ } Technology Military Power		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		

(continued)

5. Economic and Technology Environments				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Technology	I7	China's emerging technology policy changes will improve the lifestyle of its "common people".	1 2 3 4 5 6 7	RQK30 C8
{ ³ T ₂ , ³ T ₃ , ³ P ₁₄ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Technology Military Power				
Technology	I8	China's emerging Infrastructural policy changes will prove the lifestyle of its "common people".	1 2 3 4 5 6 7	RQK30 C8
{ ³ T ₂ , ³ T ₃ , ³ P ₁₄ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Technology Military Power				
Technology	I9	China's focus on building "world-class" higher education and advanced technical training programs are linked to achieving its global growth and superiority.	1 2 3 4 5 6 7	RQK30 C8 C14
{ ³ T ₂ , ³ T ₃ , ³ P ₁₄ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Technology Military Power				

Table I17.

*SDP Rnd1-2 Beta-Questionnaire: Social, Political and Leadership Themes and Coding**(Section J)*

6. Social, Political and Leadership Environments				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Social	J1	China's continued economic growth will allow it to introducing her future public social security and health care programs.	1 2 3 4 5 6 7	RQK31 D1
{ ² E ₁₆ , ³ S ₉ , ³ S ₁₀ } Growth Social Security Health Care		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Political	J2	China's government will address the social security and health care crisis even if it reduces the country's national wealth.	1 2 3 4 5 6 7	RQK32 D2
{ ² S ₉ , ² S ₁₀ , ³ E ₅ } Social Security Health Care Capital Reserves		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Leadership	J3	China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.	1 2 3 4 5 6 7	RQK33 D3
{ ² P ₅ , ² E ₇ } Int Leadership Ideology Shared Wealth		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Leadership	J4	China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community.	1 2 3 4 5 6 7	RQK34 D4
{ ³ P ₅ } Int Leadership Ideology		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		

Table I18.

*SDP Rnd1-2 Beta-Questionnaire: Survey Methodology Inquiry Themes and Coding**(Section K)*

7. Methodology and Factors Framing the Study				
Please identify a response that best represents your personal background or experience. The response range is from 1 to 7.				
Theme/Code	Item No.	Survey Questions/Statements	Response Scale	RQKn Code
Social	K1	(Rank the following) Order the factors that are influencing China's national priorities, policies, and future direction.	1 2 3 4 5 6 7	RQK31 D1
{ ² E ₁₆ , ³ S ₉ , ³ S ₁₀ }		1. Social environmental factors; 2. Political environment factors; 3. Economic environment factors; 4. Legal environment factors; 5. Intercultural environment factors; 6. Technology environmental factors; 7. Infrastructural environmental factors; 8. Other (please specify)		
Growth Social Security Health Care				
Social	K2	(Rate your LEVEL OF AGREEMENT) by applying appropriate., Design, approach, and process to the study of China significant knowledge can be gained that sports predicting policies, positions, and the direction its leaders will take.	1 2 3 4 5 6 7	RQK31 D1
{ ² E ₁₆ , ³ S ₉ , ³ S ₁₀ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Growth Social Security Health Care				
Social	K3	By examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders.	1 2 3 4 5 6 7	RQK31 D1
{ ² E ₁₆ , ³ S ₉ , ³ S ₁₀ }		1. No importance; 2. Somewhat unimportant; 3. Unimportant; 4. Neutral - No opinion; 5. Somewhat important; 6. Important; 7. Very important		
Growth Social Security Health Care				
Social	K4	(In Rank Order) Identify those factors you believe are influencing or driving a global "power shift" between China and the United States?	1 2 3 4 5 6 7 8	RQK31 D1
{ ² E ₁₆ , ³ S ₉ , ³ S ₁₀ }		1. Social environmental factors; 2. Political environment factors; 3. Economic environment factors; 4. Legal environment factors; 5. Intercultural environment factors; 6. Technology environmental factors; 7. Infrastructural environmental factors; 8. Other (please specify)		
Growth Social Security Health Care				

China Study: Emerging Social Program Challenges and leadership Behavior - Beta 171023-01v01
China Study: Emerging Social Program Challenges and Leadership Behavior - Section A
Thank you for your participation in my doctoral research project.
Participants: This survey is being provided as a follow-up to you for agreeing to participate in this study. Participants only those selected of the international leaders and policy makers group
Purpose of this Study:
This study's intent to examine the impact China's emergence as a world leader is predicted to have on its social reforms.
The study focuses on the internal advocacy and policy decisions China's leaders are confronting during this unfolding phenomena.
Moreover, the study seeks to discover insights into to China's developing internal policy in the area of social reforms given political, economic, legal, intercultural, and technology influencers specific to a set of predictions linked to emerging social programs.
As such, the study summarizes its findings and develops a series of predictions as to how China's internal advocacy and policies will likely effect her global leadership, authority, and influence at a time that can be characterized as a global "power shift".
Participant Requirements:
To participant's in this study should have a focused attention and interest in socioeconomic and political events effecting global policy and world events.
Survey Procedures:
The research is being completed using a Real-Time technique of The Policy Delphi Method. Each applicant will be requested to participate in at least two rounds of surveys, each being approximately 40 questions. Each survey is delivered to a pre-approved panel (sample group). Once a survey is completed, each set of results is returned to the study facilitator (researcher) anonymously for distribution to each participant. This prevents the facilitator's ability to trace or associate any panelist's response to any participant. Your individual responses will be protected and not known by anyone.
First Survey Round. After the initial round of surveys are completed, only the summarized data collected (questionnaire responses) will be reported back to each participant. This information can then be used by each participant to assess and or re-evaluate their responses during the second survey questionnaire (option).
Second Survey Round (Option). The intent is to allow the second round survey participants the benefit of knowing how the group judged each of the survey questions in the previous round. The series of panel surveys is intended to continue until a clear consensus or "level of agreement" is derived from the participant's on each statement or theme's decisional outcome.
Direct Interview and Response (Option). The researcher may elect not to conduct a second survey. In this case, the level of agreement was successfully achieved from the first survey. This option is used when the researcher or any participant chooses to elaborate on the questionnaire responses they provided, or to further explore any aspects of the survey and its focus with the researcher. This direct interview process will be conducted between the participant and the researcher via the exchange of direct emails. All correspondence conducted in this association will be treated as "private" and will be destroyed or purged from the researchers study records within 120 days upon the publication of the study's report of findings to the University.
Researcher Contact Information: If you have any questions please feel free to email me at patrick.huff.usace@gmail.com or directly at 818.419.1736.

Figure 19. Online survey R3: Rnd3 Questionnaire, section A.

China Study: Emerging Social Program Challenges and leadership Behavior - Beta 171023-01v01
Informed Consent & Disclosure Notice - Section B
Informed Consent (Extended Conditions).
Subject. China Study: Social Programs & Leadership, applying Turoff's Real-Time Policy Delphi Model
Sponsor. Pepperdine University: College of Education and Psychology, EDOL Program, IRB # SD171901-01-01MR
Study Guidance and Direction.
This study is being conducted by Patrick D. Huff (a doctoral candidate) and is supervised by Dr. Farzin Madjidi (Academic Director) to discover how internal emerging advocacy and policy decisions in China are likely to effect its social program reforms and global leadership during the present power shift.
Survey Duration:
It is estimated that approximately 20-30 minutes will be required to complete the online questionnaire.
Panel Participation:
By agreeing to participate, you will be asked a few demographic questions that support the survey analytics followed by a series of questions or statements to assess, judge, and rate.
Participant Rights:
You have the right to refuse to participate, decline to answer certain questions, or withdraw at any time from the study without penalty.
You may request (or receive) an summary of the aggregate results of the study from the researcher once the study has been completed.
Sample Size (Number of Participants):
The ideal sample size for the survey is a panel of 20 although the minimum necessary to achieve data validity and significance is 7. The sample size may vary in range due to the level of interest from U.S. and international participants.
Participant Risks and Benefits:
Minimal risk is determined for this study. This means the probability of harm or discomfort anticipated in the research is not greater than those ordinarily encountered during the performance of routine physical, psychological, or educational examination or test.
International Review Board Protocol (IRB): Confidentiality, identity, and data protection:
The data collected in this study will be only used for educational, learning, and research purposes and will be reported only in summarized totals by groups.
All responses to the survey will be kept confidential and housed in a secure location selected by the researcher.

Figure I10. Online survey R3: Rnd3 Questionnaire, section B (Part 1).

Responses and raw data collected will not be shared beyond the researcher, except as in a generalized format stipulated by the Turoff Delphi Methodology (2007), as applied to The Policy Delphi technique, and or as required by the study's Academic Director.

Specific Confidentiality:

Although a summarized finding or collective resultant formed from the data will be shared with each participant for use in the subsequent round of surveys, your right to privacy, and all information identifying you as a research subject will remain anonymous and confidential.

Questions Pertaining to This Survey or Methodology:

We have tried to explain all the important details about the study. If you have any questions that are not answered here, the researcher will be happy to give you more information. You may contact the researcher at patrick.huff.usace@gmail.com.

By clicking on the statement below, you indicate that you have read the above information and have had a chance to ask questions to help you understand what your participation will involve. You agree to participate in the study until you decide otherwise, and acknowledge reviewing the information on this page. You also understand that by consenting you will not be giving up any of your legal rights.

Thank you for your participation.

Patrick D. Huff,
Post-Graduate Student
E-mail: patrick.huff.usace@gmail.com
LinkedIn: www.linkedin.com/pub/patrick-d-huff/10/300/704/

Dr. Farzin Madjidi, Ed.D.
Dissertation Chair, Student's Academic Director

EDOL Program Dean
College of Education and Psychology
Pepperdine University
Los Angeles, CA

Figure I11. Online survey R3: Rnd3 Questionnaire, section B (Part 2).

SURVEY INSTRUCTIONS, NOTICE & DEFINITIONS - Section C
<p>China Study</p> <p>Response Design & Terms: On the following pages you will be presented with a series of questions or statements where you are asked to render a judgment or opinion. You will also be asked to provide a ranked response which may include the option of providing your own written comment. The range of responses are intended to determine a level of IMPORTANCE, DESIRABILITY, AGREEMENT, FEASIBILITY, or estimate as to the VALIDITY of the statement or question.</p> <p>If you think there is no appropriate response to the question, in many cases "Other", "Neutral", or "No Opinion" is provided as a response option.</p> <p>Definitions for range of response objectives are as follows:</p> <p>IMPORTANCE - the degree (high or low) of seriousness, consequence, usefulness, significance, relevance, or influence of an expected outcome or prediction related to the question or statement.</p> <p>DESIRABLE - the degree (high or low) of the acceptability, beneficial, worthwhile, gratifying, profitable, or expedient outcome that is expected or predicted related to the question or statement.</p> <p>AGREEMENT - the degree (high or low) in which you concur with the statement presented.</p> <p>FEASIBLE - the degree (high or low) of probability, likelihood, achievability, success, implementation, or attainability of an expected outcome or prediction related to the question or statement.</p> <p>VALIDITY - the degree (high or low) of accuracy, authenticity, conclusiveness, credibility, legitimacy, or authoritativeness, or statistical significance of an expected outcome or prediction related to the question or statement.</p> <p>- YOU MAY PRINT THIS INFORMATION BEFORE MOVING TO THE NEXT PAGE -</p>

Figure I12. Online Survey R3: Rnd3 Questionnaire, section C.

PARTICIPANT ACCEPTANCE & BACKGROUND - Section D								
<p>* D1. Survey participation conditions.</p> <p><i>Participants must indicate acceptance by checking each of the statements.</i></p> <table border="0"> <tr> <td>A. I have received, read, and understand all the information pertaining my participation in this survey.</td> <td><input type="radio"/></td> </tr> <tr> <td>B. My personal identity will remain confidential and anonymous.</td> <td><input type="radio"/></td> </tr> <tr> <td>C. Statistical results will be anonymous shared in order to assist completing subsequent survey rounds (if needed).</td> <td><input type="radio"/></td> </tr> <tr> <td>D. I agree to all terms, conditions, and disclosures as stipulated.</td> <td><input type="radio"/></td> </tr> </table> <p>Other (please specify)</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	A. I have received, read, and understand all the information pertaining my participation in this survey.	<input type="radio"/>	B. My personal identity will remain confidential and anonymous.	<input type="radio"/>	C. Statistical results will be anonymous shared in order to assist completing subsequent survey rounds (if needed).	<input type="radio"/>	D. I agree to all terms, conditions, and disclosures as stipulated.	<input type="radio"/>
A. I have received, read, and understand all the information pertaining my participation in this survey.	<input type="radio"/>							
B. My personal identity will remain confidential and anonymous.	<input type="radio"/>							
C. Statistical results will be anonymous shared in order to assist completing subsequent survey rounds (if needed).	<input type="radio"/>							
D. I agree to all terms, conditions, and disclosures as stipulated.	<input type="radio"/>							

Figure I13. Online survey R3: Rnd3 Questionnaire, section D.

Participant Background & Experience - Section E								
* E1. Rank following areas that best represent your work experience?								
	<i>First</i>	<i>Second</i>	<i>Third</i>	<i>Fourth</i>	<i>Fifth</i>	<i>Sixth</i>	<i>Seventh</i>	<i>Unsure</i>
A. SOCIAL (e.g., social work, community services, health services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. POLITICAL (e.g., civil or governmental leadership, advocacy, action groups)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. ECONOMIC (e.g., finance and banking services, marketing, sales, community development)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. LEGAL (e.g., court and legal services, law enforcement, corrective services, legislative services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. INTERCULTURAL (e.g., ethnicity assistance, advocacy services, access services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. TECHNOLOGY (e.g., innovative device creation, manufacturing, marketing and sales, service, distribution)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. INFRASTRUCTURAL (e.g., communications, transportation, power, resource, construction, administration, management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Please Specify) <input type="text"/>								
E2. How many years of work experience do you have in the area you indicated in the prior question?								
<input type="radio"/> 1-3 yrs								
<input type="radio"/> 4-6 yrs								
<input type="radio"/> Other (please specify) <input type="text"/>								
E3. How often do you participate in the evaluation and creation of organizational policy?								
<input type="radio"/> Seldom <input type="radio"/> More often than not								
<input type="radio"/> Occasionally <input type="radio"/> Repeatedly								
<input type="radio"/> Regularly								
E4. How interested are you in global events?								
<input type="radio"/> Not interested								
<input type="radio"/> Somewhat interested								
<input type="radio"/> Interested								
<input type="radio"/> Very interested								

Figure II4. Online survey R3: Rnd3 Questionnaire, section E (Part 1).

E6. How would you characterize your ethnicity or nationality?

☐ 1. Western (North American)

☐ 2. European (Ireland, England, Western European, Baltic States & Russian)

☐ 3. African (Includes Indian)

☐ 4. Latin American (Includes Central American)

☐ 5. Far Eastern (Includes Vietnam, Thailand, China, Korean)

☐ 6. Middle Eastern (Saudi Arabia, Iran, Iraqi, Pakistan, Afghanistan)

☐ 7. Other

☐ Other (please specify)

Figure I15. Online survey R3: Rnd3 Questionnaire, section E (Part 2).

China's Social Environment - Section F					
The following series of questions are based on China's Social Environment - sociological characteristics, culture, traditions, mores and behavior.					
F1. Would you agree that China will introduce a social security system due to its aging population? Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F2. China's social security and health care (social program reforms) are critical to its economic growth. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F3. Would you agree that China will introduce a health care program due to its aging population? Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F4. The current environment in China provides a framework for social and economic freedom (right of enjoyment) for the Chinese people. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F5. The common people's social freedoms (lifestyle) are better in China now that it has been in the past. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F6. China's growth has no association with its aging population. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F7. China's aging population is influencing the need to increase its social security programs. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F8. China's social security needs are influencing its health care needs. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree					
1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I16. Online survey R3: Rnd3 Questionnaire, section F (Part 1).

F9. China's education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.
Select one of the following:
1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

F10. China's education system is keeping up with the country's rapid growth.
Select one of the following:
1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

F11. China's single child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy.
Select one of the following:
1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

F12. China's emerging social ideology (policy changes) will improve the lifestyle of its "common people".
Select one of the following:
1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I17. Online survey R3: Rnd3 Questionnaire, section F (Part 2).

China's Leadership Environment - Section G						
This series of questions are based on China's Leadership Environment - Characteristics, style, behavior, beliefs, ethics, decisions, values and priorities.						
G1. China's external leadership behavior is in conflict with its external leadership ideologies. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G2. China's leadership behavior is focused on increasing power, authority, and superiority so as to influence the present global political equilibrium. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G3. China's changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G4. China's present leadership behavior is focused on increasing its future access to resources in order to sustain its present growth. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G5. China's leadership will move it to increase the country's food supply to sustain its growth. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G6. China's cultural ideologies are linked to its need to adopt social reforms. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G7. The unity of China's people is linked to its government's equilibrium. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G8. The unity of China's people is linked to its government's ability to achieve global power, authority, and superiority. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Figure I18. Online survey R3: Rnd3 Questionnaire, section G (Part 1).

G9. (Rank the PROBABILITY) China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

G10. (Rank the PROBABILITY) China's global emergence is the result of a leadership change phenomenon that is focused on power, authority, and superiority of the global economic and monetary ideology.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

Figure I19. Online Survey R3: Rnd3 Questionnaire, Section G (Part 2).

China's Social and Legal Environment - Section H

This series of questions focus on China's Legal Environment - Rule of law, protection, regulations, property rights, civil freedoms, the environment, foreign investment, commerce and trade.

H1. China will redefine its people's freedoms and social equilibrium to sustain its government's legitimacy.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

H2. China will redefine its civil rights to increase social unity and economic balance to sustain its government's legitimacy.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

H3. China will enforce intellectual property law & protection to increase foreign investment even if it means slowing its economic growth?
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

H4. China will increase citizen's right of ownership in order to sustain its economic growth.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

H5. China's emerging legal policy changes will improve the freedom (lifestyle) of its "common people".
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

Figure I20. Online survey R3: Rnd3 Questionnaire, section H.

Economic and Technology Environments - Section I						
<p>This series of questions are framed by China's Economic, Technology and Infrastructure Environments - Balance of trade, food supply, growth, currency, monetary ideology, technical, education, wealth, natural resources, science, development, innovation, medical, transportation and energy infrastructure, military advancement and security.</p>						
<p>I1. China will be confronted by a downturn in its economic growth. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>I2. China's economic growth is beneficial to the global community. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>I3. China's economic and monetary ideologies be forced to transform to those of the West. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>I4. China will reduce its environmental waste and emissions even if it means slowing its economic growth. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>I5. China will focus on increasing its technology and military systems in order to obtain dominance as a global power. Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>I6. China's emerging economic policy changes will improve the lifestyle of its "common people". Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>I7. China's emerging technology policy changes will improve the lifestyle of its "common people". Select one of the following: 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree</p>						
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Figure I21. Online survey R3: Rnd3 Questionnaire, section I (Part 1).

18. China's emerging infrastructural policy changes will improve the lifestyle of its "common people".
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

19. China's focus on building "world class" higher education & advanced technical training programs are linked to achieving its global growth and superiority.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

Figure I22. Online survey R3: Rnd3 Questionnaire, section I (Part 2).

China's Social, Political, and Leadership Environments - Section J

This series covers China's Social, Political, Economic and Leadership Environments as a set of phenomena that are being observed in the country.

J1. China's continued economic growth will allow it to introduce a number of future public social security and health care programs.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

J2. China's government will address the social security and health care crisis even if it reduces the country's national wealth.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

J3. China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐

J4. China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community.
 Select one of the following:
 1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree

1 2 3 4 5 6

☐ ☐ ☐ ☐ ☐ ☐


Figure I23. Online survey R3: Rnd3 Questionnaire, section J.

Methodology & Factors Framing the Study - Section K								
This section covers your thoughts on the nature, approach, and application of the SPELIT technique and associated methodologies as useful tools in assisting the identification of factors, assessing influence, and causal relationships towards the construction and development of relevant predictions that are linked to social phenomena.								
* K1. (Rank the following) Order the factors that are influencing China's national priorities, policies, and future direction. (First = highest to Seventh = Lowest influence.)								
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Unsure
A. SOCIAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. POLITICAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. ECONOMIC environmental factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. LEGAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E. INTERCULTURAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F. TECHNOLOGY environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G. INFRASTRUCTURAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please Specify)								
<input type="text"/>								
K2. (Rate your LEVEL OF AGREEMENT) By applying appropriate theory, design, approach, and process to the study of China significant knowledge can be gained that supports predicting policies, decisions, and the direction its leaders will take.								
Select one of the following:								
1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree								
1	2	3	4	5	6			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
K3. By examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders.								
Select one of the following:								
1=Definitely agree, 2=Strongly agree, 3=Somewhat agree, 4=Somewhat disagree, 5=Strongly disagree, 6=Definitely disagree								
1	2	3	4	5	6			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
* K4. (In Rank Order) Which factors that are influencing a global "power shift" between China and the United States? (Starting with First = Highest to the lowest = Seventh)								
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Unsure
A. SOCIAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. POLITICAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. ECONOMIC environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. LEGAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E. INTERCULTURAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F. TECHNOLOGY environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G. INFRASTRUCTURAL environment factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I24. Online survey R3: Rnd3 Questionnaire, section K.

Survey Conclusion - Section L
<p>Thank you for participating in this important research project.</p> <p>What happens next?</p> <p>Upon submission of this questionnaire, you will have completed the first of two survey rounds requested. Once all the data is collected and analyzed in accordance with the study requirements, the results will be made available to you for review and consideration prior to participating in the second survey.</p> <p>Participation in the second survey round is optional depending on the level of agreement that is obtained from the first round responses.</p> <p>Why would a second survey round be needed?</p> <p>A second survey round may be needed to achieve agreement in critical categories or themes in the investigation. If a second round is needed to achieve this, then the second questionnaire will be send to you.</p> <p>Should you receive the second round questionnaire, you will observe that a number of the questions will request a short narrative response. As such, the format of the second round survey is designed to offer a series of open-ended questions in order for the study researcher's to seek and achieve a higher level of agreement in key areas of the overall inquiry.</p>

Figure I25. Online survey R3: Rnd3 Questionnaire, section L.


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

1. Introduction: Emerging Social Program and Leadership Challenges - Section A

Greetings!

Thank you for considering to participate in my doctoral research project.

The following information is provided for your consideration and to confirm an agreement to participate in this critical research survey that pertains to China and the direction the country's future policies will take. Those with passionate interests associated with international leadership and policy creation have been selected as a "best fit" to participate in this research.

Purpose of this Study

It is this study's intent to examine the impact China's emergence as a world leader is predicted to have on its social reforms, leadership, and the direction the country will take in the next decade.

Specifically, the study focuses on the internal advocacy and policy decisions China's leaders are being confronted with during this unfolding phenomenon.

Moreover, the study seeks to discover insights into China's developing internal policies in the area of social reforms given political, economic, legal, intercultural, and technology influencers or drivers specific to constructing a set of predictions that maybe linked to emerging social programs and the country's leadership characteristics.

Once completed, the study summarizes its findings and develops a series of predictions as to how China's internal advocacy and policies are likely to affect the country's global leadership, authority, and influence at a time when many scholars characterize this phenomenon as a global "power shift".

Selection Criteria

Participants in this study should have focused interests in socio-economic, political, and those leadership events that are affecting global policies and world events. Participants with interests in China, Asia, Western European, and Northern America national policies are especially invited to contribute to this research.

Methods and Procedures

The research applies a Real-Time technique of The Policy Delphi Method that utilizes digital communications and the internet. Each applicant will be requested to participate in at least two rounds of surveys, with the first survey consisting of approximately 40 questions. Each survey is delivered to a pre-approved participant (sample group). Once the first survey is completed, each set of results will be returned to the research investigator (researcher) anonymously for statistical assessment. This prevents the investigator's ability to trace or associate any individual's survey responses. Specifically, your participation will be subject to an encryption and non-identification process so as to protect your identity and response information.

First Survey Round. After the initial round of surveys are completed, only the summarized data collected (questionnaire responses) will be reported to this investigator. This information will then be used by the investigator to assess and or re-evaluate the level of agreement of participant responses pertaining to each statement. Depending on the level of agreement discovered, only those statements that lack sufficient response agreement will be presented in the second survey round (option).

Second Survey Round (Option). The intent is to allow second-round survey participants the benefit of discovering which survey statements failed to achieve sufficient levels of agreement as determined in the study's design requirements. All participants that completed the first survey will be requested to voluntarily participate in the second survey as the investigator attempts to achieve a high level of agreement associated with the selected survey statements in question.

Figure I26. Online survey R4: Rnd4 Questionnaire, section A (Part 1).


 China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01
2. Introduction: Emerging Social Program and Leadership Challenges - Section A
<p>Again, the series of surveys is intended to continue until a clear consensus or level of agreement is derived from the participants on each statement. This process is critical to discovering or identifying those theme's that are key to constructing a predictive outcome related to China's future social policies, leadership decisions, and the direction the country will take.</p> <p>Direct Interview and Response (Option). The investigator may elect not to conduct a second survey. In the case of this study, a level of agreement may be successfully achieved on select statements key to the research in the first survey results. This option is used when the investigator or any participant chooses to elaborate on the questionnaire responses they provided, or to further explore any aspects of the survey and its focus with the investigator. This direct interview process will be conducted between the participant and the investigator via an exchange of direct emails. All correspondence conducted in this association will be treated as "private" or "confidential" and will be destroyed or purged from the investigator's records within 120 days upon the publication of the study's report of findings to the University.</p> <p>Research Investigator Contact Information</p> <p>If you have any questions please feel free to email me at patrick.huff.usace@gmail.com or at 818-419-1736.</p>

Figure I27. Online survey R4: Rnd4 Questionnaire, section A (Part 2).


 China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01
3. Participant's Informed Consent & Disclosure Notice - Section B
<p>Informed Consent (Extended Conditions)</p> <p>Subject. China Study: Emerging Challenges in Social Security, Health Care, and Leadership</p>

Figure I28. Online survey R4: Rnd4 Questionnaire, section B (Part 1).

Sponsor. Pepperdine University: College of Education and Psychology, EDOL Program

IRB Protocol. 18-03-762, June 13, 2018

Study Guidance and Direction

This study is being conducted by Patrick D. Huff (doctoral candidate) and is supervised by Dr. Farzin Madjidi (Academic Chair and Associate Dean) to discover how internal emerging advocacy and policy decisions in China are likely to affect its social program reforms and leadership during the present global power shift.

Survey Duration

Approximately 20-30 minutes will be required to complete this online questionnaire.

Participant Volunteerism and Rights

By agreeing to participate, you will be asked a few demographic and background questions that support the survey analytics followed by a series of questions or statements request you assess, judge, and rate the focused inquiry or statement in the research.

Rights

You have the right to refuse to participate, to decline answering any questions or statements, and to withdraw at any time from the study without penalty.

You may request to receive an encrypted non-identified summary of the aggregate results of the research from this investigator once the study has been completed and published by the University.

Risks and Benefits

Minimal risk is determined for this study. This means the probability of harm or discomfort anticipated in the research is not greater than those ordinarily encountered during the performance of routine physical, psychological, or educational examination or test.

International Review Board Protocol (IRB): Confidentiality, identity, and data protection

Data collected. The data collected in this study will be only used for educational, learning, and research purposes and will be reported only in summarized totals by groups.

Responses and raw data collected will not be shared beyond this Principal Investigator (PI), except as may be reported in a generalized format stipulated by the Turoff Delphi Methodology (2007), as applied to The Policy Delphi technique, as required by the study's Academic Chair; and, the approved Pepperdine University IRB.


Sample Size (Number of Participants). You were selected out of a field of 6,218 possible participants, which was reduced to a field of 50 individuals with similar interests, experience, and qualifications. The final selectees represent a proportional and balanced geographic sample group. The ideal sample size for the survey is a panel of 20 although the minimum necessary to achieve validity and significance is 7. The sample size may vary in range due to the level of interest from U.S. and international participants.

Confidentiality & Survey Security. All responses to the survey will be kept confidential and housed in a secure location selected by this investigator.

Subsequence Survey Round or Interview Confidentiality

Although summarized findings and conclusions formed from the data and analytics will be shared with each participant for use in subsequent survey rounds or interviews, your right to privacy, and all information identifying you as a participant will remain anonymous and confidential.

Figure I29. Online survey R4: Rnd4 Questionnaire, section B, (Part 2).

 **China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01**

4. Participant's Informed Consent & Disclosure Notice - Section B

Benefits

All participants that complete this survey process are eligible to receive a copy of the final paper as published by the University upon request.

Methodology

We have attempted to clarify the important details pertaining to the study, this survey, and the associated process. If you have any questions that are not answered here, this investigator will be pleased to provide more information. In this regard, you may wish to contact this investigator at patrick.huff.usace@gmail.com.

How to get started

By clicking on the statement provided in Section D, labeled as statement D1, Survey participation conditions, you are indicating that you have read the above information, understand, and have had an opportunity to ask questions about what your participation will involve.

You will be agreeing to participate in the study until you decide otherwise, and acknowledge reviewing the information on this page. In addition, you are also consenting to voluntarily participate, and that by participating (or electing not to participate) you are not be giving up any present or future legal rights.


Thank you for your consideration and participation.

Patrick D. Huff,
Student (Doctoral Candidate)
E-mail: patrick.huff.usace@gmail.com
LinkedIn: www.linkedin.com/pub/patrick-d-huff/10/300/704/

Dr. Farzin Madjidi, Ed.D.
Dissertation Chair; Student's Academic Chair
EDOL Program, Associate Dean

College of Education and Psychology
Pepperdine University
Los Angeles, CA

Figure I30. Online survey R4: Rnd4 Questionnaire, section B (Part 3).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

5. Survey Instructions, Notice & Definitions - Section C

Survey Design, Response Terms & Definitions

In the following eight sections you will be presented with a series of questions or statements where you are asked to render a judgment or opinion.

You will also be asked to provide a ranked response which may include the option of providing your own written comment.

In most cases, the range of responses are intended to determine your level of agreement with the statement. You will be requested to respond by clicking a single response that best represents your opinion. The range of responses are:

1. Definitely agree, 2. Strongly agree, 3. Somewhat agree, 4. Somewhat disagree, 5. Strongly disagree, 6. Definitely disagree, 7. Other (please specify).

If none of the responses provided represent your opinion, you may use the "Other" option to express yourself.

2. In a few of the questions or statements you are requested to rank the themes, factors, areas of interest, or environmental conditions in the order of importance. The design of these questions or statements allows you to select the same ranking for a number of the potential responses. Don't worry if you ranked a number of the responses as first, second, third and so on.

Response Definitions

DEFINITELY AGREE - agree in a clearly defined or determined way, fixed, precise, exact, bounded by precision and knowledge of the topic, positive, certain, sure.

STRONGLY AGREE - agree with great strength, force, or intensity to the utmost degree.

SOMEWHAT AGREE - agree to some extent, measure, portion, or a moderate amount of conviction.

SOMEWHAT DISAGREE - disagree to some extent, measure, portion, or a moderate amount of conviction.

STRONGLY DISAGREE - disagree with great strength, force, or intensity to the utmost degree.

DEFINITELY DISAGREE - disagree in a clearly defined or determined way, fixed, precise, exact, bounded by precision and knowledge of the topic, positive, certain, sure.

OTHER (please specify) - the responses provided do not adequately express your opinion on the matter, additional information is needed to clarify a response or, the question needs to be rephrased to support your response.

Figure I31. Online Survey R4: Rnd4 Questionnaire, section C (Part 1).

Other Response Formats

Some of the surveys questions/statements are framed in the context of separate categories (environmental factors) that request the selection of a seven-scale response indicating a ranked order. These include references to the following: social, political, economic, legal, intercultural, technology, and infrastructure. Collectively these responses are associated to what is referred to as the SPELIT framework. Each reference is defined in relatively common terms.

SOCIAL - An environment developed by humans as contrasted with the natural environment; society as a whole, the community and its' relationship to an individual.

POLITICAL - An environment relating to or concerned with government, public affairs of state, a municipality, organizational body, or focus group.

ECONOMIC - An environment that pertains to the production, distribution, and use of income, wealth, and commodities. Relating to the science of economics, generally pertaining to an economy, monetary system, and system of organization or operation. Includes the process of production, commerce, trade, balances, reserves, and/or national wealth.

Figure I32. Online survey R4: Rnd4 Questionnaire, section C (Part 2).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

6. Survey Instructions, Notice & Definitions - Section C

LEGAL - an environment that is subject to permitted moral codes or law, lawful. This environment is intended to set standards for social, economic, enforcement behavior, as necessary to shape and maintain order, individual rights, and civil justice. Of or relating to laws; connected with the laws of a sovereign, nation, organization, or group to include its administration, rules, and legal governance as may be appointed, established, or authorized by law, or deriving authority from the law.

INTERCULTURAL - an environment that involves the crossing-over or integration of two or more cultures.

TECHNOLOGY - an environment where the creation and use of technical devices are integrated and inter-relational with life, society, and the environment. Includes any modern and or innovative science and supporting devices that support or enhance industrial arts, engineering, applied science, pure science, and the application of these to practical ends. A scientific or industrial process, invention, method which contributes to the ways in which social groups provide themselves with the material objects, needs, and desire pertinent to their culture and civilization.


INFRASTRUCTURE - the basic, underlying framework or features of an environment, system, organization which includes the fundamental facilities and systems serving a region, nation, province, city, or area. Infrastructure includes but is not limited to transportation and communication systems, power and utility works, hospitals, fire protection, harbor and maritime systems, schools, and military installations.

Section Characteristics - Total Questions = 51 (20 to 30 minutes)

Section D (Conditions) – Number of questions/statements = 1
 Section E (Background) – Number of questions/statements = 6
 Section F (Social Environment) – Number of questions/statements = 12
 Section G (Leadership Environment) – Number of questions/statements = 10
 Section H (Legal Environment) – Number of questions/statements = 5
 Section I (Economic, Technology and Infrastructure Environments) – Number of questions/statements = 9
 Section J (Social, Political, Economic, and Leadership Environments) – Number of questions/statements = 4
 Section K (Methodology & Factors Framing the Study) – Number of questions/statements = 4

- YOU MAY PRINT THIS INFORMATION BEFORE MOVING TO THE NEXT SECTION -

Figure I33. Online survey R4: Rnd4 Questionnaire, section C (Part 3).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

7. Participant Acceptance & Background - Section D

*** 1. D1. Survey participation conditions.**

Participants must indicate acceptance by checking each of the statements.

A. I have received, read, and understand all the information pertaining my participation in this survey.	<input type="radio"/>	
B. My personal identity will remain confidential and anonymous.	<input type="radio"/>	
C. Statistical results will be anonymous shared in order to assist completing subsequent survey rounds (if needed).	<input type="radio"/>	
D. I agree to all terms, conditions, and disclosures as stipulated.	<input type="radio"/>	

Other (please specify)

Figure I34. Online survey R4: Rnd4 Questionnaire, section D.


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

8. Participant Background & Experience - Section E

*** 2. E1. Rank following areas (as defined) that best represent your work experience? (Number of areas = 7)**

	First	Second	Third	Fourth	Fifth	Sixth	Seventh
A. SOCIAL (e.g., social work, community services, health services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. POLITICAL (e.g., civil or governmental leadership, advocacy, action groups)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. ECONOMIC (e.g., finance and banking services, marketing, sales, community development)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. LEGAL (e.g., court and legal services, law enforcement, corrective services, legislative services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. INTERCULTURAL (e.g., ethnicity assistance, advocacy services, access services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. TECHNOLOGY (e.g., innovative device and idea creation, science and medical, exploration, manufacturing, marketing, sales, service, distribution)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure I35. Online survey R4: Rnd4 Questionnaire, section E (Part 1).

G. INFRASTRUCTURAL (e.g., communications, transportation, power, resource, construction, administration, management)

☐ ☐ ☐ ☐ ☐ ☐ ☐

Other (Please Specify)

3. E2. How many years of work experience do you have in the area you indicated in the prior question?

☐ 1-3 yrs

☐ 4-6 yrs

☐ 7 yrs or more

☐ Other (please specify)

4. E3. How often do you participate in the evaluation and/or the creation of organizational policy?

☐ Seldomly

☐ Daily

☐ Weekly

☐ Monthly

☐ Other (please specify)

☐ Semi-annually

☐ Annually

☐ Never

5. E4. How interested are you in global events?

☐ Not interested

☐ Somewhat interested

☐ Interested

☐ Very interested

6. E5. How would you characterize your level of educational learning or experience?

☐ 1-12 yrs (High School Diploma or equivalent)

☐ 13-17 yrs (College Bachelors Degree or equivalent)

☐ 18-20 yrs (College Masters Degree or equivalent)

☐ Other (please specify)

☐ 21-22 yrs (Doctoral Degree or equivalent)

☐ 23 or more (Post-Doctoral or Professional Certification equivalent)

7. E6. How would you characterize your ethnicity or nationality?

☐ 1. Western (North American)

☐ 2. European (Ireland, England, Western European, Baltic States & Russian)

☐ 3. African (Includes Indian)

☐ Other (please specify)

☐ 4. Latin American (Includes Central American)

☐ 5. Far Eastern (Includes Vietnam, Thailand, China, Korean)

☐ 6. Middle Eastern (Saudi Arabia, Iran, Iraqi, Pakistan, Afghanistan)

Figure I36. Online survey R4: Rnd4 Questionnaire, section E (Part 2).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

9. China's Social Environment - Section F

Congratulations you are now 14% finished!

The following series of questions are based on China's Social Environment - sociological characteristics, culture, traditions, morales and behavior.

8. F1. China will introduce a social security system due to its aging population?

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. F2. China's social security and health care (social program reforms) are critical to its economic growth.

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. F3. China will introduce a health care program due to its aging population?

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. F4. The current environment in China provides a framework for social and economic freedom (right of enjoyment) for the Chinese people.

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. F5. The common people's social freedoms (lifestyle) are better in China now that it has been in the past.

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. F6. China's growth has no association with its aging population.

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. F7. China's aging population is influencing the need to increase its social security programs.

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. F8. China's social security needs are influencing its health care needs.

<i>Definitely agree</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>	<i>Definitely disagree</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I37. Online survey R4: Rnd4 Questionnaire, section F (Part 1).

16. F9. China's education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

17. F10. China's education system is keeping up with the country's rapid growth.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

18. F11. China's single child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

19. F12. China's emerging social ideology (policy changes) will improve the lifestyle of its "common people".

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

Figure I38. Online survey R4: Rnd4 Questionnaire, section F (Part 2).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

10. China's Leadership Environment - Section G

Congratulations you are now 37% finished!

This series of questions are based on China's Leadership Environment - Characteristics, style, behavior, beliefs, ethics, decisions, values and priorities.

20. G1. China's external leadership behavior is in conflict with its external leadership ideologies.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. G2. China's leadership behavior is focused on increasing power, authority, and superiority so as to influence the present global political equilibrium.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. G3. China's changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I39. Online survey R4: Rnd4 Questionnaire, section G (Part 1).

23. G4. China's present leadership behavior is focused on increasing its future access to resources in order to sustain its present growth.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

24. G5. China's leadership will move it to increase the country's food supply to sustain its growth.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

25. G6. China's cultural ideologies are linked to its need to adopt social reforms.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

26. G7. The unity of China's people is linked to its government's equilibrium.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

27. G8. The unity of China's people is linked to its government's ability to achieve global power, authority, and superiority.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

28. G9. China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

29. G10. China's global emergence is the result of a leadership change phenomenon that is focused on power, authority, and superiority of the global economic and monetary ideology.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

Figure I40. Online survey R4: Rnd4 Questionnaire, section G (Part 2).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

11. China's Legal Environment - Section H

Congratulations you are now 57% finished!

This series of questions focus on China's Legal Environment - Rule of law, protection, regulations, property rights, civil freedoms, the environment, foreign investment, commerce and trade.

31. H2. China will redefine its civil rights to increase social unity and economic balance to sustain its government's legitimacy.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. H3. China will enforce intellectual property law & protection to increase foreign investment even if it means slowing its economic growth.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. H4. China will increase citizen's right of ownership in order to sustain its economic growth.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. H5. China's emerging legal policy changes will improve the freedom (lifestyle) of its "common people".

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I41. Online survey R4: Rnd4 Questionnaire, section H.


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

12. Economic, Technology and Infrastructure Environments - Section I

Congratulations you are now 67% finished!

This series of questions are framed by China's Economic, Technology and Infrastructure Environments - Balance of trade, food supply, growth, currency, monetary ideology, technical, education, wealth, natural resources, science, development, innovation, medical, transportation and energy infrastructure, military advancement and security.

35. I1. China will be confronted by a downturn in its economic growth.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. I2. China's economic growth is beneficial to the global community.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. I3. China's economic and monetary ideologies will be forced to transform to those of the West.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. I4. China will reduce its environmental waste and emissions even if it means slowing its economic growth.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I42. Online survey R4: Rnd4 Questionnaire, section I (Part 1).

39. I5. China will focus on increasing its technology and military systems in order to obtain dominance as a global power.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

40. I6. China's emerging economic policy changes will improve the lifestyle of its "common people".

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

41. I7. China's emerging technology policy changes will improve the lifestyle of its "common people".

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

42. I8. China's emerging infrastructural policy changes will improve the lifestyle of its "common people".

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree


☐ ☐ ☐ ☐ ☐ ☐

43. I9. China's focus on building "world class" higher education & advanced technical training programs are linked to achieving its global growth and superiority.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

Figure I43. Online survey R4: Rnd4 Questionnaire, section I (Part 2).


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

13. China's Social, Political, Economic and Leadership Environments - Section J

Congratulations you are now 84% finished!

This series covers China's Social, Political, Economic and Leadership Environments as a set of phenomena that are being observed in the country.

44. J1. China's continued economic growth will allow it to introduce a number of future public social security and health care programs.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. J2. China's government will address the social security and health care crisis even if it reduces the country's national wealth.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


46. J3. China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. J4. China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I44. Online survey R4: Rnd4 Questionnaire, section J.


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

13. China's Social, Political, Economic and Leadership Environments - Section J

Congratulations you are now 84% finished!

This series covers China's Social, Political, Economic and Leadership Environments as a set of phenomena that are being observed in the country.

44. J1. China's continued economic growth will allow it to introduce a number of future public social security and health care programs.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. J2. China's government will address the social security and health care crisis even if it reduces the country's national wealth.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


46. J3. China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. J4. China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community.

Definitely agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Definitely disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I45. Online survey R4:Rnd4 Questionnaire, section J.


China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01

14. Methodology & Factors Framing the Study - Section K

Congratulations you are now 92% finished!

This section covers your thoughts on the nature, approach, and application of the SPELIT technique and associated methodologies as useful tools in assisting the identification of factors, assessing influence, and causal relationships towards the construction and development of relevant predictions that are linked to social phenomena.

SOCIAL - An environment developed by humans as contrasted with the natural environment; society as a whole, the community and its' relationship to an individual.

POLITICAL - An environment relating to or concerned with government, public affairs of state, a municipality, organizational body, or focus group.

ECONOMIC - An environment that pertains to the production, distribution, and use of income, wealth, and commodities. Relating to the science of economics, generally pertaining to an economy, monetary system, and system of organization or operation. Includes the process of production, commerce, trade, balances, reserves, and/or national wealth.

LEGAL - an environment that is subject to permitted moral codes or law, lawful. This environment is intended to set standards for social, economic, enforcement behavior, as necessary to shape and maintain order, individual rights, and civil justice. Of or relating to laws; connected with the laws of a sovereign, nation, organization, or group to include its administration, rules, and legal governance as may be appointed, established, or authorized by law, or deriving authority from the law.

INTERCULTURAL - an environment that involves the crossing-over or integration of two or more cultures.

TECHNOLOGY - an environment where the creation and use of technical devices are integrated and inter-relational with life, society, and the environment. Includes any modern and or innovative science and supporting devices that support or enhance industrial arts, engineering, applied science, pure science, and the application of these to practical ends.
A scientific or industrial process, invention, method which contributes to the ways in which social groups provide themselves with the material objects, needs, and desire pertinent to their culture and civilization.

INFRASTRUCTURE - the basic, underlying framework or features of an environment, system, organization which includes the fundamental facilities and systems serving a region, nation, province, city, or area. Infrastructure includes but is not limited to transportation and communication systems, power and utility works, hospitals, fire protection, harbor and maritime systems, schools, and military installations.

*** 48. K1. (Rank the following) Order the environmental factors that are influencing China's national priorities, policies, and future direction. (First = highest to Seventh = Lowest influence; Number of themes = 7)**

	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Unsure
A. SOCIAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. POLITICAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. ECONOMIC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. LEGAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E. INTERCULTURAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F. TECHNOLOGY	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G. INFRASTRUCTURAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (Please Specify)

Figure I46. Online survey R4: Rnd4 Questionnaire, section K (Part 1).

49. K2. By applying appropriate theory, design, approach, and process to the study of China, significant knowledge can be gained that supports predicting policies, decisions, and the direction its leaders will take.

Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

50. K3. By examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders.


Definitely agree Strongly agree Somewhat agree Somewhat disagree Strongly disagree Definitely disagree

☐ ☐ ☐ ☐ ☐ ☐

*** 51. K4. (In Rank Order) Identify those environmental factors you believe are influencing or driving a global "power shift" between China and the United States? (Starting with First = Highest to the lowest = Seventh; Number of themes = 7)**

	First	Second	Third	Fourth	Fifth	Sixth	Seventh
A. SOCIAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. POLITICAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. ECONOMIC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. LEGAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E. INTERCULTURAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F. TECHNOLOGY	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G. INFRASTRUCTURAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure I47. Online survey R4: Rnd4 Questionnaire, section K (Part 2).

**China Study: Challenges in Social Security, Health Care, and Leadership - 180815-01**

15. Survey Conclusion - Section L

Congratulations you are now 100% finished!

Thank you for participating in this important research project.

What happens next?

Upon submission of this questionnaire, you will have completed the first of potentially two survey rounds. Once all the data is collected and analyzed in accordance with the study requirements, a determination will be made as to the need for a second survey round.

Participation in the second survey round is optional depending on the level of agreement that is obtained from the first round responses.

Why would a second survey round be needed?

A second survey round may be needed to achieve agreement in critical categories or themes of the investigation. If a second round is needed to achieve this, then the second questionnaire will be send to you.

Should you receive the second round questionnaire, you will observe that the list of the questions or statements will likely be lesser in number. Some statement responses may request a short narrative. The format of the second round survey is designed to offer participants the opportunity to complete open-ended questions in order for the investigator to gain a more clear understanding of your response, and to achieve a higher level of agreement in key areas of the survey.

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Figure I48. Online survey R4: Rnd4 Questionnaire section L.

Figure I49. Online survey SSC setup: Distribution.

FACEBOOK SHARING: ? ^

☐ On, include a sharing link at the bottom of your survey

☒ Off, don't include a sharing link at the bottom of your survey

MULTIPLE RESPONSES: ? ^

☐ On, allow the survey to be taken more than once from the same device

☒ Off, only allow the survey to be taken once from the same device

RESPONSE EDITING: ? ^

☒ On, respondents can change their answers on any survey page until they complete the survey

☐ On, respondents can change their answers even after they complete the survey

☐ Off, respondents can't change their answers once they leave a survey page

ANONYMOUS RESPONSES: ? ^

☒ On, your respondents will be anonymous

☐ Off, include respondents' IP addresses in your survey results

[Show advanced options](#)

Figure I50. Online survey SSC setup: Anonymous and restrictive coding.

INSTANT RESULTS: ? ^

☐ On, show results to respondents.
NOTE: Some questions, such as open-ended questions, will not be displayed.

☒ Off, do not show results to respondents

CUTOFF DATE AND TIME: ? ^

Set a cutoff date and time when this collector will close and stop accepting responses. [Edit "survey closed" message.](#)

☐ On, close this collector on a specified date and time

☒ Off, accept responses until you manually close this collector

RESPONSE LIMITS: ? ^

Set the maximum number of responses that this collector will accept. [Edit "survey closed" message.](#)

☐ On, close this collector after a specified number of responses

☒ Off, accept responses until you manually close this collector

IP RESTRICTIONS: ? ^

Control who can take your survey by either allowing or blocking specific IP addresses. [Edit "survey closed" message.](#)

☐ On, block computers at specified IP addresses from taking your survey

☐ On, allow computers at specified IP addresses to take your survey

☒ Off, no IP addresses are restricted from taking your survey

Figure I51. Online survey SSC setup: Anonymous and restrictive coding.

PASSWORD PROTECTION: ? ^

Set a password to restrict access to your survey.

☐ On, only respondents with the password may take your survey

☒ Off, no password is required to take your survey

CUSTOM THANK YOU: ? ^

☒ On, show a custom thank you message upon survey completion

☐ Off, do not show a custom thank you message upon survey completion

CUSTOM DISQUALIFICATION: ? ^

Respondents who are disqualified by skip logic in your survey will see the option you choose below:

☐ On, send disqualified respondents to a custom disqualification URL

☐ On, show a custom message to disqualified respondents

☒ Off, show the standard message to disqualified respondents

SURVEY END PAGE: ? ^

☒ On, show the standard end page upon survey completion

☐ On, show a custom end page upon survey completion

☐ Off, close the window or tab upon survey completion

[Hide advanced options](#)

Figure I52. Online survey SSC setup: Anonymous and restrictive coding.

☒ Send now.
 ☐ Schedule a later date and time to send.

Summary

1 Recipients

Sender Email Address: patrick.huff.usace@gmail.com via surveymonkey.com

- All respondent information is excluded
- Respondents can edit responses during the survey only
- Invitation tracking is on
- Survey link domain is surveymonkey.com
- Custom thank you page is on
- After survey, respondents go to www.surveymonkey.com
- Disqualification message is on
- Instant results are off
- No cutoff date and time
- No maximum response count
- No IP access restrictions
- No password protection

Figure I53. Online Survey SSC Setup: Anonymous and restrictive coding.

☒ Send now.
 ☐ Schedule a later date and time to send.

Summary

Sender Email Address: patrick.huff.usace@gmail.com via surveymonkey.com

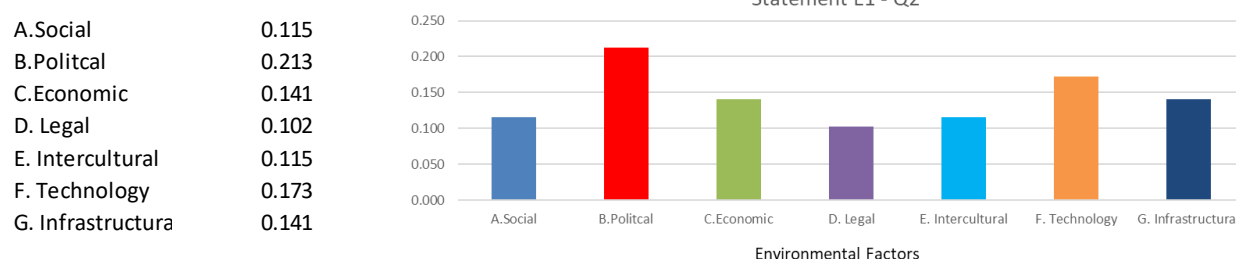
- All respondent information is excluded
- Respondents can edit responses during the survey only
- Invitation tracking is on
- Survey link domain is surveymonkey.com
- Custom thank you page is on
- After survey, respondents go to www.surveymonkey.com
- Disqualification message is on
- Instant results are off
- No cutoff date and time
- No maximum response count
- No IP access restrictions
- No password protection

Figure I54. Online survey SSC setup: Anonymous and restrictive coding.

Rank the following areas that best represent your work experience?

	1. First % (N)	2. Second % (N)	3. Third % (N)	4. Fourth % (N)	5. Fifth % (N)	6. Sixth % (N)	7. Seventh % (N)	Non-response (N)
A. SOCIAL environment factors	0.192 (5) 5	0.077 (2) 2	0.115 (3) 3	0.231 (6) 6	0.077 (2) 2	0.038 (1) 1	0.269 (7) 7	0.103 (3) 3
B. POLITICAL environment factors	0.360 (9) 9	0.280 (7) 7	0.160 (4) 4	0.080 (2) 2	0.000 (0) 0	0.000 (0) 0	0.120 (3) 3	0.138 (4) 4
C. ECONOMIC environmental factors	0.192 (5) 5	0.231 (6) 6	0.115 (3) 3	0.077 (2) 2	0.154 (4) 4	0.154 (4) 4	0.077 (2) 2	0.103 (3) 3
D. LEGAL environment factors	0.077 (2) 2	0.038 (1) 1	0.192 (5) 5	0.115 (3) 3	0.192 (5) 5	0.154 (4) 4	0.231 (6) 6	0.103 (3) 3
E. INTERCULTURAL environment factors	0.115 (3) 3	0.154 (4) 4	0.154 (4) 4	0.154 (4) 4	0.077 (2) 2	0.192 (5) 5	0.154 (4) 4	0.103 (3) 3
F. TECHNOLOGY environment factors	0.333 (9) 9	0.185 (5) 5	0.074 (2) 2	0.074 (2) 2	0.185 (5) 5	0.074 (2) 2	0.074 (2) 2	0.069 (2) 2
G. INFRASTRUCTURAL environment factors	0.115 (3) 3	0.115 (3) 3	0.269 (7) 7	0.154 (4) 4	0.077 (2) 2	0.115 (3) 3	0.154 (4) 4	0.103 (3) 3

Interpretative Graphic Summary



Note. Survey Online Results and Analytics

Figure I55. Survey results: Rnd4 (E1-Q2) Work experience.

Table I19.

Item Analysis: Rnd4 (E1-Q2) Work Experience

E1-Q2. Analysis: Work Experience Related to Policy Creation and Administration

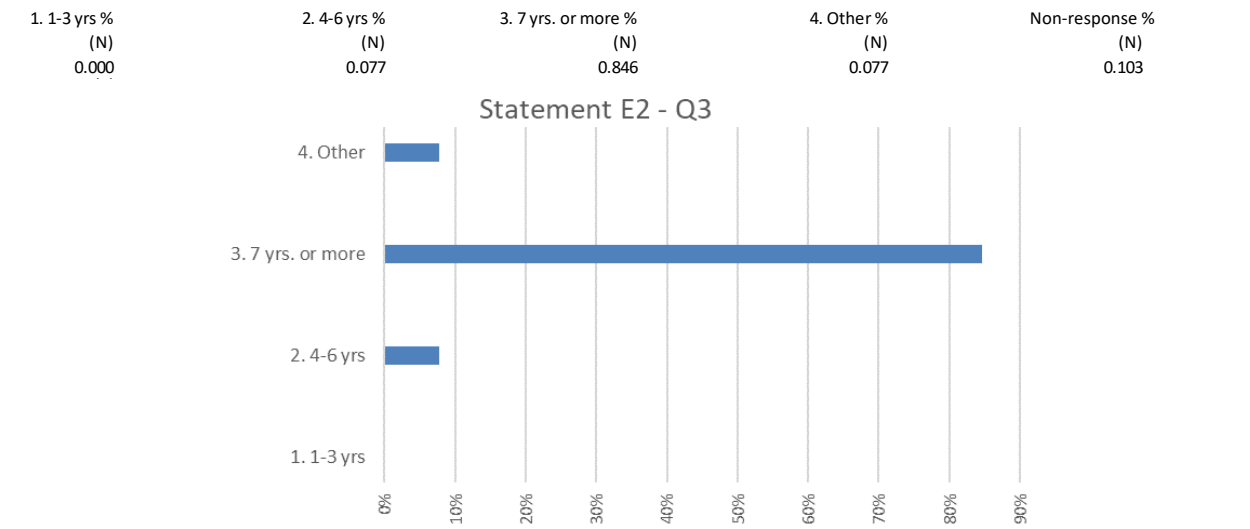
Results:

- Responses associated with political, economic, technology, and infrastructural work experience were relatively high when compared to those having social, legal, and intercultural experience.
- This infers that most of the participants are engaged in political, economic, technology, and/or infrastructural policy processes, or are influenced by developments in these fields.
- This is surprising considering the survey design and pre-qualification stipulations did not attempt to proportionalize the targeted participant group for any specific field of experience.
- The distribution of experience across the seven (SPELIT+1) environmental experiences (factors) indicates a reasonable balance over the range of experience. This somewhat serves to reduce bias within the homogenous sample.
- The 46.9% concentration of experience in political, economic, and social in (Grp1) was expected to be much higher.

Notes:

- Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.7%.
- Data distribution: Non-symmetric with bimodal characteristics, meaning a significant number of responses were found associated with social = 11.5%, political = 21.3%, and economic = 14.1% (Grp1); and intercultural = 11.5%, technology = 17.3%, and infrastructural = 14.1% (Grp2).
- 46.9% of the respondents were associated with Grp1; and, 42.9% were associated with Grp2. Collectively, the two groups represent 89.8% of the sample.

How many years of work experience do you have in the area(s) you indicated in the prior question?



Note. Online Results and Analytics

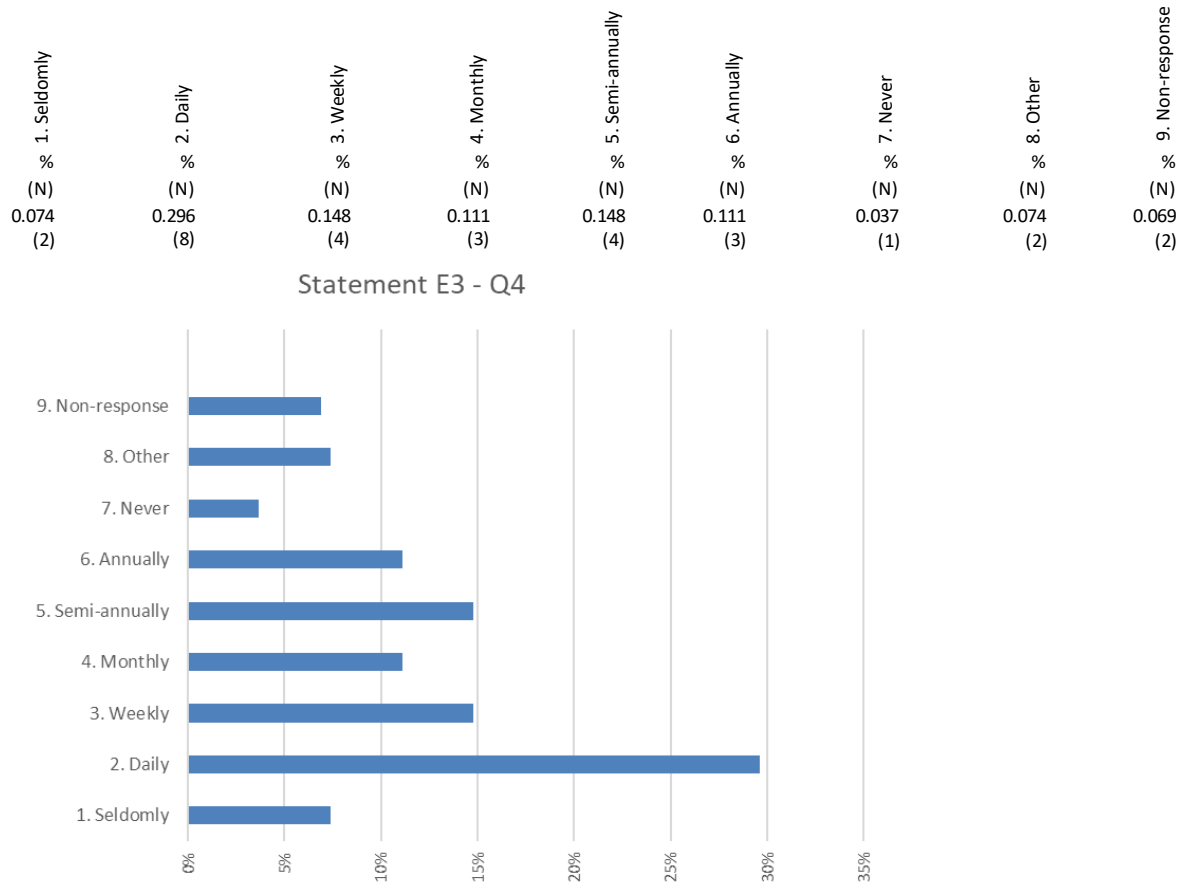
Figure I56. Survey results: Rnd4 (E2-Q3) Engagement.

Table I20.

Item Analysis: Rnd4 (E2-Q3) Engagement

E2-Q3. Analysis: Years of Engagement Related to Policy Creation and Administration	
Results:	1. The respondent number of years of experience exceeded the survey design expectations.
	2. Participants were found to have considerable experience associated with policy advisement, development, approval, and administration.
	3. 84.6% of the respondents have senior-level career engagement and experience in policy processes.
Notes:	1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.7%.
	2. Data distribution: The data can be characterized was being symmetrically bell-shaped, unimodal, with little spread meaning a there is a central tendency in the observations.

How often do you participate in the evaluation and/or the creation of organizational policy?



Note. Survey Online Results and Analytics

Figure I57. Survey results: Rnd4 (E3-Q4) Engagement.

Table I21.

Item Analysis: Rnd4 (E3-Q4) Engagement

E3-Q4. Analysis: Intensity of Policy Engagement

Results:

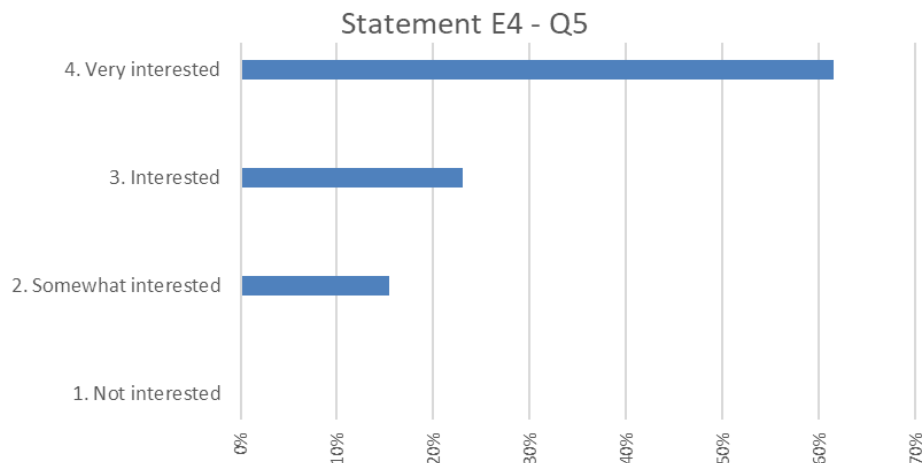
1. Finding 77.7% of the participants being actively engaged in the evaluation and/or creation of organizational policy was above the expectations of the survey design.
2. This high level of active engagement infers a large percentage of the survey participants are likely aware of those events that are influencing and/or driving the direction and shape of policy.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Skewed to the left, meaning the bulk of the data values (including the median) lie to the right of the mean, and there is a long tail on the left side.
3. The amount of time respondents are engaged in the prescribed policy activities: (Semi-annually = 14.8%; Monthly = 11.1%; Weekly = 14.8%; Daily = 29.6%; and, Seldomly = 07.4%) = 77.7% of the data.

How interested are you in global events?

1. Not interested	2. Somewhat interested	3. Interested	4. Very interested	5. Non-Response
%	%	%	%	%
(N)	(N)	(N)	(N)	(N)
0.000	0.154	0.231	0.615	0.000
(0)	(4)	(6)	(16)	(0)



Note. Survey Online Results and Analytics

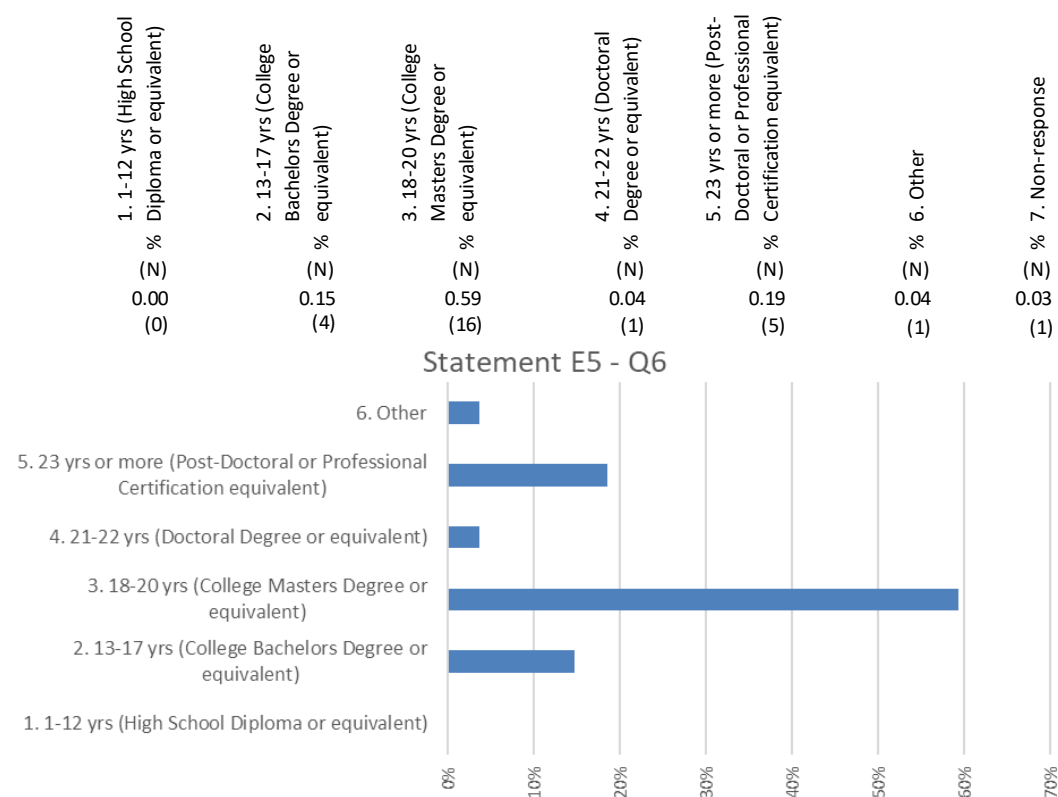
Figure I58. Survey results: Rnd4 (E4-Q5) Interest.

Table I22.

Item Analysis: Rnd4 (E4-Q5) Interest

E4-Q5. Analysis: Level of Interest	
Results:	
1.	The 84.6% level-of-interest in global events indicated is a positive inference that respondent knowledge of global events, understanding, and appreciation of the topics covered in the survey.
2.	The finding indicates a positive inference that the targeted survey participants were likely to provide accurate and thoughtful representations as to the topics covered and information requested.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.7%.
2.	Data distribution: Skewed to the left, meaning a large number of the observations are on the right.
3.	Very interested = 61.5% of the respondents; with, Interested = 23.1%.
4.	Those responding very interested and interested = 84.6%.
5.	This level-of-interest in global events was above the survey design expectations.

How would you characterize your level of educational learning or experience?



Note. Survey Online Results and Analytics

Figure I59. Survey results: Rnd4 (E5-Q6) Education.

Table I23.

Item Analysis: Rnd4 (E5-Q6) Education

E5-Q6. Analysis: Level of Education or Learning Experience

Results:

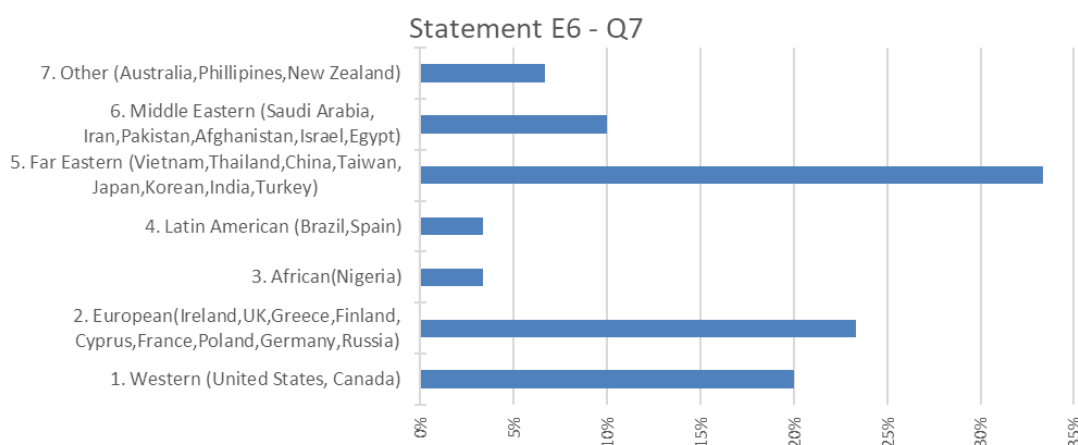
- 67.0% of the respondents held Bachelors, Masters, or Post-Doctoral/Professional Certifications.
- This level of education infers the respondents are significantly engaged as passionate learners that likely have moderate to high levels of interest in the survey topics and associated events that may influence policy.

Notes:

- Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
- Data distribution: Skewed to the left, meaning the bulk of the respondents were aligned on the right as characterized in groups 3-6. This non-symmetric distribution also illustrates bimodal features.
- 59.0% of the respondents had 18-20 years of education (College Masters Degrees or equivalent); and, 04.0% possessed 23 years or more education (Doctorate or Professional Certifications or equivalent); 04.0% indicated had possessed other advanced qualifying education.
- Groups 3-6 represented 67.0% of the sample.
- Respondent education, professional certifications, and learning experience support the 60.05 response rate.

How would you characterize your ethnicity or nationality?

1. Western (United States, Canada)	2. European (Ireland, UK, Greece, Finland, Cyprus, France, Poland, Germany, Russia)	3. African (Nigeria)	4. Latin American (Brazil, Spain)	5. Far Eastern (Includes Vietnam, Thailand, China, Taiwan, Japan, Korean, India, Turkey)	6. Middle Eastern (Saudi Arabia, Iran, Pakistan, Afghanistan, Israel, Egypt)	7. Other (Australia, Phillipines, New Zealand)
%	%	%	%	%	%	%
(N)	(N)	(N)	(N)	(N)	(N)	(N)
0.200	0.233	0.033	0.033	0.433	0.033	0.033
(6)	(7)	(1)	(1)	(13)	(1)	(1)



Note. Survey Online Results and Analytics

Figure I60. Survey results: Rnd4 (E6-Q7) Demographics.

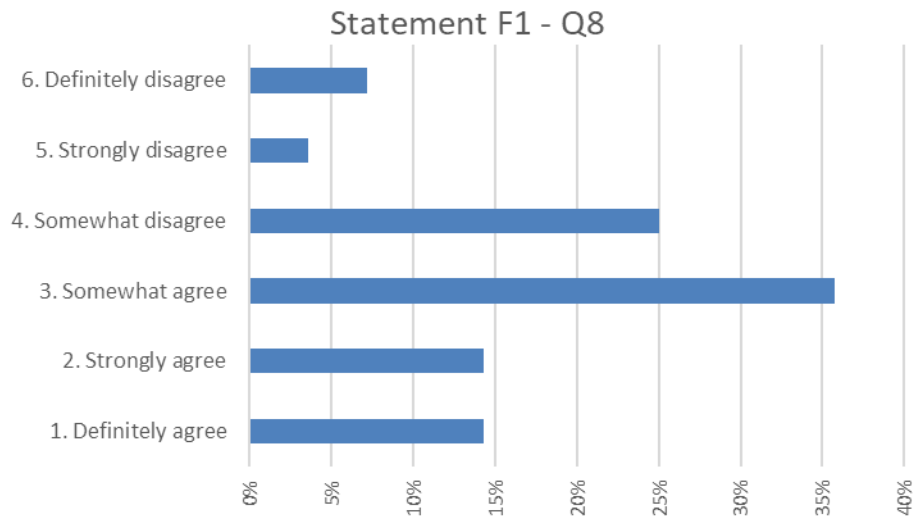
Table I24.

Item Analysis: Rnd4 (E6-Q7) Demographics

E6-Q7. Analysis: Ethnicity or Nationality	
Results:	
1.	Initially the finding infers a Far Eastern bias of 43.3%; however, when the Western 20.0% and European 23.3% bias are coupled ideologically (20.0 + 23.3) a 43.4% a balance is observed.
2.	On deeper examination, the level Far Eastern and Western ideologies outcome appears to be imbalanced meaning the study design stipulation was not achieved.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 30; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2.	Data distribution: Slightly skewed to the right, meaning a substantial amount of the reported observations are on the left.
3.	Deeper examination indicates a 43.4% return associated with Western and European ethnicity or nationality (call this Grp1); where returns indicated 03.3 for African, 03.3% for Latin American, 43.4 for Far Eastern, 03.3 for Middle Eastern, and Other for 03.4% (call this Grp2); then a bias emerges between Grp1 = 43.4% and Grp2 = 56.5%. Meaning, when all cultural ideologies are considered there is a slight bias towards the East Asian mind set.
4.	International surveys with a wide spread of counties across global regions should allow added time to be open. Possibly, in this case the survey should have been held open for 14 days instead of the approved design period of 10 days.

Would you agree that China will introduce a social security system due to its aging population?

1. Definitely agree	2. Strongly agree	3. Somewhat agree	4. Somewhat disagree	5. Strongly disagree	6. Definitely disagree
%	%	%	%	%	%
(N)	(N)	(N)	(N)	(N)	(N)
0.143	0.143	0.357	0.250	0.036	0.071
(4)	(4)	(10)	(7)	(1)	(2)



Note. Extracted from the Delphi survey results.

Figure I61. Survey results: Rnd4 (F1-Q8) Social security.

Table I25.

Item Analysis: Rnd4 (F1-Q8) Social Security

F1-Q8. Analysis: Social Security

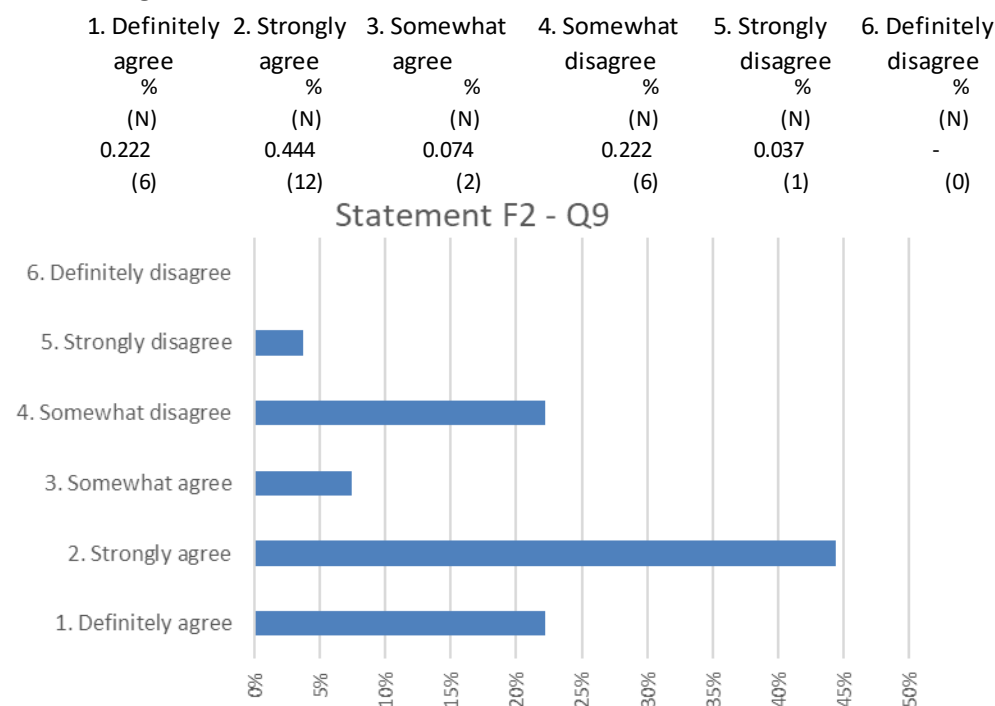
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. 64.3% agree that China will introduce a social security system due to its aging population.
3. This infers participants associate a relationship between China's social security programs and the increasing scale of its aging population.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 28; skip rate = 03.4%; completion rate = 96.5%.
2. Data distribution: Skewed to the left, meaning a large amount of the responses are on the right.
3. (35.7% Somewhat agree; 14.3% Strongly agree; and, 14.3% Definitely agree) = 64.3%

China's social security and health care (social program reforms) are critical to its economic growth.



Note. Extracted from the Delphi survey results.

Figure I62. Survey results: Rnd4 (F2-Q9) Social programs and economic growth.

Table I26.

Item Analysis: Rnd4 (F2-Q9) Social Programs and Economic Growth

F2-Q9. Analysis: Social Programs and Economic Growth

Results:

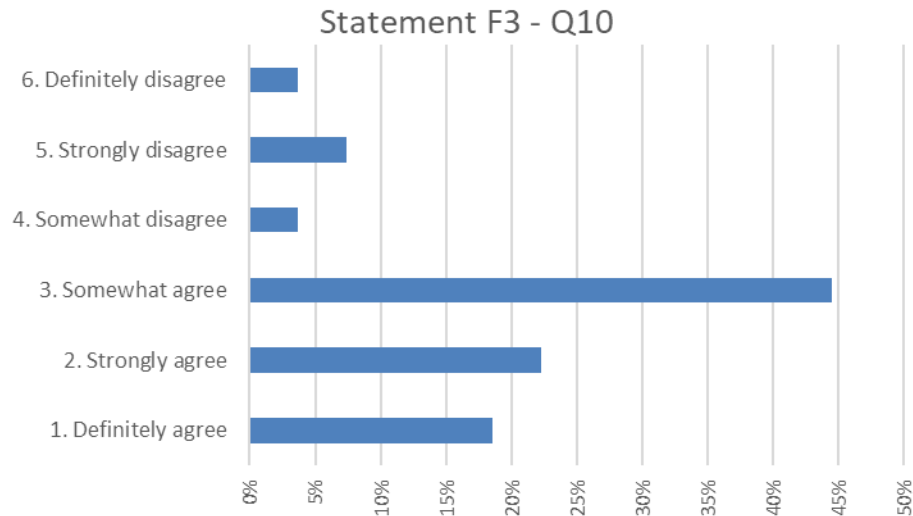
1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. The findings indicate 74.0% agree China's social security and health care (social program reforms) are critical to the country's economic growth.
3. The findings infer a relationship between social security, health care, and economic growth; and, that social security and health care may be influencers or drivers of economic growth.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Skewed to the left, meaning the bulk of the responses are on the right. It could be argued the data is non-symmetrical and bimodal
3. (07.4% Somewhat agree; 44.4% Strongly agree; and, 22.2% Definitely agree) = 74.0%

Would you agree that China will introduce a health care program due to its aging population?

1. Definitely agree	2. Strongly agree	3. Somewhat agree	4. Somewhat disagree	5. Strongly disagree	6. Definitely disagree
%	%	%	%	%	%
(N)	(N)	(N)	(N)	(N)	(N)
0.185	0.222	0.444	0.037	0.074	0.037
(5)	(6)	(12)	(1)	(2)	(0)



Note. Extracted from the Delphi survey results.

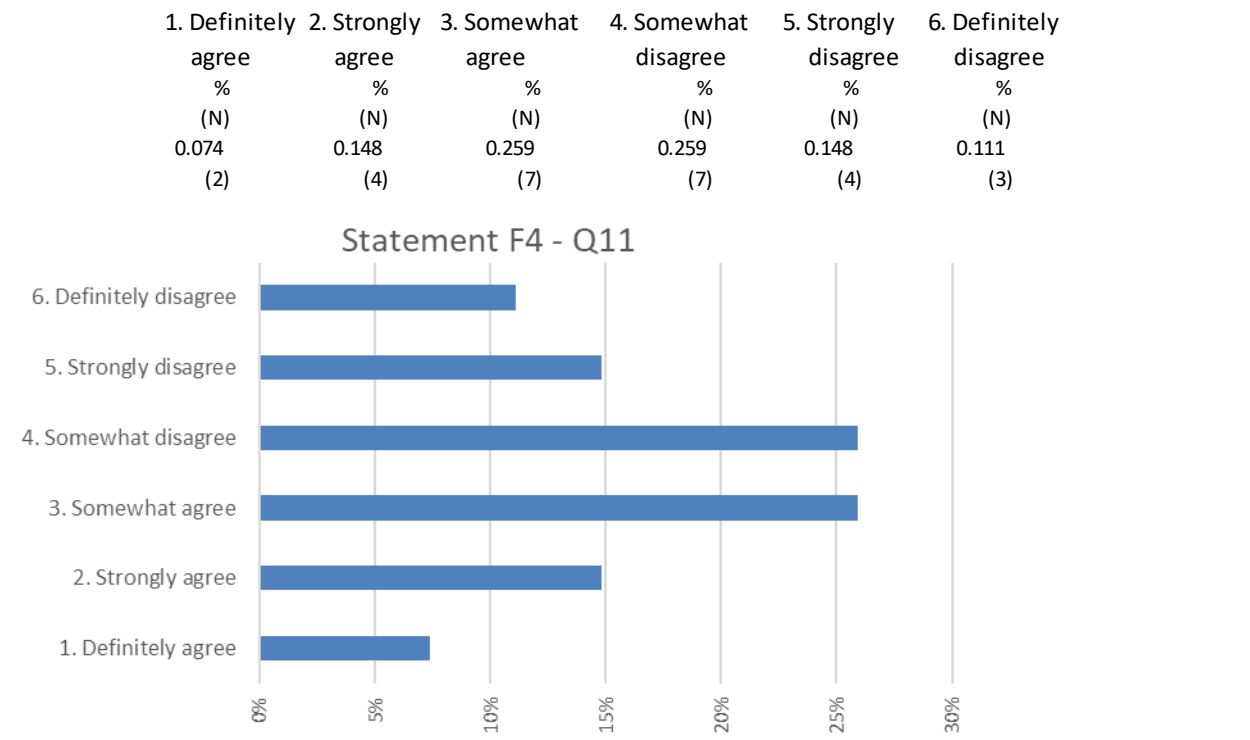
Figure I63. Survey results: Rnd4 (F3-Q10) Health care and aging population.

Table I27.

Item Analysis: Rnd4 (F3-Q10) Health Care and Aging Population

F3-Q10. Analysis: Health Care and Aging Population	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	The findings indicate 85.2% of the respondents agree that China will introduce a health care program due to its aging population.
3.	This finding infers aging population is likely an influencer or driver of the country's health care program and associated policy.
Notes:	
1.	Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 27; skip rate = 06.8%; completion rate = 93.1%.
2.	Data distribution: Skewed to the right, meaning the bulk of the responses are on the right.
3.	(44.4% Somewhat agree; 22.2% Strongly agree; and, 18.5% Definitely agree) = 85.2%

The current environment in China provides a framework for social and economic freedom (right of enjoyment) for the Chinese people.



Note. Extracted from the Delphi survey results.

Figure I64. Survey results: Rnd4 (F4-Q11) Social and economic freedom.

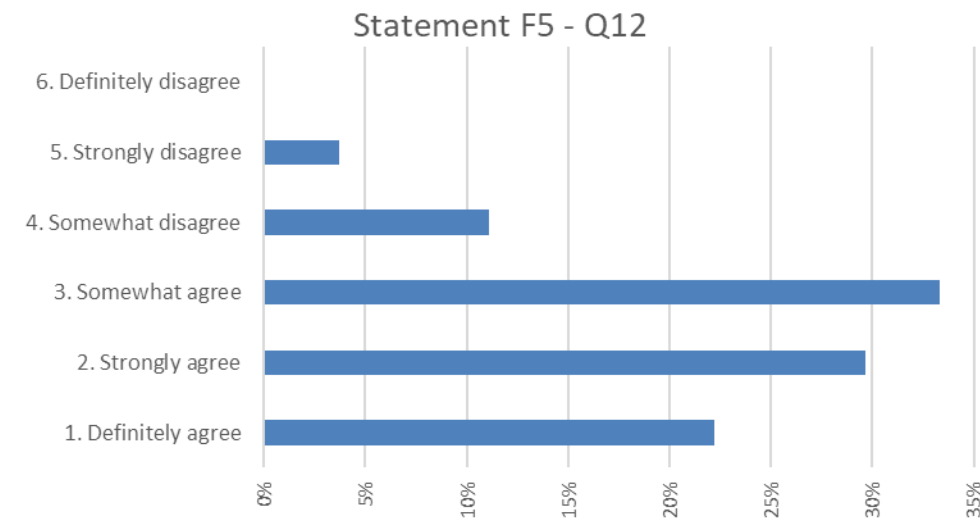
Table I28.

Item Analysis: Rnd4 (F4-Q11) Social and Economic Freedom

F4-Q11. Analysis: Social and Economic Freedom	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two did not agreed inferring a consensus was not achieved.
2.	The findings indicated 51.8% were unsure or about whether the current environment in China provides a framework for social and economic freedom for the Chinese people.
3.	The fact that respondents are somewhat evenly divided on this statement infers they are suspect of any connection between social and economic freedom reforms. It is likely that respondents are linking their decision to China's history of social and economic reforms poor performance if not destructive outcomes as imposed by central government policies.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.8%; completion rate = 93.1%.
2.	Data distribution: A relatively symmetrical bell-curve, meaning the bulk of the responses have a central tendency with a wide spread.
3.	(25.9% Somewhat agree; and, 25.9% Somewhat disagree) = 51.8%

The common people’s social freedoms (lifestyle) are better in China now that it has been in the past.

1. Definitely agree	2. Strongly agree	3. Somewhat agree	4. Somewhat disagree	5. Strongly disagree	6. Definitely disagree
%	%	%	%	%	%
(N)	(N)	(N)	(N)	(N)	(N)
0.222	0.296	0.333	0.111	0.037	-
(6)	(8)	(9)	(3)	(1)	(0)



Note. Extracted from the Delphi survey results.

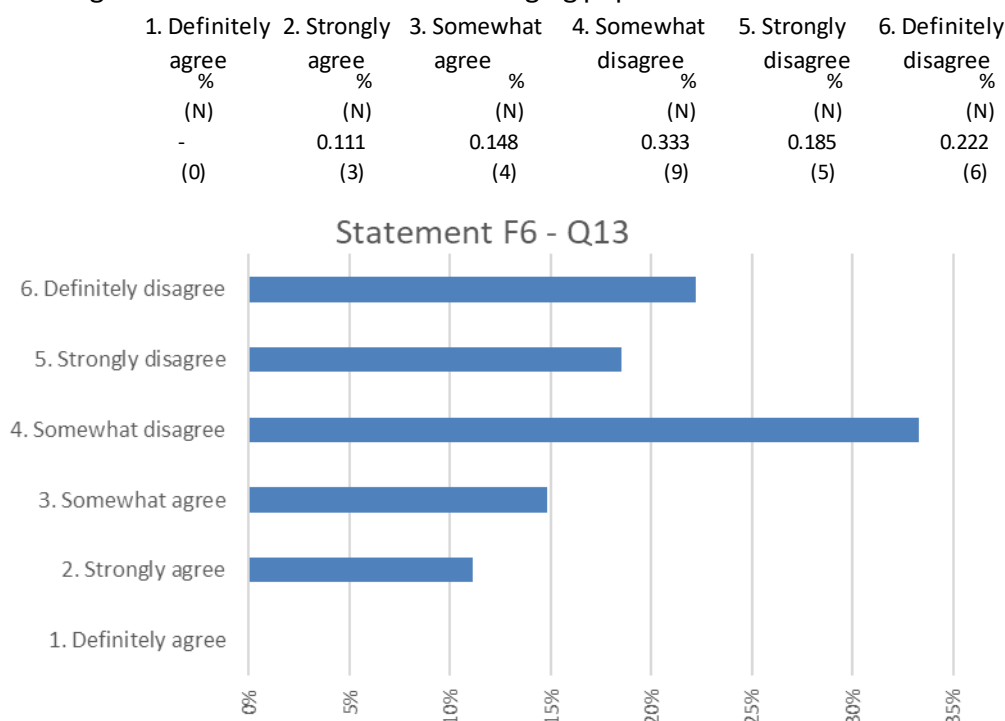
Figure I65. Survey results: Rnd4 (F5-Q12) Freedom.

Table I29.

Item Analysis: Rnd4 (F5-Q12) Social Freedom Advances

F5-Q12. Analysis: Social Freedom Advances	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	The findings indicate that 63.0% of the respondents agree that the common people’s social freedoms (lifestyle) are better in China now than it has been in the past.
3.	This finding infers that social freedoms in China have gradually increased over the past ten to fifteen years.
Notes:	
1.	Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 27; skip rate = 06.9%; completion rate = 93.1%.
2.	Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3.	(33.3% Somewhat agree; 29.6% Strongly agree; and, 22.2% Definitely agree) = 63.0%

China's growth has no association with its aging population.



Note. Extracted from the Delphi survey results.

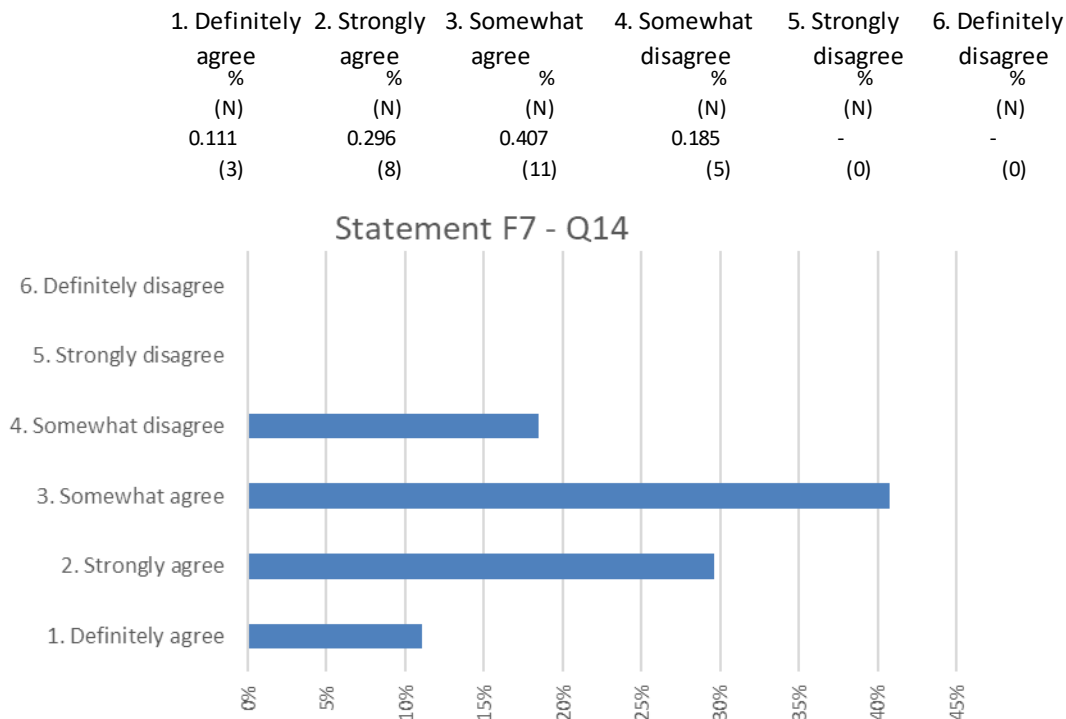
Figure I66. Survey results: Rnd4 (F6-Q13) Growth and aging population.

Table I30.

Item Analysis: Rnd4 (F6-Q13) Growth and Aging Population

F6-Q13. Analysis: Growth and Aging Population	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	The findings indicate 74.1% disagree with the statement that China's growth has no association with its aging population.
3.	This finding infers that China's growth is associated or connected to its aging population. Given this, China is and will continue to face major challenges to its economic growth due to the loss of the present aged workforce. In addition, China's government will need to increase the degree of benefits and coverage of its social security and health care programs to the general population in order to maintain stability. Increasing these programs will add to the economic burdens the government is now dealing with. Many of the subject matter experts reviewed in this study argue that the added burden of these social programs will serve to slow China's growth rate over the next decade. That said, this predicted economic slow-down will be exacerbated by the loss of a highly motivated, disciplined, hardworking, and highly productive aged workforce. Simply stated, they are few Chinese available in the rising workforce that can replace the loss of the aged. Those Chinese workers that will serve to replace the present aged workforce do not have the same commitments to work. Instead, the younger workforce is more focus and committed to a concept and lifestyle that represents a work-life balance. Analysts contributing to this study further argue the solution to this problem will not come from China increasing the immigration of foreign workers. Therefore, it is highly likely that China's economy will be directly and adversely affected by the dynamic shift in its aged from workforce to full-retirement.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2.	Data distribution: Slightly skewed to the right, meaning the bulk of the observations reported were to the left.
3.	(33.3% Somewhat disagree; 18.5% Strongly disagree; and, 22.2% Definitely disagree) = 74.1%

China's aging population is influencing the need to increase its social security programs.



Note. Extracted from the Delphi survey results.

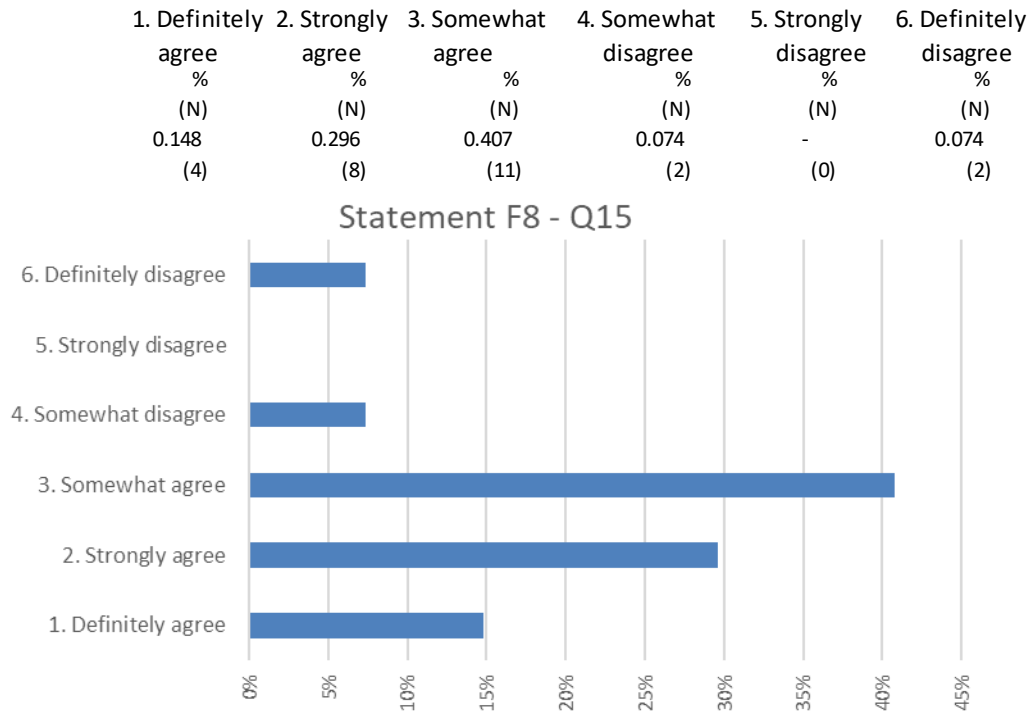
Figure I67. Survey results: Rnd4 (F7-Q14) Aging population and social security program.

Table I31.

Item Analysis: Rnd4 (F7-Q14) Aging Population and Social Security Program Needs

F7-Q14. Analysis: Aging Population and Social Security Program Needs	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	The findings indicate 81.5% agree China's aging population is influencing the need to increase its social security programs.
3.	Evidence of a connection between aging and the need to increase the country's social security programs is observed by the fact that many villages are populated by frail elders without adult children to support them. This condition, where the single child has moved to urban areas in search for increased opportunities and an improved lifestyle, have served to erode the stability of the rural Chinese family unit. Because China lacks sufficient pension and medical insurance programs, the next generation of Chinese elderly is facing extensive hardship for which there are no easy solutions. The scale of China's population shifts and urbanization programs cannot be ignored by its leaders. The absence of a system of social security or pensions for the elderly is serving to increase a fear among China's aging population of financial insecurity and the specter of severe impoverishment (Davis D. S., 2014).
Notes:	
1.	Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 27; skip rate = 06.9%; completion rate = 93.1%.
2.	Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3.	(40.7% Somewhat agree; 29.6% Strongly agree; and, 11.1% Definitely agree) = 81.5%

China’s social security needs are influencing its health care needs.



Note. Extracted from the Delphi survey results.

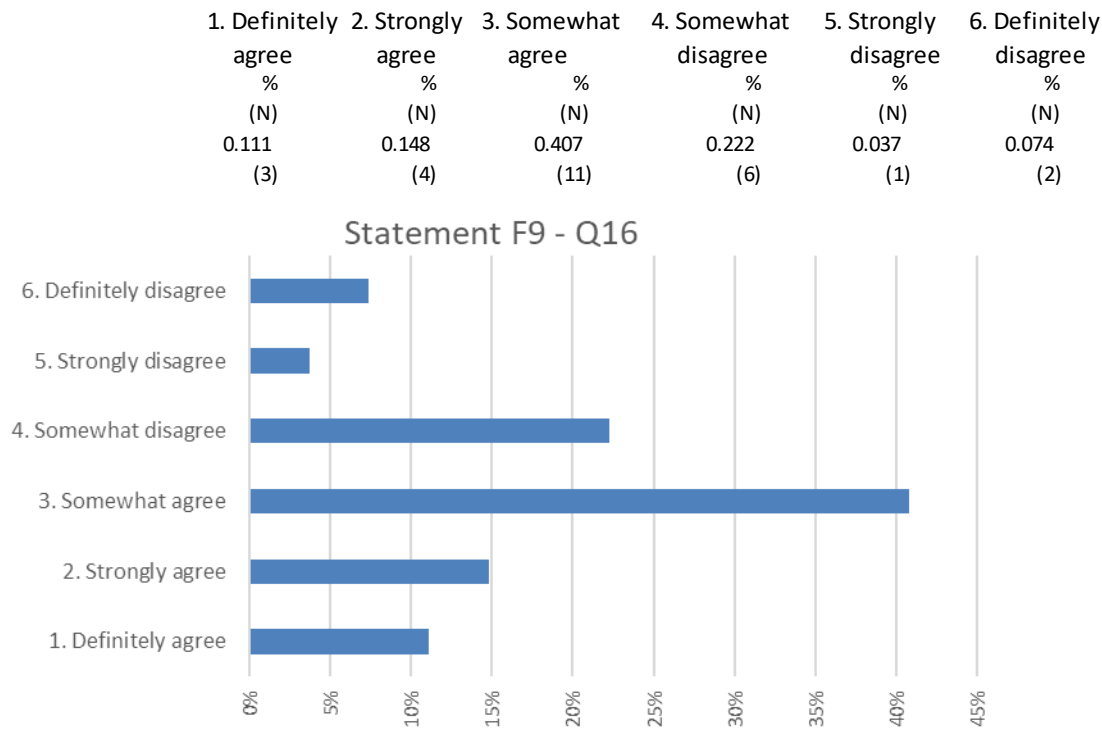
Figure I68. Survey results: Rnd4 (F8-Q15) Social security and health care.

Table I32.

Item Analysis: Rnd4 (F8-Q15) Social Security and Health Care Needs

F8-Q15. Analysis: Social Security and Health Care Needs	
Results:	1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
	2. The findings indicate 85.2% agree that social security needs are influencing and/or driving the country’s health care needs.
	3. This finding infers that China’s social security and health care are directly associated; and, that the policies associated with each influence or drive the other. This direct association and the influences of each acting on the other are supported by the observations of the analysts reviewed in this study.
Notes:	1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
	2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
	3. (40.7% Somewhat agree; 29.6% Strongly agree; and, 14.8% Definitely agree) = 85.2%

China’s education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.



Note. Extracted from the Delphi survey results.

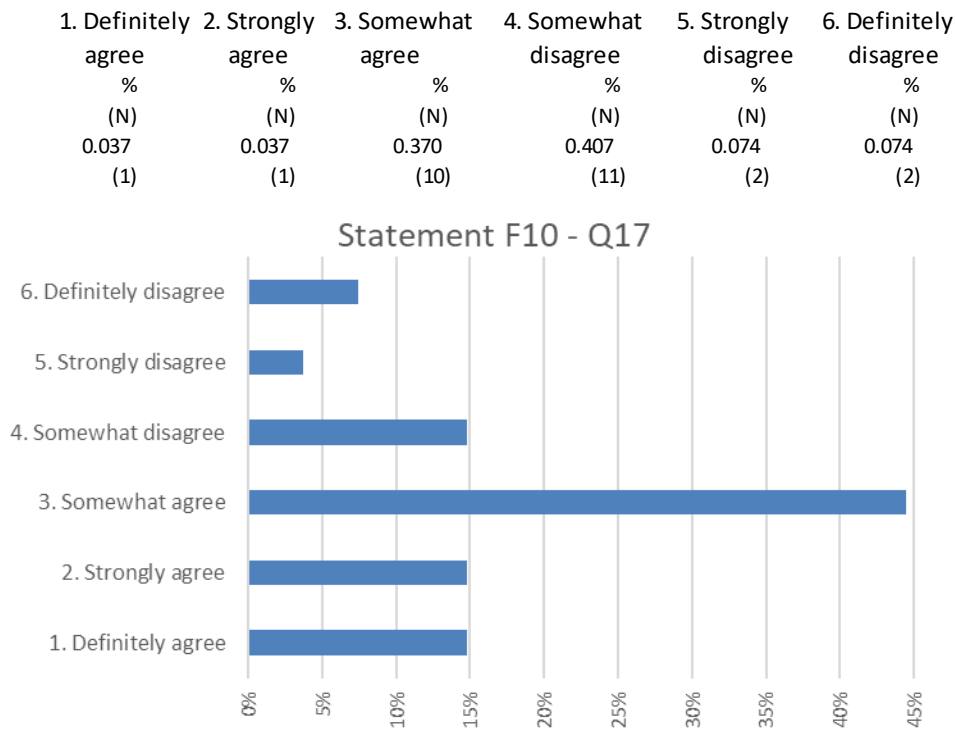
Figure I69. Survey results: Rnd4 (F9-Q16) Education system resources, technical advancement and economic growth.

Table I33.

Item Analysis: Rnd4 (F9-Q16) Education System Resources, Technical Advancement and Economic Growth

F9-Q16. Analysis: Education System Resources and Technical Advancement, Economic Growth	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	The findings indicate 66.7% agree China's education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.
3.	This finding infers that in order for China to achieve the degree of technical advancement needed to sustain its growth in the future the country will need to overcome the present shortage of qualified instructors at its technical schools and national universities.
4.	Falling short of increasing the number of qualified instructors necessary to meet future education system requirements will likely mean that China will not develop the technical and professional skills needed to sustain growth which will reduce the country's ability to sustain its present rate of economic growth, which in turn will serve to reduce the country's ability to provide social security and health care for its aging population.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2.	Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3.	(40.7% Somewhat agree; 14.8% Strongly agree; and, 11.1% Definitely agree) = 66.7%

China's education system is keeping up with the country's rapid growth.



Note. Extracted from the Delphi survey results.

Figure I70. Survey results: Rnd4 (F10-Q17) education system and rapid growth.

Table I34.

Item Analysis: Rnd4 (F10-Q17) Education System and Rapid Growth

F10-Q17. Analysis: Education System and Rapid Growth

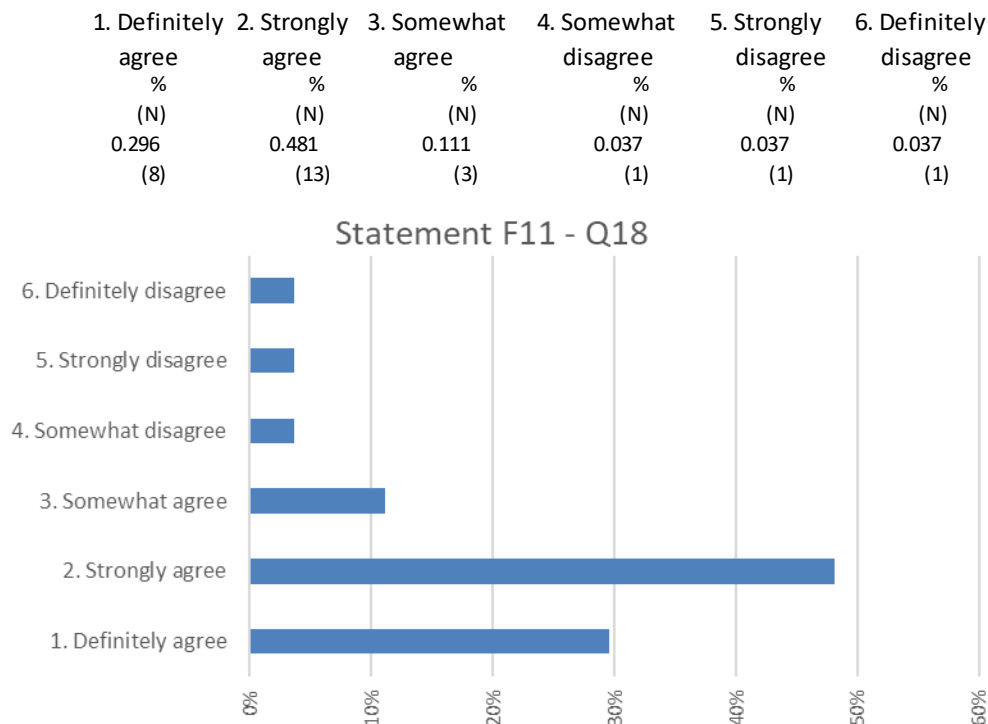
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 77.8% agree China's education system is keeping up with the country's rapid growth.
3. This finding infers that although China's educational system appears to be keeping up with its rapid growth the country will need to address the growing shortage of qualified instructors in order to achieve the government's desired technological advancement and sustained economic growth. The failure of China's educational system to keep pace with the country's rapid growth will result in a decline in economic strength that is necessary to expand social security and health care benefits to a broader population.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (37.0% Somewhat agree; 03.7% Strongly agree; and, 03.7% Definitely agree) = 77.8%

China's single-child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy.



Note. Extracted from the Delphi survey results.

Figure I71. Survey results: Rnd4 (F11-Q18) Single-child policy and economic disequilibrium.

Table I35.

Item Analysis: Rnd4 (F11-Q18) Single-Child Policy and Economic Disequilibrium

F11-Q18. Analysis: Single-Child Policy and Economic Disequilibrium

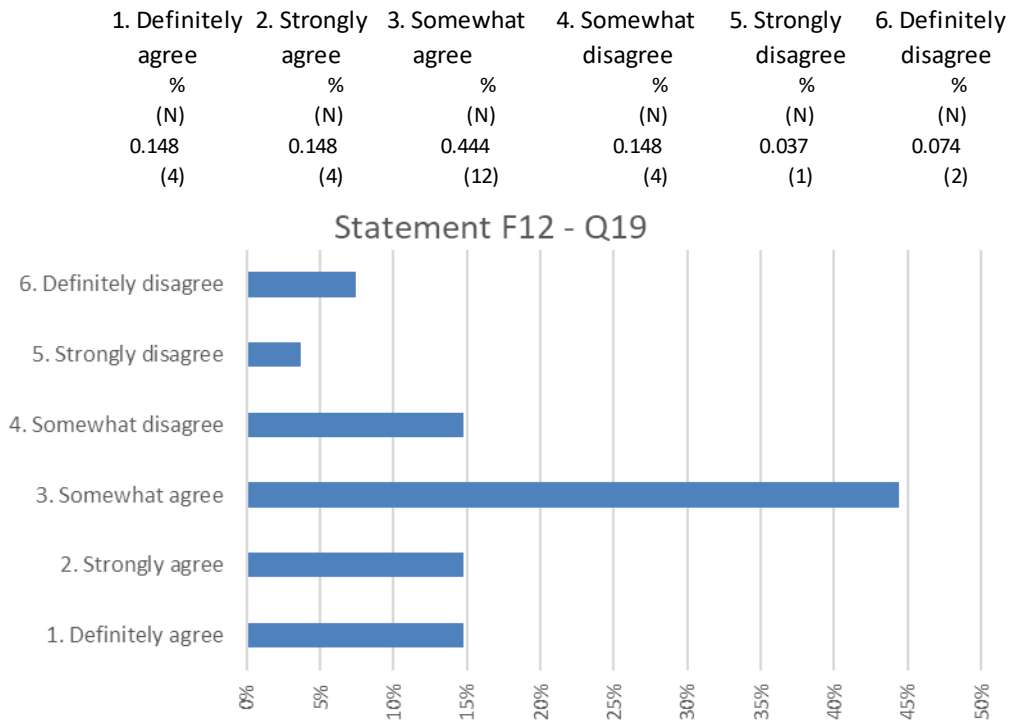
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 88.9% agree the China's single-child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy. We found a direct relationship between the single-child 4+2+1 policy adopted in 1980, and the country's social and economic policies. Specifically, the finding represents a significant and complexed relationship exists between the single child policy, social security, health care, and China's leadership. These factors are and will continue to influence and /or drive future policy.
3. This finding infers the respondents agree China's single-child social-economic policy has and will continue to influence and/or drive a wide-range of internal social and economic complications to the country's stability, economic growth, and associated leadership challenges. Evidence of this is found the study's literature reviews, where in November 2013 the Third Plenum leadership announced that henceforth couples in which only one spouse had no siblings, a second child could be authorized by the government (Davis D. S., 2014).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (11.1% Somewhat agree; 48.1% Strongly agree; and, 29.6% Definitely agree) = 88.9%

China’s emerging social ideology (policy changes) will improve the lifestyle of its “common people”.



Note. Extracted from the Delphi survey results.

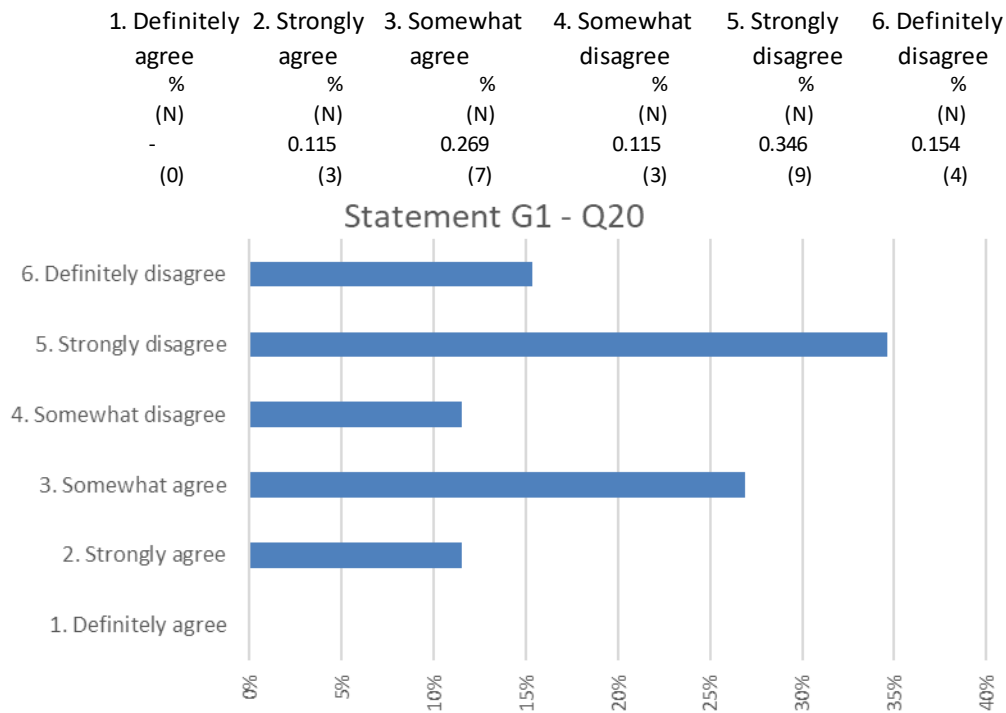
Figure I72. Survey results: Rnd4 (F12-Q19) Social ideology and lifestyle change.

Table I36.

Item Analysis: Rnd4 (F12-Q19) Social Ideology and Lifestyle Change

F12-Q19. Analysis: Social Ideology and Lifestyle Change	
Results:	
1.	When the R4 Delphi responses were compared to the literature findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 74.1% agree that China's emerging social ideology (policy changes) will improve the life style of its common people.
3.	This finding infers China's social policy reforms are serving to improve the lifestyle of its common people. Further, the series of social reforms that have and are currently being adopted by the central government are affecting the country's traditional ideologies and culture. Evidence of the effects of these policy reforms is revealed by the rapidly changing political, social, cultural, and economic dynamic in the country that is reflected in the growth of wealth, consumerism, and mobility. Many social scientists are analyzing this social phenomenon by examining what they term as the Chinese modernity process which is closely linked with mobility, individual attitudes, and the ability to relocate away from a long-term stable relationship to a new and different Chinese society (Honggang and Yuefang, 2016). This rapidly changing political, social and cultural environment is opening opportunities to the common people to improve their quality of life (lifestyle). This new freedom of movement, access, and consumerism is placing China on a unique trajectory, pattern, motivation, experience, with meaning and impacts that are unique when compared to other countries. The loss of control of mobility, culture, flexible work and consumption opportunities that have been brought on by a market driven economy are collectively creating what some analysts call a new Chinese mobility and modernity (Honggang and Yuefang, 2016). This period of rapid transformation is resonating with social groups within China that are promoting racial changes in society. This represents an ideological shift in China and a period of dynamic consumption (Zhao and Belk, 2008).
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2.	Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3.	(44.4% Somewhat agree; 14.8% Strongly agree; and, 14.8% Definitely agree) = 74.1%
4.	The term lifestyle is loosely defined here as referring to individuals that are searching for a balance of material wealth, security, health, social and physical mobility, increased consumerism, access and spiritual meaning in life.

China’s external leadership behavior is in conflict with its external leadership ideologies.



Note. Extracted from the Delphi survey results.

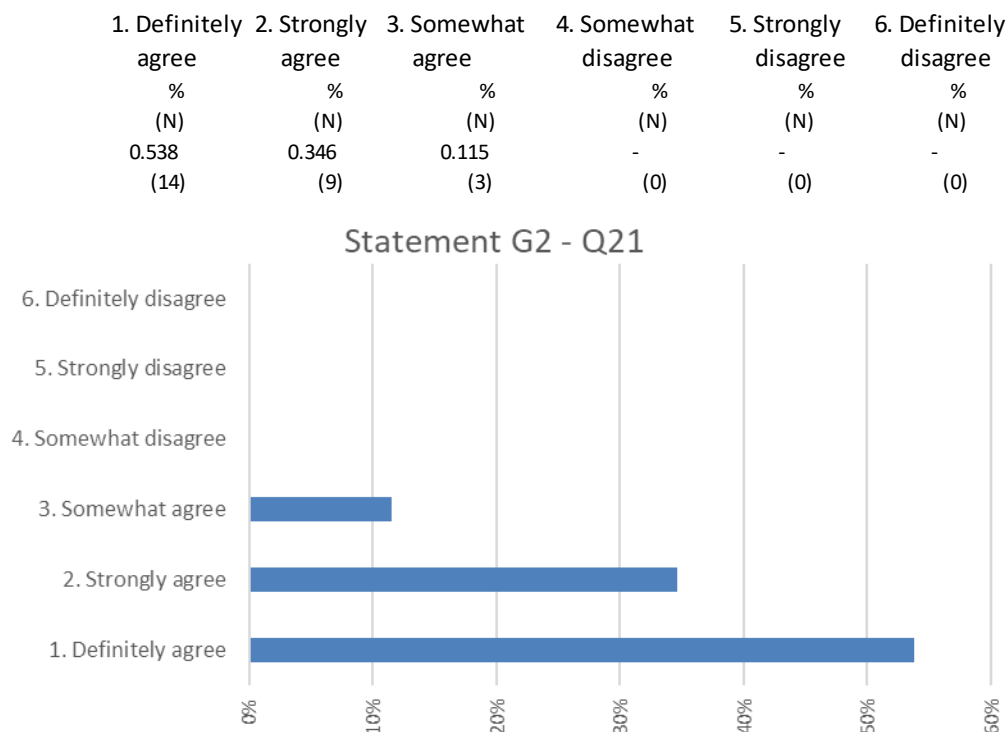
Figure I73. Survey results: Rnd4 (G1-Q20) Leadership behavior and ideologies.

Table I37.

Item Analysis: Rnd4 (G1-Q20) Leadership Behavior and Ideologies

G1-Q20. Analysis: Leadership Behavior and Ideologies	
Results:	
1.	When the R4 Delphi responses were compared to the literature findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 61.5% disagree that China's external leadership behavior is in conflict with its external leadership ideologies.
3.	This finding infers there is a common perception that China's external leadership characteristics and behavior are in directly associated with the country's goals and objectives. In the context of this research, it appears President Xi's Sinocentric Chinese Dream includes significant social, economic, and leadership reforms that are being uniformly expressed internally as well as externally. This finding tends to support a strong continuity (link) between Xi's emerging policies, the central government, the Chinese people, and those core ideologies that are being expressed to the global community. When viewed collectively, Xi's Chinese Dream is fueling the fusion of an internal and external new nationalist based on "Fen Fa You Wei" (爭取成就) or the concept of "striving for achievement". In view of China's recent policy history, this represents a radically forward-looking form of nationalistic movement that is striving to restore China as a global leader. Given this, many analysts are raising questions as to how China will act out or demonstrate its new nationalistic ambitions; and, what affects it will have on a global community that remains strongly influenced by opposing western ideologies. As Sorensen argues, the characteristics in which China's leadership acts out and navigates the complexities of highly diverse and opposing global interests will determine the way in which the Chinese Dream will be realized to include the external narrative it constitutes (Sorensen, 2015). Little doubt exists among many of this study's analysts that as China's leadership persists to integrate a uniform and consistent message to the international community, China will be poised to cement its role as the undisputed leader of globalization (Retanan, 2018).
Notes:	
1.	Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 26; skip rate = 10.3%; completion rate = 89.6%.
2.	Data distribution: Slightly skewed to the right, meaning the bulk of the observations reported were to the left.
3.	(11.5% Somewhat disagree; 34.6% Strongly disagree; and, 15.4% Definitely disagree) = 61.5%

China's leadership behavior is focused on increasing power, authority, and superiority as to influence the present global political equilibrium.



Note. Extracted from the Delphi survey results.

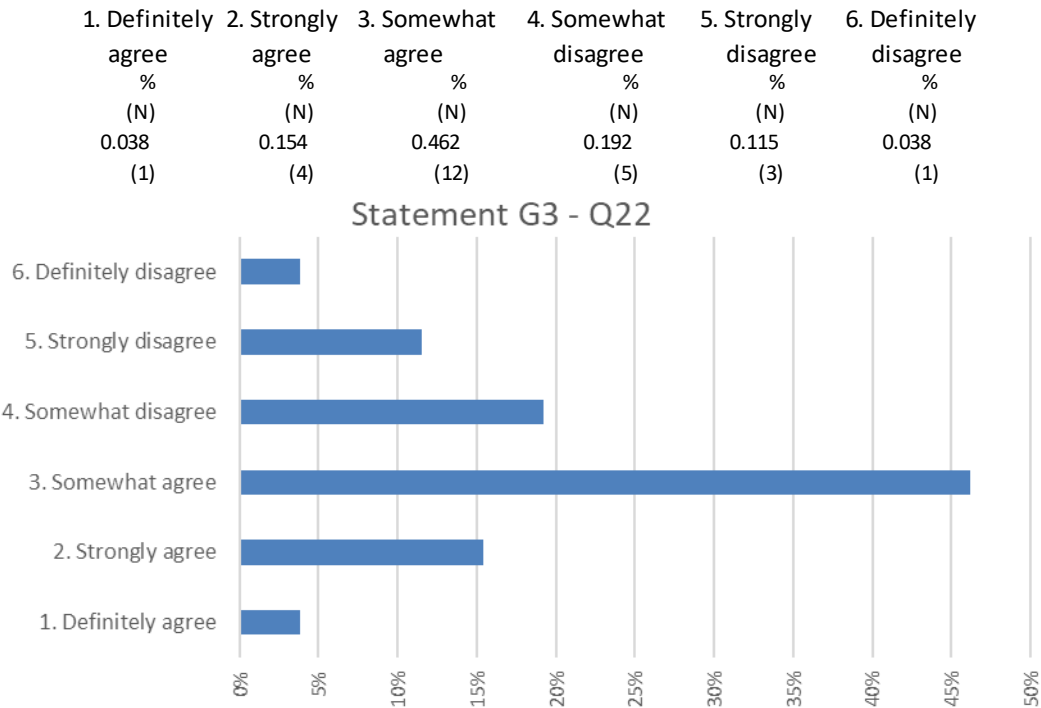
Figure I74. Survey results: Rnd4 (G2-Q21) Leadership behavior and global political equilibrium.

Table I38.

Item Analysis: Rnd4 (G2-Q21) Leadership behavior and global political equilibrium

G2-Q21. Analysis: Leadership Behavior and Global Political Equilibrium	
Results:	<ol style="list-style-type: none"> When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. This finding indicates 100% agree China's leadership behavior is focused on increasing power, authority, and superiority as to influence the present global political equilibrium. This finding infers that China has indeed awakened although it has not yet shaken the world (Retanan, 2018). Retanan suggests that as China's leadership continues to successfully navigate and exploit its globalization policies it will be able to reestablish itself as a respectable great power. He argues that in China's pursuit for a stronger sense of the ontological security raises an apparent toxic form of nationalism. The fact that China is engaged in building a new and technically advanced (world-class) maritime and blue water navy fleet is evidence that in part supports Retanan's argument that China intends to demonstrate its power, authority, and superiority (nationalism) by becoming the foundation of a uniquely Chinese globalization (also see G7-Q26).
Notes:	<ol style="list-style-type: none"> Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 26; skip rate = 10.3%; completion rate = 89.6%. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right. (11.5% Somewhat agree; 34.6% Strongly agree; and, 53.8% Definitely agree) = 100%

China’s changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology.



Note. Extracted from the Delphi survey results.

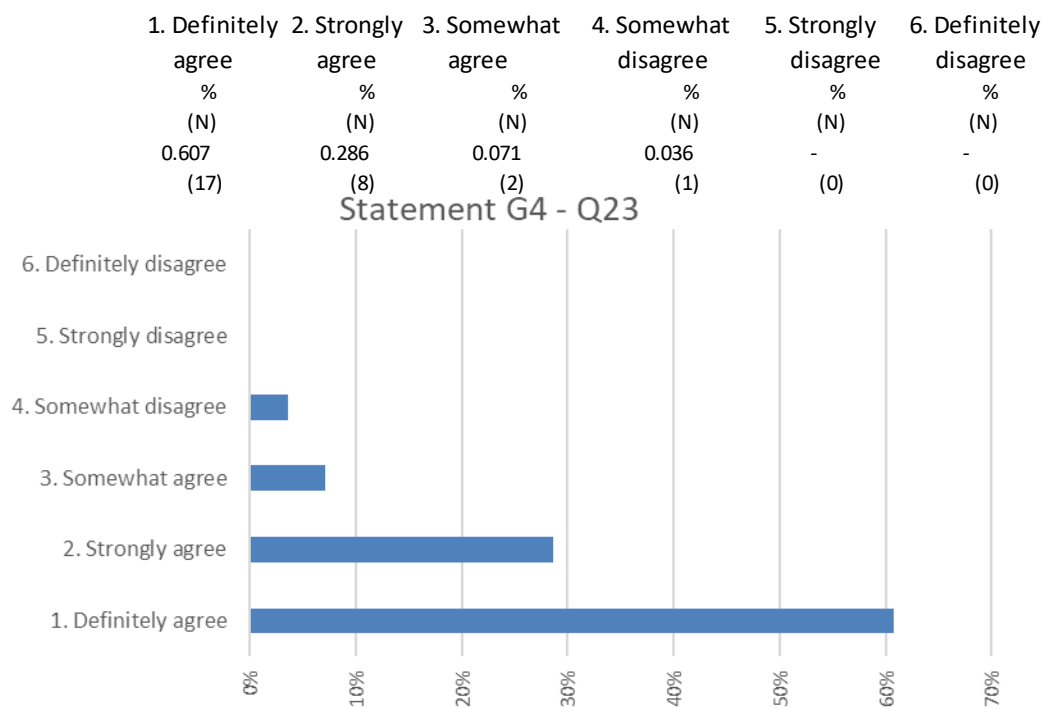
Figure I75. Survey results: Rnd4 (G3-Q22) Leadership ideology, behavior and cultural ideology change.

Table I39.

Item Analysis: Rnd4 (G3-Q22) Leadership Ideology, Behavior and Cultural Ideology Change

G3-Q22. Analysis: Leadership Ideology, Behavior and Cultural Ideology Change	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 65.4% agree China's changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology.
3.	This finding supports a series of arguments cited by Retanan that view the liberalization of Maoist cultural ideology through the lens of an emerging nationalism. Retanan suggests Chinese nationalism began to emerge after 1939 when it took a different form over the next several decades as elaborated on by Zhao (2005). First, an ethnic centered nationalism took shape due to an increasing resentment of the Han majority towards the ruling Manchu elite. Second, Western educated Chinese gave rise to a liberal nationalism, which in turn, promoted democracy, individualism, and aggressive foreign policies. Traces of liberal nationalism vanished during Mao's Communist China, however, it reemerged during Deng's Xiaoping's Reform Era as it was motivated political movements such as the 1989 Tiananmen Square Protests, 1999 protests against NATO's bombing of the Chinese Embassy in Belgrade, and the 2005 Shanghai Anti-Japanese Protests (Zhao, 2005). Together with the reemergence of China's liberal nationalism, the conceptualization of a third state-led form of nationalism that was promoted and driven by Deng's Communist Party of China (CPC). Unlike the confrontational nature of liberal nationalism, Deng's reform placed more value on economic benefits for the country rather than building national pride. Deng saw China's ties to the global economy as a means to improving domestic and international conditions for China. Hence, the CPC's version of state-led nationalism became a pragmatic form of globalistic nationalism (Hughes, 2017). Liberal nationalists view Chinese traditions as the reason for China's backwardness while viewing Western progressiveness as the only way forward (Zhao, 2005). Xi's Party maintains a pragmatic sense of nationalism that neither adheres to traditionalism nor to anti-traditionalism while maintaining a delicate balance between economic growth, nationalism, and legitimacy (Blackwell and Campbell, 2016).
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2.	Data distribution: Relative symmetrically bell-shaped with a wide spread. The bulk of the observations are split with the central tendency being associated with column 3.
3.	(46.2% Somewhat agree; 15.4% Strongly agree; and, 03.8% Definitely agree) = 65.4%

China’s present leadership behavior is focused on increasing its future access to resources in order to sustain its present growth.



Note. Extracted from the Delphi survey results.

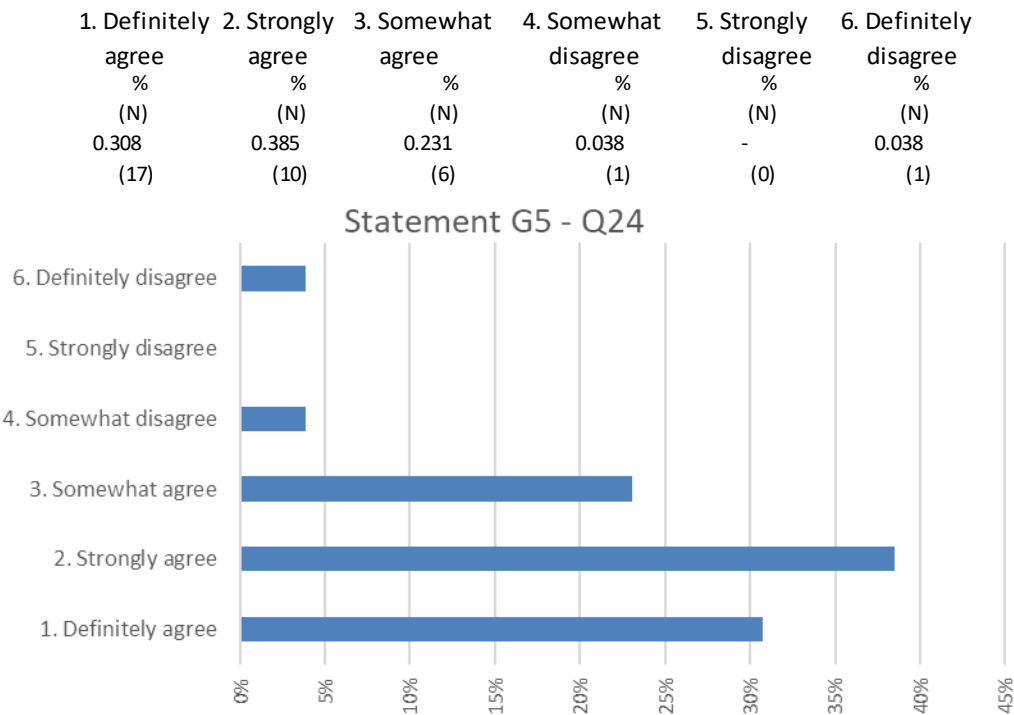
Figure I76. Survey results: Rnd4 (G4-Q23) Leadership behavior, resources, and sustained growth.

Table I40.

Item Analysis: Rnd4 (G4-Q23) Leadership Behavior, Resources and Sustained Growth

G4-Q23. Analysis: Leadership Behavior, Resources and Sustained Growth	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 96.4% agree China's present leadership behavior is focused on increasing its future access to resources in order to sustain its growth.
3.	This finding infers that China's leadership will continue to seek additional resources from outside its borders in order to sustain its growth and globalization policies. In short, China's heartland industry and manufacturing has been the driving force (factor) for thirty years of continuous and unprecedented economic growth (Hatidza, 2017). Hatidza a global strategic analyst argues that in order for China to sustain its present growth it will need to increase its importation of oil and other energy producing minerals from the Middle East (Iran, Saudi Arabia, Angola and RF), Africa, and South America (Hatidza, 2017). This means China will need to increase its maritime and naval assets in order to open and protect its international trade interests that require opening and/or navigating blue water routes that involve routes under the control of the United States. This initiative underscores China's commitment to transitioning its focus from mainland forces to becoming a naval power (Hatidza, 2017). Additionally, President Xi's Chinese Dream and globalization policies include expanding trade and commerce via ground routes by launching his One Belt, One Road initiative. These initiatives will test China's leadership abilities as they attempt to navigate a complex and highly diverse environment of converging and divergent sovereign and regional interests in such a way that it encourages a peaceful path of development while sustaining China's territorial aspirations while concurrently avoiding the disruption of regional (if not) global stability (Hatidza, 2017).
Notes:	
1.	Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 28; skip rate = 03.4%; completion rate = 96.5%.
2.	Data distribution: Skewed to the left, meaning the bulk of the observations reported were to the right.
3.	(07.1% Somewhat agree; 28.6% Strongly agree; and, 60.7% Definitely agree) = 96.4%

China’s leadership will move it to increase the country’s food supply to sustain its growth.



Note. Extracted from the Delphi survey results.

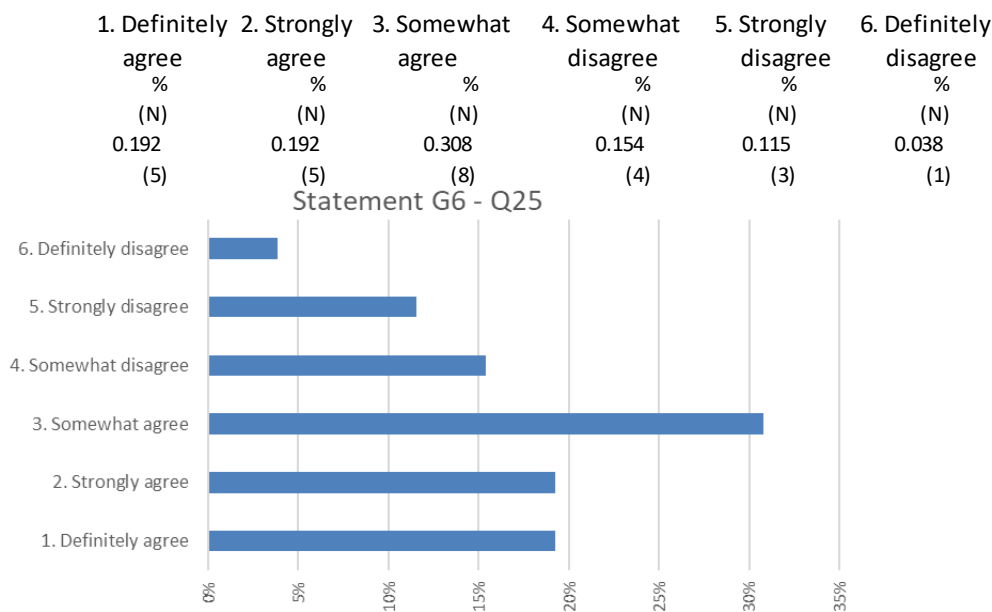
Figure I77. Survey results: Rnd4 (G5-Q24) Leadership behavior, resources & sustained growth.

Table I41.

Item Analysis: Rnd4 (G5-Q24) Food Supply and Sustained Growth

G5-Q24. Analysis: Food Supply and Sustained Growth	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 92.3% agree China's leadership will move it to increase the country's food supply to sustain its growth.
3.	This finding infers China's leadership will follow a course of action (policies) similar to those predicted to secure the country's needed energy resources from outside sources in order to satisfy the emerging desires to expand the growth of its middle-class consumer appetite for new and exotic international products and services. (See, G4-Q23, Leadership behavior and sustained growth.) Li suggests analysts studying China's emerging consumerism have shifted the narrative from a framework of traditional conservative alienation of consumption towards one which views consumption as a democratic exercise, in which individuals are now inventing or reinventing themselves to new consumer choices (Yu, 2014). These choices include the full-range of product opportunities, access, and availability that include food, transportation, entertainment, housing, mobility, and tourism. Instead of mass conformity, postmodern scholars emphasize the use of commodities to construct individual, self-realized, resistant, and creative selves. New research indicates this is being expressed by the Chinese people in ways which involves gender, ethnicity, subordinate identities, and the emergence of behaviors which challenge or undermine China's traditional culture of social domination. These scholars emphasize that consumption is no longer positioned as something negative in Chinese society as dictated by submission to the will of state-owned corporations. Today, China's consumers have been provided the opportunity to seek pleasure, escape, and pursue a new liberty in the form of mobility and tourism. As such, these analysts depict the new consumerism in terms of resistance, liberalism, and creative tendencies (Schor and Holt, 2000). Today consumerism in China, individual identities, and lifestyles are seen through the lens of consumption by analysts as a continuing dynamic that is in constant change (Arnould and Thompson, 2004). These changes are reflected by significant growth in demands for highly diverse products, goods and services of high quality and quantity which includes a cultivated taste for international foods and beverages. President Xi's policies encourage this new behavior as a means of increasing China's middle-class, imported food supply, and consumerism as a means of sustaining the country's growth.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2.	Data distribution: Skewed to the left, meaning the bulk of the observations reported were to the right.

China’s cultural ideologies are linked to its need to adopt social reforms.



Note. Extracted from the Delphi survey results.

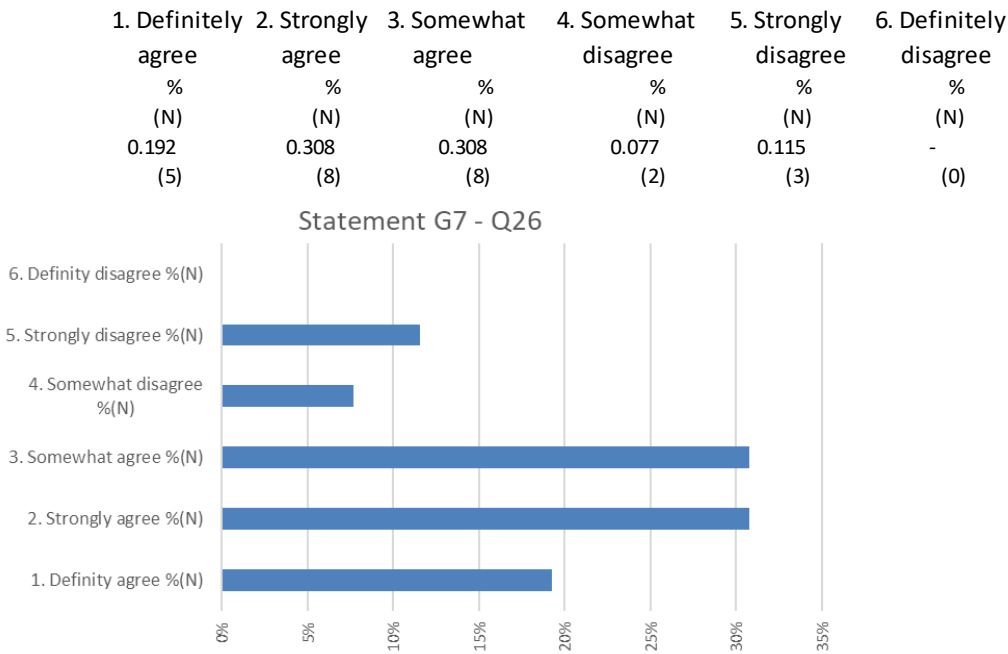
Figure I78. Survey results: Rnd4 (G6-Q25) Cultural ideologies and adopted social reforms.

Table I42.

Item Analysis: Rnd4 (G6-Q25) Cultural Ideologies and Adopted Social Reforms

G6-Q25. Analysis: Cultural Ideologies and Adopted Social Reforms	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 69.2% agree China's cultural ideologies are linked to its need to adopt social reforms. 3. This finding infers China's cultural ideologies and social reforms are directly associated. Reforms in China since 1978 have brought about a series of evolutions beginning with Deng's ideological liberalization movement (思想解放運動 <i>sīxiǎng jiiefang yundong</i>) (Tianyu and Xueping, 2014). The movement rejected Mao Zedong's theory and practice which emphasized class struggle and cultural revolution. Deng's reforms ultimately led the integration of a series of capitalist economic reforms. This was accomplished by making the reforms ideologically acceptable within the party and then subsequently acceptable to Chinese society. As such, the Maoist principle of guarding against revisionism (反修防修 <i>fanxiu fangxiu</i>) was replaced by the modernization project which some scholars argue was imported from the West (Wang and Hui, 2014). By marginalizing and replacing Marxism with imported concepts of modernization, various programs and policies took cultural roots in China's contemporary ideologies. These in turn served to reinforce and reshape subsequent social reforms. By the 1990s, socialist and leftists in China began to reorient their values and objectives accordingly. These changes brought about a struggle for a hegemony between Marxism and liberalism which ultimately resulted in what some scholars term capitalist modernity. Marx postulated that large-scale industrial revolutions led the development of capitalism and great advancements in human history that include providing the necessary preconditions for human liberalization. In Marx view, it is only through revolution that capitalism can be replaced by socialism and communism which in turn gives rise to the realization of true human emancipation. In China, Marx's philosophy passes through the concept of capitalist modernity so as to transcend and be replace it with yet a higher form of socialist modernity. Next, socialist modernity and collective liberalization take the form of class liberalization and national liberalization, which emerge as human emancipation (Wang and Hui, 2014). Presently, President Xi policies support what he terms the "Chinese Dream" which through a series of worldwide commerce and partnering he intends to increase individual and national liberalization by rationality pursuing China's collective values, a unique form of market driven social-capitalism, and supporting socio-economic reforms (Tianyu and Xueping, 2014).
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 26; skip rate = 10.3%; completion rate = 89.6%. 2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right. 3. (30.8% Somewhat agree; 19.2% Strongly agree; and, 19.2% Definitely agree) = 69.2%

The unity of China’s people is linked to its government’s equilibrium.



Note. Extracted from the Delphi survey results.

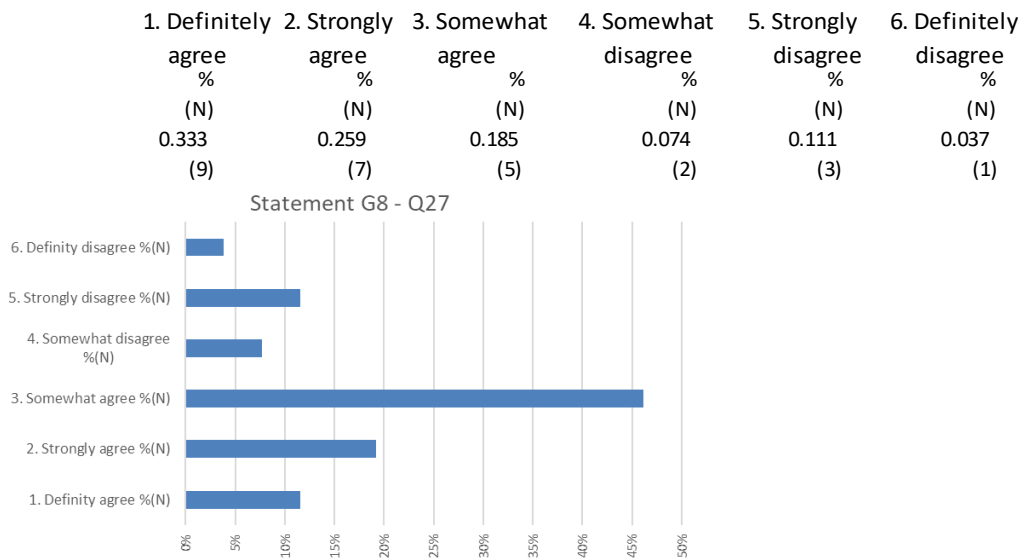
Figure I79. Survey results: Rnd4 (G7-Q26) Unity and government’s equilibrium.

Table I43.

Item Analysis: Rnd4 (G7-Q26) Unity and Government's Equilibrium

G7-Q26. Analysis: Unity and Government's Equilibrium	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 80.8 percent agree that the unity of China's people is linked to its government's equilibrium.
3.	This finding infers core values of Chinese traditional culture still apply a concept of harmony (和谐, Hexie). In fact, harmony is a complete ideological system consisting of not only values but a philosophy with a unique world outlook. China's idea of harmony includes principles such as the Tai Chi and Yin-Yang philosophies. Based these ideals, ancient Chinese philosophers have sustained ideological systems that seek to obtain harmony and equilibrium (unity) in not only China and its leadership, but the world. Hexie is about maintaining harmony between man, nature, human beings, society, people, the mind, and soul. Traditional Chinese values posit there is "a dynamic inherent in the universe that converts imbalance into balance, incoordination into coordination, and disequilibrium into equilibrium" (Lihua, 2013, p. 3). This dynamic manifests through the interaction of opposites as they cooperate and yet struggle against one another. Conflict resolution therefore is achieved by abiding by Tian Dao (cosmic laws), Di Da (telluric laws), Ren Dao (social laws) and, rational behavior. Chinese culture emphasizes harmony (unity) but not uniformity, promotes coexistence while respecting diversity and, mutually beneficial cooperation. Ultimately, harmony (unity) influences or shapes China's internal policies and external interests. Lao Tse argues Tao Te Ching (Dao De Jing), or "what makes a great state is how it is like a low-lying, down-flowing stream; the bigger state becomes the center that tends to all the small states like the smaller streams flowing to lower and lower streams. The larger rivers and seas are respected by all...thus, they are the king. Since the larger stream does not strive to be dominant, the smaller streams and larger rivers and seas work together" (Lihua, 2013, p. 4). This idea is exemplified in China's government policy by fostering amicable, secure, and prosperous neighborhood (mu lin, fu lin, shan lin, 睦邻, 福临, 山林), emphasizing sovereignty and non-interference in other countries internal affairs, and by applying concepts that include equality, mutual benefit and aid, cooperation and "win-win" diplomacy (Lihua, 2013). Many scholars note that Chinese diplomatic policies embrace these principles through its anti-hegemonic stance. This Chinese value system then advocates "mutual respect among citizens and encourages individual benevolence, righteousness, courtesy, wisdom, and honesty" which are the same values that contribute to China's governmental unity and equilibrium. (Lihua, 2013, p. 4).
Notes:	
1.	Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 26; skip rate = 10.3%; completion rate = 89.6%.
2.	Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3.	(30.8% Somewhat agree; 30.8% Strongly agree; and, 19.2% Definitely agree) = 80.8%

The unity of China’s people is linked to its government’s ability to achieve power, authority, and superiority.



Note. Extracted from the Delphi survey results.

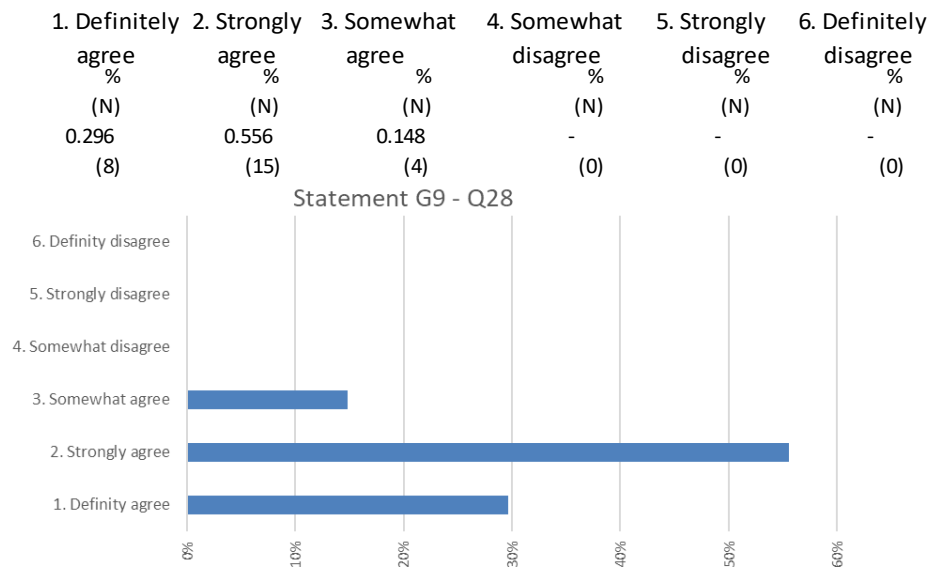
Figure I80. Survey results: Rnd4 (G8-Q27) Unity and government’s power, authority, superiority.

Table I44.

Item Analysis: Rnd4 (G8-Q27) Unity and Government's Power, Authority, Superiority

G8-Q27. Analysis: Unity and Government's Power, Authority, Superiority	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 77.8% agree the unity of China's people is linked to its government's ability to achieve power, authority, and superiority. 3. This finding infers Confucianism is still an influence in China that binds and ideology of harmony (unity) with power, authority, and superiority (Ng, 2000). Confucians have a vision of man living in a stable and harmonious society (Wright and Twitchett, 1962) that includes the concept of order and a hierarchy in nature and society (Pye L. , 1996; Ng, 2000). Confucians view the fathers being omnipotent. The father of a family is to be stern, frightening, and relatively uncompromising. In return, the father strives for the well-being and the unity of the family, he can demand obedience and total deference without explicit criticism from his children. As for a good government, Confucians argue a wise father is a model for the benevolent ruler and dutiful children are the models for submissive subjects. Being concerned with maintaining unity, order, power, authority, and superiority represents the difference between ruler and the common people. The task of the former is to reign over the latter, whereas the task of the latter is to support the ruler (Ng, 2000). Confucians view society as having one major center where all initiatives and decisions are centralized. Given this, the common people are not altogether outside of society, they are at the passive periphery. Under this ideology, common people are believed to have no initiative and no voice in any discussion about the society in which they live. They are expected to work hard, be obedient to the ruler, and show deference to parents and ancestors. The essence of a Confucian ruled government means it is to make things right. Essentially, the grass must bend when the wind blows over it (Ng, 2000). Power and authority therefore are the right to command over others. As Chinese society is influenced by Confucian tradition, public authority in China is modeled on the concept of an ideal family that embraces the preservation of stability through unity, power, authority, and superiority. Power and unity are considered a means to prevent the breakdown of the established authority, which is not expected to be challenged (Pye L.,1996). Leaders in China today still believe a strong executive can demand absolute obedience and unquestioning loyalty so as to ensure national stability and the essential condition for modernization. For the Chinese, autonomy and individual identity means finding a group to belong to or connecting with the appropriate paternalistic form of authority. In fact, dependence on authority is viewed as a positive force for development, as it allows leaders to implement reforms without the fear of losing the support of their constituents.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Approaches the symmetry of a bell-curve that is slightly skewed to the left, meaning the bulk of the observations reported were to the right. 3. (18.5% Somewhat agree; 25.9% Strongly agree; and, 33.3% Definitely agree) = 77.8%

China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.



Note. Extracted from the Delphi survey results.

Figure I81. Survey results: Rnd4 (G9-Q28) Global emergence, leadership change phenomenon, access to natural resources.

Table I45.

Item Analysis: Rnd4 (G9-Q28) Global Emergence, Leadership Change Phenomenon, Access to Natural Resources

G9*-Q28. Analysis: Global Emergence, Leadership Change Phenomenon, Access to Natural Resources

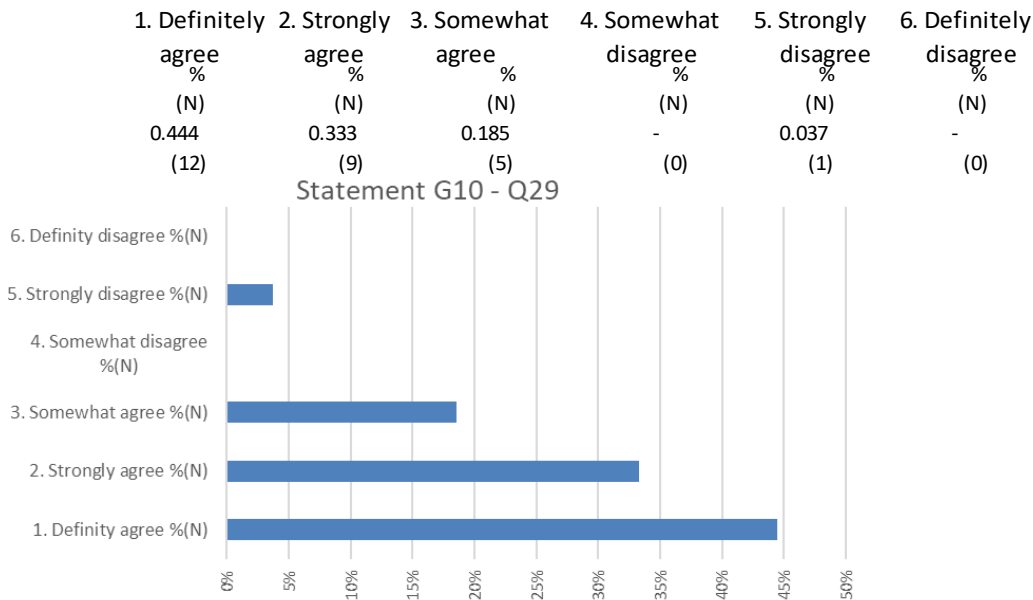
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 100% agree China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.
3. This finding infers China's leadership will continue to seek additional resources from outside its borders as it extends its global reach by opening trade and commerce relationships and engaging in external foreign investments that are either directly or indirectly channeled through its association with BRICs so as to influence the development and acceptance of its globalization policies and unique monetary and finance system that support sustaining and seeking access to a broader array of international resources (also, see G4,Q23).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (14.8% Somewhat agree; 55.6% Strongly agree; and, 29.6% Definitely agree) = 100%

China’s global emergence is the result of a leadership change phenomenon that is focused on power, authority, and superiority of the global economic and monetary ideology.



Note. Extracted from the Delphi survey results.

Figure I82. Survey results: Rnd4 (G10-Q29) Global emergence, leadership change phenomenon, power, authority, superiority, economic and monetary ideology.

Table I46.

Item Analysis: Rnd4 (G10-Q29) Global Emergence, Leadership Change Phenomenon, Power, Authority, Superiority, Economic and Monetary Ideology

G10-Q29. Analysis: Global Emergence, Leadership Change Phenomenon, Power, Authority, Superiority, Economic and Monetary Ideology

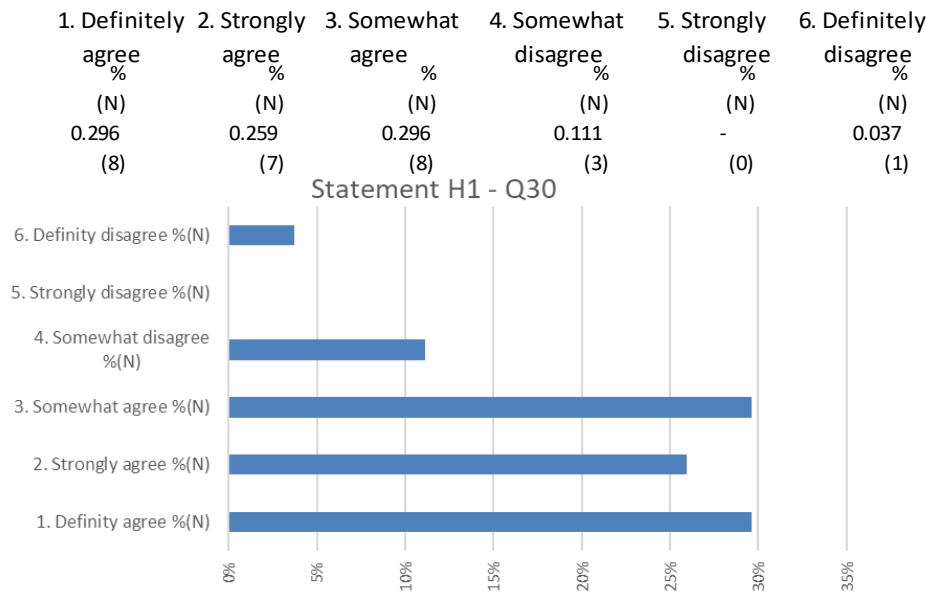
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 96.3% agree China's global emergence is the result of a leadership change phenomenon that is focused on power, authority, and superiority of [over] the global economic and monetary ideology.
3. This finding infers China believes power and authority represent the right to quietly command others. This is supported by evidence that Confucian traditions still influence or drive concepts of power, authority, and superiority as modeled to preserve stability through its ideals and practice by China's leadership. As such, these traits are a means of preventing the breakdown of established authority, and are not to be challenged (Pye L., 1996). Working in conjunction with these traits, China is embracing a new policy pertaining to self-reliance that includes individual and national liberalization and modernity, what it claims as antihegemonic, and yet globalistic policies under a central theme of the "Chinese Dream." By combining these concepts and policies President Xi is successfully applying these themes as he shifts the existing western global economic and monetary hegemony to one that is in realigned with the emerging economic systems he is offering through a new alliance called BRICS (Brazil, Russia, India, China, and South Africa). This transition led by China and its BRICS partners is reinforced by many of China's and east Asian traditional leadership ethos, values, traits, and characteristics. President Xi has discovered many of these concepts appeal to an ever-increasing block in the global community as many sovereigns are rapidly joining BRICS. Glosny argues BRICS offers China the opportunity to "minimize its dependence on the US and possibly constrain American unilateralism" (p. 99). He claims China also "benefits from this cooperation by stabilizing its international environment, helping other developing countries, strengthening its identity as a developing country, coordinating its position with other BRICS [countries] to maximize leverage, and hiding in a group to avoid negative attention" (Glosny, 2010, p. 100). Glosny goes on to emphasize that, to date there is little evidence China and other BRICS members are trying to overthrow the existing unipolar world order. That said, many international economists and financial analysts argue the BRICS economies will surpass the G7 economies before the middle of this century. Considering this prediction, there will be a significant and fundamental shift or transition in the distribution of power, control, and leadership influence that drives global economic and monetary ideologies (Layne, 2009; Roberts, 2010). Many scholars and analysts are eager to "better understand" China's emergence and the country's leadership of BRICS. They believe it is critical to fully appreciate the "implications" and possible "insights as to how this...[shift] power might unfold" (Glosny, 2010, p. 101).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (18.5% Somewhat agree; 33.3% Strongly agree; and, 44.4% Definitely agree) = 96.3%

China will redefine its people’s freedoms and social equilibrium to sustain its government’s legitimacy.



Note. Extracted from the Delphi survey results.

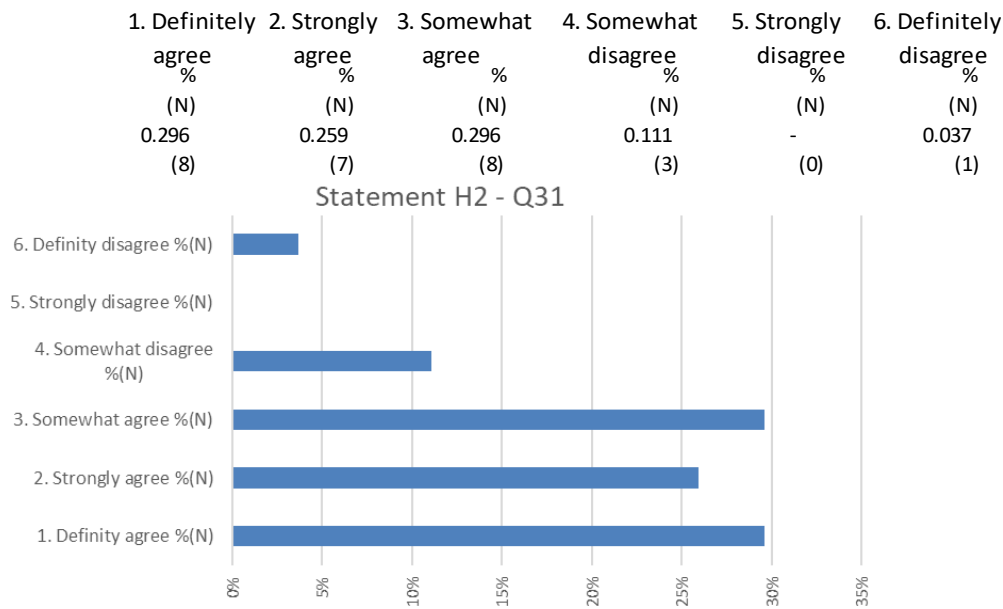
Figure I83. Survey results: Rnd4 (H1-Q30) Freedom, social equilibrium and government legitimacy.

Table I47.

Item Analysis: Rnd4 (H1-Q30) Freedom, Social Equilibrium and Government Legitimacy

H1-Q30. Analysis: Freedom, Social Equilibrium and Government Legitimacy	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 85.2% agree China will redefine its people's freedoms and social equilibrium to sustain its government's legitimacy. 3. This finding infers the distinctive cognitive model representing the foundation of China's political legitimacy has been continuously cultivated by manipulating the country's traditions, culture, values, leadership characteristics, belief systems, and ideologies. Why? Guo suggests the existing legitimacy is continually being challenged (Guo, 2003). Surprisingly, Gou argues the fundamentals of China's political system have remained largely intact. Although a framework for a market economy has been put into place China is still an authoritarian party-state. While economic and social freedoms have become engines for growth, the government retains tight control over the media and political organizations. Gou states that even though China has created a miracle economy it is still overwhelmed with all types of governing crises. Internal and external pressures for more political reforms have intensified recently due to many factors. The diversification of the economy, for instance, has created favorable conditions for a pluralistic society. Different voices that represent emerging social classes as well as old ones are now heard openly. The emergence of a new middle class is not only turning China into one of the world's largest consumer markets but it is also creating stronger social support for political liberalism. Many scholars believe, once this class grows stronger and more sophisticated, it will become more democratized. Guo argues cracks in the current political system can be seen in many areas. The once all-powerful Leninist and Maoist ideologies have been marginalized and weakened. Western ideas, such as human rights, individualism, political accountability, and transparency, are gradually taking roots in China's political life. Moreover, the on-going telecommunication revolution has reduced the people's reliance on government-run media. The Internet has increasingly made control over the flow of information by the government more and more difficult. All of these factors have led to the erosion of the legitimacy of the party-state. The potential crisis of legitimacy is one of the government's top concerns among political leaders. Many scholars that have predicted this legitimacy crisis will ultimately topple the government have been wrong. In Guo's view, these predictions by scholars have continually underestimated the ability of the regime to stay in power and the CCPs ability to adapt to ever-changing political, economic, and social environments. In effect, Gou's observations are consistent with this study's findings that infer China is able to redefine its people's freedoms and social equilibrium to sustain its legitimacy.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right 3. (29.6% Somewhat agree; 25.9% Strongly agree; and, 29.6% Definitely agree) = 85.2%

China will redefine its civil rights to increase social unity and economic balance to sustain his government’s legitimacy.



Note. Extracted from the Delphi survey results.

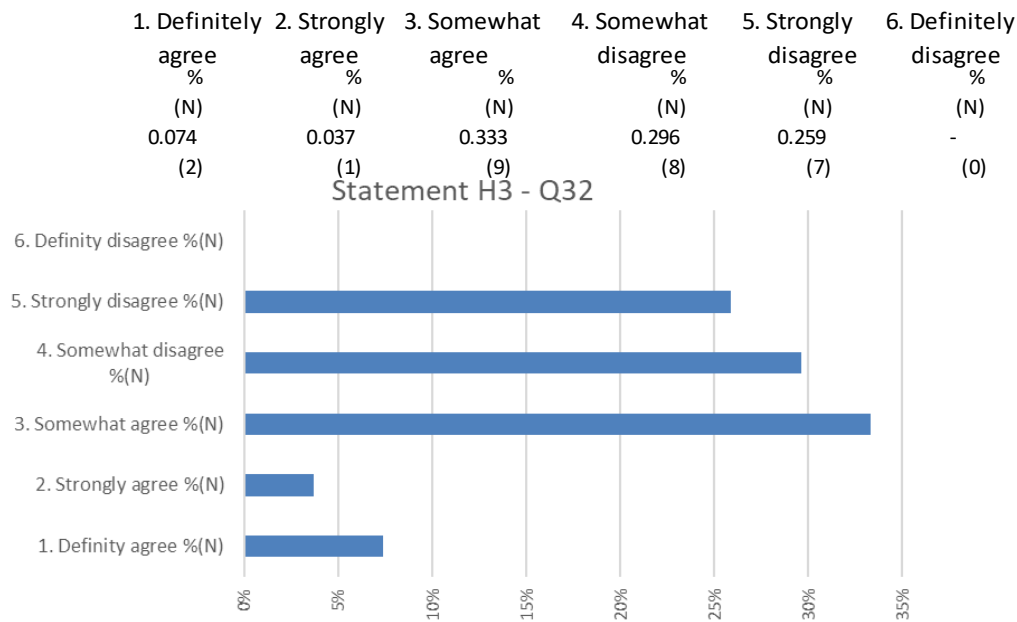
Figure I84. Survey results: Rnd4 (H2-Q31) Civil rights, social unity, economic balance and government legitimacy.

Table I48.

*Item Analysis: Rnd4 (H2-Q31) Civil Rights, Social Unity, Economic Balance and Government**Legitimacy*

H2-Q31. Analysis: Civil Rights, Social Unity, Economic Balance and Government Legitimacy	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 85.2% agree China will redefine its civil rights to increase social unity and economic balance to sustain its government's legitimacy. 3. This finding infers a disagreement of this study's findings with many of the scholars that have been predicting a "legitimacy crisis" will topple China's government due to "social, political, legal, and environmental factors" (Guo, 2003, p. 8-9). Organizations like Amnesty International have documented widespread human rights violations in China. They estimate thousands of people are subjected to punitive detention without charges or trial, and that millions are unable to access the legal system in order to seek adjudication of their grievances (Amnesty, 2018). Further, they argue harassment, surveillance, house arrest, and imprisonment of human rights defenders are on the rise, and censorship of the Internet and other media have grown. Recently China reinstated the Supreme People's Court review of death penalty cases. This may result in lowering the numbers of executions as China remains a leading executioner in the world (Amnesty, 2018). Amnesty also argues the Internet has increasingly been used to disseminate news and conduct debates. As a result, Chinese authorities attempted to control its use by restricting news reporting, shutting down publications, and Internet sites that slandered the country's political system, distorted the history of the party, publicized Falun Gon, and incited ethnic splittism. The government blocked access to content and recorded activities through new filtering software such as Blue Shield. Following the publication of chapter 08 in December 2008, a public document calling for political reform and greater protection of human rights, supporters were put under surveillance. Amnesty adds that President Xi has been conducting sweeping crackdowns on government critics and activists. Amnesty continues, that should President Xi continue to side-line human rights it will have a devastating domino effect, placing established human rights protections in jeopardy...leading to further crises" (Amnesty, 2018, April, p. 4). Given these observations Chamberlain views "civil society is a thorny concept, fraught with theoretical and moral implications" (Chamberlain, 1993, p. 3). As President Xi espouses his Chinese dream and seeks to establish China as a widely respected global leader, it will be necessary for him to address internal civil rights, social unity, and socio-economic balance in order for his government to sustain legitimacy and grow China's influence and economy.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right. 3. (29.6% Somewhat agree; 25.9% Strongly agree; and, 29.6% Definitely agree) = 85.2%

China will reinforce intellectual property law and protection to increase foreign investment even if it means slowing its economic growth.



Note. Extracted from the Delphi survey results.

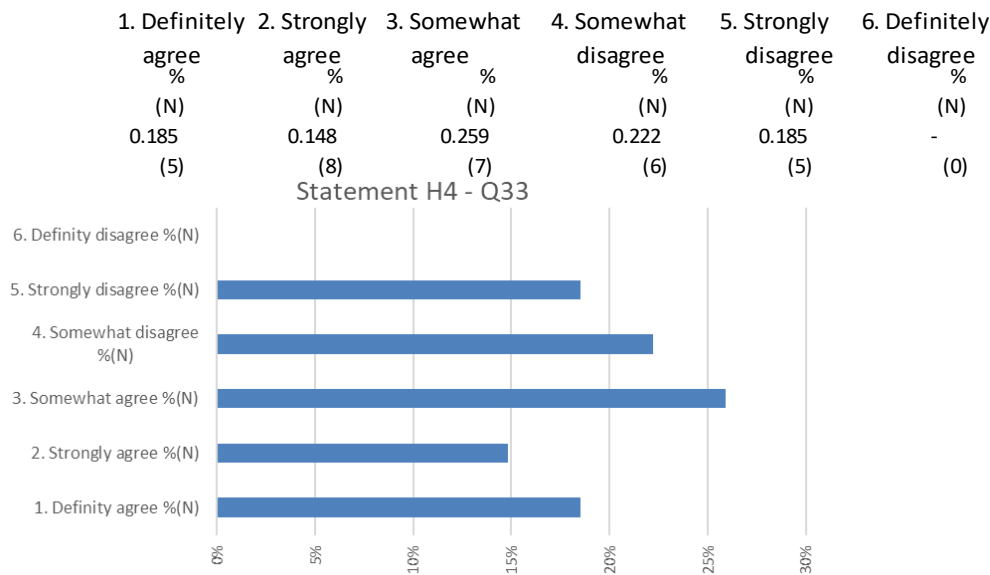
Figure I85. Survey results: Rnd4 (H3-Q32) Property law, foreign investment and economic growth.

Table I49.

Item Analysis: Rnd4 (H3-Q32) Property Law, Foreign Investment and Economic Growth

H3-Q32. Analysis: Property Law, Foreign Investment and Economic Growth	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two did not agree inferring a consensus was not achieved. 2. This finding indicates 55.6 % are unsure as to whether China will reinforce intellectual property law and protection to increase foreign investment even if it means slowing its economic growth. 3. This finding infers that China is and will continue to significantly improve reforms and the enforcement of intellectual property laws in order to increase trade and commerce as well as protect foreign investment. As a part of the World Trade Organization's (WTO) trade policy review of China in 2006, China submitted a report that describes several steps to be taken to strengthen its Intellectual Property Rights (IPR) (Stewart, Argenti, and Butler, 2007). China's government believes it has worked strenuously to comply with WTO obligations and, despite less-than-perfect results, it has worked hard to strengthen and improve IPR Enforcement. Some scholars argue China has made significant progress in IPR protection by reforming its IPR legal system; and, by raising the consciousness of the public of the need and benefits of IPR protection. In March 2006, the government announced China's Action Plan on IPR Protection. This plan intends to cover four major IP areas: trademark, copyright, patent, and import-exports (People's Daily Online, 2006). The plan covers legislative actions, law enforcement, institutional reforms, advocacy, training and education, addresses international exchange cooperation, promotes programs on enterprise and self-discipline, provides services for right holders, and provides for additional research on the subject and current crisis that is confronting foreign investors as they seek to assist and join China in mutual economic growth (Protection, 2006). Although President Xi's government is continuing to reform its IPR and legal system, scholars report China's actions are less-than-optimistic, nonetheless, American businesses generally agree that awareness of IPR issues has increased in China and that the Chinese government is making positive efforts in this area. Such include the formation of the Leading Group that has been coordinating the government's IPR campaign. Many members of the internationally community recognize limited progress in IPR protection and enforcement are being made in China, however, many observe "China has fallen short of its commitments to effectively protect IPR" with respect to its commitment to the WTO; and, with respect to its Trade-Related aspects of Intellectual Property Rights (TRIPS) agreement (U.S. Chamber of Commerce, 2006). Given this, China is facing a series of complex internal and external challenges in order to sufficiently comply with international IPR demands, however, it is working towards sustaining its foreign investment and economic growth.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Skewed to the right, meaning the bulk of the observations reported were to the left. 3. (33.3% Somewhat agree; 29.6% Somewhat disagree; and, 25.9% Strongly disagree) = 55.6%

China will increase citizen’s right of ownership in order to sustain its economic growth.



Note. Extracted from the Delphi survey results.

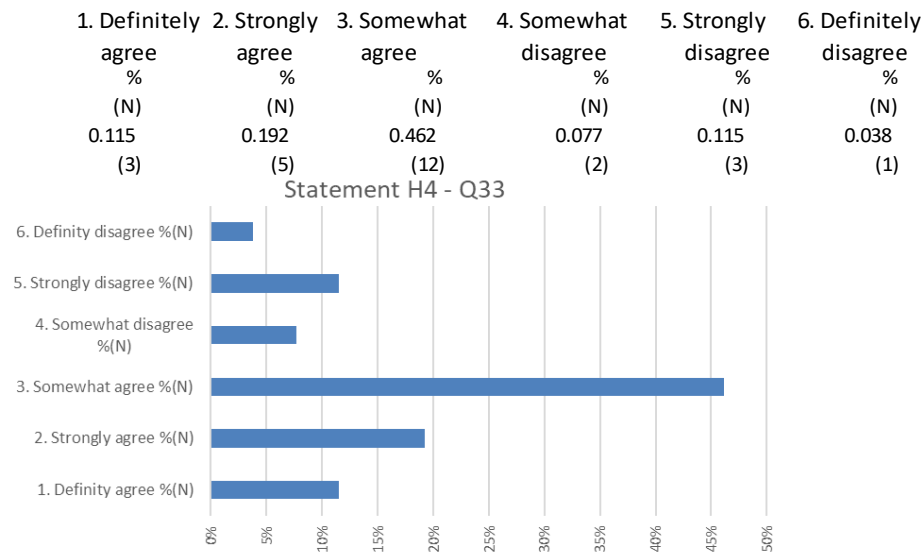
Figure I86. Survey results: Rnd4 (H4-Q33) Right of ownership and economic growth.

Table I50.

Item Analysis: Rnd4 (H4-Q33) Right of Ownership and Economic Growth

H4-Q33. Analysis: Right of Ownership and Economic Growth	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two did not agree inferring a consensus was not achieved. 2. This finding indicates 59.3% agree China will increase citizen's right of ownership in order to sustain its economic growth. 3. This finding infers China will address (increase) its citizens right of ownership as President Xi and his government realize property ownership (rights) provisions can reinforce his Chinese Dream. The challenge Xi's government is facing is one of individual property rights and ownership versus the right of the city-state to randomly seize land for industrial, commercial, and residential development. Wholesale evictions and land clearance typify China's emerging urban developments. These have often resulted in the disruption of rural and urban residents due to redevelopment programs for the benefit of the people and national interests. The governments endorsement of this type of activity has been supported under the guise of sustaining national economic growth and sharing the country's growing wealth and benefits with the common people. These actions are now beginning to take the shape of a new property rights activism among the common people (Shin, 2010). Why? Although many property benefits have been opened up to the common people to own modern individual residences, the right to the city to seize family property (farms, residential, commercial, industrial enterprises) for the benefit of the greater community has left many significantly under compensated and frustrated with the property law system and its protection. In many cases, China's urban redevelopment projects often force large scale displacements of residents. This practice often escalates frustrations over violations of real or perceived rights to family land and housing. This dissatisfaction is reflected in the recent popularization of a Chinese neologism known as "ding-zhi-hu" in Chinese, which literally translates to "nail houses" or "nail-households" (Watts, 2007, p. 4). As the expression suggests, nail-householders stubbornly refused to vacate their houses, thus hindering the progress of urban development projects like nails sticking out and hard to be removed. For Henri Lefebvre, the proliferation of capitalist accumulation results in an ever-increasing level of disenfranchisement of urban inhabitants. He suggests this process should evolve an urban spatial approach [that includes] the participation of all those who inhabit the city without discrimination one that does not favor any particular group (Lefebvre, 2003; Dikec, 2001). Given this, China's property law reforms have strengthened the protection of private property, and have given rise to the emergence of property rights activists who may "become more audacious in fighting for their entitlements and in defending their private paradise" (Zhang L. , 2010, p.6). That said, many economic and property rights scholars argue that President Xi's desire to see the country continue to grow and increase its wealth will not yield to individual rights in light of the greater good. Even so, given these challenges China's government appears committed to implement property reforms in an attempt to find a balanced common reslove (Ding, 2005).
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Approaches a symmetrical bell-curve that is slightly skewed to the right, meaning the bulk of the observations are on the left. 3. (25.9% Somewhat agree; 14.8% Strongly agree; and, 18.5% Definitely agree) = 59.3%

China's emerging legal policy changes will improve the freedom (lifestyle) of its "common people".



Note. Extracted from the Delphi survey results.

Figure I87. Survey results: Rnd4 (H5-Q34) Legal policy and freedom changes.

Table I51.

Item Analysis: Rnd4 (H5-Q34) Legal Policy and Freedom Changes

H5-Q34. Analysis: Legal Policy and Freedom Changes

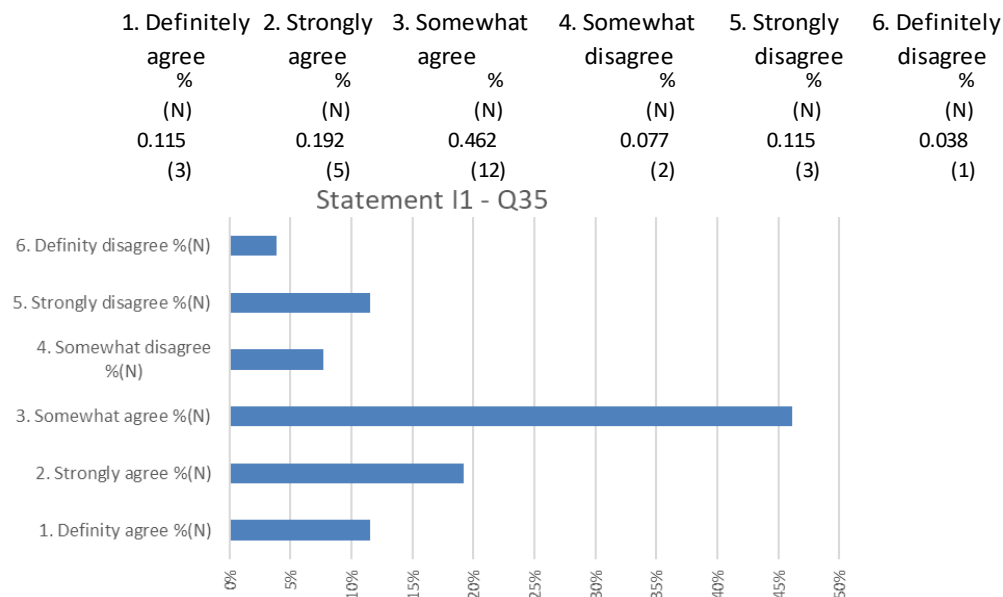
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agree inferring a consensus was achieved.
2. This finding indicates 76.9% agree China's emerging legal policy changes will improve the freedom (lifestyle) of its common people.
3. This finding infers that although some scholars would argue that given the present context where guanxi (relationships) and renqing (human feelings) are highly valued, public officials in China are found to be occupied with building formal and informal power relationships that are often placing personal obligations and duties above public policy or the business of the State. Given this, emerging legal policy changes are affecting certain underlying socio-economic and freedoms that are directly and indirectly associated with the common people's lifestyle (Ng, 2000). It is important to stress that the Chinese legal reform is evolving, the Chinese attitudes towards the rule of man are slowly being reformed to reflect the rule of law. As Lo (1995) has stated, impressive progress has made in China's legal reforms under the leadership of Deng Xiaoping, though much needs to be done to educate China's officials, elite, and the people on the notions of legitimacy and the rule of law before the abuse of power and disrespect for authority can be inhibited. As supported in this study's literature, President Xi's internal and external legal (reforms) policies include emerging social, economic, political, and legal changes that are focused on reducing legal gaps associated with internal and external trade and commerce, foreign investment, and property. Specifically, these legal reforms continue to address needed innovations and change in the area of intellectual property, trademark, copywrite, and patent laws, all of which China's outside trade partners argue will ultimately serve to increase China's growth expectations, raise a middle class, and increase the lifestyles (freedoms) of the common people. When China's elite and masses alike recognize the possibility of law aspiring to the service of higher ideals, the country will be able to move away from being a country possessed of "...an unwritten law beyond the written law..." (Tu, 1994, p. 126).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2. Data distribution: Approaches a symmetrical bell-curve that is slightly skewed to the left, meaning the bulk of the observations are to the right.
3. (46.2% Somewhat agree; 19.2% Strongly agree; and, 11.5% Definitely agree) = 76.9%

China will be confronted by a downturn in its economic growth.



Note. Extracted from the Delphi survey results.

Figure I88. Survey results: Rnd4 (I1-Q35) Downturn of economic growth.

Table I52.

Item Analysis: Rnd4 (I1-Q35) Downturn of Economic Growth

I1-Q35. Analysis: Downturn of Economic Growth

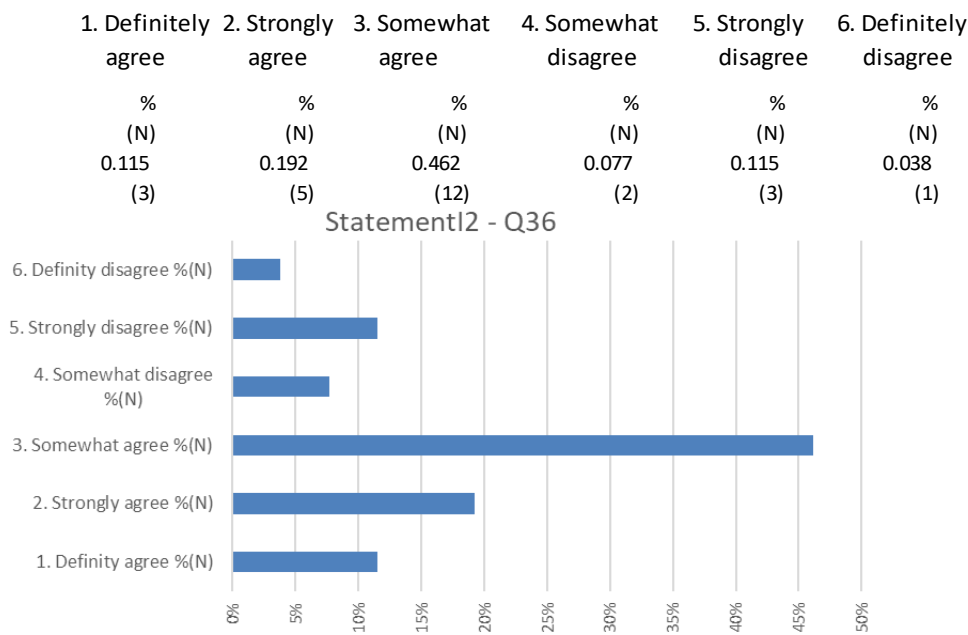
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 76.9% agree China will be confronted by a downturn in its economic growth.
3. This finding infers that China will be confronted with an economic downturn due to a number of factors the country is being confronted with. Many of these factors have origins in concepts, ideologies and policies that represent China's recent history. As such, they became the seeds for China's recent extraordinary growth; and, are now the same seeds of what may very well be the reasons for its upcoming challenges to sustained growth if not potential downturn. As many scholars researched in this study have represented, one of the significant socio-economic factors that represents this phenomenon is the single-child policy. This policy can be directly associated with influencing and/or driving a cultural or demographic divide between its rural and urban aging population; and, between those belonging to the single-child population and those elite that do not. Many of the analysts and R4 respondents are convinced the continuing effects of the single-child policy (alone) will ultimately force a decline or downturn in China's rapid economic growth due to an aging and retiring workforce with falling productivity. Given this, as Bloom and Canning's study indicates, China's aging population need not halt China's continuing growth if the country's leadership reforms its: socio-economic, immigration, property ownership rights, trade and commerce laws, increase emphasis placed on freedom of expression, and access to a higher and more advanced educational system. In addition, these scholars argue China should increase its social security and health care programs and policies so as to allow those over 60 to remain economically active and productive (Bloom and Canning, 2011). Davis argues that extending the productivity of the aging workforce, acting to encourage transnational migration of working-age adults, improving medical safety nets, and devising economic reforms, and mandating personal and family savings or wealth reserves will provide great relief (Davis D. S., 2014). Other analysts argue the most destabilizing impact of population aging and distorted sex ratios will continue to increase after economic growth abates (Eggleston, et al., 2013).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2. Data distribution: Approaches a symmetrical bell-curve that is slightly skewed to the left, meaning the bulk of the observations are to the right.
3. (46.2% Somewhat agree; 19.2% Strongly agree; and, 11.5% Definitely agree) = 76.9%

China’s economic growth is beneficial to the global community.



Note. Extracted from the Delphi survey results.

Figure I89. Survey results: Rnd4 (I2-Q36) Economic growth and global community benefits.

Table I53.

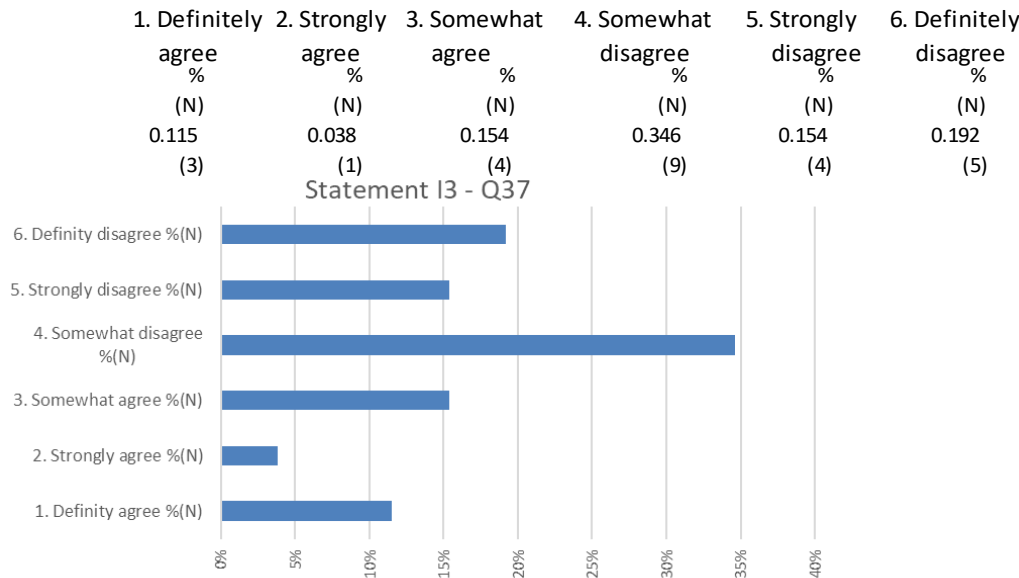
*Item Analysis: Rnd4 (I2-Q36) Economic Growth and Community Benefits***I2-Q36. Analysis: Economic Growth and Global Community Benefits****Results:**

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 76.9% agree China's economic growth is beneficial to the global community.
3. This finding infers little doubt exists that China's economic growth has been and continues to be a positive influence and driving contributor to the economic (financial) health and stability of the global community. Many of the scholars researched in this study argue the strength of China's economy has contributed in significant ways to lessening the depth of the present global economic crisis many countries are presently confronting. According to Kimberly Amadeo, China's growth rate has slowed since the double-digit rates before 2013. She points out that China's economy "grew 7.7% in 2013, 7.3% in 2014, 6.9% in 2015; and, 6.7% in 2016" (Amadeo, 2018, p.1). She continues, this comes after 30 years of explosive growth, making China the world's largest economy that has successfully incorporated "limited capitalism" within a market-driven socialistic system. China's government spending has been a significant driver of its growth and that of numerous other countries. This growth has reduced poverty inside and outside of China. As for China, only 3.3% of the population lives below the poverty line which was set at 2,300 yuan in 2016. China has 20% of the world's population. As its people get richer, they are spending and consuming more. International companies are entering China's market to address this new wealth which some represent is the largest commercial market in the world. As a result, international interests are producing products that are tailor-made to Chinese tastes. This is causing a phenomenal growth in many countries that are attempting to enter China's market so as to benefit from its rapidly expanding economy. China's spending has created a total debt-to-GDP ratio of 260 percent. This includes debt held by the government, corporations, and consumers. Since the state owns many corporations, these debts must be included in this calculation. Amadeo asserts that China's consumer debt may have also created an asset bubble. Urban housing prices have skyrocketed as low-interest rates have fueled speculation. The public has protested pollution, food safety, and inflation. China's boom has also created a class of ultrarich professionals who want more individual liberties. This new social class lives in urban areas since this is where most of the jobs are. In 2017, almost 60% of the population lived in urban areas. In the 1980s, it was just 20%. China's local governments are charged with providing social services (social security and health care) but are not allowed to tax so as to fund them. As a result, families are forced to save. China's interest rates have been low, so families don't receive much return on their savings. As result, they don't spend much. This keeps the domestic demand low and slows the country's growth. So, what does all this mean? China's leaders must take steps to boost domestic demand from its 1.3 7 billion people. Amadeo claims a strong consumer market would allow China to rely less on exports. She argues, China must continue reforms in order build a more market-based economy. This means relying less on state-owned and more on privately-owned companies that reap the rewards of a competitive environment. To boost growth: China needs more innovative companies. China's leaders must: continue to reform the economy; follow President Xi Jinping's Made in China 2025 plan; make significant advances in technologies and advanced education; and, improve its environmental record. Chinese leaders walk a fine line. They must reform to remove asset bubbles (p.5). Amadeo states, that as China's growth slows, the standard of living may fall. This could cause another revolution. People have only been willing to turn over personal power to the state in return for rapid increases in personal wealth (p.5). One way to boost wealth and China's is by encouraging investment in China's stock market. This would allow companies to rely less on debt and more on selling stocks to fund growth. So, what's the bottom line? The strength of China's economy and national wealth is presenting the opportunity for China to invest in the global community. These investments while serving the needs of China's national goals and objectives is at the same time improving the economies of many of its trade partners. Given this, It is in the best interests of the global community that China makes the necessary course corrections needed to sustain and grow this wealth. China must resolve the internal socio-economic crises that is developing which is undermining the country's productivity. These include reforms in the areas of social security, healthcare, and the ideologies that are driving the country's leadership.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2. Data distribution: Approaches a symmetrical bell-curve that is slightly skewed to the left, meaning the bulk of the observations are to the right
3. (11.5% Somewhat agree; 19.2% Strongly agree; and, 46.2% Definitely agree) = 76.9%

China’s economic and monetary ideologies will be forced to transform to those of the West.



Note. Extracted from the Delphi survey results.

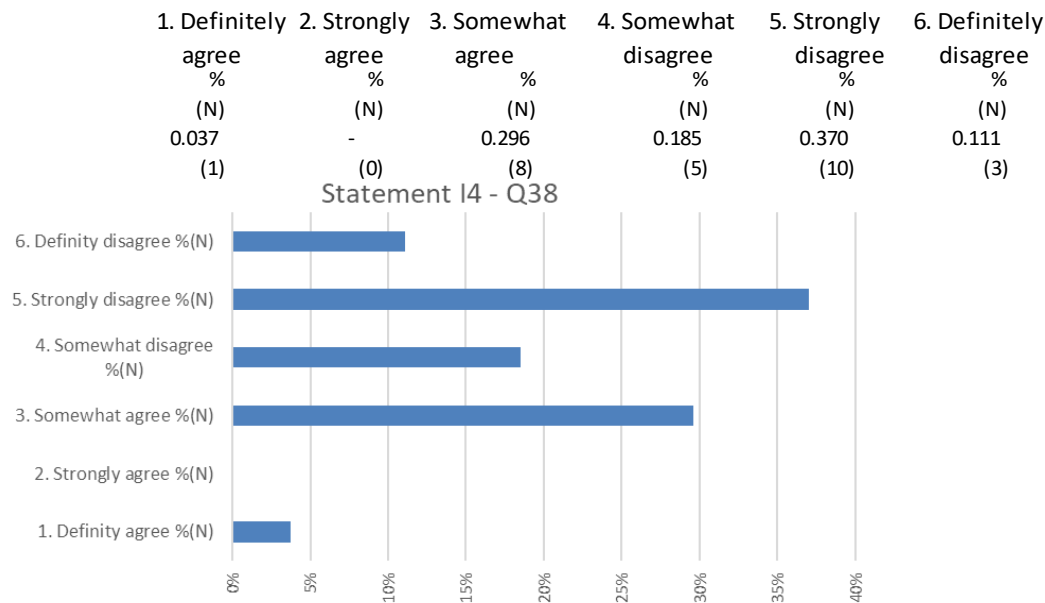
Figure I90. Survey results: Rnd4 (I3-Q37) Economic, monetary ideologies and transformation to the west.

Table I54.

Item Analysis: Rnd4 (I3-Q37) Economic, Monetary Ideologies and Transformation To The West

I3-Q37. Analysis: Economic, Monetary Ideologies and Transformation to the West	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 69.2% disagree China’s economic and monetary ideologies will be forced to transform to those of the West.
3.	This finding infers there is considerable agreement pertaining to the level of indecision about China's economic and monetary ideologies being forced to transform to those in the West. Why? This is largely due to China's cultural ideologies. China has a history of self-reliance, being antihegemonic, and seeking in seeking out and borrowing from other countries only those concepts and ideologies that have been proven to be highly successful. Due to what is viewed as the recent failure of many of those concepts that form the foundation of the western socio-economic and financial systems, China's leadership shows no interest in incorporating or aligning its policies and systems to those of the West.
4.	China has chosen to undertake reforms that have proven to be very successful. Evidence of this is China's recent initiatives and policy reforms that are Incorporated and its membership with BRICS and other similar global alliances that presently exclude Western sovereigns.
Notes:	
1.	Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2.	Data distribution: Slightly skewed to the right, meaning the bulk of the observations reported were to the left.
3.	(34.6% Somewhat disagree; 15.4% Strongly disagree; and, 19.2% Definitely disagree) = 69.2%

China will reduce its environmental waste and emissions even if it means slowing its economic growth.



Note. Extracted from the Delphi survey results.

Figure I91. Survey results: Rnd4 (I4-Q38) Environment and economic growth.

Table I55.

Item Analysis: Rnd4 (I4-Q38) Environment and Economic Growth

I4-Q38. Analysis: Environment and Economic Growth	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 66.7% disagree China will reduce its environmental waste and emissions even if it means slowing its economic growth.
3.	This finding infers after three decades of economic growth and mounting ecological problems, China and its leadership face a wide-array of significant environmental challenges that will force the government to address this emerging crisis. Many of the subject matter experts on China’s environment and its economy reviewed in this study argue that addressing the various components of this crisis will pose an additional slowing effect to China’s growth-economy. In 2013, President Xi Jinping expressed China was at a critical crossroads. Xi indicated China’s economy had slowed, and that the country was confronting the cumulative consequences of three decades of economic expansion with little attention paid to mounting ecological and social costs (Yale Environment 360, 2013). Among these challenges, Xi listed the following: cleaning-up the air quality; reducing and environmentally treating polluted water and land sources; and dealing with tainted food supplies that are fueling widespread discontent among the countries common and rapidly expanding middle classes. Many of the experts reviewed in this study argue the present environmental crisis confronting China will impact its social, political, economic, legal, technology, and infrastructure environments. In fact, President Xi’s comments may be seen as a turning-point that marks China’s shift away from it total focus on economic growth towards a more balanced and sustainable form of development. If so, China’s environmental crisis comes on the heels of landmark reforms that “boosted the country’s economy into an export-led overdrive, that has transformed

(continued)

I4-Q38. Analysis: The Environment and Economic Growth

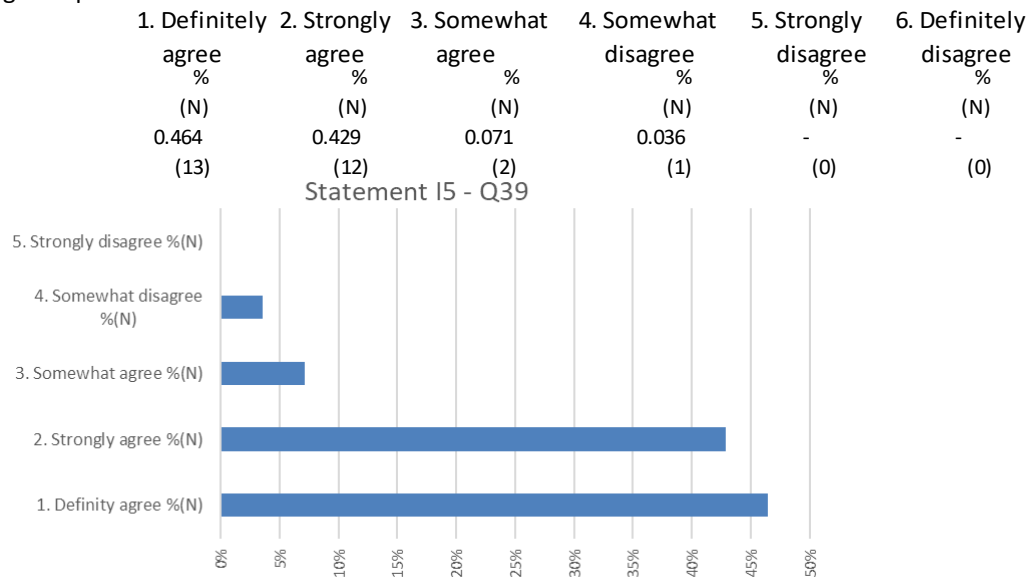
Results:

China into a world power, and spawned a daunting array of environmental challenges. China's leadership is feeling intensified pressure to do something about the environment. In January 2013, outrage over Beijing's air quality forced the central government to act. Since then, it has taken further steps to shutter coal plants in major cities and reduce the number of new cars allowed to be registered in Beijing and other metropolitan areas. Pollution became so bad in the city of Harbin, it was literally shut down as dense pollution reduced visibility to a few meters. Transportation and schools temporarily closed-down and residents of China's mega-cities were left to wonder whether more of these "air-apocalypses" would become the new normal for China in the 21st century. Since then party leaders have made it clear that they intend to rein in heavily polluting industries and coal-fired power plants. In addition, the party vowed to take strong steps to halt the rapid loss of arable land to urbanization, promising enhanced legal protection for farmers. Placing this in perspective, similar reforms have been announced before by the party. Analysts reviewed in this study argue it will remain to be seen if these increased environmental policies will be enforced. On this point, President Xi, has made it clear that he expects major environmental cleanup and sustainable measures in place no later than 2020. Given this, China experts argue President Xi's leadership has set in place a multifaceted agenda that outlines balancing economic growth with a need to heal the countries battered environment. Given this agenda, there is often a gap between what China's elite, its central leaders, and the citizens want; and, what local governments in China deliver. It is clear the Chinese party is not going to suddenly ditch decades of GDP growth and economic reforms and policies as these remain priority one. Analysts in this study's literature reviews argue it will be important to observe how future economic policies are aligned with social and environmental reforms. That said, Xi has increased funding to fight ecosystem degradation and implemented environmental protection statutes due to rising public interest in pollution controls and protective litigation. Overall few analysts deny China has over the last decade has made strides in addressing its environmental and social problems. As Xu Jianchu, director of the East Asia office of the World Agroforestry Center states, solving China's 21st-century problems requires an approach that integrates ecological and social planning. To conclude the assessment of this issue, it appears China is attempting to tackle its environmental or [ecological footprint] challenges amidst facing huge challenges that include dwindling resources, growing social inequality, and climate uncertainty (Hubacek, Guan, Barrett, and Weidmann, 2018). Given this China will likely balance social and political unrest so as to reboot its economy, revamp its environmental policies to reverse decades of decline, and rekindle its social contract with its citizens in the face of unprecedented urbanization. With President Xi's "Chinese dream" having created expectations the party will finally solve pollution problems, control corruption, and inject more equality into society, perhaps China will legitimately make strides in accomplishing these tasks. This study's literature reviews and its R4 Delphi survey findings indicate agreement that China's top-priority will remain economic growth with attention given to reducing the country's environmental waste and emissions as a second or third national priority. As such, the amount of progress made towards China's present environmental initiatives and supporting policies will likely be a product of how much its citizens are willing to sacrifice the benefits of the country's national growth and increasing individual wealth, power, and authority, and emerging consumerism against the cost of its desired ecological improvements. Given China's recent economic priorities this study's findings indicate those sampled are doubtful significant progress along the lines of ecological reforms will occur if it comes at the cost of additional declines in the country's economy which has already moved from approximately 09.6% GDP growth to less than 7.0% (Hubacek, Guan, Barrett, and Weidmann, 2018).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Slightly skewed to the right, meaning the bulk of the observations reported were to the left.
3. (18.5% Somewhat agree; 37.0% Strongly agree; and, 11.1% Definitely agree) = 66.7%

China will focus on increasing its technology and military systems in order to obtain dominance as a global power.



Note. Extracted from the Delphi survey results.

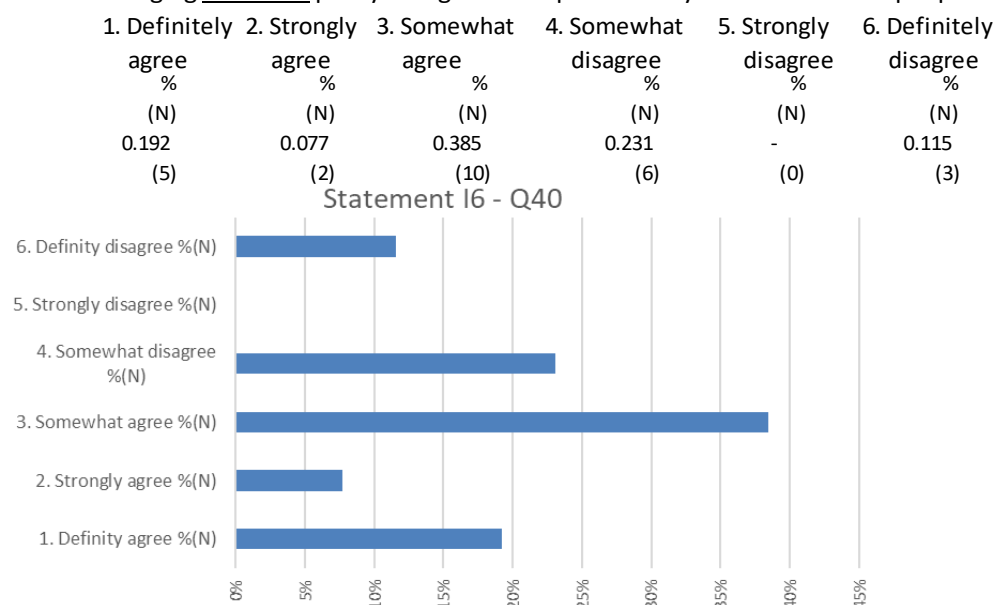
Figure I92. Survey results: Rnd4 (I5-Q39) Technology, military, dominance and global power.

Table I56.

Item Analysis: Rnd4 (I5-Q39) Technology, Military, Dominance and Global Power

I5-Q39. Analysis: Technology, Military, Dominance and Global Power	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 96.4% agree China will focus on increasing its technology and military systems in order to obtain dominance as a global power. 3. This finding infers China is making significant progress in key emerging technologies like artificial intelligence (AI), cyberspace, space-based capabilities that include antisatellite weapons, electronic warfare, and quantum computing. China is focusing its efforts on increasing its technology and military systems with an aim towards global dominance and transforming the global security environment. This study's findings suggest China is pursuing reforms in advanced education and technical colleges that are linked to infrastructural improvements so as to set the stage for major advancements across numerous disciplines. Many of this study's analysts agree, China is pursuing investments in technologies and has developed national strategic plans to establish itself in a superior and dominant role by using advanced technologies to close its gap in innovation, employment, and militarization with first-tier countries in the global community (Carter W. , 2018). Carter's research indicates China's capabilities are key to establishing the People's Liberation Army's (PLA) ability to reshape blue-water and ground transportation trade and commerce routes, so as to be able to disrupt and/or degrade any opposing military capabilities on land, sea, or space, top include the international information domain. He argues, among other objectives China is rapidly placing itself in the position to win wars against the world's most dominant sovereigns. Carter continues, China's emerging military and innovative technologies address a wide variety of capabilities that will determine the future global balance of economic and strategic power in the world. Key to China's focus on increasing its technological prowess is its understanding that it currently dominates the first-strike capabilities in the "information domain" among all nations (p.3). Given this, China admits it must increase its technical capabilities and the quantity and scale of its aircraft carriers, tanks, and missiles. China places major emphasis on its disruptive capabilities. This includes eliminating opposing countries access to their own data; and, connectivity to their own critical defensive systems. Chinese military thinkers describe their strategy as the being able to attack the Achilles' heel of any opposing sovereign, stating no satellites, no fight. The PLA has tested a range of antisatellite weapons, including conventional ground-based kinetic kill vehicles, direct-energy weapons, jamming and spoofing capabilities, and kill-satellites designed to disable or destroy satellites in orbit. They have expanded their electronic warfare capabilities, testing their capabilities to jam radar and communications and spoofing GPS systems. China has also developed some of the most sophisticated offensive cyber capabilities in the world (Kan, April 23, 2007; Fisher, 2017; Annual Report to Congress, 2015; Carter W. , 2018). China intent to dominate AI and quantum computing as foundational to supporting its economic and military competitiveness in the long-term. As such, China is no longer a copycat or adopter of technologies. It has become a world-class innovator in its own right (Simon, 2017). To summarize, this study's findings support China's continuing focus on increasing its technology and military systems in order to obtain dominance as a global power.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (<i>n</i>) = 50; return (<i>n</i>) = 29; response rate = 58.0%. Inquiry responses (<i>n</i>) = 28; skip rate = 03.4%; completion rate = 96.5%. 2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right. 3. (07.1% Somewhat agree; 42.9% Strongly agree; and, 46.4% Definitely agree) = 96.4%

China's emerging economic policy changes will improve lifestyle of its "common people".



Note. Extracted from the Delphi survey results.

Figure I93. Survey results: Rnd4 (I6-Q40) Economic policy and lifestyle changes.

Table I57.

Item Analysis: Rnd4 (I6-Q40) Economic Policy and Lifestyle Changes

I6-Q40. Analysis: Economic Policy and Lifestyle Changes

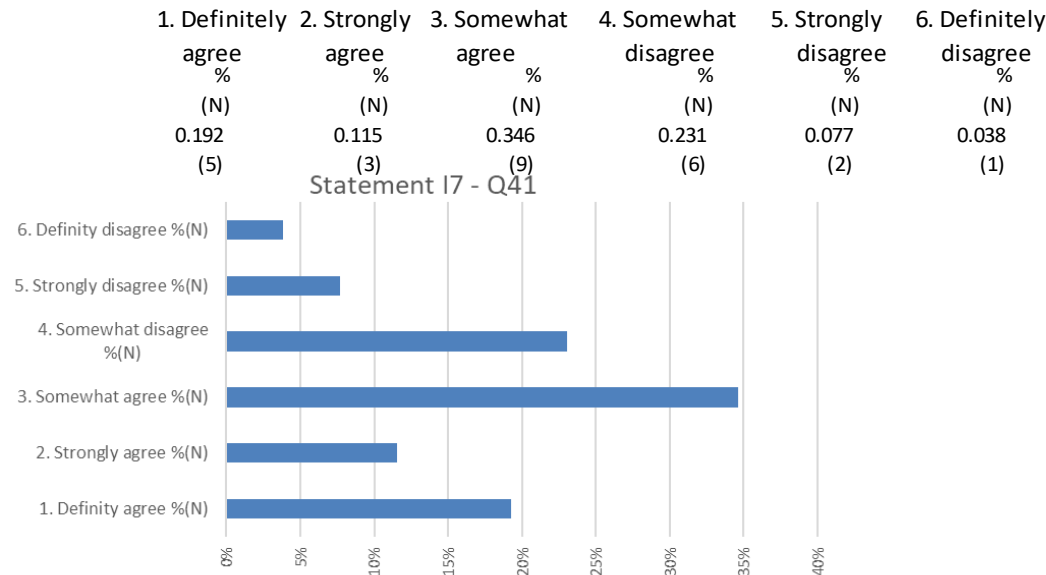
Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 65.4% agree China's emerging economic policy changes will improve lifestyle of its common people.
3. This finding infers this study's experts are unsure as to the benefits of China's economic policy changes as they are linked to its citizens lifestyle improvements. Given this few of this study's experts argue against China's economic growth as anything less than an amazing improvement in the quality of life (at least spending power) of large segments of China's people. (Hubacek, Guan, and Barua, 2018). Given this, why are these experts unsure about the effects of China's emerging economic policies and its citizens improving lifestyle? Hubacek's research indicates changing lifestyles and consumption patterns are a common feature of most developing nations in recent decades. Increasing income provides citizens with more options and choices that determine what impact economic growth has on their environment and overall lifestyle. As nations develop economies grow, so to the consumption of economic and natural resources continue to increase. In addition, these spawn steady growth in population and economic activity. A common outcome is over-consumption which historically results in humans competing over limited resources, excessive and abusive consumption by the elites at the detriment of major segments of society, the creation of disenfranchised the creation of impoverished nations and future generations, depletion of other species. Hubacek argues, history provides ample evidence that should warn societies so as to be unsure as to the true benefits and changing lifestyles that are imposed by explosive consumption related to the economic growth. As such, Hubacek's research findings are consistent with the opinions of this study's subject matter experts.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (38.5% Somewhat agree; 07.7% Strongly agree; and, 19.2% Definitely agree) = 65.4%

China's emerging technology policy changes will improve the lifestyle of its "common people".



Note. Extracted from the Delphi survey results.

Figure I94. Survey results: Rnd4 (I7-Q41) Technology policy and lifestyle changes.

Table I58.

Item Analysis: Rnd4 (I7-Q41) Technology Policy and Lifestyle Changes

I7-Q41. Analysis: Technology Policy and Lifestyle Changes

Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 65.4% agree China's emerging technology policy changes will improve the lifestyle of its "common people".
3. This finding infers there are significant questions pertaining to China's economic and technological growth and its improving quality of life. Large segments of China's society are no longer satisfied with the degree of availability and access to the quality of food and clothing they desire [as in accordance with Western standards]. The Chinese seek to obtain a quality of lifestyle that is in part characterized by: high nutrient foods; comfortable living; healthcare; social security; other social benefits; and, an array of other amenities [electronic appliances, cellphones, social media, entertainment devices, transportation, furniture, and modern housing] that are found in Western cultures (Hubacek, Guan, Barrett, and Weidmann, 2018). Hubacek argues China's recent economic growth has created an equally dynamic socio-political desire to embrace innovative technologies and conveniences. This phenomenon is increasing internal demand and accelerating the depletion of the country's natural resources. Hubacek continues, that in the past China relied heavily on what it could produce with only a few luxury products and rare domestic materials being imported from distant places. Today, its economy is no longer constrained by what is available within the country. Urban centers consume from global markets never before have so many tons of resources entered and left China. Linked to this increased desire for resources, [high-technology products] are giving rise to social [population], political, economic [affluence], legal, and infrastructure influencers as driving factors. Hubacek states that China's emerging technology and policy changes are raising significant questions pertaining to the challenges China will face specific to its ecological balance. He argues, these challenges are significant and if not addressed in reforms they will ultimately place many of the desired lifestyle changes China's citizens seek in jeopardy. Hubacek's research indicates the challenge for China is to achieve sustained economic growth while at the same time ensure the pressure on its ecological systems is not increased. Key to Hubacek's discoveries is the link between China's exploding demand for technology the country's choice to embrace rapid-urbanization. China's urbanization is driving extensive demands on its resources and posing ecological issues. Hubacek suggests China's urbanization presents leadership with the challenge to construct sustainable communities that substantially mitigate China's "ecological footprint" (Hubacek, Guan, Barrett, and

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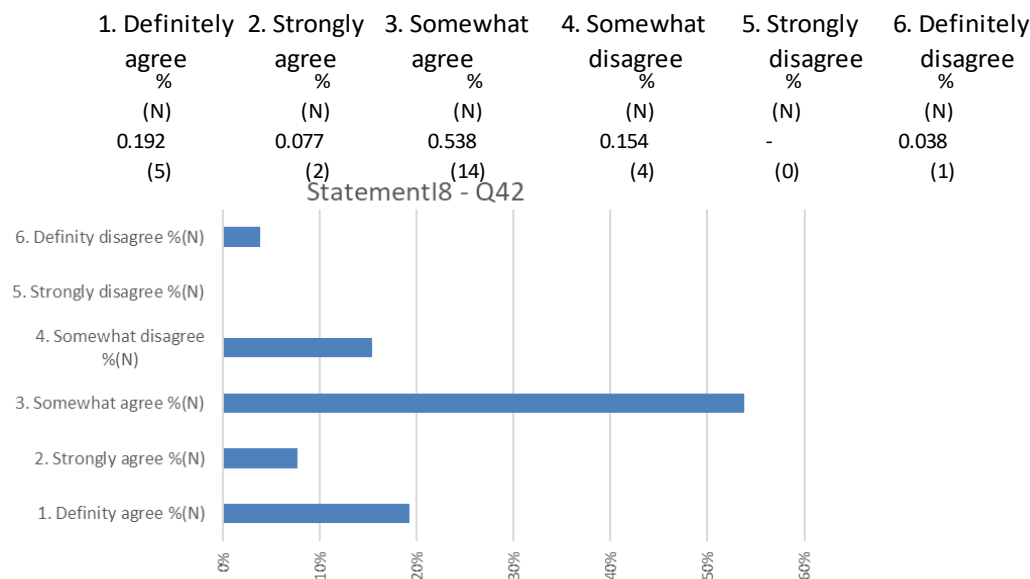
I7-Q41. Analysis: Technology Policy and Lifestyle Changes (Continued)

Weidmann, 2018, p. 20-1). Hubacek's research supports this study's findings in that China's emerging technologies and policy changes may or may not serve to improve the lifestyle of its people. This finding then indicates a clear division of agreement. The experts are unsure technology advancements will improve and/or satisfy the desired lifestyle of the Chinese people.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (34.6% Somewhat agree; 11.5% Strongly agree; and, 19.2% Definitely agree) = 65.4%

China's emerging Infrastructural policy changes will improve the lifestyle of its "common people".



Note. Extracted from the Delphi survey results.

Figure I95. Survey results: Rnd4 (I8-Q42) Infrastructure policy and lifestyle changes.

Table I59.

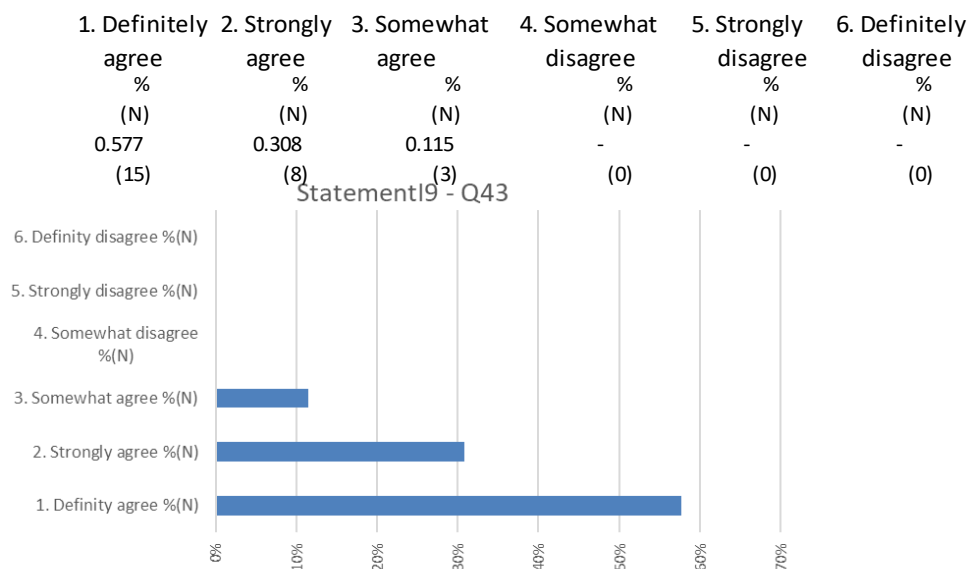
*Item Analysis: Rnd4 (I8-Q42) Infrastructure Policy and Lifestyle Changes***I8-Q42. Analysis: Infrastructural Policy and Lifestyle Changes****Results:**

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 80.8% agree China's emerging infrastructural policy changes will improve the lifestyle of its people.
3. This finding infers that although this study's subject matter experts substantially agree China's infrastructure policies are improving the lifestyle of its people, several questions remain (a lack of certainty) pertaining to the ultimate positive effects China's these policies will have on the lifestyle of China's people in the long-term (Bachmann and Burnett, 2012). Given this, these policies that include the BRI improvements are opening the door to a wide-array of positive socio-economic change in China and the region. China's economic growth has facilitated substantial improvements in roads, water, power, social services, and raised over 700 million people out of poverty in the last 20 years. China's infrastructure achievements have been driven by a range of social, economic, political, legal, and technology factors to include export-friendly trade, foreign investment, macro-economic ideologies, and political stability. The timely delivery of urban infrastructure has also been an essential driver of economic growth. Underpinning this has been the rapid development of industry and urbanism along China's Eastern coast. So, why are experts not in total agreement that China's infrastructure policy changes will not ultimately lead to an improved lifestyle? This study's research indicates the projected improvements may come at such a rapid-pace that they will ultimately be disruptive if not serve to undermine the lifestyle most Chinese seek to enjoy or envision in their future due to the negative social, environmental, and ecological aspects similar infrastructural improvements have demonstrated in the past (Bachmann and Burnett, 2012).

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (53.8% Somewhat agree; 07.7% Strongly agree; and, 19.2% Definitely agree) = 80.8%

China's focus on building "world-class" higher education and advanced technical training programs are linked to achieving its global growth and superiority.



Note. Extracted from the Delphi survey results.

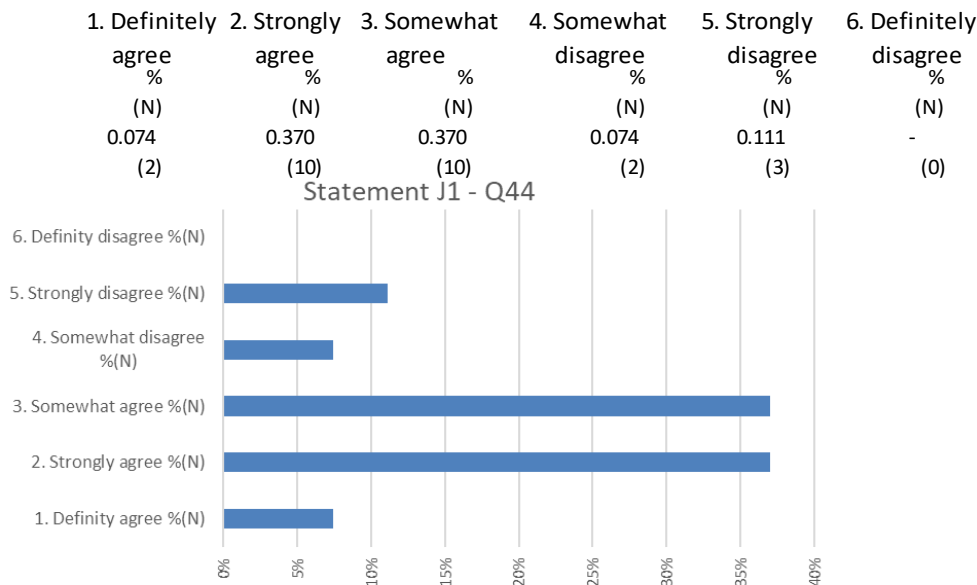
Figure I96. Survey results: Rnd4 (I9-Q43) Higher education program, global growth and superiority.

Table I60.

Item Analysis: Rnd4 (I9-Q43) Higher Education Program, Global Growth and Superiority

I9-Q43. Analysis: Higher Education Program, Global Growth and Superiority	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 100% agree China's focus on building "world-class" higher education and advanced technical training programs are linked to achieving its global growth and superiority. 3. This finding infers there is agreement that China is seeking to build a higher-level educational and advanced technical training system that is directly linked to President Xi's Chinese Dream and other major initiatives. If China's leadership is successful, this series of initiatives will stage the country to rise to the next-level in terms of being a new leader in global growth and superiority. According to Hang Gao, China is building a series of what he calls regional education hubs. He views these hubs as cross-border educational development initiatives. Interestingly enough, Gao reports China's international education hub initiative is directly associated with President Xi's belt and road initiative (BRI) or what is sometimes referred to as the one belt one road initiative. Some China scholars refer to the BRI as the Silk Road Economic Belt and 21st-Century Maritime Silk Road strategy. What it represents is an unprecedented multilateral cooperation framework, in connection with a domestic top-level strategy China intends to apply to achieve its primary goals to achieve sustainable, inclusive growth, and the integration of global resources through a "one-in-one", high-level interconnectivity in terms of policy, infrastructure, trade, finance, and people at a regional level (Gao, 2018, p.1). Under this complex framework, advanced education and technology are key factors vested with two functions. First, China's educational system will play an increasingly important role in consolidating people-to-people friendship and advanced technical knowledge and the employment skills of its common and middle classes. Second, the educational system will form the foundation of sufficient advanced personnel training for expanding cooperation and increased performance in the other four aspects of what President Xi calls his five-in-one initiative (Aleksandra and Cerenkova, 2016; Hong Kong Trade Development Council, 2018). Specifically, in this context the <i>five-in-one</i> initiative intends to promote interconnectivity in terms of: policy coordination, facilities and infrastructure connectivity, unimpede trade and commerce, integrate finance and economic systems, and increase people-to-people bonds (Hong Kong Trade Development Council, 2018). As President Xi states, BRI, the Chinese Dream, BRICS, and the Asian Infrastructure Investment Bank (AIIB) are all designed to complement each other and increase international cooperation. These initiatives are underpinned by a major commitment to a new and advance multi-disciplined knowledge and technical training program that are designed to lift China's superiority, nationalism, self-reliance, authority, and dominance to a new level while at the same time support increased empowerment of all China's partners in this series of global programs. Given this, it is clear this study's findings are consistent with China's focus on building a world-class higher education and advanced technical training system that is directly linked to not only one, but a series of social, political, economic, legal, intercultural, technology, and infrastructural regional initiatives or global growth programs that will ultimately position China as a new world leader with superior technologies, higher education, and infrastructure.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 26; skip rate = 10.3%; completion rate = 89.6%. 2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right. 3. (11.5% Somewhat agree; 30.8% Strongly agree; and, 57.7% Definitely agree) = 100%

China's continued economic growth will allow it to introduce a number of future public social security and health care programs.



Note. Extracted from the Delphi survey results.

Figure I97. Survey results: Rnd4 (J1-Q44) Economic growth vs. social security and health care programs.

Table I61.

Item Analysis: Rnd4 (J1-Q44) Economic Growth vs. Social Security and Health Care Programs

J1-Q44. Analysis: Economic Growth vs. Social Security and Health Care Programs	
Results:	
1.	When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2.	This finding indicates 81.5% agree China's continued economic growth will allow it to introduce a number of future public social security and health care programs.
3.	This finding infers a strong consensus that China will introduce a number of social security and health care reforms in order to address the declining productivity of its aging workforce; and, to reduce the increasing burden on its 4+2+1 families where productivity has decreased due to the need for productive family's members to care for aging parents. The growing needs of China's aging are taking time away from family member's productivity. Together these social issues are undermining China's economic growth (also, see, G1-Q26). Amadeo argues that China has a "mixed economy system" that combines the characteristics of "market, command, and traditional economies." (Amadeo, 2018, p.3). This type of economy benefits from the advantages of all three while suffering from the few disadvantages associated with traditional (western) economic theories (Amadeo, Mixed Economy With Pros, Cons, and Examples, 2018). Amadeo contends, a mixed-economy has similar characteristics to that of a market-economy. First, it protects private property. Second, it allows the free market and laws of supply and demand to determine prices. Third, it is driven by the motivation of individual self-interests. In addition, Amadeo argues a mixed-economy has characteristics similar to a command-economy in strategic areas. It allows the federal government to safeguard its people and its markets. As such, the government has a large role in military, international trade, and the protection of national and international trade, transportation, routes, and supporting systems. Amadeo states this type of economy places the government in a role that requires it to be responsive to the socio-economic priorities and the nature of its citizens desires and expectations in order to be stable. In the case of China, these influences shape and drive

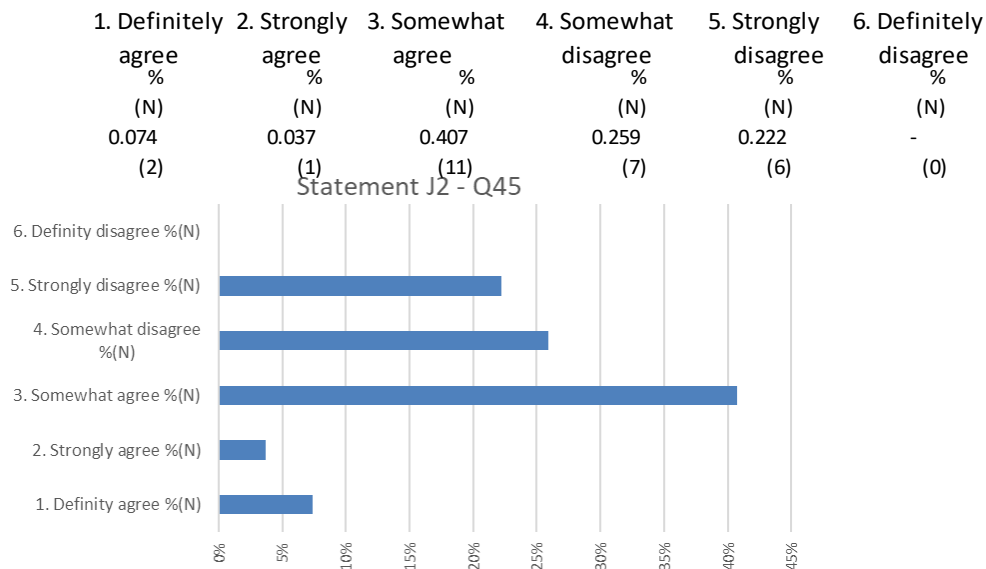
J1-Q44. Analysis: Economic Growth vs. Social Security and Health Care Programs (Continued)

China's leadership decision and key state-owned industries to adopt policies that are necessary to support not only the public's common good, but the country's economic and financial success. In the case, China's leadership will create central plans and policies that will guide its economy and social programs to sustain the growth and national wealth.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Approaches a symmetrical bell-curve with a slight skewness to the left, meaning the bulk of the observations are to the right.
3. (37.0% Somewhat agree; 37.0% Strongly agree; and, 07.4% Definitely agree) = 81.5%

China's government will address the social security and health care crisis even if it reduces the country's national wealth.



Note. Extracted from the Delphi survey results.

Figure I98. Survey results: Rnd4 (J2-Q45) Social security and health care vs. national wealth.

Table I62.

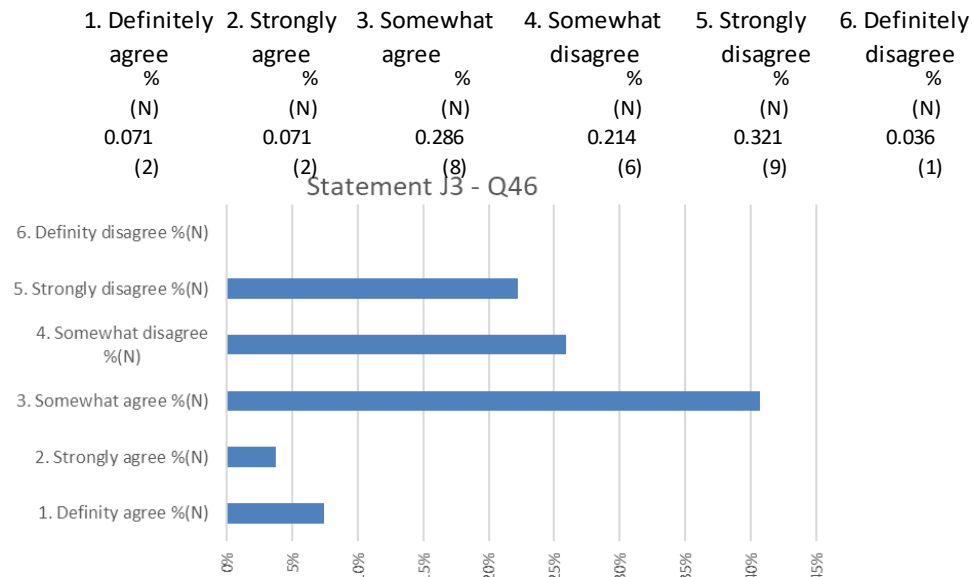
*Item Analysis: Rnd4 (J2-Q45) Social Security and Health Care Programs vs. National Wealth***J2-Q45. Analysis: Social Security and Health Care Programs vs. National Wealth****Results:**

1. When the R4 Delphi responses were compared to the literature research findings the two did not agree inferring a consensus was not achieved.
2. This finding indicates Grp1 = 51.8%, and Grp2 = 48.2% failed to achieve agreement as they were unsure if China's government will address the social and health care crisis even if it reduces the country's national wealth.
3. This finding infers there is strong uncertainty that China will introduce social security and health care reforms in order to address the declining productivity of its aging workforce; or, reduce the increasing burden on its 4+2+1 families where productivity has decreased due to the need for productive family members to care for aging parents. The growing needs of China's aging are taking time away from family member productivity. This study's research indicates these social issues are undermining China's economic growth (also, see, G1-Q26). That said, this study's literature research supports Amadeo's argument that China has a "mixed-economy system" that combines characteristics of "market, command, and traditional economies" (Amadeo, 2018, p.3). This mixed-economy benefits from the advantages of all three economic models or ideologies while suffering from only a few of the disadvantages associated with [western] traditional economic models (Amadeo, Mixed Economy With Pros, Cons, and Examples, 2018). Amadeo contends, a mixed-economy has similar characteristics to that of a market-economy. First, it protects private property. Second, it allows the free market and laws of supply and demand to determine prices. Third, it is driven by the motivation of individual self-interests. In addition, Amadeo argues a mixed-economy has characteristics similar to a command-economy in strategic areas. It allows the federal government to safeguard its people and markets. As such, the government has a large role in military, the establishment and protection of international trade, transportation, trade routes, and supporting systems. Amadeo states this type of economy places China's government in a role that requires it to be responsive to the socio-economic priorities of its citizens in order to maintain stability. In the case of China, these influences shape and drive the country's leadership decisions and key state-owned industries to adopt policies that are necessary to support not only the public's common good, but the country's economic and financial continuing success. In this case, this study's literature research findings suggest China's leadership will create central plans and policies that will guide its economy in a direction that supports the creation of social programs to sustain China's growth and national wealth.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%
2. Data distribution: Slightly skewed to the right, meaning the bulk of the observations reported were to the left.
3. (40.7% Somewhat agree; 03.7% Strongly agree; and, 07.4%, Definitely agree) = 51.8% in Grp1; and, (25.9 % Somewhat disagree; and, 22.2% Strongly disagree) = 48.2% in Grp2.

China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.



Note. Extracted from the Delphi survey results.

Figure I99. Survey results: Rnd4 (J3-Q46) Addressing shared wealth imbalances.

Table I63.

Item Analysis: Rnd4 (J3-Q46) Addressing Shared Wealth Imbalances

J3-Q46. Analysis: Addressing Shared Wealth Imbalances

Results:

1. When the R4 Delphi responses were compared to the literature research findings the two did not agree inferring a consensus was not achieved.
2. This finding indicates Grp1 = 42.9%, and Grp2 = 57.1% failed to agree and were unsure China's leadership will continue to address the country's shared-wealth imbalances between social classes.
3. This finding infers Gao and Riskin findings when compared to this study's research are consistent although complex when defined in terms of employment, family income, market-value property, other earnings, and assets versus the social benefits (public assistance, health, housing, food, and other benefits) that must be assessed in order to interpret China's ever-changing income inequalities (Qin and Riskin, 2009). These factors make evaluating wealth distribution advances (progression) or declines (regression) associated with family income equality (balances) complex and somewhat difficult to determine when seeking to identify distributive variances between social stratifications (classes) and demographic areas. This assessment is more complicated when attempting to identify income disparities between urban and rural populations. Ravallion and Chen found "income inequality (imbalances) within both urban and rural populations had continued to rise between 1995 and 2001" (Ravallion and Chen, 2004). Analysis of China Household Income Projects (CHIP) survey data offers more comprehensive measurements of per capita household income across a broad range of variables. Gao and Riskin bring together to sets of key factors (variables), market developments, and social policy changes. When the two factors are considered they assist in explaining China's income inequalities are imbalances. Their study analyzes wealth imbalances as based upon composite household per capita income and contributions to it by market earnings, and social benefits over time. Gao and Riskin's analysis provides a more accurate analysis and assessment of the CHIP data by including evaluating social benefits, health, housing, food, and other in-kind transfer disparities. As such, they additionally include cash-value estimates of total household income to explore how each type of income compare across social stratification, level of employment, and demographic. Gao and Riskin found that social policies have driven distinct market consequences through the creation of new economic development zones, improved transportation, and infrastructure have jobs and housing opportunities in various regions that have directly affected rural and urban populations. They continue, social reforms since the early 1980s have additionally been influenced by economic reform and policy objectives. As such, socio-economic policy has been integrated to facilitate China's market-economy reforms so as to stimulate economic growth and efficiency by reducing

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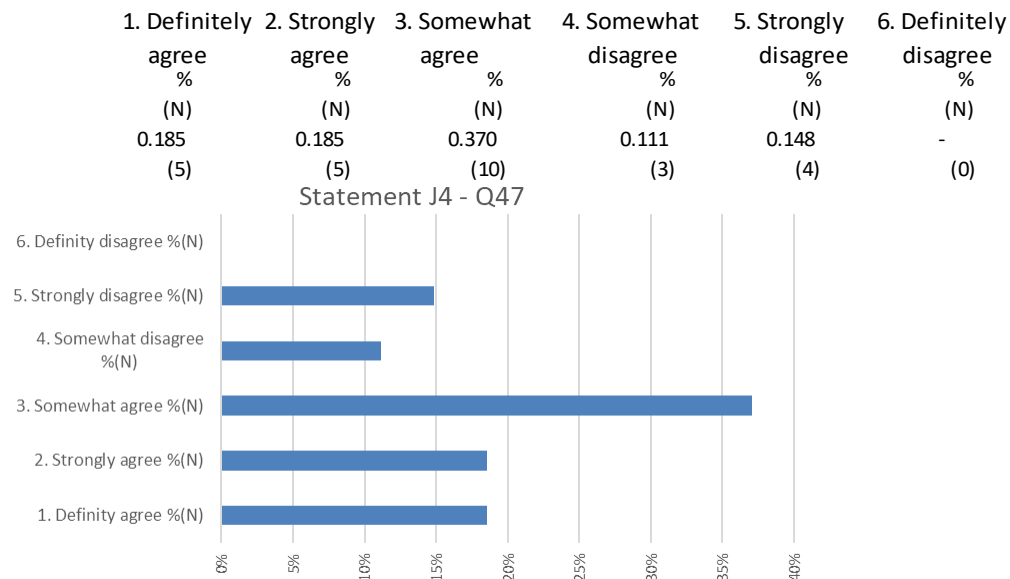
J3-Q46. Analysis: Addressing Shared Wealth Imbalances (Continued)

the heavy financial burden borne by state-owned and collective enterprises associated with providing state welfare benefits. Gao and Risken point out, the provision of pensions and health insurance is being shifted from being the sole responsibility of state-owned and collective enterprises to being shared among employers, employees, and the government. These measures also include the privatizing of urban housing over time; to include, relieving the housing provision responsibility of state-owned and collective enterprises. Unfortunately, under these policy reforms the favored the more privileged (elite, well educated, and government cohorts) in the process. In the final analysis, China has moved from a planned-economy to one that is market-driven. Rural-urban income inequalities increased significantly from 1988 to 1995, and continued to rise through 2002. Since 2002, health benefits, which used to be universal for urban workers significantly increased as they are linked to employment, type, and sector. Those with higher earnings due to employment also gained from increased health benefits. In addition, the cash-value of urban social benefits became more unequally distributed than market-income. Income from individual enterprises added to dis-equalizing (imbalances) and contributed an estimated two-thirds to the overall inequality. As expected, market forces have driven major trends in income inequality. However, public policy has also influenced income imbalances. Gao and Riskin conclude that wealth imbalances reduced most by social benefit programs (social security and health care) with the exception of other public assistance. That said, social benefits have yet to play a significant role in compensating for China's wealth imbalances. It appears from the CHIPS data that the Chinese government is continuing to adjust and reduce significant income gaps between social strata, demographic regions, and employment benefits, to include social program benefits (social security, health care) so as to reduce inequalities and social tensions.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = .580%. Inquiry responses (n) = 28; skip rate = .034%; completion rate = .965%.
2. Data distribution: Slightly skewed to the right, meaning the bulk of the observations reported were to the left.
3. (.286% Somewhat agree; .071% Strongly agree; and, .071% Definitely agree) = .429% in Grp1; and, (.214% Somewhat disagree; .322% Strongly disagree; and, .036% Definitely disagree) = .571% in Grp2.

China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community.



Note. Extracted from the Delphi survey results.

Figure I100. Survey results: Rnd4 (J4-Q47) Transitioning to Leading the Global Community.

Table I64.

Item Analysis: Rnd4 (J4-Q47) Transitioning To Leading The Global Community

J4-Q47. Analysis: Transitioning to Leading the Global Community	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 74.1% agree China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community. 3. This finding infers China's socio-political environment which fosters early developmental behavior is creating generational cohorts that share collective behaviors and attitudes that demonstrate the country's desire to take the helm as a new leader in the global community. When considering this study's findings at least two things should be placed in perspective and reflection. First, China has an extraordinary history of demonstrated leadership and exploration into foreign markets, trade, and commerce. It represents a culture of global inquisitors that has often sought unique sociopolitical, technological, intercultural, and natural resource discoveries with the chief interests of self-improvement and advancing its own culture and nationalism. In fact, some scholars argue the study of world power has been blighted by Eurocentric historians who have distorted and ignored the dominant role China played in the world economy between 1100 and 1800 (Hobson, 2004). Hobson's research into world economies during this period provides an abundance of empirical data that supports his case for China's economic and technological superiority over Western civilization is clear. Hobson continues, that for the better part of a millennium prior to China's conquest and decline in the 19th century by foreign powers it was a vibrant and powerful world leader. Given Hobson's research and current analysis, he argues China's reemergence as a world economic power is highly probable; and, raises important questions about what the world can learn by studying China's previous rise and fall and about the implications the country will face as internal and external threats as it emerges as an economic superpower in the near term. Given Hobson's research, China has powerful trading, financial, and investment networks that cover the globe as well as powerful economic partners. These links have become essential for the continued growth of many of countries throughout the developing world. As such, China is a powerful force for any country with opposing values to face should it choose to confront or deny any aspect of China's powerful market-based partners in the world. China's power today when compared to that it achieved in the 18th century is substantially stronger. In addition, scholars argue that there is no single country in the global community that has the colonial leverage or sufficient international backing to prevent China from fulfilling its new destiny. Given this some scholars argue, Western influences are limited when it comes to swaying China's ideologies, its' intellectuals, and its vast majority of its citizens that have no intention of letting Western ideologies undermine their fundamental traditions, culture, core nationalism, and unique form of self-reliant globalism. Petras argues that nothing would accelerate political polarization in Chinese society and hasten the coming of a second Chinese social revolution more than a timid nationalistic leadership submitting to a new era of Western Imperialism (Petras, 201). Second, the 16th Congress of the Chinese Communist Party (CCP) and the 10th National People's Congress (NPC) marked an ideological transition that began with China's fourth-generation leaders (Li, C., 2000). This generation is now in their 60s and early 70s. They share formative experiences by having directly experienced China's Cultural Revolution (CR) which took place in 1966. According to some scholars, the CR represented an unparalleled evolution in the history of mankind [Mao's words] that had an everlasting impact on these leaders. Why? It's because during this time their loyalty was betrayed, their dreams shattered, their education opportunities lost, and their careers disrupted (Li, C., 2003). Some fifth-generation leaders have attributed China's political advancement today to the lessons learned, the hardships endured, and the wisdom that is tied to the CR experience (Zhili, 1999). When considering China's present leadership and transitional change towards taking up a leading role in the global community, it is critically important to study the country's history and experiences, culture, traditional and generational attributes, unique idiosyncrasies, and characteristics of its emerging leaders; to include, the measures, internal and external policy reforms, and principles President Xi's associates with: his Chinese Dream; China's leadership role in BRICS; the launch of numerous innovation, education, and technology reforms; and, supporting policies and initiatives such as his One Belt, One Road. Li argues the upcoming leadership secessions, is not just a simple change of the guard, but the beginning of sweeping ramifications that will go far beyond that of generational change. Li states, China's next-step towards its power transition will be an attempt at a peaceful and institutionalized transition towards the country becoming the next world leader. Historically nepotism in various forms (e.g., school ties, blood ties, regional affiliations, patron-client ties, and guanxi (connections) have played a very important role in the selection of China's new leaders. That said, at the same time some institutional mechanisms (e.g., age limits for retirement, term limits, intra-party elections, and regional representation) have been adopted as part of Chinese political system in order to curtail favoritism. Looking ahead, China's next generation of leaders are likely to follow the same characteristics as those that were shaped over the last decade in which these leaders will be developed and shaped through institutional channels in much the same way their predecessors were. Stated another way, most of the scholars examined in this study argue it is clear China's present and future leadership will continue to hone their leader's skills and abilities so as to demonstrate their capability to assume the new role as leader on the global

(continued)

J4-Q47. Analysis: Transitioning to Leading the Global Community (Continued)

stage. As Anja Manuel puts it, the axial shift of power between the West and Europe to China and India is unrelenting. She predicts that by 2030, Asia will surpass the combined power of North America [the West] and [Eastern] Europe in economic might, population size, spending and military presence. She claims that, although the United States and its western partners will remain powerful international players, "China and India will increasingly dictate the terms of global governance... whether they rise peacefully or not" (Manuel, 2018, p. 2-22).

Notes:

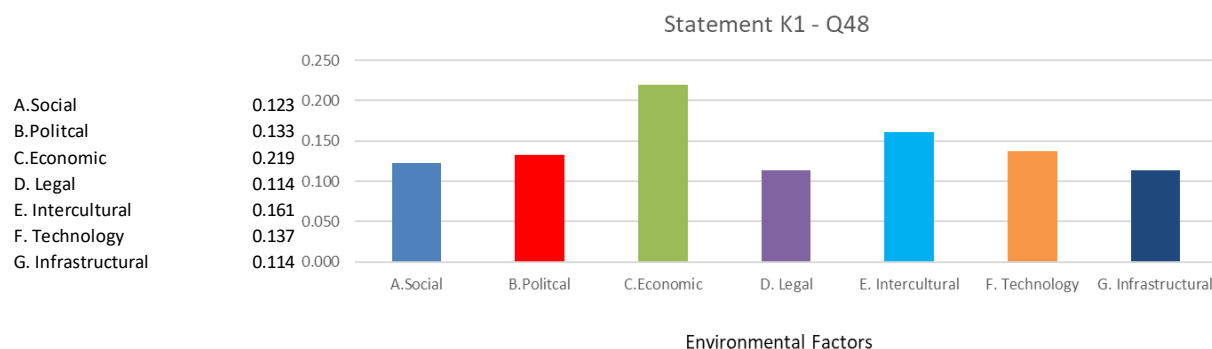
1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%.
2. Data distribution: Slightly skewed to the left, meaning the bulk of the observations reported were to the right.
3. (37.0% Somewhat agree; 18.5% Strongly agree; and, 18.5% Definitely agree) = 74.1%

Table I65.

China's National Priorities, Policies, and Future Direction

Order the factors that are influencing China's national priorities, policies, and future direction.

	1. First %(N)	2. Second %(N)	3. Third %(N)	4. Fourth %(N)	5. Fifth %(N)	6. Sixth %(N)	7. Seventh %(N)
A. SOCIAL environment factors	0.074 (2)	0.037 (1)	0.148 (4)	0.074 (2)	0.222 (6)	0.259 (7)	0.185 (5)
B. POLITICAL environment factors	0.296 (8)	0.222 (6)	0.296 (8)	0.111 (3)	0.037 (1)	0.037 (1)	- (0)
C. ECONOMIC environmental factors	0.571 (16)	0.286 (8)	0.071 (2)	0.036 (1)	0.036 (1)	- (0)	- (0)
D. LEGAL environment factors	0.037 (1)	0.037 (1)	0.074 (2)	0.222 (6)	0.222 (6)	0.296 (8)	0.111 (3)
E. INTERCULTURAL environment factors	0.074 (2)	0.037 (1)	- (0)	0.037 (1)	0.222 (6)	0.148 (4)	0.481 (13)
F. TECHNOLOGY environment factors	0.214 (6)	0.179 (5)	0.357 (10)	0.107 (3)	0.107 (3)	0.036 (1)	- (0)
G. INFRASTRUCTURAL environment factors	0.185 (5)	0.185 (5)	- (0)	0.333 (9)	0.111 (3)	0.074 (2)	0.111 (3)



Note. Extracted from the Delphi survey results.

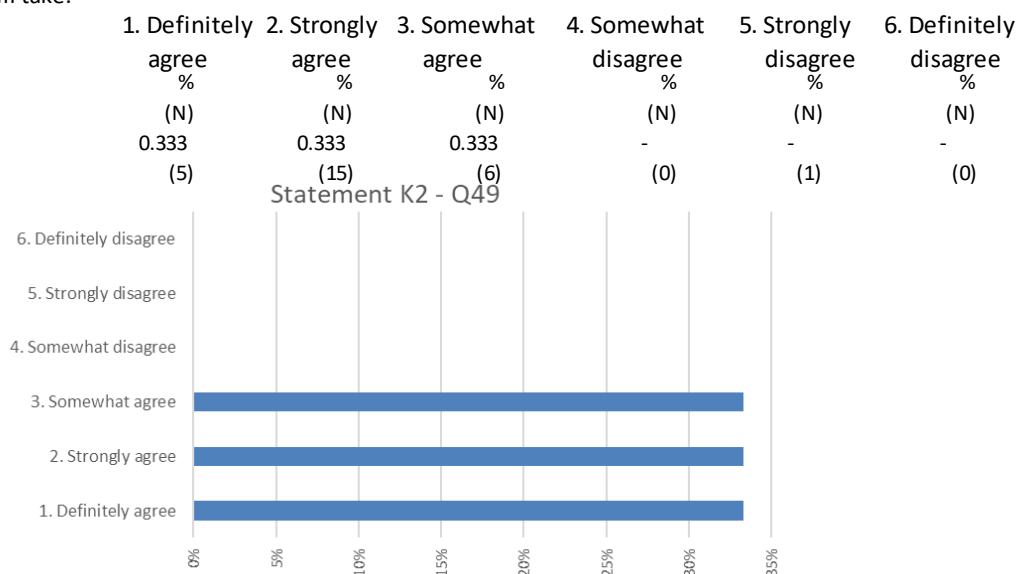
Figure I101. Survey results: Rnd4 (K1-Q48) Factors influencing policy and future direction.

Table I66.

Item Analysis: Rnd4 (K1-Q48) Factors Influencing Policy and Future Direction

K1-Q48. Analysis: Factors Influencing Policy and Future Direction	
Results:	<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings agreement pertaining to economic, intercultural, political, and technology factors was mixed and unexpected. The results inferred a consensus was achieved between economic and intercultural factors; but, to a lesser extent between political and technology factors. Economic and intercultural factors were recognized as major influencers if not driving forces that are directly associated to China's national priorities, exceptionalism, self-determinism, authority, unity, globalization policies, and the country's future direction in its desired role as an emerging global leader. In addition, political and technology factors appeared to achieve a lesser degree of consensus as significant influencers or drivers. As for the perceived influence of social, legal, and infrastructure factors, the R4 Delphi participants failed to achieve a significant level of consensus when compared to the remaining SPELIT factors. 2. This finding indicates economic and intercultural factors = 38.0% (which represented bimodal peaks in the data); and where, political and technology factors = 27.0% were relatively balanced in agreement although subordinate to economic and intercultural factors. Given this, and as expected, there was a 21.9% concentration of agreement associated with economic factors. However, the 16.1% level of agreement associated with intercultural factors was not expected when viewed through the lens of this study's literature research findings. In fact, very few of the subject matter experts reviewed in the literature suggested intercultural factors were significantly relevant as influencers or drivers of China's future policies. Only a few referenced China's need to address reforms associated with (worker immigration) migration as a potential influencer or driver of intercultural policies. Most of the references in this area were associated directly with China's aging workforce crisis. Given this, these references suggested immigration or intercultural reforms were only a temporary solution to the aging workforce crisis. It was interesting that this study's findings did not place a higher emphasis on social, legal, and infrastructural factors as influencers or drivers of future policy. This was unexpected due to the considerable focus and support that was discovered in the review of subject matter expert's in the literature. Opinions ran high pertaining to the relevancy of China addressing a number of its internal and external social, legal, and infrastructural challenges to include a wide-array of suggestions pertaining to associated reform initiatives and the policies China's leaders should focused on. 3. This finding infers there is a slight difference of opinion between the subject matter experts reviewed in this study's literature and that of its R4 participants that is reflected in the social, political, legal, technology, and infrastructural factors as influencers or drivers (predictors) of China's future policy. That said, there is a strong consensus between the subject matter experts reviewed in the literature when compared to the R4 participant's there is strong agreement that economic factors are significant influencers and/or drivers of future policy.
Notes:	<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Non-symmetric, wide spread, and with slight bimodal characteristics, meaning a significant number of responses were found associated with (economic = 21.9%, and intercultural = 16.1%) = 38.0% (Grp1); and, (technology = 13.7%, and political = 14.1%) = 27.0% (Grp2). The slight bimodal distribution across the seven (SPELIT+1) environmental (factors) is inferential of economic and intercultural influences (bias) in terms of the creation and administration of future policies as perceived by the respondents. This finding is significant considering the sample is highly homogenous, containing a high degree of policy professional, scholars, academics, and administrators. 3. 38.0% of the responses were associated with Grp1; and, 27.0% were associated with Grp2. Collectively, the two groups represented 65.0% of the sample.

By applying appropriate theory, design, approach, and process to the study of China, significant knowledge can be gained that supports predicting policies, decisions, and the direction its leaders will take.



Note. Extracted from the Delphi survey results.

Figure II02. Survey results: Rnd4 (K2-Q49) Scientific methodology and predicting policy.

Table I67.

Item Analysis: Rnd4 (K2-Q49) Scientific Methodology and Predicting Policy

K2-Q49. Analysis: Scientific Methodology and Predicting Policy

Results:

1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved.
2. This finding indicates 100 percent agree that by applying appropriate theory, design, approach, and process to the study of China, significant knowledge can be gained that supports predicting policies, decisions, and the direction its leaders will take.
3. This finding infers the literature review and R4 survey subject matter experts understand and value the benefits of applying empirical methods and analytics to the process of policy development. The significant level of agreement discovered was greater than expected. Considerable discussion among the survey development panel (SDP) members was conducted in an attempt to better understand this outcome. This SDP decided the homogeneity of both the literature review and the R4 study sample subjects were lightly the source of the finding. In each sample subject matter experts were either researchers, scholars, academics, senior level policy advisors, chief executive officers, senior officeholders (policy staffers), researchers, developers, or/and administrators that were sought out for this study. As such, the SDP argues the subjects selected for the study in this case apply empirical processes in their approach to in the execution of policy. In addition, it is clear that the subjects have high confidence related to the value of applying scientific methodologies in their work practices. This confidence is reflected in their opinions pertaining to using these methods to gain knowledge and the ability to better predict policies, engage in decisional practices, and in seeking to determine a prudent direction that senior leaders should consider in their decisional processes in selecting and adopting policy. The SDP members additionally decided it was likely empirical methods are applied by this group to evaluate and select policy by determining estimates pertaining to predictive outcomes associated with policies put in place. Finally, the SDP concluded that the same or similar empirical processes were used by the sample group to ultimately

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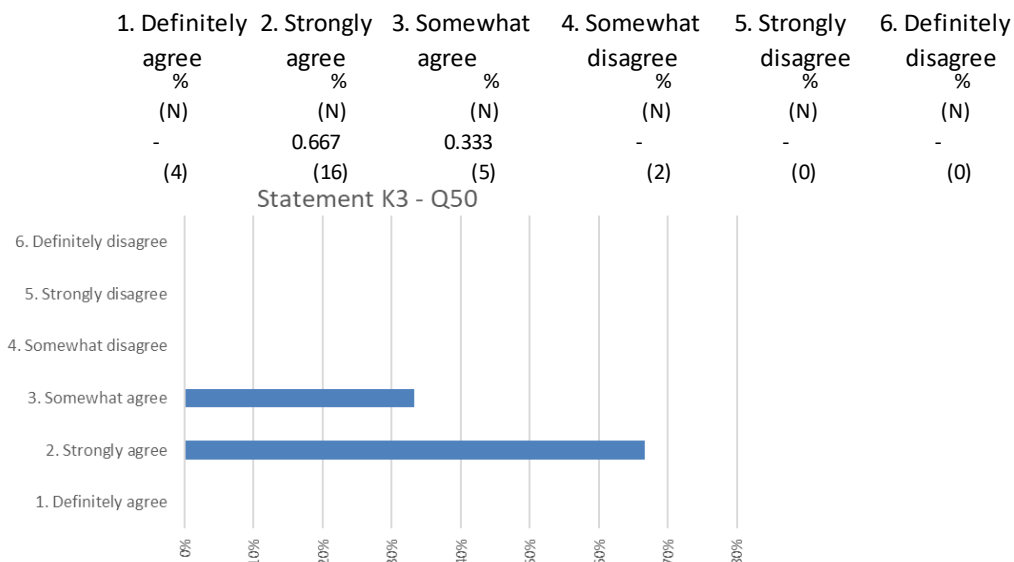
K2-Q49. Analysis: Scientific Methodology and Predicting Policy

monitor, assess, and evaluate the effects of applied policies; and, that they had clearly experienced positive results. This is considered evidence of the positive application of empirical processes to the study of social phenomena. Policy Development Cycles (PDCs) are used by a broad array of private and public organizations to plan, organize, and communicate future policies (Office of the Auditor General, 2003). Most PDCs consist of five stages that consider the entire lifecycle of a given policy or set of policies. The process of developing policy is an activity that generally involves research, analysis, consultation, and synthesis of information to produce recommendations and predictive outcomes. This process should include an evaluation of an array of options against a set of criteria used to assess each option and an assessment associated risk. This model outlines the following five stages: Stage 1, problem identification and agenda setting; Stage 2, policy development; Stage 3, issue resolution and policy adoption; Stage 4, policy implementation and application; and, Stage 5, policy evaluation. Scholars and policy analysts argue the risks associated with not providing leadership direction and policy development support are: untimely responses to public or private policy advocacy; leaders failing to construct staffs with sufficient understanding of the dimensions of a set of issues/problems due to lack of contact with external organizations or constituencies, lack of data, limited or poor communication from leaders/managers regarding a direction or path to resolve issues, etc.; inaccuracies in the presentation of the facts; lack of clarity and conciseness of documents and analytic assessments which may lead to compromising policy development; limited creativity and innovation in the policy creation response process; and, the loss of good policy analysts by leadership due to absence or poor applications of empirical processes in the course of attempting to develop good policy. Given this, it is clear that good leadership employs the application of good policy development practices. These include application of appropriate theory, design, approach, processes, and knowledge in order to construct predictive policies, decisions as a means of providing direction to leadership and the actions they will take.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 28; skip rate = 03.4%; completion rate = 96.5%.
2. Data distribution: Uniform and equally spread across the range of the distribution with no clear peaks.
3. (.333% Somewhat agree; .333% Strongly agree; and, .334% Definitely agree) = 100%

By examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders.



Note. Extracted from the Delphi survey results.

Figure I103. Survey results: Rnd4 (K3-Q50) Critical factors and predicting policy decisions.

Table I68.

Item Analysis: Rnd4 (K3-Q50) Critical Factors and Predicting Policy Decisions

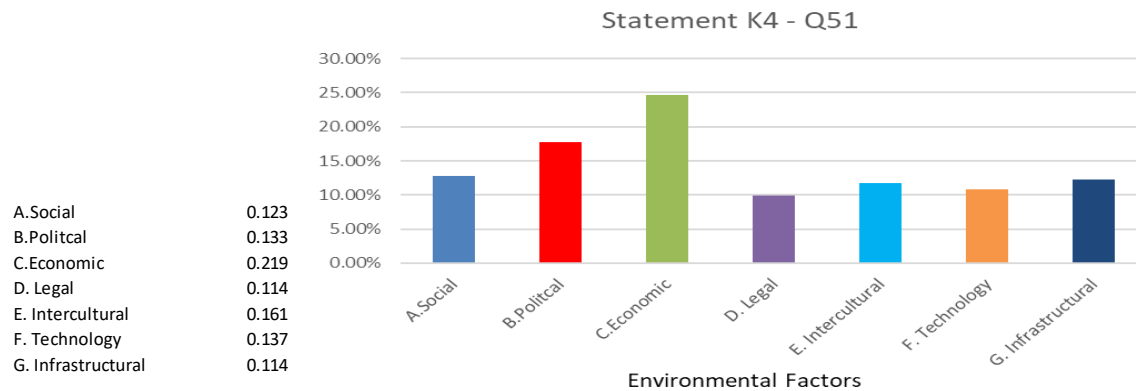
K3-Q50. Analysis: Critical Factors and Predicting Policy Decisions	
Results:	
<ol style="list-style-type: none"> 1. When the R4 Delphi responses were compared to the literature research findings the two agreed inferring a consensus was achieved. 2. This finding indicates 100 percent agree that by examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders. 3. This finding infers good policy practices and analysis by leaders should include an in-depth examination of critical SPELIT factors. This examination and subsequent set of discoveries are commonly the result of: a clear identification of issue(s) or problem(s); the application of appropriate empirical analysis methods towards measuring and evaluating factors that appear to be associated influencers or drivers; applying the appropriate analysis to survey and/or subject matter expert information gained to generate predictive solutions; reviewing potential solutions with focus groups or special consultants; and, applying appropriate monitoring, measurement, evaluation, and assessment methods and instruments to identify policy performance. Policy development leaders engaged in development activities and administration are wise to link the process of discovery and prediction of policy decisions with the right set of tools to do the job. Leadership support is needed to extend and ensure that policy analyst have access to the resources they need such as: information technology (including software programs that facilitate analysis, modeling, and forecasting, etc.); access to various databases; the purchase of research consultants and appropriate studies; exposure to structured decision-making methods and processes; and, relevant discussions and examinations of proposed policy at senior levels. Policy developers, leaders, scholars, and academics recognize there are extreme risks attached to policies that are developed in the absence of infrastructure and leadership support. Among these risks they identify the following: decision-making is not evidence-based; a poor understanding of the dimensions of the issue/problem potentially leads to the misdirection of corrective concepts, principles, activities, and desired outcomes; the misuse of resources to support the policy; and, policy development staffs or professionals having limited means of keeping current on emerging issues and/or trends which in turn limits their capacity to act as policy advisers to senior leadership. Ultimately these risks if not guarded against lead to increased leadership and organization dysfunctions, instability, reduced unity, authority, power, the reduction of performance or productivity; and, a commonly held sense of the desired goals, objectives, and purpose. Given this, it will be imperative that China's leadership utilizes prudent empirical methods and tools in their creation, development, and administration of emerging policies in the future in order to successfully navigate challenges so as to achieve China's national goals and expectations over the next decade. 	
Notes:	
<ol style="list-style-type: none"> 1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9%; completion rate = 93.1%. 2. Data distribution: Lacks symmetry, skewness, and uniformity. The observations are clustered in columns 2 and 3. 3. (.333% Somewhat agree; and, .667% Strongly agree) = 100% 	

Table I69.

Factors Influencing or Driving a Global Power Shift

Identify those factors you believe are influencing or driving a global "power shift" between China and the United States?

	1. First %(N)	2. Second %(N)	3. Third %(N)	4. Fourth %(N)	5. Fifth %(N)	6. Sixth %(N)	7. Seventh %(N)
A. SOCIAL environment factors	0.080 (2)	0.080 (2)	0.120 (3)	0.080 (2)	0.200 (5)	0.280 (7)	0.160 (4)
B. POLITICAL environment factors	0.333 (9)	0.370 (10)	0.296 (8)	- (0)	- (0)	- (0)	- (0)
C. ECONOMIC environmental factors	0.630 (17)	0.296 (8)	0.037 (1)	0.037 (1)	- (0)	- (0)	- (0)
D. LEGAL environment factors	0.074 (2)	0.037 (1)	0.148 (4)	0.185 (5)	0.185 (5)	0.296 (8)	0.074 (2)
E. INTERCULTURAL environment factors	0.080 (2)	0.080 (2)	0.040 (1)	0.040 (1)	0.320 (8)	0.120 (3)	0.320 (8)
F. TECHNOLOGY environment factors	0.259 (7)	0.222 (6)	0.185 (5)	0.222 (6)	0.037 (1)	0.037 (1)	0.037 (1)
G. INFRASTRUCTURAL environment factors	0.077 (2)	0.038 (1)	0.115 (3)	0.269 (7)	0.192 (5)	0.154 (4)	0.154 (4)



Note. Extracted from the Delphi survey results.

Figure I104. Survey results: Rnd4 (K4-Q51) Influencing or driving a global power shift.

Table I70.

Item Analysis: Rnd4 (K4-Q51) Influencing Or Driving a Global Power Shift

K4-Q51. Analysis: Influencing or Driving a Global Power Shift

Results:

1. When the R4 survey responses were compared to the literature research the outcomes are characterized as follows. There is agreement or relevant consensus that economic, political, and social factors are influencing and/or driving a global power shift between China and the United States.
2. This finding indicates economic, political, and social factors (Grp1) = 47.5%, which represented a unimodal peak in the data; where, = 27.0% (legal = 11.4%, intercultural = 16.1%, technology = 13.7%; and, infrastructural = 11.4%) = 52.5% (Grp2). On review Grp2 was relatively uniform and balanced.
3. This finding infers by applying empirical methods and tools as instruments to examine and identify critical factors that one can discover influencers and/or drivers of leadership, global policy, and supportive measures. This approach offers leaders the ability to analyze and better understand the nature and dynamics of global power shifts and challenges that affecting what some scholars and academics refer to as the global order (Kappel, 2015). Kappel's research and supporting study applies an empirical approach and analysis to determine the nature of the present global power shift phenomenon. He has determined that in the last decade, the global balance of power has changed significantly; and, that a fundamental shift towards a multipolar world has been taking place (Benassy-Quere/Pisani-Ferry, 2011; Kappel, 2015). Kappel explains this increase in multilateralism can only be recognized by its parts, as it involves bilateral activities that are taking shape amidst weakly linked states that are acting in parallel across common social, political, economic, legal, intercultural, technology, and infrastructure goals and desires. What is unique about this phenomenon is its occurrence in the absence of being linked to Western based institutions, ideologies, and culture. Kappel argues national protectionism and patriotism are replacing global governance and policy development. Based upon Kappel's empirical comparisons and regression analysis he has found the following: Emerging economic powers are developing within specific regions, these powers influence and develop processes that have the capability of shaping and driving independent regional and/or global policy and action. These powers have relatively large populations and they cover relatively large areas. In addition, these emerging powers realize high economic growth when compared to intra-regional averages over a long period of time; and, thus provide the basis for growing market economies trade and commerce, and the sharing of common ideologies within a region. Collectively, these factors are driving a dominant role in developing industrial and technology innovations and change, increased expenditures for RandD, and expanded opportunities over those presently available in Western controlled trade and commerce, finance, banking, and economic

(continued)

K4-Q51. Analysis: Influencing or Driving a Global Power Shift (Continued)

alliances and organizations. Kappel 's research indicates this emerging power is increasingly providing commodities, goods, and services that are forming a foundation for a new unity, shared ideologies, a stable currency; and, a monetary system and supporting policies that offer different values and goals from those established by the western hegemony (Hou, 2014; Kappel R. , 2011; Kappel, 2015). When taken collectively it is clear this study's literature reviews and R4 survey findings are consistent in terms of identifying social, political, and economic factors as influencers or drivers of the present global power shift.

Notes:

1. Survey data: Responses solicited (n) = 50; return (n) = 29; response rate = 58.0%. Inquiry responses (n) = 27; skip rate = 06.9 percent; completion rate = 93.1%.
2. Data distribution: Non-symmetric, wide spread, and with slight unimodal characteristics, meaning a significant number of responses were found associated with only one set of data points (economic = 21.9%, political = 13.3; and, social = 12.3%) = 47.5% (Grp1); and, (legal = 11.4%, intercultural = 16.1%, technology = 13.7%; and, infrastructural = 11.4%) = 52.5% (Grp2).
3. The unimodal distribution across the seven (SPELIT+1) environmental (factors) is inferential of social, political, and economic influences (bias) in terms of influencing or driving a global "power shift" between China and the U.S. This finding is significant considering the sample is highly homogenous.
4. 47.5% concentration of observations associated with economic, political, and social factors was expected when viewed through the lens of the literature research findings.

Table I71. *Survey R3, Rnd3 Questionnaire: Results and Analytics*

R _{nd3} /R3Results Survey Questionnaire Results				
Section F: China's Social Environment - Sociological characteristics, cultural, morales, and behavior		Median	IQR	Agreement Confidence
F1*	Social Security & Aging Population - A <u>very small minority</u> strongly agree <u>social security</u> reforms will be introduced	2	2	Strongly Agree 0.29
F2*	Social Security & Health Care - A <u>few</u> somewhat agree <u>these programs</u> are critical to economic <u>growth</u>	3	3	Somewhat Agree 0.38
F3*	Health Care & Aging Population - <u>Mostly all</u> agree <u>health care</u> reforms will be introduced	1	3	Definitely Agree 0.52
F4	Social Environment - A <u>minority</u> agrees provides a <u>framework</u> for improved social & economic <u>freedom</u>	4	2	Somewhat Disagree 0.52
F5	Social Freedom - A <u>majority</u> agree that the people's <u>lifestyle</u> is better now than in the past	1	0	Definitely Agree 0.76
F6	Social Growth - A <u>minority</u> agree <u>social growth</u> has no association with the <u>aging population</u>	2	2	Agree 0.48
F7*	Aging & Social Security - <u>Very few</u> agree <u>aging population</u> will force introduction of increased <u>social security</u>	2	1	Agree 0.38
F8*	Social Security - A <u>majority</u> somewhat agree that introducing increased <u>social security</u> reforms will force <u>health care</u> reforms	4	2	Somewhat Agree 0.52
F9	Education - A <u>minority</u> agree <u>instructor shortages</u> are related to the expansion of the educational system	2	2	Agree 0.48
F10	Education - A majority strongly disagree <u>the system</u> is not keeping up with China's <u>growth</u>	5	2	Strong Disagree 0.52
F11*	Social-Economic Policy - A <u>majority</u> definitely agree the common class has suffered economically from the past <u>single-child policy</u>	1	1	Somewhat Agree 0.67
F12	Social Ideology - A <u>majority</u> somewhat agree <u>ideological</u> changes will improve the <u>freedoms</u> of the common class	3	0	Somewhat Agree 0.67

(continued)

R _{nd3} /R3Results Survey Questionnaire Results					
Section G Questions: China's Leadership Environment - Characteristics, style, behavior, beliefs, ethics, decisions, values and priorities		Median	IQR	Agreement	Confidence
G1*	Leadership Behavior - A <u>majority somewhat disagree</u> <u>external behavior</u> is at odds with <u>external ideologies</u>	4	2	Somewhat Disagree	0.57
G2*	Leadership Behavior - A <u>minority somewhat agree</u> the <u>behavior focus</u> is on using <u>power</u> , <u>authority</u> and <u>superiority</u> to influence global <u>political equilibrium</u>	3	1	Somewhat Agree	0.48
G3	Leadership Ideology & Behavior - A <u>majority somewhat agree</u> <u>ideology & behavior</u> are influencing a shift in traditional <u>Maoist cultural ideologies</u>	3	1	Somewhat Agree	0.52
G4*	Leadership Decisions - A <u>small minority agree</u> <u>leadership</u> focus is on increasing access to <u>global resources</u> to support <u>growth</u>	2	2	Strongly Agree	0.38
G5	Leadership Decisions - A <u>majority somewhat agree</u> <u>leaders</u> will increase <u>food supply</u> to sustain <u>growth</u>	3	1	Somewhat Agree	0.52
G6*	Leadership Ideologies - A <u>small minority strongly agree</u> <u>cultural ideologies</u> are linked to adopting <u>social reforms</u>	2	2	Strongly Agree	0.38
G7*	Leadership Ideologies - A <u>minority somewhat agree</u> the <u>unity</u> of the people is linked to government <u>equilibrium (stability)</u>	3	1	Somewhat Agree	0.43
G8	Leadership Ideologies - The <u>unity</u> of the people is linked to its government achieving <u>power</u> , <u>authority</u> and <u>superiority</u>	1	2	Definitely Agree	0.52
G9*	Leadership Decisions - increase <u>access</u> to global <u>natural resources</u>	2	0	Strongly Agree	0.62
G10*	Leadership Decisions - increase <u>power</u> , <u>authority</u> and <u>superiority</u> of China's <u>economic and monetary ideologies</u>	3	1	Somewhat Agree	0.52
Section H Questions: China's Legal Environment - Rule of law, protection, property rights, civil freedoms, the environment, foreign investment, commerce and trade.		Median	IQR	Agreement	Confidence
H1	Freedom, Equilibrium, Legitimacy - A <u>majority definitely agree</u> China will redefine its people's <u>freedoms</u> and social <u>equilibrium</u> to sustain its government's <u>legitimacy</u> .	1	2	Definitely Agree	0.52
H2	Civil Rights, Unity & Legitimacy - A <u>majority somewhat agree</u> China will redefine its <u>civil rights</u> to increase social <u>unity</u> and <u>economic balance</u> to sustain its government's <u>legitimacy</u> .	3	2	Somewhat Agree	0.52
H3	Intellectual Property Protection & Growth - A <u>majority somewhat disagree</u> China will enforce <u>intellectual property law & protection</u> to increase <u>foreign investment</u> even if it means slowing its economic <u>growth</u>	4	3	Somewhat Disagree	0.52
H4	Right of Ownership & Growth - A <u>minority somewhat agree</u> China will increase citizen's <u>right of ownership</u> in order to sustain its economic <u>growth</u>	3	1	Somewhat Agree	0.43
Section I Questions: China's Economic, Technology and Infrastructure Environments - Balance of trade, food supply, growth, currency, monetary ideology, technical, education, wealth, natural resources, science, development, innovation, medical, transportation and energy infrastructure, military advancement and security.		Median	IQR	Agreement	Confidence
I1	Economic Growth - A <u>majority somewhat agree</u> that China will be confronted by a <u>downturn</u> in its economic <u>growth</u>	1	2	Somewhat Agree	0.52
I2	Economic Growth - A <u>majority definitely agree</u> China's economic <u>growth</u> is beneficial to the <u>global community</u>	1	1	Somewhat Agree	0.52
I3	Economic & Monetary Ideologies - A <u>majority somewhat agree</u> that China's <u>economic and monetary ideologies</u> be forced to <u>transform to those of the West</u>	3	1	Somewhat Agree	0.52
I4	Environmental Waste & Protection - A <u>majority somewhat disagree</u> that China will reduce its <u>environmental waste and emissions</u> even if it means slowing its economic <u>growth</u>	4	2	Somewhat Disagree	0.52
I5	Technology, Military Advancement, Superiority & Power - A <u>majority somewhat agree</u> that China will focus on increasing its <u>technology and military systems</u> in order to obtain <u>superiority</u> as a global power	1	1	Somewhat Agree	0.52
I6	Economic, Infrastructure & Freedom - A <u>majority somewhat agree</u> that China's emerging <u>economic policy</u> changes and infrastructure improvements will improve the <u>freedom</u> (lifestyle) of its "common people"	1	1	Somewhat Agree	0.67
I7	Technology & Freedom - A <u>majority somewhat agree</u> that China's emerging <u>technology policy</u> changes will improve the <u>freedom</u> (lifestyle) of its "common people"	3	1	Somewhat Agree	0.52

(continued)

R _{nd3} /R3Results Survey Questionnaire Results				
Section I Questions: China's Economic, Technology and Infrastructure Environments – Balance of trade, food supply, growth, currency, monetary ideology, technical, education, wealth, natural resources, science, development, innovation, medical, transportation and energy infrastructure, military advancement and security.				
		Median	IQR	Agreement Confidence
I8	Infrastructure & Freedom - A <u>majority somewhat agree</u> that China's emerging <u>infrastructural</u> improvements and associated policy changes will improve the <u>freedom</u> (lifestyle) of its "common people"	1	0	Somewhat Agree 0.76
I9	Education, Growth, Superiority - A <u>majority somewhat agree</u> that China's focus on building "world class" <u>higher education & advanced technical training</u> programs are linked to achieving its global <u>growth and superiority</u>	1	1	Somewhat Agree 0.67
Section J Questions: China's Social, Political, Economic and Leadership Environments as a set of phenomena that are being observed in the country.				
		Median	IQR	Agreement Confidence
J1*	Economic, Growth, Social Security & Health Care - A <u>majority somewhat agree</u> that China's continued <u>economic growth</u> will allow it to introduce a number of future <u>social security and health care</u> programs	1	1	Somewhat Agree 0.52
J2*	Leadership, Social Security, Health Care, Growth - A <u>minority somewhat agree</u> that China's <u>leadership</u> will address the <u>social security and health care</u> crisis even if it reduces the country's <u>growth and national wealth</u>	3	1	Somewhat Agree 0.48
J3	Internal Leadership, Shared-Wealth - A <u>majority somewhat agree</u> that China's present <u>internal leadership</u> will continue to address the country's <u>shared-wealth imbalances</u> between social classes.	3	2	Somewhat Agree 0.52
J4*	Internal & External Leadership - A <u>majority somewhat agree</u> that China's present <u>internal leadership</u> will continue to <u>reform and shape</u> the country in order to demonstrate <u>its ability to be a new leader</u> in the global community	1	1	Somewhat Agree 0.52
Section K Questions: Methodology & Factors Framing the Study: Thoughts on the nature, approach, and application of the SPELIT technique and associated methodologies as useful tools in assisting the identification of factors, assessing influence, and causational relationships towards the construction and development of relevant predictions that are linked to social phenomena.				
		Median	IQR	Agreement Confidence
K1	Leading Factors & Leadership Direction - A <u>majority somewhat agree</u> the <u>factors</u> influencing China's national <u>leadership</u> and their <u>priorities, policies, and future direction</u> the most are <u>economic</u>	3	2	Somewhat Agree 0.71
K2	Research Design & Approach - A <u>majority definitely agree</u> that by <u>applying appropriate theory, design, approach, and process</u> to the study of China significant knowledge can be gained that <u>supports predicting policies, decisions, and the direction its leaders will take</u>	1	1	Definity Agree 0.52
K3	Methodologies & Predictive Outcomes - A <u>majority definity agree</u> that by examining <u>critical</u> social, political, economic, legal, intercultural, technology, and infrastructure <u>factors</u> ; and, by <u>applying the appropriate methodologies</u> (analytics) a researcher can <u>predict advocacy and the policy decisions</u> of leaders	1	1	Definity Agree 0.52
K4	Leading Factors & Leadership Direction - A <u>majority definitely agree</u> the <u>leading factors</u> that are <u>influencing a global "power shift"</u> between China and the United States are mostly <u>economic</u>	1	2	Definity Agree 0.52

Note. Survey Round Questionnaire, CSV reformatted data, Online results and analytics.

Methodology:

1. Twenty-One responses to the first survey were collected. Each of the inquiries, stem questions, or research statements are listed above with its corresponding median (middle score), the interquartile range (IQR) or the associated degree of consensus or agreement, and the associated degree of confidence.
2. The inquiries or statements that are shaded in gray represent those in which a consensus or minimum level of agreement was not achieved.

3. Due to the level of agreement achieved in certain core areas of the inquiry that were desired as evidence in support of the study's hypotheses, a second Delphi Policy Survey was constructed and deployed. In the second survey, several of the inquiries or statements were reconstructed for word form, theme association, and flow or clarity. Additional consideration was given to the survey design and format by the survey development panel (SDP) in order to improve clarity and participant ease and completion of the survey.

4. Participants used in this survey were selected from a population of 6,131 prospects that were reduced in a second round by applying additional pre-qualification stipulations which further reduced the focus group to 1,282 prospects. In the third attempt to reduce the participant group added pre-qualifications were applied. The application of the added filters effectively reduced the participant group to 50. This survey design and construction process served ultimately to construct a survey population (sample) that was high homogenous that was substantially representative of the proportionalities of the identified search for international leaders with a focus on Asian studies, social security, and health care. This group was additionally proportionate in age and gender as extracted from the random search population of 6,131.

Data:

1. In this case, other Delphi surveys reviewed were reviewed that were similar in nature and design to this one. It was determined that with a similar range of possible outcomes (responses) provided to the participants, an IQR equal to or less than 1.0 would be considered as achieving consensus or agreement.
2. The data collected, reported results, and supporting interpretive(s) were obtained by utilizing Monkey Survey software which allowed this investigator to structure the requisite research stem questions and or statements in such a way as to easily offer participants response formats in multiple formats via mobile phone, notebook, or desktop.
3. The survey services company (SSC) software application is designed to provide a csv structured output that fully supports the investigator's ability to complete the necessary or desired statistical analytics.
4. Once received, the csv data required only minor restructuring in order for the statistical analysis and outcome determinations to be interpreted.
5. Of the 16 core or stem research statements embedded in the survey a total of 9 achieved sufficient consensus or agreement, or .56 percent of the total.

Table I72.

Survey R4, Rnd4 Questionnaire: Results and Analytics

R _{nd4} /R4 Results				
Survey Questionnaire Results				
Section F: China's Social Environment - Sociological characteristics, cultural, morales, and behavior		Median	IQR	Agreement Confidence
F1*	Social Security & Aging Population - Would you agree that China will introduce a <u>social security system</u> due to its <u>aging population</u> ?	3	2	Strongly Agree 0.37
F2*	Social Security & Health Care - China's <u>social security and health care</u> (social program reforms) are critical to its <u>economic growth</u> .	2	1.75	Somewhat Agree 0.43
F3*	Health Care & Aging Population - Would you agree that China will introduce a <u>health care</u> program due to its <u>aging population</u> ?	3	1	Definitely Agree 0.40
F4	Social Environment - The <u>current environment</u> in China provides a framework for <u>social and economic freedom</u> (right of enjoyment) for the Chinese people.	3.5	1.75	Somewhat Disagree 0.27
F5	Social Freedom - The common people's <u>social freedoms</u> (lifestyle) are better in China now that it has been in the past.	2	2	Definitely Agree 0.33
F6	Social Growth - China's <u>growth</u> has no association with its <u>aging population</u> .	4	2	Agree 0.33
F7*	Aging & Social Security - China's <u>aging population</u> is influencing the need to increase its <u>social security</u> programs.	3	1	Agree 0.33
F8*	Social Security - China's <u>social security</u> needs are influencing its <u>health care</u> needs.	2.5	1	Somewhat Agree 0.37
F9	Education - China's <u>education system</u> suffers from a significant shortage of <u>qualified instructors</u> necessary to support its projected <u>technical advancement and economic growth</u> .	3	2	Agree 0.40
F10	Education - China's <u>education system</u> is keeping up with the country's rapid <u>growth</u> .	3.5	1	Strong Disagree 0.37
F11*	Social-Economic Policy - China's <u>single-child social-economic policy</u> has imposed a significant <u>economic disequilibrium</u> (burden) to those that are the offspring of the policy.	2	1	Somewhat Agree 0.47
F12	Social Ideology - China's emerging <u>social ideology</u> (policy changes) will improve the <u>lifestyle</u> of its "common people".	3	1	Somewhat Agree 0.40
Section G Questions: China's Leadership Environment - Characteristics, style, behavior, beliefs, ethics, decisions, values and priorities		Median	IQR	Agreement Confidence
G1*	Leadership Behavior - China's <u>external leadership behavior</u> is in <u>conflict</u> with its <u>external leadership ideologies</u> .	4	2	Somewhat Disagree 0.30
G2*	Leadership Behavior - China's <u>leadership behavior</u> is focused on <u>increasing power, authority, and superiority</u> as to influence the present <u>global political equilibrium</u> .	1	1	Somewhat Agree 0.47
G3	Leadership Ideology & Behavior - China's changing <u>internal leadership ideology</u> and <u>behavior</u> are influencing the <u>liberalization of the Maoist cultural ideology</u> .	3	1.75	Somewhat Agree 0.43
G4*	Leadership Decisions - China's present <u>leadership behavior</u> is focused on increasing its future <u>access to resources</u> in order to sustain its present <u>growth</u> .	1	1	Strongly Agree 0.57
G5	Leadership Decisions - China's leadership will move it to <u>increase</u> the country's <u>food supply</u> to sustain its <u>growth</u> .	2	2	Somewhat Agree 0.33
G6*	Leadership Ideologies - China's <u>cultural ideologies</u> are linked to its need to adopt <u>social reforms</u> .	3	2.5	Strongly Agree 0.27
G7*	Leadership Ideologies - The <u>unity</u> of China's people is linked to its government's <u>equilibrium</u> .	2	1.75	Somewhat Agree 0.30
G8	Leadership Ideologies - The <u>unity</u> of China's people is linked to its government's <u>ability to achieve power, authority, and superiority</u> .	2	2	Definitely Agree 0.30
G9*	Leadership Decisions - China's <u>global emergence</u> is the result of a <u>leadership change</u> phenomenon that is focused on increasing access to international natural resources.	2	1	Strongly Agree 0.53
G10*	Leadership Decisions - China's <u>global emergence</u> is the result of a <u>leadership change</u> phenomenon that is focused on <u>power, authority, and superiority</u> of the <u>global economic</u>	1.5	1	Somewhat Agree 0.43

(continued)

R _{nd} 4/R4 Results Survey Questionnaire Results				
Section H Questions: China's Legal Environment - Rule of law, protection, property rights, civil freedoms, the environment, foreign investment, commerce and trade.		Median	IQR	Agreement Confidence
H1	Freedom, Equilibrium, Legitimacy - China will redefine his people's <u>freedoms</u> and <u>social equilibrium</u> to sustain its government's <u>legitimacy</u> .	2	2	Definitely Agree 0.27
H2	Civil Rights, Unity & Legitimacy - China will redefine its <u>civil rights</u> to increase social <u>unity</u> and <u>economic balance</u> to sustain his government's <u>legitimacy</u> .	3	1.75	Somewhat Agree 0.30
H3	Intellectual Property Protection & Growth - China will reinforce <u>intellectual property law</u> and <u>protection</u> to increase <u>foreign investment</u> even if it means slowing its <u>economic growth</u> .	3.5	1	Somewhat Disagree 0.33
H4	Right of Ownership & Growth - China will increase citizen's <u>right of ownership</u> in order to sustain its <u>economic growth</u> .	3	2	Somewhat Agree 0.23
H5	Legal Policies - China's emerging <u>legal policy</u> changes will improve the <u>freedom</u> (myself) of its "common people".	3	1	Definitely Agree 0.40
Section I Questions: China's Economic, Technology and Infrastructure Environments - Balance of trade, food supply, growth, currency, monetary ideology, technical, education, wealth, natural resources, science, development, innovation, medical, transportation and energy infrastructure, military advancement and security.		Median	IQR	Agreement Confidence
I1	Economic Growth - China will be confronted by a downturn in its <u>economic growth</u> .	3	2.75	Somewhat Agree 0.33
I2	Economic Growth - China's <u>economic growth</u> is beneficial to the <u>global community</u> .	2	2	Somewhat Agree 0.27
I3	Economic & Monetary Ideologies - China's <u>economic and monetary ideologies</u> will be forced to <u>transform</u> to those of the <u>West</u> .	4	1.75	Somewhat Agree 0.33
I4	Environmental Waste & Protection - China will reduce its <u>environmental waste and emissions</u> even if it means slowing its <u>economic growth</u> .	4	2	Somewhat Disagree 0.33
I5	Technology, Military Advancement, Superiority & Power - China will focus on increasing his <u>technology and military systems</u> in order to obtain <u>dominance as a global power</u> .	2	1	Somewhat Agree 0.40
I6	Economic, Infrastructure & Freedom - China's emerging <u>economic policy</u> changes will improve <u>lifestyle</u> of its "common people".	3	2.75	Somewhat Agree 0.30
I7	Technology & Freedom - China's emerging <u>technology policy</u> changes will improve the <u>lifestyle</u> of its "common people".	3	2	Somewhat Agree 0.30
I8	Infrastructure & Freedom - China's emerging <u>infrastructural policy</u> changes will prove the <u>lifestyle</u> of its "common people".	3	1.75	Somewhat Agree 0.47
I9	Education, Growth, Superiority - China's focus on building "world-class" <u>higher education</u> and <u>advanced technical training</u> programs are linked to achieving its <u>global growth and superiority</u> .	1	1	Somewhat Agree 0.50
Section J Questions: China's Social, Political, Economic and Leadership Environments as a set of phenomena that are being observed in the country.		Median	IQR	Agreement Confidence
J1*	Economic, Growth, Social Security & Health Care - China's continued <u>economic growth</u> will allow it to introducing her future public <u>social security and health care</u> programs.	2.5	1	Somewhat Agree 0.37
J2*	Leadership, Social Security, Health Care, Growth - China's government will address the <u>social security and health care</u> crisis even if it reduces the country's <u>national wealth</u> .	3	1	Somewhat Agree 0.37
J3	Internal Leadership, Shared-Wealth - China's present <u>internal leadership</u> will continue to address the country's <u>shared-wealth imbalances</u> between social classes.	4	2	Somewhat Agree 0.30
J4*	Internal & External Leadership - China's present <u>internal leadership</u> will continue to <u>reform and shape the country</u> in order to demonstrate its ability to be a <u>new leader</u> in the global community.	3	1	Somewhat Agree 0.37

(continued)

R _{nd} 4/R4 Results				
Survey Questionnaire Results				
Section K Questions: Methodology & Factors Framing the Study: Thoughts on the nature, approach, and application of the SPELIT technique and associated methodologies as useful tools in assisting the identification of factors, assessing influence, and causal relationships towards the construction and development of relevant predictions that are linked to social phenomena.				
		Median	IQR	Agreement Confidence
K1	Leading Factors & Leadership Direction - Order the <u>factors</u> that are <u>influencing</u> China's national <u>priorities, policies, and future direction</u> .	3	1	Economic 0.43
K2	Research Design & Approach - By applying appropriate <u>theory, design, approach, and process</u> to the study of China, significant knowledge can be gained that <u>supports predicting policies, decisions, and the direction its leaders will take</u> .	2	0.75	Definity Agree 0.53
K3	Methodologies & Predictive Outcomes - By <u>examining</u> China's social, political, economic, legal, intercultural, technology, and infrastructure <u>critical factors</u> a researcher <u>can predict advocacy and policy decisions of its leaders</u> .	2	0.75	Definity Agree 0.53
K4	Leading Factors & Leadership Direction - Identify those <u>factors</u> you believe are <u>influencing or driving</u> a global "power shift" <u>between China and the United States</u> .	3	1	Economic 0.50

Note. Non-identifiable individual responses, Delphi Policy Survey R4.

Method:

1. Thirty (30) responses to the second survey questionnaire were collected. Each of the inquiries, stem questions, or research statements are listed above with its corresponding median (middle score) and interquartile range (degree of consensus).
2. The inquiries or statements that are shaded in gray represent those in which a consensus was not achieved.
3. This survey was deployed using the SSC application and software as prescribed in the approved IRB.
4. Targeted subjects received inquiries as to their desire to participate voluntarily. Of the fifty (50) targeted survey respondents requested to take the survey, the principal investigator directly corresponded with twenty-four (24), or 48% of the sample population.
5. The R_{nd}4/R4 survey collected thirty (30) responses out of a survey population of fifty (50) for a 60% response rate. This was far greater than expected by the principal investigator and the supporting survey development panel (SDP).
6. The SDP considers the high-rate of response is due to the principal investigator contacting and conducting follow-up discussions pertaining to the survey with twenty-four (24), or 48% of the sampled group while the survey was open.
7. In some cases, general correspondence was established with subjects prior to them volunteering to participate in the Delphi Policy survey process.

Data:

1. In the case of this study as compared to other similar Delphi surveys reviewed, it was determined that with the given range of possible outcomes a IQQ equal to or less than 1.0 is considered as having achieved agreement or consensus.
2. The data collected, reported results, and supporting interpretive(s) were obtained by utilizing Monkey Survey software which allowed this investigator to structure the requisite research stem questions and or research statements in such a way as to easily offer the survey to participants via a mobile and desktop format.
3. The Survey Services Company (SSC) was prescribed as outlined in the approved IRB. This software is designed to provide a csv structured output that fully supports the investigator's ability to complete the necessary and desired statistical analytics. The csv data required only minor restructuring in order for the statistical analysis and outcome determinations to be interpreted.
4. The data collected by the SSC was encrypted at the time of delivery to each survey participant, and returned with non-identifiable participant encryption. The principal investigator therefore, did not ever possess any information that would allow the identification or association of any individual's response to the survey.
5. See the following table titled, Non-identifiable Survey Responses, R_{nd}4/R4 (core inquiries) that reports the encrypted individual responses to each survey question or statement as a structured data set.
6. Of the 16 core or stem research statements embedded in the R_{nd}4/R4 survey a total of 11 achieved sufficient consensus or agreement, or 69% of the total. This indicates the survey was 13% more successful in achieved the desired level of consensus or agreement.

Table I73.

Questionnaire R3, R_{nd3} and R4, R_{nd4}: Consensus and Stability Items

R _{nd4} /R4 Results					
Item Results: Consensus Analysis – Most Predictive Factors (Only)			Median Scores		
Item Code	Statement Question	Questionnaire (Survey R3)	Questionnaire (Survey R4)	Difference Value	% of Scale
1 G1*	Leadership Behavior - China's external leadership behavior is in conflict with its external leadership ideologies.	4	4	0	0.0%
2 I4	Environmental Waste & Protection - China will reduce its environmental waste and emissions even if it means slowing its economic growth.	4	4	0	0.0%
3 F12	Social Ideology - China's emerging social ideology (policy changes) will improve the lifestyle of its "common people".	3	3	0	0.0%
4 G3	Leadership Ideology & Behavior - China's changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology.	3	3	0	0.0%
5 H2	Civil Rights, Unity & Legitimacy - China will redefine its civil rights to increase social unity and economic balance to sustain its government's legitimacy.	3	3	0	0.0%
6 H4	Right of Ownership & Growth - China will increase citizen's right of ownership in order to sustain its economic growth.	3	3	0	0.0%
7 I7	Technology & Freedom - China's emerging technology policy changes will improve the lifestyle of its "common people".	3	3	0	0.0%
8 J2*	Leadership, Social Security, Health Care, Growth - China's government will address the social security and health care crisis even if it reduces the country's national	3	3	0	0.0%
9 K1	Leading Factors & Leadership Direction - Order the factors that are influencing China's national priorities, policies, and future direction.	3	3	0	0.0%
10 H3	Intellectual Property Protection & Growth - China will reinforce intellectual property law and protection to increase foreign investment even if it means slowing its economic	4	3.5	-0.5	8.4%
11 F4	Social Environment - The current environment in China provides a framework for social and economic freedom (right of enjoyment) for the Chinese people.	4	3.5	-0.5	8.4%
12 F2*	Social Security & Health Care - China's social security and health care (social program reforms) are critical to its economic growth.	3	2	-1	16.7%
13 G4*	Leadership Decisions - China's present leadership behavior is focused on increasing its future access to resources in order to sustain its present growth.	2	1	-1	16.7%
14 G5	Leadership Decisions - China's leadership will move it to increase the country's food supply to sustain its growth.	3	2	-1	16.7%
15 G7*	Leadership Ideologies - The unity of China's people is linked to its government's equilibrium.	3	2	-1	16.7%
16 I9	Education, Growth, Superiority - China's focus on building "world-class" higher education and advanced technical training programs are linked to achieving its global	3	2	-1	16.7%
17 I3	Economic & Monetary Ideologies - China's economic and monetary ideologies will be forced to transform to those of the West.	3	4	1	16.7%
18 J3	Internal Leadership, Shared-Wealth - China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.	3	4	1	16.7%
19 F1*	Social Security & Aging Population - Would you agree that China will introduce a social security system due to its aging population?	2	3	1	16.7%
20 F5	Social Freedom - The common people's social freedoms (lifestyle) are better in China now that it has been in the past.	1	2	1	16.7%
21 F11*	Social-Economic Policy - China's single-child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy.	1	2	1	16.7%
22 G8	Leadership Ideologies - The unity of China's people is linked to its government's ability to achieve power, authority, and superiority.	1	2	1	16.7%
23 H1	Freedom, Equilibrium, Legitimacy - China will redefine his people's freedoms and social equilibrium to sustain its government's legitimacy.	1	2	1	16.7%
24 I2	Economic Growth - China's economic growth is beneficial to the global community.	1	2	1	16.7%
25 I5	Technology, Military Advancement, Superiority & Power - China will focus on increasing its technology and military systems in order to obtain dominance as a global power.	1	2	1	16.7%
26 K2	Research Design & Approach - By applying appropriate theory, design, approach, and process to the study of China, significant knowledge can be gained that supports	1	2	1	16.7%
27 K3	Methodologies & Predictive Outcomes - By examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders.	1	2	1	16.7%
28 F7*	Aging & Social Security - China's aging population is influencing the need to increase its social security programs.	2	3	1	16.7%
29 F9	Education - China's education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.	2	3	1	16.7%
30 G6*	Leadership Ideologies - China's cultural ideologies are linked to its need to adopt social reforms.	2	3	1	16.7%
31 G9*	Leadership Decisions - China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.	2	3	1	16.7%

(continued)

R_{nd}4/R4 Results

Item Results: Stability Analytics – Comprehensive List

Median Scores

Item Code	Statement Question	Questionnaire (Survey R3)	Questionnaire (Survey R4)	Difference Value	% of Scale	Stability Achieved
1 F6	Social Growth - China's growth has no association with its aging population.	2	4	2	33.4%	N
2 G1*	Leadership Behavior - China's external leadership behavior is in conflict with its external leadership ideologies.	4	4	0	0.0%	Y
3 I3	Economic & Monetary Ideologies - China's economic and monetary ideologies will be forced to transform to those of the West.	3	4	1	16.7%	Y
4 I4	Environmental Waste & Protection - China will reduce its environmental waste and emissions even if it means slowing its economic growth.	4	4	0	0.0%	Y
5 J3	Internal Leadership, Shared-Wealth - China's present internal leadership will continue to address the country's shared-wealth imbalances between social classes.	3	4	1	16.7%	Y
6 F4	Social Environment - The current environment in China provides a framework for social and economic freedom (right of enjoyment) for the Chinese people.	4	3.5	-0.5	-8.4%	N
7 F10	Education - China's education system is keeping up with the country's rapid growth.	5	3.5	-1.5	-25.1%	Y
8 H3	Intellectual Property Protection & Growth - China will reinforce intellectual property law and protection to increase foreign investment even if it means slowing its economic growth.	4	3.5	-0.5	-8.4%	Y
9 F1*	Social Security & Aging Population - Would you agree that China will introduce a social security system due to its aging population?	2	3	1	16.7%	Y
10 F3*	Health Care & Aging Population - Would you agree that China will introduce a health care program due to its aging population?	1	3	2	33.4%	Y
11 F7*	Aging & Social Security - China's aging population is influencing the need to increase its social security programs.	2	3	1	16.7%	Y
12 F9	Education - China's education system suffers from a significant shortage of qualified instructors necessary to support its projected technical advancement and economic growth.	2	3	1	16.7%	Y
13 F12	Social Ideology - China's emerging social ideology (policy changes) will improve the lifestyle of its "common people".	3	3	0	0.0%	Y
14 G3	Leadership Ideology & Behavior - China's changing internal leadership ideology and behavior are influencing the liberalization of the Maoist cultural ideology.	3	3	0	0.0%	Y
15 G6*	Leadership Ideologies - China's cultural ideologies are linked to its need to adopt social reforms.	2	3	1	16.7%	Y
16 H2	Civil Rights, Unity & Legitimacy - China will redefine its civil rights to increase social unity and economic balance to sustain its government's legitimacy.	3	3	0	0.0%	Y
17 H4	Right of Ownership & Growth - China will increase citizen's right of ownership in order to sustain its economic growth.	3	3	0	0.0%	Y
18 H5	Legal Policies - China's emerging legal policy changes will improve the freedom (myself) of its "common people".	1	3	2	33.4%	Y
19 I1	Economic Growth - China will be confronted by a downturn in its economic growth.	1	3	2	33.4%	Y
20 I6	Economic, Infrastructure & Freedom - China's emerging economic policy changes will improve lifestyle of its "common people".	1	3	2	33.4%	Y
21 I7	Technology & Freedom - China's emerging technology policy changes will improve the lifestyle of its "common people".	3	3	0	0.0%	Y
22 I8	Infrastructure & Freedom - China's emerging Infrastructural policy changes will prove the lifestyle of its "common people".	1	3	2	33.4%	Y
23 J2*	Leadership, Social Security, Health Care, Growth - China's government will address the social security and health care crisis even if it reduces the country's national wealth.	3	3	0	0.0%	Y
24 J4*	Internal & External Leadership - China's present internal leadership will continue to reform and shape the country in order to demonstrate its ability to be a new leader in the global community.	1	3	2	33.4%	Y
25 K1	Leading Factors & Leadership Direction - Order the factors that are influencing China's national priorities, policies, and future direction.	3	3	0	0.0%	Y
26 K4	Leading Factors & Leadership Direction - Identify those factors you believe are influencing or driving a global "power shift" between China and the United States.	1	3	2	33.4%	Y

(continued)

R _{nd4} /R4 Results						
Item Results: Stability Analytics – Comprehensive List				Median Scores		
Item Code	Statement Question	Questionnaire (Survey R3)	Questionnaire (Survey R4)	Difference Value	% of Scale	Stability Achieved
27 F8*	Social Security - China's social security needs are influencing its health care needs.	4	2.5	-1.5	-25.1%	Y
28 J1*	Economic, Growth, Social Security & Health Care - China's continued economic growth will allow it to introducing her future public social security and health care programs.	1	2.5	1.5	25.1%	Y
29 F2*	Social Security & Health Care - China's social security and health care (social program reforms) are critical to its economic growth.	3	2	-1	-16.7%	Y
30 F5	Social Freedom - The common people's social freedoms (lifestyle) are better in China now that it has been in the past.	1	2	1	16.7%	Y
31 F11*	Social-Economic Policy - China's single-child social-economic policy has imposed a significant economic disequilibrium (burden) to those that are the offspring of the policy.	1	2	1	16.7%	Y
32 G5	Leadership Decisions - China's leadership will move it to increase the country's food supply to sustain its growth.	3	2	-1	-16.7%	Y
33 G7*	Leadership Ideologies - The unity of China's people is linked to its government's equilibrium.	3	2	-1	-16.7%	Y
34 G8	Leadership Ideologies - The unity of China's people is linked to its government's ability to achieve power, authority, and superiority.	1	2	1	16.7%	Y
35 G9*	Leadership Decisions - China's global emergence is the result of a leadership change phenomenon that is focused on increasing access to international natural resources.	2	2	0	0.0%	Y
36 H1	Freedom, Equilibrium, Legitimacy - China will redefine his people's freedoms and social equilibrium to sustain its government's legitimacy.	1	2	1	16.7%	Y
37 I2	Economic Growth - China's economic growth is beneficial to the global community.	1	2	1	16.7%	Y
38 I5	Technology, Military Advancement, Superiority & Power - China will focus on increasing his technology and military systems in order to obtain dominance as a global power.	1	2	1	16.7%	Y
39 K2	Research Design & Approach - By applying appropriate theory, design, approach, and process to the study of China, significant knowledge can be gained that supports predicting policies, decisions, and the direction its leaders will take.	1	2	1	16.7%	Y
40 K3	Methodologies & Predictive Outcomes - By examining China's social, political, economic, legal, intercultural, technology, and infrastructure critical factors a researcher can predict advocacy and policy decisions of its leaders.	1	2	1	16.7%	Y
41 G10*	Leadership Decisions - China's global emergence is the result of a leadership change phenomenon that is focused on power, authority, and superiority of the global economic and monetary ideology.	3	1.5	-1.5	-25.1%	Y
42 G2*	Leadership Behavior - China's leadership behavior is focused on increasing power, authority, and superiority as to influence the present global political equilibrium.	3	1	-2	-33.4%	Y
43 G4*	Leadership Decisions - China's present leadership behavior is focused on increasing its future access to resources in order to sustain its present growth.	2	1	-1	-16.7%	Y
44 I9	Education, Growth, Superiority - China's focus on building "world-class" higher education and advanced technical training programs are linked to achieving its global growth and superiority.	1	1	0	0.0%	Y

Note. Data R3-R4 Comb Stability 2 (tests); Delphi Survey Online Results and Analytics, CSV (Rnd3 and Rnd4) Survey Items.

Table I74.

Non-identifiable Participant Survey Data: R_{nd}3-4 Assessment and Analysis

Question/
StatementNo.

89101112131415161718192021222324252627282930313233343536373839404142434445464748495051

Respondent ID

F1F2F3F4F5F6F7F8F9F10F11F12G1G2G3G4G5G6G7G8G9G10H1H2H3H4H5I1I2I3I4I5I6I7I8I9J1J2J3J4J5J6J7J8J9J10J11J12J13J14J15J16J17J18J19J20J21J22J23J24J25J26J27J28J29J30J31J32J33J34J35J36J37J38J39J40J41J42J43J44J45J46J47J48J49J50J51

Section Question/Statement Codes

2018081801 x2018081802 x2018081803 x2018081804 x2018081805 x2018081806 x2018081807 x2018081808 x2018081809 x2018081810 x2018081811 x2018081812 x2018081813 x2018081814 x2018081815 x2018081816 x2018081817 x2018081818 x2018081819 x2018081820 x2018081821 x2018081822 x2018081823 x2018081824 x2018081825 x2018081826 x2018081827 x2018081828 x2018081829 x2018081830 x

Q1Q2Q3Q4Q5Q6Q7Q8Q9Q10Q11Q12Q13Q14Q15Q16Q17Q18Q19Q20Q21Q22Q23Q24Q25Q26Q27Q28Q29Q30Q31Q32Q33Q34Q35Q36Q37Q38Q39Q40Q41Q42Q43Q44Q45Q46Q47Q48Q49Q50Q51

IQR=3Q-01

Average High average
Agrees too much
Responses:

13.3%20.0%16.7%6.7%12.3%3.3%10.0%13.3%10.0%3.3%26.7%13.3%0.0%46.7%3.3%56.7%26.7%16.7%16.7%10.0%26.7%43.3%26.7%13.3%6.7%16.7%10.0%13.3%23.3%10.0%3.3%40.0%16.7%16.7%13.3%16.7%50.0%6.7%6.7%16.7%13.3%13.3%

Between 0 to 25 perc

Between 26 to 50 perc

Between 51 to 75 perc

Between 76 to 100 perc

Strongly agree = 1

Strongly disagree = 4

Definitely disagree = 5

Definitely disagree = 6

Unsure = 7

Not identifiable individual Delphi Policy Survey responses collected 15 August – 24 August 2018. See Delphi Survey Online Results and Analytics.

CSV Active (R3-4) Survey restructured data.

APPENDIX J

Research Codebook: Themes and Definitions

Table J1.

Codebook: Themes, Sub-themes and Hierarchy (Generalized)

Category		1 st Order Historical	2 nd Order Present	3 rd Order Future	4 th Order Leading (Ho)	Remarks		
1	Social	*	(² S)	→	(³ S)	→	(⁴ S)	
2	Population	(¹ P ₀)	→	*	*	→	*	
3	Geography	(¹ P ₀₁)	→	(² S ₁)	→	(³ S ₁)	→	(⁴ S ₁)
4	Scale	(¹ P ₀₂)	→	(² S ₂)	→	(³ S ₂)	→	(⁴ S ₂)
5	Growth**	(¹ P ₀₃)	→	(² S ₃) ⁽¹⁾	→	(³ S ₃) ⁽¹⁾	→	(⁴ S ₃) ⁽¹⁾
6	Stability	(¹ P ₀₄)	→	(² S ₄)	→	(³ S ₄)	→	(⁴ S ₄)
7	Unity	(¹ P ₀₅)	→	(² S ₅)	→	(³ S ₅)	→	(⁴ S ₅)
8	Cultural ideology**	(¹ P ₀₆) ⁽¹⁾	→	(² S ₆)(² P ₁₈) ⁽¹⁾	→	(³ S ₆)(³ P ₁₈) ⁽¹⁾	→	(⁴ S ₆)(⁴ P ₁₈) ⁽¹⁾
9	Education	(¹ P ₀₇)	→	(² S ₇)	→	(³ S ₇)	→	(⁴ S ₇)
10	Population**	*	(² S ₈)	→	(³ S ₈)	→	(⁴ S ₈)	
11	Social security	*	(² S ₉)	→	(³ S ₉)	→	(⁴ S ₉)	
12	Health care	*	(² S ₁₀)	→	(³ S ₁₀)	→	(⁴ S ₁₀)	
<hr/>								
13	Political	*	(² P)	→	(³ P)	→	(⁴ P)	
14	Freedom	*	(² P ₁)	→	(³ P ₁)	→	(⁴ P ₁)	
15	Civil-rights	*	(² P ₂)	→	(³ P ₂)	→	(⁴ P ₂)	
16	Voting	*	(² P ₃)	→	(³ P ₃)	→	(⁴ P ₃)	
17	Internal government legitimacy	*	(² P ₄)	→	(³ P ₄)	→	(⁴ P ₄)	
18	Int. leadership ideology	*	(² P ₅)	→	(³ P ₅)	→	(⁴ P ₅)	
19	External government legitimacy	*	(² P ₆)	→	(³ P ₆)	→	(⁴ P ₆)	
20	Ext. leadership ideology	*	(² P ₇)	→	(³ P ₇)	→	(⁴ P ₇)	
21	Leadership behavior	*	(² P ₈)	→	(³ P ₈)	→	(⁴ P ₈)	
22	Equilibrium	*	(² P ₉)	→	(³ P ₉)	→	(⁴ P ₉)	
23	Succession planning	*	(² P ₁₀)	→	(³ P ₁₀)	→	(⁴ P ₁₀)	
24	Natural resource access**	(¹ F ₀₁) ⁽¹⁾	→	(² E ₁)(² P ₁₁) ⁽¹⁾	→	(³ E ₁)(³ P ₁₁) ⁽¹⁾	→	(⁴ E ₁)(⁴ P ₁₁) ⁽¹⁾
25	Environmental responsibility**	(¹ F ₀₂) ⁽¹⁾	→	(² P ₁₂) ⁽¹⁾	→	(³ P ₁₂) ⁽¹⁾	→	(⁴ P ₁₂) ⁽¹⁾
26	Food supply**	*	(² E ₃)(² P ₁₃) ⁽¹⁾	→	(³ E ₃)(³ P ₁₃) ⁽¹⁾	→	(⁴ E ₃)(⁴ P ₁₃) ⁽¹⁾	

(continued)

Category	1 st Order Historical	2 nd Order Present	3 rd Order Future	4 th Order Leading (Ho)	Remarks
27 Military	(¹ Mi)	*	*	*	
28 Power	(¹ Mi ₁)	→ (² P ₁₄) ⁽²⁾	→ (³ P ₁₄) ⁽²⁾	→ (⁴ P ₁₄) ⁽²⁾	
29 Authority	(¹ Mi ₂)	→ (² P ₁₄) ⁽²⁾	→ (³ P ₁₄) ⁽²⁾	→ (⁴ P ₁₄) ⁽²⁾	
30 Superiority	(¹ Mi ₃)	→ (² P ₁₄) ⁽²⁾	→ (³ P ₁₄) ⁽²⁾	→ (⁴ P ₁₄) ⁽²⁾	
31 Global projectability	(¹ Mi ₄)	→ (² P ₁₅)	→ (³ P ₁₅)	→ (⁴ P ₁₅)	
32 Security	(¹ Mi ₅)	→ (² P ₁₆)	→ (³ P ₁₆)	→ (⁴ P ₁₆)	
33 Military	*	(² P ₁₇)	→ (³ P ₁₇)	→ (⁴ P ₁₇)	
34 Global influence	*	(² P ₁₈)	→ (³ P ₁₈)	→ (⁴ P ₁₈)	
35 Cultural ideology**	(¹ Po ₆) ⁽¹⁾	→ (² S ₆)(² P ₁₉) ⁽¹⁾	→ (³ S ₆)(³ P ₁₉) ⁽¹⁾	→ (⁴ S ₆)(⁴ P ₁₉) ⁽¹⁾	
36 Economic	*	(² E)	→ (³ E)	→ (⁴ E)	
37 Food Supply	(¹ Fo)	*	*	*	
38 Natural resource access	(¹ Fo ₁) ⁽¹⁾	→ (² P ₁₁)(² E ₁) ⁽¹⁾	→ (³ P ₁₁)(³ E ₁) ⁽¹⁾	→ (⁴ P ₁₁)(⁴ E ₁) ⁽¹⁾	
39 Environmental responsibility**	(¹ Fo ₂) ⁽¹⁾	→ (² P ₁₂)(² E ₂) ⁽¹⁾	→ (³ P ₁₂)(³ E ₂) ⁽¹⁾	→ (⁴ P ₁₂)(⁴ E ₂) ⁽¹⁾	
40 Food Supply**	*	(² P ₁₃)(² E ₃) ⁽¹⁾	→ (³ P ₁₃)(³ E ₃) ⁽¹⁾	→ (⁴ P ₁₃)(⁴ E ₃) ⁽¹⁾	
41 Wealth	(¹ We)	*	*	*	See Tables 5,6 & 7
42 Balance of trade	(¹ We ₁)	→ (² E ₄)	→ (³ E ₄)	→ (⁴ E ₄)	ibid
43 Capital reserves	(¹ We ₂)	→ (² E ₅)	→ (³ E ₅)	→ (⁴ E ₅)	ibid
44 Currency value	(¹ We ₃)	→ (² E ₆)	→ (³ E ₆)	→ (⁴ E ₆)	ibid
45 Shared-wealth	(¹ We ₄)	→ (² E ₇)	→ (³ E ₇)	→ (⁴ E ₇)	ibid
46 Economic and monetary ideol	(¹ We ₅)	→ (² E ₈)	→ (³ E ₈)	→ (⁴ E ₈)	ibid
47 International trade & exchange	(¹ We ₆)	→ (² E ₉)	→ (³ E ₉)	→ (⁴ E ₉)	ibid
48 Technical advancement	(¹ We ₇)	→ (² E ₁₀)	→ (³ E ₁₀)	→ (⁴ E ₁₀)	ibid
49 Property & rule of law**	(¹ We ₈) ⁽¹⁾	→ (1)	→ (1)	→ (1)	See Legal 1st, 2nd & 3rd Order Tables
50 Wealth**	* (1)	(² E ₁₁) ⁽¹⁾	→ (³ E ₁₁) ⁽¹⁾	→ (⁴ E ₁₁) ⁽¹⁾	ibid
51 Fuel resources	(¹ En ₁)	(² E ₁₂)	→ (³ E ₁₂)	→ (⁴ E ₁₂)	See Tables 5,6 & 7
52 Supply	(¹ En ₂)	(² E ₁₃)	→ (³ E ₁₃)	→ (⁴ E ₁₃)	ibid
53 Natural energy resources	(¹ En ₃)	(² E ₁₄)	→ (³ E ₁₄)	→ (⁴ E ₁₄)	ibid
54 Energy	* (1)	(² E ₁₅)	→ (³ E ₁₅)	→ (⁴ E ₁₅)	ibid
55 Growth**	* (1)	(² E ₁₆)	→ (³ E ₁₆)	→ (⁴ E ₁₆)	ibid

(continued)

Category		1 st Order Historical	2 nd Order Present	3 rd Order Future	4 th Order Leading (Ho)	Remarks
56 Energy		(¹ En)	*	*	*	See Legal 1st, 2nd & 3rd Order Tables
57	Fuel resources	(¹ En ₁)	→ (¹ We ₈) ⁽¹⁾ (² L ₁)	→ (³ L ₁) ⁽¹⁾	→ (⁴ L ₁) ⁽¹⁾	See Tables 5,6 & 7
58	Supply	(¹ En ₂)	→ (¹ We ₈) ⁽¹⁾ (² L ₂)	→ (³ L ₂) ⁽¹⁾	→ (⁴ L ₂) ⁽¹⁾	ibid
59	Natural energy resources	(¹ En ₃)	→ (¹ We ₈) ⁽¹⁾ (² L ₃)	→ (³ L ₃) ⁽¹⁾	→ (⁴ L ₃) ⁽¹⁾	ibid
60	Foreign investment	* ⁽¹⁾	(¹ We ₈) ⁽¹⁾ (² L ₄)	→ (³ L ₄) ⁽¹⁾	→ (⁴ L ₄) ⁽¹⁾	ibid
61	Right of ownership	* ⁽¹⁾	(¹ We ₈) ⁽¹⁾ (² L ₅)	→ (³ L ₅) ⁽¹⁾	→ (⁴ L ₅) ⁽¹⁾	ibid
62	International commerce law	* ⁽¹⁾	(¹ We ₈) ⁽¹⁾ (² L ₆)	→ (³ L ₆) ⁽¹⁾	→ (⁴ L ₆) ⁽¹⁾	ibid
63	Energy**	* ⁽¹⁾				
64 Legal		*	(² L)	→ (³ L)	→ (⁴ L)	See Legal 1st, 2nd & 3rd Order Tables
65	Intellectual property law & protection	(¹ We ₈) ⁽¹⁾	→ (² L ₁) ⁽¹⁾	→ (³ L ₁) ⁽¹⁾	→ (⁴ L ₁) ⁽¹⁾	See Tables 5,6 & 7
66	Real property law & protection	(¹ We ₈) ⁽¹⁾	→ (² L ₂) ⁽¹⁾	→ (³ L ₂) ⁽¹⁾	→ (⁴ L ₂) ⁽¹⁾	ibid
67	Environmental law & enforcement	(¹ We ₈) ⁽¹⁾	→ (² L ₃) ⁽¹⁾	→ (³ L ₃) ⁽¹⁾	→ (⁴ L ₃) ⁽¹⁾	ibid
68	Foreign investment	(¹ We ₈) ⁽¹⁾	→ (² L ₄) ⁽¹⁾	→ (³ L ₄) ⁽¹⁾	→ (⁴ L ₄) ⁽¹⁾	ibid
69	Right of ownership	(¹ We ₈) ⁽¹⁾	→ (² L ₅) ⁽¹⁾	→ (³ L ₅) ⁽¹⁾	→ (⁴ L ₅) ⁽¹⁾	ibid
70	International commerce law	(¹ We ₈) ⁽¹⁾	→ (² L ₆) ⁽¹⁾	→ (³ L ₆) ⁽¹⁾	→ (⁴ L ₆) ⁽¹⁾	ibid
Intercultural		*	(² I)	→ (³ I)	→ (⁴ I)	
71	Openness	*	(² I ₁)	→ (³ I ₁)	→ (⁴ I ₁)	
72	Cultural stability	*	(² I ₂)	→ (³ I ₂)	→ (⁴ I ₂)	
73	Ideology differences	*	(² I ₃)	→ (³ I ₃)	→ (⁴ I ₃)	

(continued)

Category	1 st Order Historical	2 nd Order Present	3 rd Order Future	4 th Order Leading (Ho)	Remarks
74 Technology	*	*	(³ T)	→ (⁴ T)	
75 Security	*	*	(³ T ₁) ⁽⁴⁾	→ (⁴ T ₁) ⁽⁴⁾	
76 Advancement	*	*	(³ T ₂) ⁽⁴⁾	→ (⁴ T ₂) ⁽⁴⁾	
77 Military	*	*	(³ T ₃) ⁽³⁾	→ (⁴ T ₃) ⁽³⁾	

Note.

* No code is assigned to the referenced item.

** Item has been assigned to multiple categories.

(1) Multiple category associations.

(2) Multiple items are consolidated.

(3) Items is a general reference only and not highly associated with another key category.

(4) Item is a specific reference with a high association in the category.

Data: Saldana's Method, Theme and code mapping, extracted from the literature reviews.

Table J2.

Codebook: Themes, Codes and Definitions

Social Sample Cycle	Code	Theme (Variable)	Sub-Theme (Sub-Variable)	Definition
Historical Emphasis	1S1	Geography		The topographical features or the location of China that serve as a factors in its development.
	1S2	Scale		Proportional size of a variable when compared to others.
	1S3	Growth		The stage of development or advancement of a variable when compared to others.
			Rise	The general increase in development or advancement of a variable when compared to others.
	1S4	Stability		Continuity of the variable within a given environment, or Firmness in the quality of being or state.
	1S5	Unity		The state of being united or combine into one, as of the parts of a whole, unification, uniform character, oneness Of mind, feeling, harmony or agreement.
	1S6	Cultural ideology		The body of doctrine, myth, belief, social support system that guides an individual, social movement, institution, or country to include the origin of ideas and the concept of natural forces.
	1S7	Education		The act or process of imparting or acquiring general knowledge, and generally a preparing oneself or others intellectually for a mature and productive life, the act or process of imparting or acquiring particular knowledge or skills, as for a professional trade.
	1S8	Population		The number or body of inhabitants in a place belonging to a specific social, cultural, socioeconomic, ethnic, or racial subgroup, general population, a labor or service class within a population.
			Aging	The length of time during which a being or thing has existed, length of life or existence to the time spoken of or referred to; the particular period of life in which a person becomes naturally or conventionally qualified or disqualified to contribute anything of value or service.
	1S9	Social security		A program of old-age, unemployment, health, disability, and survivors insurance maintained by a central government through compulsory payments by a specific employer and/or employee groups within a given population, the theory or practice of providing economic security and social welfare for an individual through a series of government programs maintained by funds collected from a common support source that is private, communal, or the product of public taxation.
	1S10	10. Health care		The field that is concerned with the maintenance or restoration of the health of the body or mind. Any of the procedures or methods employed in this field to include private, communal, or the product of public services provided by a central government.

Table J3.

Codebook: Themes, Codes and Definitions

Social Sample Cycle	Code	Theme (Variable)	Sub-Theme (Sub-Variable)	Definition
Present Emphasis	2S1	Geography		The topographical features or the location of China that serve as factors in its development.
	2S2	Scale		Proportional size of a variable when compared to others.
	2S3	Growth		The stage of development or advancement of a variable when compared to others.
			Rise	The general increase in development or advancement of a variable when compared to others.
	2S4	Stability		Continuity of the variable within a given environment, or Firmness in the quality of being or state.
	2S5	Unity		The state of being united or combine into one, as of the parts of a whole, unification, uniform character, oneness Of mind, feeling, harmony or agreement.
	2S6	Cultural ideology		The body of doctrine, myth, belief, social support system that guides an individual, social movement, institution, or country to include the origin of ideas and the concept of natural forces.
	2S7	Education		The act or process of imparting or acquiring general knowledge, and generally a preparing oneself or others intellectually for a mature and productive life, the act or process of imparting or acquiring particular knowledge or skills, as for a professional trade.
	2S8	Population		The number or body of inhabitants in a place belonging to a specific social, cultural, socioeconomic, ethnic, or racial subgroup, general population, a labor or service class within a population.
			Aging	The length of time during which a being or thing has existed, length of life or existence to the time spoken of or referred to; the particular period of life in which a person becomes naturally or conventionally qualified or disqualified to contribute anything of value or service.
	2S9	Social security		A program of old-age, unemployment, health, disability, and survivors insurance maintained by a central government through compulsory payments by a specific employer and/or employee groups within a given population, the theory or practice of providing economic security and social welfare for an individual through a series of government programs maintained by funds collected from a common support source that is private, communal, or the product of public taxation.
	2S10	10. Health care		The field that is concerned with the maintenance or restoration of the health of the body or mind. Any of the procedures or methods employed in this field to include private, communal, or the product of public services provided by a central government.

Table J4.

Codebook: Themes, Codes and Definitions

Social Sample Cycle	Code	Theme (Variable)	Sub-Theme (Sub-Variable)	Definition
Future Emphasis	3S1	Geography		The topographical features or the location of China that serve as factors in its development.
	3S2	Scale		Proportional size of a variable when compared to others.
	3S3	Growth		The stage of development or advancement of a variable when compared to others.
			Rise	The general increase in development or advancement of a variable when compared to others.
	3S4	Stability		Continuity of the variable within a given environment, or Firmness in the quality of being or state.
	3S5	Unity		The state of being united or combine into one, as of the parts of a whole, unification, uniform character, oneness Of mind, feeling, harmony or agreement.
	3S6	Cultural ideology		The body of doctrine, myth, belief, social support system that guides an individual, social movement, institution, or country to include the origin of ideas and the concept of natural forces.
	3S7	Education		The act or process of imparting or acquiring general knowledge, and generally a preparing oneself or others intellectually for a mature and productive life, the act or process of imparting or acquiring particular knowledge or skills, as for a professional trade.
	3S8	Population		The number or body of inhabitants in a place belonging to a specific social, cultural, socioeconomic, ethnic, or racial subgroup, general population, a labor or service class within a population.
			Aging	The length of time during which a being or thing has existed, length of life or existence to the time spoken of or referred to; the particular period of life in which a person becomes naturally or conventionally qualified or disqualified to contribute anything of value or service.
	3S9	Social security		A program of old-age, unemployment, health, disability, and survivors insurance maintained by a central government through compulsory payments by a specific employer and/or employee groups within a given population, the theory or practice of providing economic security and social welfare for an individual through a series of government programs maintained by funds collected from a common support source that is private, communal, or the product of public taxation.
	3S10	10. Health care		The field that is concerned with the maintenance or restoration of the health of the body or mind. Any of the procedures or methods employed in this field to include private, communal, or the product of public services provided by a central government.

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