Study on Efficient Workshop Layout and Time Management at Maruti Service Center, Bhopal: A Review

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Abstract: The Indian Auto Industry is one of the largest in the world. The industry accounts for 7.1 per cent of the country's Gross Domestic Product (GDP). India is also a prominent auto exporter and have strong export growth expectations for the near future. The increment and decrement in the no. of customer is totally depend on customer satisfaction. In the present time there is a lot of competition in the market so there is a need to be conscious about customer satisfaction. This paper deals with automobile maintenance with good layout workshop and proper satisfaction by customer. The paper is constituting of three main objectives. To reduce time, involve in servicing and delivery. To reduce labor cost. The study was done in Maruti Servicing center, Bhopal. Methodology used was questionnaire. A total of ten customers were taken as samples and questions were given to them to improve customer satisfaction. The objective was attained by making a good service advisor track sheet in which with proper time management was done and the servicing time was reduced to 1 hr and 30 min and paid servicing was 2 to 2 and half hours. Results were. The new layout plan. In this lobby executive is added and underbody check is added here in service center layout this thing is not there. Spare part shop, and the machine shop was also maintained inside the service center layout so unnecessary time wastage is prevented in this way time is managed here in new layout plan A good layout plan for the workshop was also drawn which can be implemented in future for better service can be given to customers to satisfy them. In future this study can be conducted in different service centers and the supervisor should listen to customer problem and he should solve it. So that we can give good satisfaction to the customer.

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I. INTRODUCTION

The efficiency of workshop layout and time management plays a crucial role in delivering quality service in automotive service centers like Maruti. As a leading brand with a vast customer base, Maruti Service Centers must streamline their operations to meet customer expectations for quick and reliable vehicle servicing. An optimized workshop layout ensures smooth workflow, reduces downtime, and enhances safety, while effective time management minimizes vehicle turnaround time and improves customer satisfaction. This study focuses on designing an efficient workshop layout and implementing robust time management strategies to boost operational productivity, reduce delays, and maintain Maruti's reputation for excellence in customer service.

II. LITERATURE REVIEW

Armando Calabrese (2019): This study reviews systematically the literature on the measurement of the firm-level degree of servitization. This study is the first to provide a systematic review on the topic and to develop a general conceptualization and operationalization of servitization measurement. This

research is the first to employ an international standard classification of economic activities as a basis to identify objectively firms' service offerings. This research supports both scholars and practitioners because it brings consistency across studies and applications, thus fostering assessment and comparability of servitization experiences. The results show that servitization measures are inconsistent across studies, even among those investigating similar research questions, and that a theoretical reference for their appropriate use is still missing. Focusing on these shortcomings, this study conceptualizes the firm-level servitization degree in three classes, i.e. 'extension', 'infusion', and 'orientation'. Hence, measures to operationalize each class are derived from the literature review and subsequently discussed with a panel of experts. In addition, servitization measurement is further conceptualized other than firm-level degree, as a measurement at the regional, product, and individual employee levels, other than at the firm level.

Poudel Soniya (2019): Customer satisfaction in automobile industry: A case study on customer satisfaction on automobile industry in Nepal. A descriptive cross-sectional and quantitative study was conducted to assess the customer satisfaction towards the after sales services in automobiles sector in Nepal. The purpose of the study aimed on how the automobile industry in Nepal and their customers view the value of after sales service. The main objective of the study was to recognize the differences, if any, between their perception and the way it will impact on customer satisfaction level. A total of 81 automobile users were taken as samples in the study. The variables considered in the study were the age group in years, sex, occupation, education level, income level, status of ownership, type of vehicle, usage of vehicles and the four dimensions of after sales services. The results of the study show that after sales service was average. Among the four components, responsiveness after the sales service has major impact on satisfaction of the customers while the cost of service results the least satisfaction towards the customers. This study makes a significant contribution to the literature by extending and improving the existing information of the company to increase the after-sales service satisfaction of the customer in auto-mobile industry in Nepal.

Anil Kumar (2017): Measuring and improving customer retention at authorized automobile workshops after free services. This study aims to measure and improve customer retention at authorized automobile workshops after free services. Customer retention is vital for businesses with much research literature now available. But nothing has been investigated regarding measuring and improving customer retention at authorized automobile workshops after free services. Even after providing extensive warranties and other free service benefits, customers don't use authorized workshops although their vehicles are still under warranty. By not arranging regular maintenance services, customers lose warranty benefits, with product performance and safety related awareness undermined; companies lose huge business potential. To achieve this, a four-phased study was conducted. In phase one, a combination of a literature review and expert opinions is used to identify customers' retention factors. The second and third phases describe how data is collected from industry experts and customers. Analytical Hierarchy Process (AHP) and Decision-Making Trial & Evaluation Laboratory (DEMATEL) was used to prioritize and examine inter-relationships among factors. In the last phase, the study recommends three business strategies to help a company to improve customer retention and make their Annual Maintenance Contract (AMC) product more customer friendly.

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Omar Sabagaha (2016): Impact of Quality Management Systems and After-sales Key Performance Indicators on Automotive Industry. This paper review focuses on the automotive after sales key performance indicators and their pertinent developed models in conjunction with considering the quality management systems which are implemented in automotive manufacturers. The purpose of this paper is to address the link between quality management system and after sales services in automotive industry. The automotive industry is experiencing a significant inclination in global market volumes accompanied with recent declination in profit margins and prolonged life span of a new car. Therefore, automakers have switched their attention to after sales business which proves to be a recession- resistance business, especially after the world financial crisis in 2008. Consequently, the after sales business has become increasingly important and is one of the main revenue and customer loyalty contributors. It is articulated in a manner to review the reported literature in automotive key performance indicators definition and importance. This is followed by a discussion on the contemporary quality management systems in automotive industry and its impact on customer satisfaction. Next, the author brings to focus the reported literature on warranty service and the relevant developed model. Finally, the paper concludes with the updated developments in the after sales business and the latest technologies utilized in this domain. The literature findings form the input to guide the author in his future research to bridge the gap between certain types of automotive quality managements systems and after sales key performance indicators.

Fabien Mahut (2016): Product-Service Systems for servitization of the automotive industry: Now a days companies are facing several transformations of their activities, empowered and pulled by technological and social evolutions over the few past decades. As competitiveness is a leitmotiv in the market economy paradigm, it is necessary to improve activities through excellence and new offers. In a focus on the consumers' needs, the limits between tangible and intangible offer are challenged through new kind of offers merging products and service under one common offer. Manufacturing companies, and more precisely the automotive industry, endeavor to integrate new constraints of sustainability, economic globalization and new ways of consumption made possible with this new kind of offerings. This supports the opportunity to change consumption offers, historically driven by production and consumption of tangible assets. The paper explores a key concept to operate this shift towards a new type of offer gathering products and service into an integrated bundle entitled product-service system (PSS). This paper proposes a review of PSS definitions, methodologies and its applications to clarify the contribution of the literature in enabling its adoption. Requirements to adopt PSS are extracted from case studies and methodologies for servitization are evaluated as means to overcome barriers of PSS adoption. A specific focus is given on the automotive industry.

Mahasin Zemmouri (2016): This thesis work presents an analytical view of the value of maintenance activities from two main perspectives; the car OEM and the transport providers. It is written related to one of the work packages of the "Efficient Maintenance for Sustainable Transport Solutions" (EMATS) project. Three main research questions of this study have been formulated around value of maintenance activities, definition and cost elements of poor maintenance and lastly the future expectations of actors regarding future transportation solutions. Therefore, the purpose of this thesis is analyzing and increasing the value of maintenance from different perspectives through reduction in cost of poor maintenance and investigating future expectations of actors. When analyzing the value of maintenance activities, first of all information about maintenance management has been provided in theoretical framework in order to give an overview about maintenance to readers. Furthermore, business strategy and industrial marketing and purchasing theories have also been explained in order to have a better understanding about network approach and the relationship between the actors in a network. Finally as the core of this thesis work, value perception as a balance between the benefits and costs has been given in theoretical framework. The main theoretical contributions of this work are the creation and the increase of value along with the minimization of the cost of poor maintenance. The empirical data was collected by interviewing experts in the field in each of the car OEM and the transport provider sector.

Together, the empirical data and the literature allowed an analysis of the value of maintenance from the car OEM's perspective, value of maintenance from the transport providers' perspective, a comparison of the two perspectives and the consequences for the car OEM. A discussion is open to argue the feasibility of maintenance on new technologies, especially the electric vehicles, along with a discussion about the influences of other industries on the car industry. In the conclusion of this study, the cost aspects that correspond to poor maintenance have been highlighted and recommendations have been given to reduce these costs in order to increase the value. Also, future expectations of actors have been evaluated. In addition to that, the value concept has been discussed from a holistic supply chain management perspective.

III. CONCLUSION

Literature was mostly related how the quality of the automobile industries satisfies the customers. What all problems are faced by the automobile industry and how the customers are affected due to it. What all problems are faced by the customers while giving their automobile in servicing, no proper time management, no body to hear the problem of customer, vehicle cleaning not doing properly these were some of the problems faced by customers.

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