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Cross-Cultural Customer Satisfaction of High Technology Companies in China, India, and Japan

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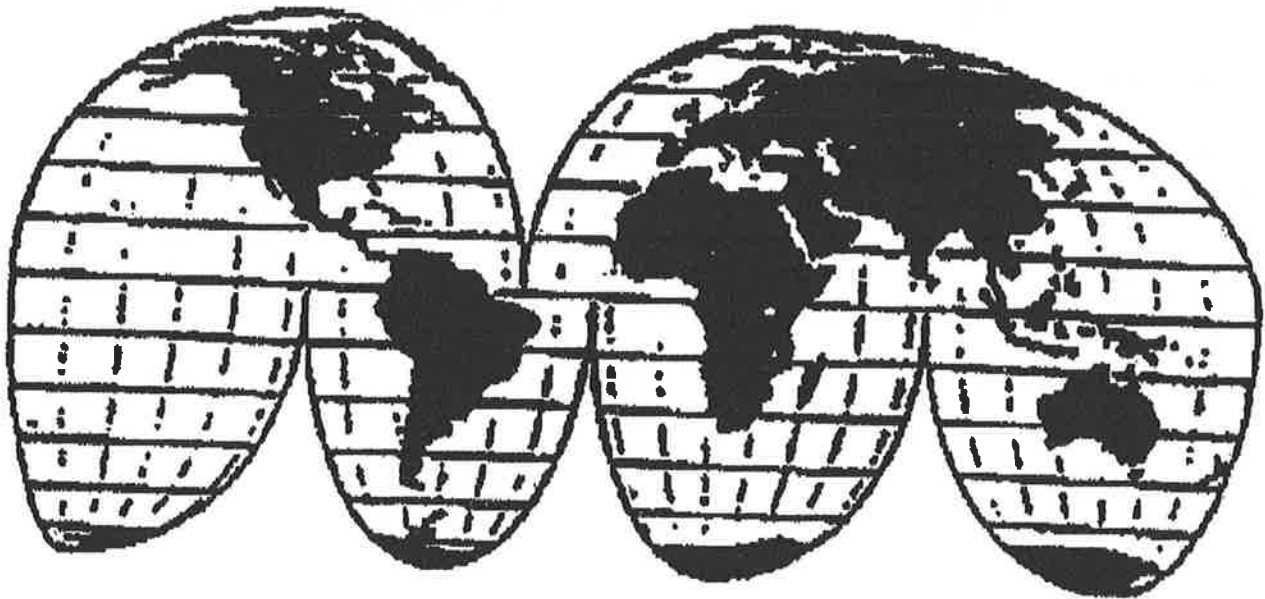
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ABSTRACT

Customer satisfaction has become a very important aspect of business management in the high technology market. Companies that provide products and services world-wide often are concerned that customer satisfaction may be impacted by cultural differences. This study examines measures of customer satisfaction in China, India and Japan to determine whether or not there is a difference in satisfaction scores for field service, depot repair and help desk. The statistical results at a 5% confidence level indicate there is a difference in customer perception in all service support areas. The results clearly indicate that companies need to understand these differences in order to optimize the use of their resources and to adjust their service offerings to respond to their different customer needs and expectations.

(I) INTRODUCTION

Companies that provide service world-wide want to maintain their market position. One way to do this is to provide a level of customer satisfaction that meets or exceeds their customer's expectations in each unique market. While customer satisfaction does not necessarily imply customer loyalty, it is usually considered one important element of customer loyalty. Since the high technology industry has such a short half-life (the time from one generation of product until the next), technology companies must spend large amounts of money to support their products to assure customer loyalty.

(II) THE STUDY

A study has been conducted that examines customer satisfaction for nine multinational companies in the high technology industry in the areas of field service, depot repair and help desk support. Help Desk (often referred to as tech support or technical support) in this study refers to the telephone support provided by companies to customers who have a problem that they cannot resolve themselves. The primary purpose of the study was to test the statistical null hypothesis that measures of customer satisfaction would not be different in each country. The alternative hypothesis was that the measures of customer satisfaction would be different. The hypothesis was specifically tested for computers, computer peripherals and medical electronics equipment.

(III) THE STUDY AND CROSS-CULTURAL CUSTOMER SATISFACTION ISSUES

Globalization is an extensively discussed but an inadequately researched topic. Globalization itself is a complex and accelerating process of interaction, integration, and growing mutual independence across large sections of the world. [1] This results in globalization taking on a multi-dimensional orientation.

This multi-dimensional orientation can apply directly to customer satisfaction in a cross-cultural environment. Furrer has stated that perceptions of service quality vary across cultural groups as defined by each culture's position on Hofstede's dimensions. He explicitly maps the relationship between service quality perceptions and cultural dimension positions, and he develops the implication for service market segmentation. [2]

Voss reported that cross-cultural customers tend to respond differently to poor service encounters based on cultural norms. [3] Raajpoot reported the impact of the personal value system, national culture orientation, and customer context variables have on how customers assign the importance of weights to the dimensions of quality. [4]

The purpose of this section is to acknowledge that many believe that any customer satisfaction study across cultures must recognize the *potential* existence of this problem. This paper makes the assumption that with regards to field service, depot repair, and help desk support cross-cultural differences in perception will not *unduly* bias the results.

(IV) KEY ASSUMPTIONS AND THEIR RATIONALE

The primary assumption for this study was that service levels provided by each of the companies are about the same for each of the three countries. Each of the companies uses a Service Level Agreement (SLA) to define the parameter limits for service and has generally implemented these service performance parameters consistently in each country. One point to consider is that even if the service metrics in the SLAs are significantly different in each country, these differences may, or may not, have a significant effect on the customer's perception of the service provided.

The rationale for this primary assumption of similar service levels for each company in each country is based on the following aspects of the research:

1. The same companies are providing service in each of the countries. Thus, each individual company is controlling the level of service in every country.
2. The same or similar industries are included in the study. Each company has products of approximately the same level of complexity.
3. The exact same measurement system has been used to measure customer satisfaction for all three companies.
4. The same survey company has taken all the measurements.

(V) DISCUSSION OF DATA

All of the data for this study was supplied by Service 800, a survey company with world-wide offices headquartered in Minnesota. The data was collected by phone using a consistent script to minimize language differences. The actual sample of data was provided by the manufacturers to Service 800 and was not under the control of Service 800. It is assumed that the data provided by the companies was the total of all service events for those companies so that the sample selected from the total of all events by Service 800 is a valid statistical probability sample.

All of the data for this study was stripped of any company identification. There was no identification by which the individual company could be recognized. The sample that was used for this study is broken down as follows:

1.	China	3,170
2.	India	936
3.	Japan	<u>2,091</u>
	Total Sample	6,197

Since all the data collected is ordinal, the use of the arithmetic mean to detect differences is not statistically valid and was not used. The primary statistical test used to detect differences is the chi-square test for consistency to detect the significance of the difference between two or more distributions.

While there were several questions on the survey that could be used in the research to detect differences, the question that was used measures overall satisfaction. Thus, the chi-square statistic is testing to determine if the scores noted for overall satisfaction for one country are different when compared to the other countries.

(VI) CHART SCALES

The vertical scale on the histogram chart for overall satisfaction represents the 5-point Likert scale used in the survey. The scale is anchored as follows:

- | | |
|---|-------------------|
| 1 | Very dissatisfied |
| 2 | Unanchored |
| 3 | Unanchored |
| 4 | Unanchored |
| 5 | Very Satisfied. |

The scales on the other charts are percentages.

(VII) RESULTS

The average satisfaction data is shown on the chart below.

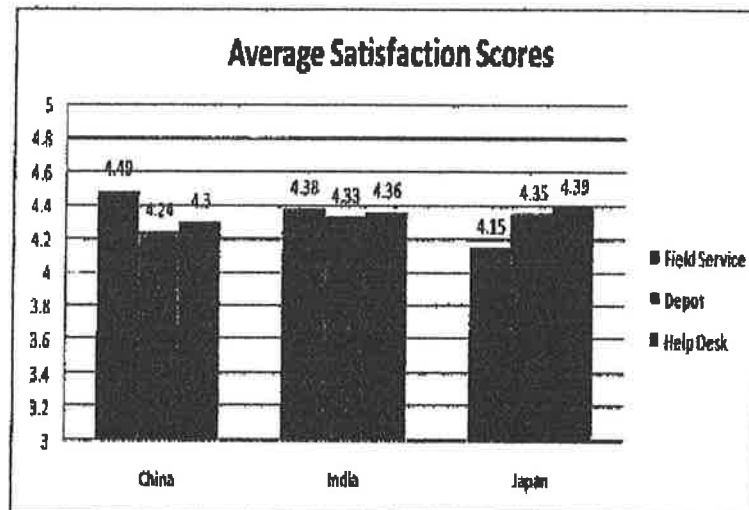


Figure 1

From this chart, Figure 1, China has the highest average satisfaction for field service. Japan has the highest average satisfaction for depot repair and help desk. The following charts indicate the percentage of high scores (5's) and low scores (1's) for the three countries.

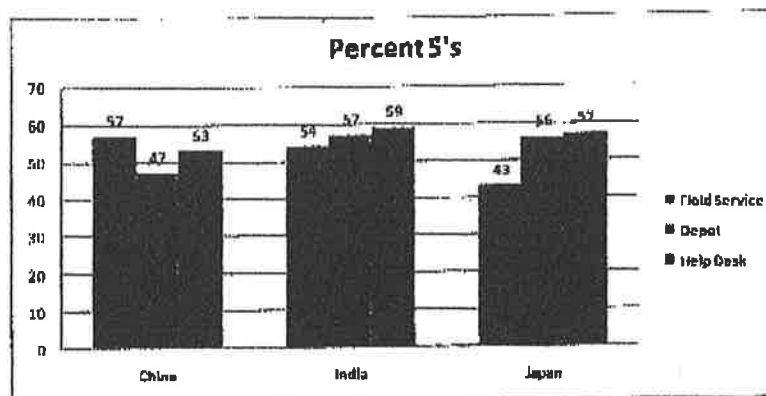


Figure 2

A review of Figure 2 indicates that China received the highest percentage of 5's for field service. India has the highest percentage of 5's for depot repair and Japan has the highest percentage of 5's for help desk.

China's difference for field service is statistically significant at the 5% level. In addition, India's low percentage of 5's is statistically significantly different than China and Japan at the 5% level.

Figure 3 below represents the percentage of customers that scored the each service as very dissatisfied.

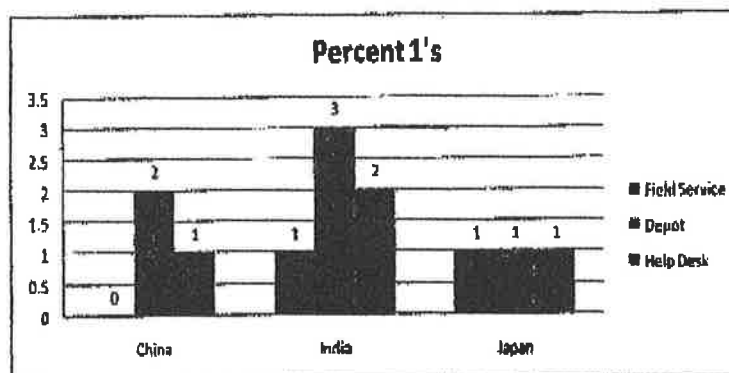


Figure 3

India scored the highest percentage of customers who were very dissatisfied with depot repair but had no customers who scored very dissatisfied for help desk service. China had the highest percentage of customers who were very dissatisfied with their help desk service.

(VIII) SUMMARY AND CONCLUSIONS

The following conclusions and inferences are suggested. While it may have been apparent that there would be cultural differences from one country to another, this study has been able to quantify the differences. It can now be concluded that when examining the impact of customer satisfaction, it is necessary to account for the cultures of the individual country.

There are a number of possible additional studies to consider. The following list represents some possibilities that would expand our understanding of the cultural implications with a finer granular analysis:

1. Continue to analyze the survey information for each of the countries. There are 9 additional questions that will provide more specific detail for each of the services.
2. Within the next 12 months, there will be data for four years which will allow possible longitudinal studies.
3. Continue to expand the research to include other Asian countries such as Korea and Taiwan.
4. Expand the analysis to determine the variables that most impact the three services.

This study has proven to be very valuable for the following reasons

1. Since, all questions were exactly the same (within translation differences),
2. And, all the scales were the same and identically defined,
3. And, the same people collected all the data,
4. And, all the companies in the survey have similar equipment (in terms of service complexity),
5. And, all companies have very similar service level agreements.
6. Then this research has been able to significantly reduce the number of factors that could influence or bias the data.

Because so many factors were controlled in this survey, companies in the high technology sector in these countries can begin to understand that they should not expect customer satisfaction data to be consistent from one country to another and the SLA for each country may need to be adjusted for the cultural influence. These results may lead high technology companies to consider weighting the scores differently from each country or changing their SLAs because the performance levels may have different meanings in different cultures.

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