A Study on Improved Quality of Service in Two Wheeler Automobile Industry Using SERVQUAL and QFD Models

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Abstract

Quality Function Deployment (QFD) is a stru ctured approach to define customer needs or requirements and translating them into specific plans to produce products or services to meet those needs The objectives of the study are to identify the difference in expectation and perception of service among customers, to identify the gap of service quality of different two-wheeler automobile industry and to improve the gap between perception and expectation among two wheeler automobile companies. In this study the gap was identified using SERVQUAL model, using primary data collection using questionnaire based on certain attributes and then paired t-test is used to analyze the data and for improvement QFD (voice of customers and house of quality). The study was conducted on five major two-wheeler companies ie., Honda, Hero MotoCorp., Yamaha Motors, Bajaj Auto, and Royal Enfield. The model proposed that service quality is measured by five dimensions: reliability, assurance, tangibles, empathy, and responsiveness. Reliability refers to an organization's ability to perform the promised service dependably and accurately; assurance refers to employees' knowledge and their ability to convey trust and confidence; tangibles refers to an organization's physical environment, such as facilities, equipment, and communication materials; empathy refers to employees' willingness to provide individualized attention to customers; and finally responsiveness refers to employees' willingness to help customers and to provide prompt services. Each dimension is measured with four to five items. The model is a useful management tool since it aims to identify the gaps between customers' expectations and customers' perceptions of the services. Judgmental sampling technique was used for collecting samples and a sample size of 390 is being used for this study. Paired t-test was used to study the gap of each factor in a service center which creates gap and to know the gap of each company. Through gap analysis it was found that among the five companies only one company was able to maintain a very minor gap, i.e., Royal Enfield, in all the factors the firm was able to maintain a very less gap and was able to satisfy customers by reducing the gap of expectation and perception.

Keywords: SERVQUAL, QFD, Service Quality Gap, Two Wheeler Automobile Industry, Kerala.

1.0 Introduction

The most common type of transportation for people is two-wheelers as they are able to reach places where there is less accessibility and the difficult to travel. As the two wheeler industry in India is growing at a faster rate, the

competitions among the various players in this industry have a greater effect on the company. The automobile sector is a key player in the global and Indian economy. The two wheeler automobile industry is growing fast in India. And each manufacture says they are number one. This study is to understand which of the selected firm is more likely by the customers and how they provide service to customers and whether they are able to meet the customer's satisfaction. The service of the competitors varies as per the companies. So it's relevant to measure the service quality gap of the companies selected and to find which company is having more customer satisfaction and which company is way beyond customer's perceptions.

The two-wheeler automobile industry in India is the world's largest market. The industry is highly competitive with 10+ players operating in the market. The presence of so many players can be attributed to India. For firms like Hero, Bajaj, Honda, Royal Enfield, Yamaha, etc., it's not just about selling two wheelers but also to see to that their customer are extremely satisfied with the vehicles they own and the service provided by the firm for the vehicles to make sure they provide the up to mark performance as promised by the company. So it's necessary to understand the service quality gap that is to evaluate whether there is the difference between customer's expectations and perceptions of quality of service rendered and QFD models are used for the study purpose and this can be used for future improvement of the two wheeler companies.

2.0 Review of Literature

Service sector is one of the growing sectors in today's competitive market. Customers have started demanding more in terms of the services delivered. Due to this service sector is going through a drastic change in order to meet the growing expectations. And the difference between the quality of service perceived and expected by the customers creates a service quality gap, and less the gap more will be the customer loyalty. The service quality has also become a part of creating a competitive advantage. High level of customer satisfaction is created from the superior service quality.

Vandana Singh (2017) stated that the automobile industry is a prominent part of the manufacturing sector and considered to be an indicator of economic development of any country. It is also a technology and knowledge intensive industry because it demands high performance and quality parts. Amudhal .R et al. (2015) mentioned that the importance in the service sector has been become very much important in both developed and developing countries. In automobile industry defensive strategies have been adopted in order to retain the existing customers and to build long term relationship with the customers. The importance of attaining competitive advantage and search for differentiation have called for having more attention towards customer satisfaction and service quality. Ambekar (2014) mentioned that automobile industry is one of the growing and the most competitive industry. The advancement in technology has improved the overall performance of the industry but the quality in the after sales services provided is also an important factor. and there is a considerable gap found in the expected and perceived quality for the factors like reliability, responsiveness and empathy, the improvements are been expected in

meeting the delivery target by improving the technology used to provide services. Saravanan (2013) indicated that Indian automobile service stations have improved their service quality delivery level with respect to all service quality factors. The study critically examined the service quality issues in the Indian automobile service industry from the perspective of the customers. Michael Cusumano et al. (2008) concluded that in many product oriented industries, services have become increasingly important. In case of automobiles, many automakers generate the vast majority of their profits from a service activity closely tied to their product activity. The automobile industry overall generates a large portion of its profits from other product-related service activities such as insurance and repairs. Virupaxi B and Biswajit M(2008) stated that QFD (Quality Function Deployment) means converting customer's requirements into product or service quality characteristics for such guarantee in which customer's key demands and enterprise's core technologies could be systematically put into quality characteristics, such as any functional components, process variables and service factors, so as to meet the product or service quality required by the customer. They also found that to determine what attributes are needed to identify the perceived service quality as well as how big the gap perceived quality of society as a passenger in order to take specific measures to improve service quality Trans Padang. The method used to analyze the level of inequality is SERVQUAL method and then the consumer voice (Voice of Customers) obtained is integrated with the Quality Function Deployment method of forming a quality home (House of Quality). Ghotbabadi et.al (2015) mentioned that the measurement of service quality is one of the most significant tools in analyzing the customer's needs and wants by understanding the experience of the satisfaction of customers on the provided services. Bailey (2001) mentioned the emergence of the service economy represented a new era for the world economy. This phenomenon is marked by a transition in the mode of production, migrating from the industrial mode to the informational age. This process took place after the Second World War, changing the world's economy and society. Stephen W. B. et al. (1989) stated that the providers of professional services recently have awakened to consumer challenges, competition, and the realities of marketing. With these changes, a related and equally important issue has emerged-service quality and evaluating the service encounter. Compatible expectations and experiences can be achieved by altering the provider's behavior and expectations and/or by altering the client's expectations and experiences. Greater consistency, in turn, leads to a more positive service encounter and enhances the likelihood that the experience will evolve into a longer-term client-provider relationship. Talha K and Jadoun (2015) indicated that the service quality in service sectors is mostly measured using SERVQUAL model and the model consists of 22 items for evaluating the customer perceptions and expectations regarding the quality of service delivered.

3.0 Methodology

The objectives of   this study were: *i)* to identify the difference between expectation and perception of service among customers, using SERVQUAL model, and *ii)* to improve the gap between perception and expectation among two wheeler automobile companies, using QFD model. After the due discussions s and stakeholder

interventions, 5 null hypotheses were framed as: there is no significant difference of mean rating between expected and perceived service in terms of tangibility, reliability, responsiveness, assurance and empathy respectively. The responses were taken from the customers having and servicing the two wheelers. The people were selected with convenience from the respective service centers of mentioned 5 leading two wheeler brands from Ernakulum district, Kerala State. The population for the study was then for the entire two wheeler owners who serviced their vehicles periodically in the study period. 390 two wheeler owners served as the sampling units who properly replied back to the questionnaire. SERVQUAL and QFD were the managerial tools used here.

4.0　　Data Analysis & Interpretation

The final tool for collecting data was set after a lot of dew deliberations and discussions. Then it was validated properly. The descriptive analysis showed the following observations, in general.

The majority of the respondents, who were surveyed, are from Central Kerala, male graduates with, age group as 20-30yrs. Most of them are medium level income group with ownership of Hero Honda two wheeler. The dependant variable, *Service quality*, was analyzed against the standard SERVQUAL independent variables.

Table 1: Summary of Gap Analysis using SERVQUAL Model

	Tangibles	**Reliability**	**Responsiveness**	**Assurance**	**Empathy**
Honda	-0.155	-0.0064	0.049	-0.072	0.04
Hero	-0.274	-0.295	-0.197	-0.232	-0.184
Yamaha	0	0.075	0.042	-0.075	-0.030
Bajaj	0.0012	0	-0.047	0	0.107
Royal Enfield	0.0274	0.107	0.198	0.12	0.233

(Source: Primary Data)

From Table1, the following inferences were made in terms of the 5 attributes of SERVQUAL model.

Tangibles: The customers / respondents responded to the expectation and perception of physical outlook of the service center and customer's perception was only met by Yamaha as the gap for expectation and perception was 0, ie., the customers of Yamaha had no difference in expectation and perception regarding the physical appearance and various other tangible factors like equipment, personnel, and communication materials. **Reliability:** Reliability is the ability to perform the promised service dependably and accurately. In the gap analysis the only company which was able to perform as per the service standards that they agreed to provide was Bajaj with a gap score of 0. So the service done by Bajaj Auto is reliable. **Responsiveness:** Responsiveness is the willingness to help customers and provide prompt service. The company which is able to be responsive in this study is Yamaha Motors, as the firm's employees are willing to provide its customers and provide prompt service. And the company which is not able to be responsive as per the study is Bajaj Auto. **Assurance:** Assurance is

defined as employees' knowledge of courtesy and the ability of the firm and its employees to inspire trust and confidence. And the firm which is able to train its employees to showcase assurance to its customers is Bajaj Motors, and the firm which is not able to meet this gap is Honda Motors. **Empathy:** It means to provide caring individualized attention to the customers by the firm. The firm which is able to keep this gap very short is able to keep its customers to itself for a long time. Here, the brand which is able to meet this criterion is Honda Motors by showing a empathy to its customers, and the service centre which is not able to close this gap is Yamaha Motors.

Table 2: Table showing Paired t-test for mean expectation and perception measured for each factor

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	AvgET - AvgPT	.11500	.47921	.05358	.00836	.22164	2.146	.035
Pair 2	AvgER - AvgPR	.04250	.55182	.06169	-.08030	.16530	.689	.493
Pair 3	AvgERe - AvgPRe	-.02292	.64016	.07157	-.16538	.11954	-.320	.750
Pair 4	AvgEA - AvgPA	.06750	.66443	.07429	-.08036	.21536	.909	.366
Pair 5	AvgEE - AvgPE	-.02188	.60744	.06791	-.15705	.11330	-.322	.748

(Paired Samples Test is the table title spanning the top)

(Source: Primary Data)

For pair 1 p value is .035 < 0.05, which means the H_{01} is rejected. Therefore, there is significance difference between mean expectation and mean perception in terms of tangibility. For pair 2, p value is .493 > 0.05, therefore H_{02} is accepted and which means that there is no significant difference between mean expectation and mean perception in terms of reliability. For pair 3, p value is .750 > 0.05, therefore H_{03} is accepted and which means that there is no significant difference between mean expectation and mean perception in terms of responsiveness. For pair 4, p value is .366 > 0.05, therefore H_{04} is accepted and which means that there is no significant difference between mean expectation and mean perception in terms of assurance. For pair 5, p value is .748 > 0.05, therefore H_{05} is accepted and which means that there is no significant difference between mean expectation and mean perception in terms of empathy.
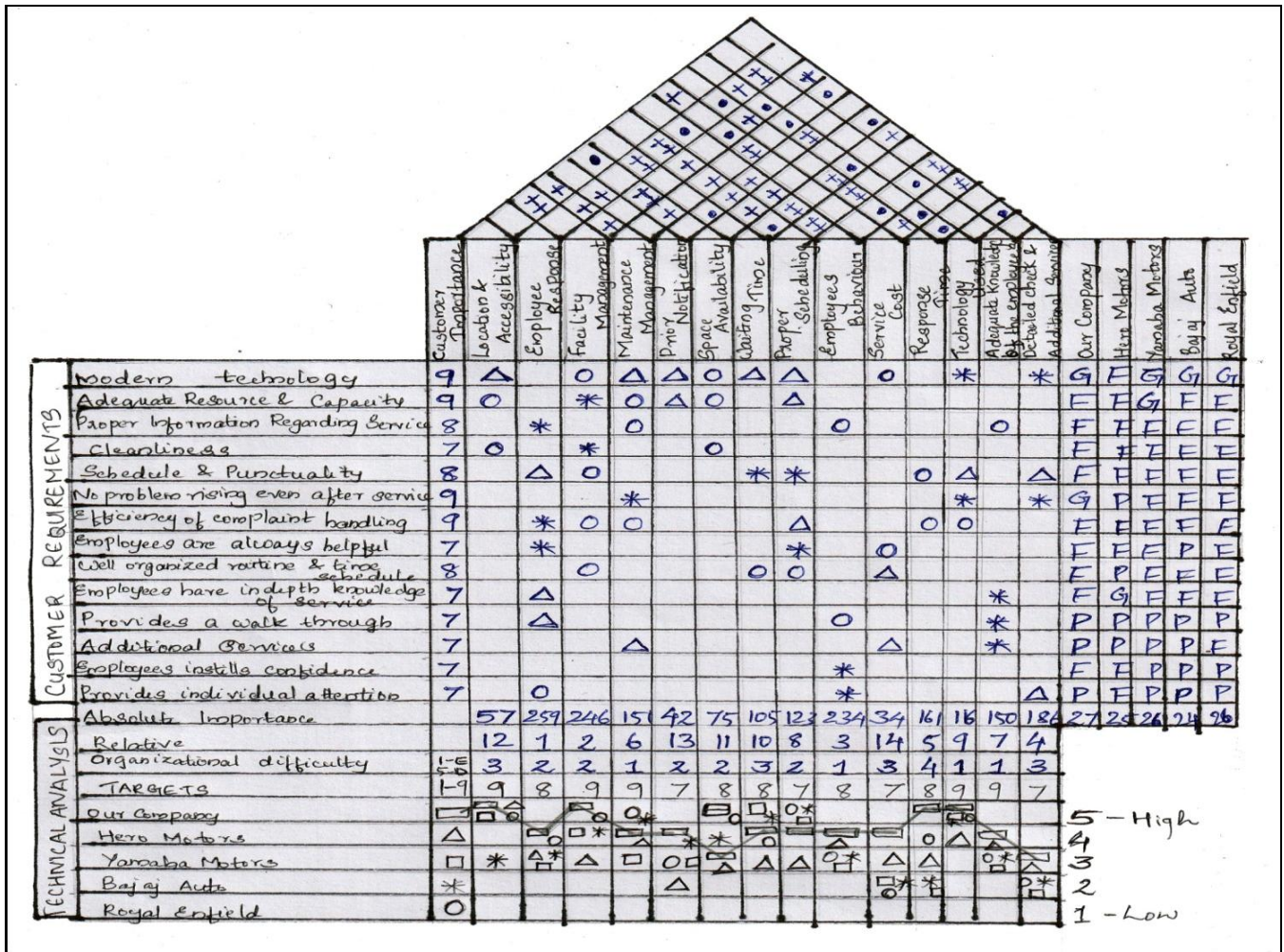
Figure 1: Deployment of QFD using House of Quality of Honda Motors for reference   *(Source: Primary Data)*

Based on Deployment of House of Quality (QFD), the major finding were: the firms have their own reasons to which they are providing the service at this level, maybe due to reduce cost incurred or to provide service at more reasonable price. The areas where the firm are performing poor against their competitors, the firms have to focus more on these factors so as to improve the service of the firms.

5.0 Conclusion

The analysis of service gap helped to understand more about service sector and techniques used to improve the customer satisfaction. This project revealed various customer perceptions towards services of their respective motorcycle service centers. The study also helped to understand how the customers expect regarding the after sale service of their two-wheeler of each company and the study also helped to understand which firm among the five which were opted had the least gap among the rest, and this study can help other new buyers to select their vehicles based on the after sale service of the firm. Automobile service centers, especially authorized ones, can also make use these types of studies to improve the gap between customer expectation and perception on the

customers. Based on the customer perception firms can modify their services and bring more satisfaction among customer and can have loyal customers. All the companies should try to concentrate more on the customer relations and the type of technology which is used by them to carry out the service for the vehicles.

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