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Customer Satisfaction on Supply Chain Management Practices: A Study of Toyota and Tata Motors in Kingdom of Saudi Arabia

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Abstract
Automobile industry has been a major driver growth of a nation's economy and is a significant contributor to the global economy. The Automobile has been described as both a form and function based product involving high level of engineering as well as being positioned as a fashion product. Supply chain management is typically viewed to lie between fully vertically integrated firms where the entire material flow is owned by a single firm, and those where each channel members operates independently. For the automobile industry the crucial element in the supply chain management is its ability to forecast demand accurately. The objective of the current study was to find out the level of customer satisfaction on supply chain management practices of Toyota and Tata motors in KSA. A total of 250 randomly drawn respondents were taken for the survey using questionnaire method. It was found that the customer having Toyota are more satisfied on the dimension of time taken for delivery, promised time delivery, accessories and spare parts, after sales services, grievances handling and supply chain management as compare to Tata motors. It was also found that young generations are more satisfied with Toyota while old customer are more satisfied with Tata motors. Majority of the customers of both the companies are also showing satisfaction with Dealership network.
Keywords: Customer Satsifaction, Supply Chain Management, Promised Time Delivery, Grievance Handling Mechanism

INTRODUCTION

Universally, the automobile industry has been a major driver of growth of a nation's economy and is a significant contributor to the global economy. The automobile has been described as 'both a form and function based product' involving high level of engineering as well as being positioned as a fashion product. There have been significant changes taking place in the automotive industry. Worldwide, average margins have fallen from 20% to 5%, with many companies losing the game. The profitability performance is reflected in the industry's market capitalization; despite its huge revenues and employment, the automotive industry accounts for only 1.6% of the stock market in Europe, and 0.6% in the U.S. These facts make a wide range of operational and financial performance.

The changing business conditions of the 21st century has led to companies facing issues ranging from globalization, economic uncertainty to new technologies and increasing consumer demands. In the automobile industry, as manufacturers design and build vehicles globally, their supply chains become increasingly complex with challenges that often stand in the way of profitability and higher shareholder value such as long order-to-delivery lead times, unreliable production schedules, excess inventory across the supply chain, lengthy demand planning cycles and lack of visibility of suppliers. The effect of the global economic meltdown increased the pressure on automotive executives to make right decisions about their supply chain for better performance. In a highly challenging and competitive environment, where supply chain is a popular tool for improving the organizational competitiveness, an efficient and effective supply chain strategy is a must for automotive manufacturers and their component manufacturers so as to meet changing consumer demands.

Supply Chain Management is typically viewed to lie between fully vertically integrated firms, where the entire material flow is owned by a single firm and those where each channel member operates independently. Therefore coordination between the various players in the chain is key in its effective management.

According to Christopher (1992), leading-edge companies have realized the real competition is not company against company, but rather supply chain against supply chain. Cooper, Lambert, and Pagh argue that organizational relationships tie firms to each other and may tie their success to the supply chain as a whole. In this context, a supply chain as a whole may have its own identity and function like an independent firm. However, to accomplish this ultimate supply chain, all companies' in the supply chain must have a supply chain orientation. The result is a fully managed supply chain.

According to Lambert, Stock, and Ellram (1998), however, there exist important differences between the definition of supply chain management and the Council of Logistics Management's (1985) definition of logistics: "Logistics is the process of planning, implementing and controlling the efficient flow and storage of raw materials, in-process inventory, finished goods, services, and related information from point of origin to point of consumption (including inbound, outbound, internal and external movements) for the purpose of conforming to customer requirements." CLM (1998) apparently agreed, since its new definition states, "Logistics is that part of the supply chain process that plans, implements, and controls the efficient flow and

storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customers' requirements" (emphasis added). Thus, CLM has also distinguished between logistics and supply chain management, and acknowledged that logistics is one of the functions contained within supply chain management.

Charan (2012), defines Supply Chain Management is the integration of key business processes across the supply chain for the purpose of creating value for customers and stakeholders.

Literature Review:

Jamehshooran (2015) found that in recent years, supply chain performance measurement has received much attention from researchers and practitioners. Effective supply chain performance through supply chain antecedents such as business analytics has become a potentially valuable way of securing competitive advantage and improving supply chain performance. This study addressed the lack of the empirical studies by developing a comprehensive model to examine the effect of business analytics on supply chain performance. A quantitative methodology using a cross-sectional survey method was used to investigate the relationship between variables. Data were collected from automotive companies in Iran. The relationships between variables were examined using structural equation modeling (SEM) technique and partial least squares (PLS) software was used. The results revealed there is a significant positive relationship between business analytics and supply chain performance. The study combined resource- based theory, resource dependence theories to develop a new theoretical framework to demonstrate the importance of businesses analytics; in improving supply chain performance. Kumar et al (2015) found that Supply chain structure, characteristics, and applicable policies differ between developing and developed countries. Lack of effective supply chain management practices and supply chain disruptions. Devarajan (2015**)** observed that Supply chain processes and challenges in India have been so dynamic and are going through rapid changes. To understand where these changes stem from and also to determine the current status with respect to challenges in supply chain management, a two pronged approach is adopted and executed. The results of the approach are presented in this paper. The first step is to review current status based on literature review of available-published research (articles, journals, magazines, interview, etc.) between the years2011 and 2015. The second step is to get industry perspective (interviews, surveys, meetings with business executives in India) to understand pressing issues that they face in handling their supply chain. Based on these two steps, a solution framework (supply chain challenges grouped under 15 categories),list of key best practices, and two specific action items (processes) are provided to help companies set a plan (short term, medium and long terms)and navigate through their supply chain challenges. Stefanovic (2014) identified that Today's business climate requires supply chains to be proactive rather than reactive, which demands a new approach that incorporates data mining predictive analytics. This paper introduces a predictive supply chain performance management model which combines process modeling, performance measurement, data mining models, and web portal technologies into a unique model. It presents the supply chain modeling approach based on the specialized Meta model which allows modeling of any supply chain configuration and at different level of details. It was also found that the supply chain semantic business intelligence (BI) model which encapsulates data sources and business rules and includes the data warehouse model with specific supply chain dimensions, measures, and KPIs (key performance indicators). Next, the paper describes two generic approaches for designing the KPI predictive data mining models based on the BI semantic model. KPI predictive models were trained and tested with a real-world data set. Finally, a specialized analytical web portal which offers collaborative performance monitoring and decision making is presented. The result also shows that these models give very accurate KPI projections and provide valuable insights into newly emerging trends, opportunities, and problems. This should lead to more intelligent, predictive, and responsive supply chains capable of adapting to future business environment.

Wankea (2014) In his study aims to investigate whether, and the means by which, supply chain managers of large manufacturing companies adopt a context-dependent approach (also called it empirically explores the correlation between logistics complexity-related contextual conditions and supply chain management (SCM) objectives and decision areas. The study adopted survey data (based on a sample of 108 large manufacturing companies in Brazil), using cluster analysis, factor analysis and binary logistic regression and investigated the major effects of supply chain objectives and decision areas as predictors of the logistics complexity of manufacturing but also investigate their second order interactions. Statistically significant relationships were found between logistics complexity-related contextual conditions and objectives and decision areas involving the supply chain. Varsei et al., (2014) observed that each key supply chain member can achieve economic advantage only when they make a long-term dedication to sustainable development. Based on the studies of three dimensions, it can be said that implementation of TBL provides economic advantage As a result of increasing trend to sustainable practices; many firms have been implemented to a wide-scale adoption that they collaborate with their suppliers and customers. They improve their efficiency for operation and environment. These improvements help firms gain customer satisfaction and profitability and competitive advantage. Fabbe-

Costes et al., (2014) identified that financial performance is the first priority for the economical aspect of SSCM. For the environmental performance, environmental responsibility holds minimum environmental standard regulated by government that is important. The social performance stresses social fairness, which should be considered as minimum standard of social objectivity and justice. Some of the benefits of SSCM are enhanced through corporate reputation, improved operational and financial performance (As a performance side, the pursuit of SSCM targets leads to consciousness within corporations of the environmental and social changes of their operations and forces to reduce environmental footprint. With SSCM implementation as a model it could continue and improve economic results, but tighten from environmental laws. When social and environmental friendly corporations produce any output, they are most likely chosen by stakeholders. As a result, these corporations could get a higher margin by marketing considerable quantity at a higher price to compensate any deviation expense. Reddy and Raja (2013) in his study presented a number of characteristics, that are found in effective performance measurement system for SCM and categorizes performances measures in two groups: qualitative performance measures and quantitative performance measures, Qualitative performance measures are those for which there is no single direct numerical measurement. Customer satisfaction, flexibility, information and material flow integration, effective risk management, and supplier performance are presented as qualitative performance measures. Chen et al. (2013) examined three types of risks, namely supply risk, demand risk and process risk in relation to three types of collaboration, namely supplier collaboration, customer collaboration and internal collaboration, as a mechanism to mitigate those risks. They defined that the supply risk and demand risk arise from external operations, while process risks from internal operations. Also, process risk increases from the unexpected changes in the supply or orders changes from customer. The survey was carried out and resulted that supply chain risk can be better mitigated and managed through supply chain collaboration. Rao, R (2012) measure supply chain management in Automobile Industry – A Study of Select Companies of variables that capture the impact of SCM on Hero Honda and Bajaj wide revenues and costs. They draw on responses to a survey of 20 extended supply chains across two industry groups. He defines six variables that reflect different approaches to measure supply chain performance. These variables are inventory, time, order fulfillment, quality, customer focus, and customer satisfaction.

Hypothesis

In the above backdrop, an attempt has been made in the present study to examine the Supply Chain Management Practices in Automobile Industry with special reference to Select Automobile Companies in Kingdom of Saudi Arabia viz., Toyota Motors and Tata Motors and decided to not formulate any hypothesis rather make the study exploratory in nature and thus framed following objectives

1) To study the Supply Chain Management practices adopted by Toyota Motors and Tata Motors.
2) To evaluate Supply Chain Management Practices satisfaction among the customers of Toyota and Tata Motors.
3) To offer suggestions to make the Supply Chain Management Practices more satisfying to Customers.

Methodology

Sample:

In K.S.A almost every house owns a car. It has got highest percentage of car ownership with more than 80 percent of the population owning a car. Most of the families had more than one car to be used by different family members for different purposes. The researcher approached the dealers of the concerned companies to get the list of the customers. 200 car owners of Toyota Motors and 120 car owners of Tata Motors were selected randomly as sample.

Tools Used:

A Customer Satisfaction Questionnaire on Supply Chain Management practices has been used to collect the data. The questionnaire revealed satisfaction on five dimensions of supply chain management practices i.e. Time Taken for Delivery, Satisfaction level of Customer on Promised Time delivery, Availability of Accessories Spare Parts and Components, Quality of Service Center Facilities and Grievances Handling Mechanism.

Tools of Analysis

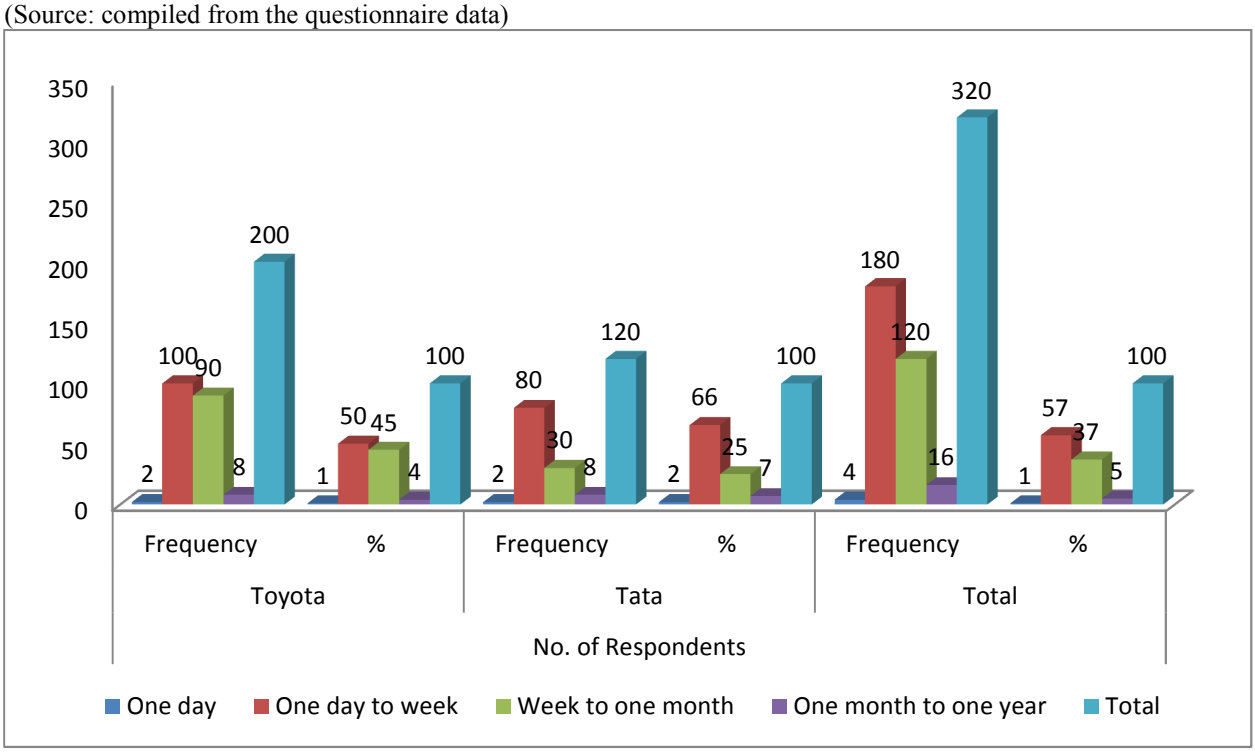
An appropriate statistical tool has been used to analyze the data and put it in the tabular form for the analysis of results and discussions.

Result and Discussions

Table - 1 Showing Satisfaction level of Customer on Time Taken for Delivery by Toyota and Tata Motors

Time taken for delivery	No. of Respondents					
	Toyota		Tata		Total	
	Frequency	%	Frequency	%	Frequency	%
One day	2	1	2	2	4	1
One day to week	100	50	80	66	180	57
Week to one month	90	45	30	25	120	37
One month to one year	8	4	8	7	16	5
Total	**200**	**100**	**120**	**100**	**320**	**100**

(Source: compiled from the questionnaire data)



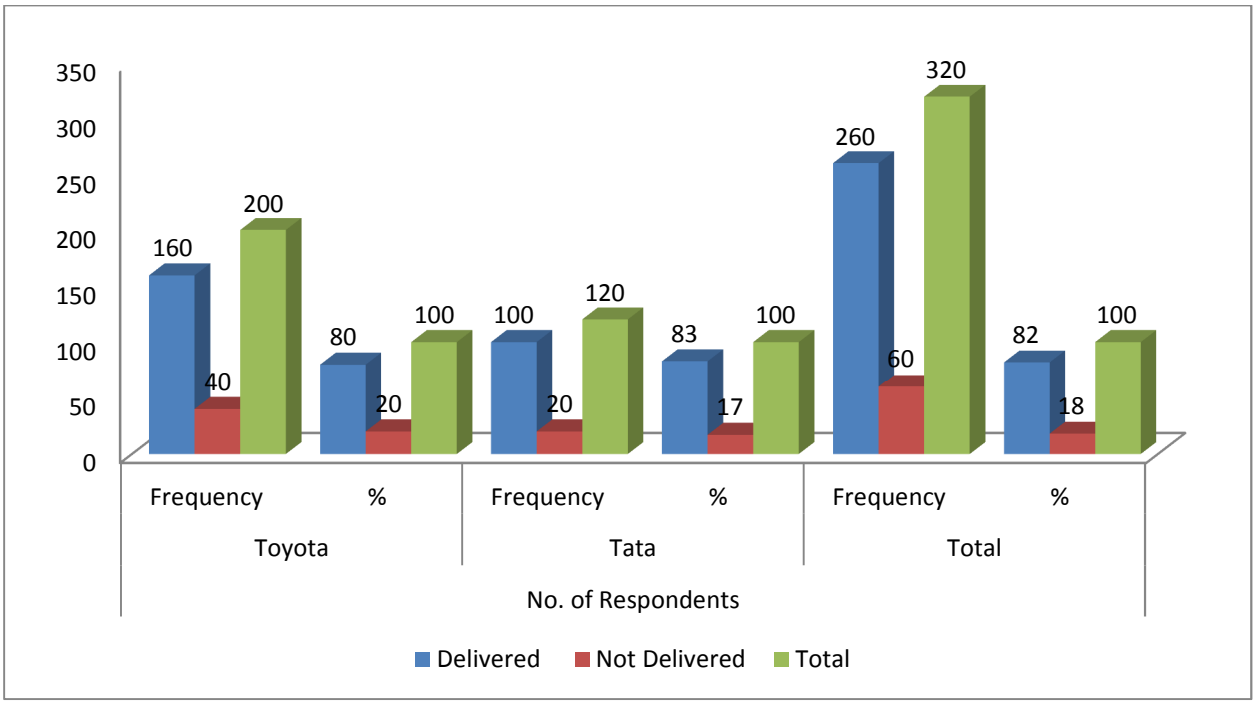
It is shown in Table 1 that a majority of the respondents stated that the dealers are taking about a week's time for delivering the vehicle after placing the order, while it was a period ranging from one week to one month by the 37 percent of sample respondents reporting it. It is very interesting to state that 5 percent of the respondents revealed that, in some cases the dealers are taking almost a year, when enquired into reasons for the delay the customers admitted that it was because of their choice, preference for a particular variant, color and style etc. The dealer is taking such a long time, this is happening only with Tata Motor. Intercompany analysis reveals that it was 66 percent of the sample customer stated that order delivery lead time was one week. While it was 50 percent in case of Toyota. In case of those who stated the lead time as one week to one month reverse was the case. It was 45 percent in case of Toyota while it was 25 percent with Tata. Delivery lead time is on another important dimension of customer service. Delivery reliability essentially captures the degree to which a firm is able to service its customers within the promised delivery time. Delivery reliability measures the fraction of customer's order that is satisfied within promised delivery lead time.

Order delivery lead time is the time taken by supply chain to complete all the activities from customer order to product delivery to the customer. This dimension of customer service has significant impact on responsiveness of supply chain. Customers always expect much shortened delivery lead time. Shorter lead time, higher responsiveness and higher reliability will lead to better customer service.

Table -2: Showing Satisfaction level of Customer on Promised Time delivery

Time taken for delivery	No. of Respondents					
	Toyota		Tata		Total	
	Frequency	%	Frequency	%	Frequency	%
Delivered	160	80	100	83	260	82
Not Delivered	40	20	20	17	60	18
Total	**200**	**100**	**120**	**100**	**320**	**100**

(Source: compiled from the questionnaire data)



Delivery of Cars on Promised Time:

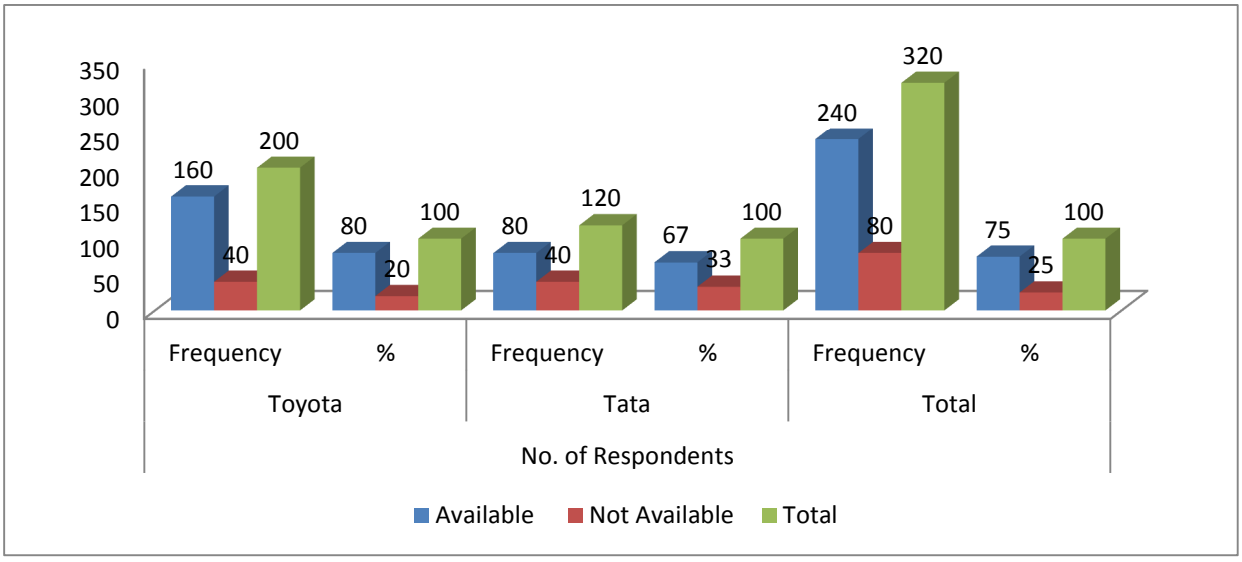
Table 2 reveals heartening result to note that, the dealers of both the select companies are able to keep up the promise to deliver the vehicles on promised time as more than 80 percent of the customer of the dealers of both the companies reporting it. Remaining 18 percent of the respondents stated that the dealers failed to deliver the vehicles on time. This speaks of the successful delivery reliability metrics of the dealer of both the select companies and thus majority of the customers are highly satisfied.

Delivery lead time is as another important dimension of customer service. Delivery reliability essentially captures the degree to which a firm is able to service its customers within the promised delivery time. Delivery reliability measures the fraction of customer's order that is satisfied within promised delivery lead time.

Table-3: Availability of Accessories, Spare Parts and Components

Availability of Accessories, Spare Parts and Components	No. of Respondents					
	Toyota		Tata		Total	
	Frequency	%	Frequency	%	Frequency	%
Available	160	80	80	67	240	75
Not Available	40	20	40	33	80	25
Total	**200**	**100**	**120**	**100**	**320**	**100**

(Source: compiled from the questionnaire data)



Availability of Accessories, Genuine Spare Parts and Components

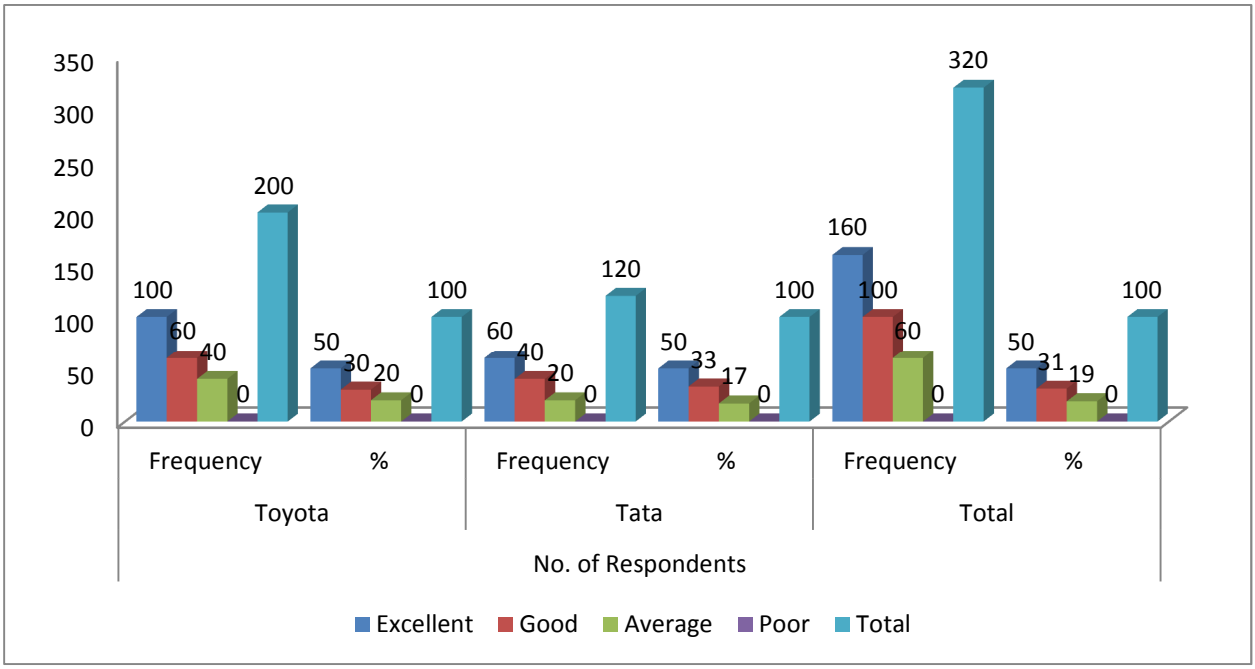
Table-3 shows the opinion of customers on the availability of accessories genuine spare and components. About 80 and 67 percent of customers from Toyota and Tata Motors respectively revealed that, the spare parts and components are available in the market. At the same time 20 percent and 33 percent of customer said spare parts are not available at their location. This indicates that, the dealers are providing with accessories and spare part components to their customers at their centers, ensuring a very positive supply of supply chain management practice. On the whole a great majority of 75 percent respondents states that accessories and spare parts are available at different point of purchase, while a significant portion of 25 percent respondents reported that the desired accessories and spare parts are not available.

The repair and maintenance of a vehicle involves a complex chain of various actors, it is called as automotive after-market. Each stage within this aftermarket supply chain has its importance, each operator fulfilling a special role to keep replacement parts, repair and maintenance competitive and efficient. A truly competitive automotive market is the prerequisite to keep mobility affordable throughout the entire life of a vehicle. That's is the reason, why vehicle manufacturers supply their dealers and authorized service centers and repairs of their distribution network the full range of genuine spare parts and components to ensure that spare parts and components are easily available in market to customers.

Table-4: Quality of Service Center Facilities of Select Motor Companies

Rating from Service Center facilities	No. of Respondents					
	Toyota		Tata		Total	
	Frequency	%	Frequency	%	Frequency	%
Excellent	100	50	60	50	160	50
Good	60	30	40	33	100	31
Average	40	20	20	17	60	19
Poor	0	0	0	0	0	0
Total	**200**	**100**	**120**	**100**	**320**	**100**

(Source: compiled from the questionnaire data)



Quality of Service Center Facilities

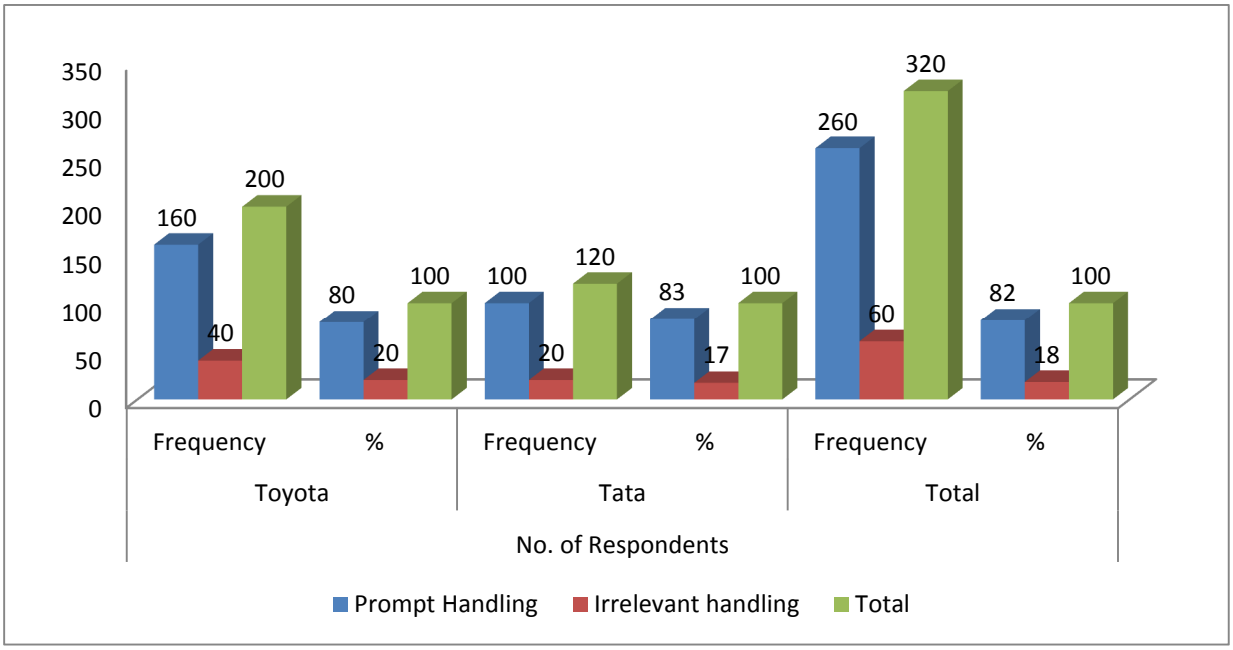
Table-4 shows that, 50 percent of respondents from the Toyota and Tata Motors said that, service center facility was excellent while 30 and 33 Percent respondents each stated that service center facility was good. 20 and 17 percent respondents each from these two companies open that it was average in the Quality of service centers of Toyota and Tata Motors Very interestingly no customers reported that quality of Service Centre as poor front both the companies. The overall analysis also reveals a similar trend.

The service centers play a key role in making after sales service effective and supply chain efficiency. It is responsibility of the companies in automobile sector to not only provide service center in all the locations, but also to have trained and skilled manpower (mechanics) and advanced automated machines for quick and effective servicing of vehicles. The service center requires infrastructure, spare parts, components and accessories for replacement at the time of vehicle servicing and repairing. All these factors and facilities will have strong impact on maintaining customer satisfaction.

Table-5: Grievances Handling Mechanism

Grievances addressed on Time	No. of Respondents					
	Toyota		Tata		Total	
	Frequency	%	Frequency	%	Frequency	%
Prompt Handling	160	80	100	83	260	82
Irrelevant handling	40	20	20	17	60	18
Total	**200**	**100**	**120**	**100**	**320**	**100**

(Source: compiled from the questionnaire data)



Grievances Handling Mechanism by the Dealers of Select Companies:

Table 5 shows the data related to addressing of grievances on time. About 80 percent of customers from Toyota Motors and 83 percent of customers from Tata Motors reported that their grievances were addressed on time, while 20 and 17 percent of respondents from Toyota and Tata stated that their grievance with vehicles were not addressed by Company on time.

When it comes to automobile performance of the vehicle and after sales service are the top most priorities to the customers, if dealer/company fails to provide these, customer will start complaining. Complain handling not only helps vehicle manufacturers to manage product performance, but also provides direct product feedback that companies can use to improve their products and services. Efficient customer grievances handling system addresses the grievances on time and improves the customer loyalty, retention and has a positive impact on company's reputation. The grievances of customers with vehicle have to be attended quickly and complaints of customers on service should be address on time so that customer gets satisfied with grievance handling mechanism of the company.

Conclusion and Suggestions:

It can be concluded that the customer having Toyota Motors are more satisfied supply chain management practices on the dimension of time taken for delivery, promised time delivery, accessories and spare parts, after sales services, and grievances handling mechanism as compare to Tata motors. It was also found that young generations are more satisfied with Toyota motors while old customer are more satisfied with Tata motors this may attributed to outer look of the vehicle and may be the image of the company in the mind of new generations. While old aged customers believe in durability and cost involved hence getting attracted towards Tata motors.

It is suggested that the grievance handling system of Tata and Toyota has to integrate dealers' manufacturers, employees and customers to improve the performance of supply chain in resolving customer grievances/ complaints on product performance, product quality and after sales service etc. The companies are advised to standardize a complain management system, which increase responsiveness of supply chain and also to provide direct product feedback that companies can use to improve their products and services. Both the Tata and Toyota are advised to concentrate on automation of its service centres at dealer's point. Tata and Toyota companies are advised to arrange for fully automated service centres at their dealers point, and the employees in the service centres must be trained, so that vehicle can be serviced quickly and effectively. Spare parts availability in the market at customer proximity is one of the key indicators of aftermarket performance of automobile supply chain. The Tata Company is advised to streamline its spare parts supply chain and it has to supply spare parts to all the dealers with required levels of stocks. Further, Tata has to supply spare parts not only to dealers to ensure the genuine spare parts to customers, it should supply spare parts to sub-dealers, authorized service centres and local automobile spare parts retail shops for easy availability of spare parts to customers at their proximity. Infrastructure development in Saudi Arabia must keep pace with the growth of automobile on the road. Impediments to the construction of the Golden Quadrilateral, the highway connecting the country's major metropolitan cities in a giant ring, would directly affect the sale of these two companies in specific and motor vehicles in general.

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