

After Sale Service and Relationship Marketing within Construction Equipment Excavator Segment in India

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Abstract – The demand for construction equipment is a reflection of broader macroeconomic trends such as interest rates, infrastructure investment and liquidity, which themselves indicate the health of the overall economy. The manufacturers are lining up new models and expanding production capacity to tap the coal sector market. The Indian market has witnessed entry of a number of multinational companies and, now competing with local. After sales service refers to various processes which make sure customers are satisfied with the products and services of the organization. After sales service plays an important role in customer satisfaction and customer retention and generates loyal customers. The major activities of after-sales success in the manufacturing industry, have been identified as field technical assistance, spare parts distribution and customer care. Service quality impacts on satisfaction, satisfaction on customer retention (customer loyalty), and customer retention has impact on profitability. Heavy the construction equipment companies are shifting their emphasis from original products sales to customer needs; customers find value in the trouble-free operation of products. After Sales operations have a very broad scope and contain all activities related to maintaining a vehicle after its initial sale and until the end of its lifecycle. Spare parts distribution is responsible for inventory management, customer order management and delivery of spare parts. The relationship between a company and a customer had been formed on a product centric view. Presently, businesses this view has been changed and the aim is to focus on maintaining relationship with customers as there are values for both parties

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INTRODUCTION

India's growth story witnessed many cyclical changes across a wide range of industries from agriculture and retail to IT and Infrastructure Development, all of these serve as key drivers of the country's economy. The volatility in infrastructure and related industries, like construction equipment, has resulted in demand-supply gaps that hamper analysis of the sector and its trends. The demand for construction equipment is a reflection of broader macroeconomic trends such as interest rates, infrastructure investment and liquidity, which themselves indicate the health of the overall economy. The manufacturers are lining up new models and expanding production capacity to tap the coal sector market. The Indian market has witnessed entry of a number of multinational companies and, now competing with local.. The sector is made up of five main segments: earthmoving equipment, road construction equipment, concrete equipment, material handling equipment, and material processing equipment. Earthmoving equipment and road construction equipment account for close to 70 per cent of India's construction equipment market.

Backhoe loaders, which comprise tractors, front shovel/bucket backhoes and small backhoes, account for 65 per cent of the earthmoving equipment and road construction segment. The construction equipment market have been segmented based on end use application and product verticals as well as by geography. The market has been segmented based on end use verticals into Heavy Earthmoving, Light Earthmoving, Lifting & Material Handling, Drilling & Trenching, Trucking & Hauling, Light Equipment, Paving & Compacting These customers are large fleet owners and engaged in operations at various locations of India. Moreover, maximum are as remote location places where availability of required facility is the concern, so these customers are mostly depended on the manufactures and their service providers. In addition to this they also challenge of skill manpower availability at remote places, mining operation, road conditions and other unavoidable factors are affecting on fleet operation as well as life of the products. In such conditions enhance product life and maintain long term customer relation is one of the key area for the heavy commercial vehicle manufacturers and many

of them are came forward with service support solution to support customer and retain long term customer relation².

After sales service refers to various processes which make sure customers are satisfied with the products and services of the organization. After sales service plays an important role in customer satisfaction and customer retention and generates loyal customers. After sales service plays a pivotal role in strengthening the bond between the organization and customers. The major activities of after-sales success in the manufacturing industry, have been identified as field technical assistance, spare parts distribution and customer care. It is necessary to align all three main activities with the aim of having a successful and comprehensive after-sales offer³.

In the past, the relationship between a company and a customer had been formed on a product centric view. Presently, businesses this view has been changed and the aim is to focus on maintaining relationship with customers as there are values for both parties. The construction equipment manufacturers and service providers are started following customer on the philosophy is to get closer to the customer to provide extraordinary service support by ensuring uptime of our customer vehicles and keep the trucks in the best working condition to ensure they deliver the best in terms of fuel economy and component life. A crucial element in differentiating a company's offer and excelling in meeting customers' needs is by providing services². After-sales service is considered as a tool for enhancing a valuable advantage for the customer as well as it is a business opportunity for the company.

PROBLEM DISCUSSION:

The concept of after sales services including installation and start up, training, maintenance and repair, spare parts, warranty, documentation, software services, product improvement and providing logistic⁴. Such services are important as they have effects on product quality enhancement, gaining competitive advantages, achieving profitable opportunities end to increase in sales and income⁵. The after sales services, creating a long term relationship with customers' in one of research indicated that organizations are dedicating more and more recourses to after-sales and large number of firms have after-sales department with employees focusing only on providing after-sales services and developing after-sales offers⁶. Perspectives of relationship marketing can be described as targeting profitable customers using strongest possible strategies for customer bonding, and building trust as a marketing tool⁷. There are various activities which are dedicated towards enhancing relationship with customers and after-sales service lengthens interactions with customers and provides basis for influencing and developing the relationship⁸.

The focus of this study is after sales service in the construction equipment excavator segment within India and its linking with customer relationship marketing as well as how after-sales activities differs in company to company. The purpose of this study to Investigate the major activities of after-sales service focusing on customer relationship among Heavy Commercial Vehicle after-sales service providers in the mining segment.

LITERATURE REVIEW

After Sales Service in Construction Equipment's:

After sales service refers to various processes which make sure customers are satisfied with the products and services of the organization. The role of manufacturers cannot finish with sales; they should provide a set of supporting after-sale services to their customers. These supporting activities may include installation packages, technical advice, repair, maintenance, spare part delivery and upgrading packages and so on. The after-sales activities are approved to be an accordant source of revenue, profit and competitive advantage in most of today's manufacturing industries. The term after-sales services and activities refer to those taking place after the purchase of the product and dedicated to support customers in the usage and disposal of goods. By offering good service, it shows the customers that the company stands behind and supports the quality of the offered products⁹.

The quality of the customer service cannot make significant difference if the product itself has disappointing quality; whereas, poor customer service can quickly contradict the advantages associated with a product offer of superior quality. Service quality impacts on satisfaction, satisfaction on customer retention, and customer retention has impact on profitability¹⁰.

Relationship and Customer Service in Construction Equipment's:

The strategy for success and survival in competitive business environment are quality service and extended service programs; these attempts are driving the customer's perception of a company's products in the right direction. The quality services show the customers that the company stands behind and supports the quality of the offered products⁹. Service quality impacts on satisfaction, satisfaction on customer retention (customer loyalty), and customer retention has impact on profitability¹⁰. This chain of impacts from the firm's point of view in relation to the economical outcome of a customer relationship through service quality improvements. With the focus on profit, the research concludes that service management and its concept of perceived service quality are tied together with relationship marketing. Successful

relationship marketing depends on a large degree on the competency of firms to add value by various types of services on top of the core solutions offered to customers and clients. It is essential to have thorough understanding of service management before a relationship marketing strategy can successfully be implemented¹¹.

Relationship Strategies in Construction Equipment's:

The after-sales business has emerged as a major source of competitive strategy that firms strive for competitive advantages with their after-sales service offer. Construction Equipment's companies are shifting their emphasis from original products sales to customer needs; customers find value in the trouble-free operation of products. After-sales services enhance product availability during the entire product life cycle and are key to long term company success. Relationship strategy is a means of improving performance metrics comprising of customer satisfaction, retention and loyalty¹². Managing a relationship with quality is essential to reach corporate success¹³. Maintaining customer relationship through a long-term perspective results in satisfied and loyal customers, which thus, develops a firm's financial and competitive position in its markets. In heavy commercial vehicle company, customers are offered with individualized and customized services support¹⁴.

Construction Equipment's After Sales Activities:

Construction Equipment's, After Sales operations have a very broad scope and contain all activities related to maintaining a vehicle after its initial sale and until the end of its lifecycle. The relevant activities are also referred to as after sales services and parts. The after sale encompasses all parts and services purchased for the vehicles after the original sale, including replacement parts, lubricants, and service repairs and all the operations with a lasting effect on customer satisfaction.

There are several classifications of activities within after-sales services; to mention few: customer support, product support, technical support and customer service⁵. Furthermore, Construction Equipment's After-sales could be seen as a business, consisting of multiple activities. The three major activities critical to after-sales' successes are: field technical support, spare parts distribution and customer care³.

Construction Equipment's Customer Care (Support)

Customer care is help to develop customer loyalty and improve relationships with the customers. In construction equipment company Customer care is usually described as an activity which provides technical and service commercial information and

services like warranty extension and complaint management. There are different types of customer care and it is distributed on different levels; through a centralized call centre, through the direct from company and through the local service centres (service dealers) that provide technical information to customers.

Construction Equipment Field Technical Support

Field technical support is the support provided from seller to buyer where the buyer can receive encompassing installation, warranty work as well as out-of-warranty service and repairs, product disposal and check-ups³. The construction equipment companies are focusing on 24X7 supports for mining operation by offering various service packages like onsite support, onsite workshop, customised service contract to provide support to vehicle fleet.

Construction Equipment Spare Parts Distribution

Spare parts distribution is responsible for inventory management, customer order management and delivery of spare parts³. This is one of the most important functions in after sales for customer throughout the consumption of product. The main purpose with spare parts distribution is to ensure the right availability of spare parts at the right time for the customer needs. It also helps to provide timely repairs of customer vehicle and reduce extended equipment down-time. The delivery of spare parts quickly is key aspect of after sales service in the construction equipment company.

RESEARCH OBJECTIVES

OB 1. To study how customer care executed by construction equipment company for the excavators.

OB 2.. To understand the level of field technical support executed by construction equipment company for the excavators.

OB 3. . To study the spare parts distribution network executed by heavy commercial vehicle company for mining excavators.

OB 4. To understand how after-sales services contribute to customer relationship marketing in construction equipment

RESEARCH METHODOLOGY:

A multiple Company study was done to investigate the importance of various activity of after sales. For this study an empirical setting will be used.

Sample:

The cases used in this research are three different construction equipment after-sales service providing organizations in India. The interviews were conducted with one specialist working with after-sales on daily basis and a manager of the relevant field.

Data Collection:

An investigation of three companies from the construction equipment's, selling the same kind of products in Indian market, was needed to meet the objective of this study. The focus group are managers from competing companies and the most suitable data collection method chosen is in-depth interviews.

DATA ANALYSIS METHODS:

Data reduction, Data display, Pattern matching and conclusion drawing

RESULT AND DISCUSSION

General information regarding the companies which are working in excavator segment are investigated in this study is presented in table 1. The collected empirical data is elaborated in case by case in the following sections.

Table 1: Information

	Company A	Company B	Company C
No. of Interview	2	2	1
Position of the respondents	Dy Manager Parts Regional Manager Service	Manager Parts Regional Manager Service	Manager After Sales
Years of employment at the organization	5 Years 8 Years	9 Years 5 Years	10 Years
Years of experience in the industry	25 Years 25 Years	22 Years	18 Years
Number of people working with after sales	63	45	22

Customer Care (Support):

Information Provision:

Technical and commercial information are provided through customer support helpdesk and by mails. In case of direct contact, customers have the options of contacting company representative through telephone, e-mail and letter. However, the most common contact method to reach the company is through telephone and e-mail. Customers can approach either by toll free numbers or the normal telephone line. All three cases have responsible personnel to handle customer. The companies had the policy for the speed of reply; this could indicate that it is not necessary for this type of segment application. The availability of the after-sales

providers was relatively similar. However, the big organization provided additional service to serve customers after their working hours.

Table 2: Informative Provision

Information Provision			
	Company A	Company B	Company C
Technical and Commercial Information	Website, Email and Broachers	Website, Email and Broachers	Website, Email and Broachers
Contact Methods	Customer Helpline, Email and Telephone	Customer Support Centre and Email	Email and Telephone
Cost of call	Toll Free	Toll Free	Standard call charges
Availability	830 AM to 630 PM	830 AM to 630 PM	800 AM to 530 PM
Reply to Customer	Depend on the nature of information	Same day	Same Day
Contact Person	No single contact point is available	Customer Helpline Support	Customer Support Helpline

Complaint Management:

All the three cases have the specific procedure to handle complaints which is understandable and there are service team and service dealers working with after-sales service full-time. The employees can flexibly discuss complaints as it occurs based on their experience and knowledge without setting regulations beforehand. In case of Company C, they have their own service network and service outlets nearby customer vehicle operation locations. In comparison to other Company B approach is far more regulated they have assign mining segment customers to one single service provider for pan India. The volume of vehicle sale of Company A is less compare to other two company and they have service dealer network which not profitable, so some of the area company are directly involve in service support activity. A summary of complaint management process is shown on table.

Table 3: Complaint Management

Complaint Management			
	Company A	Company B	Company C
Complaint Handling Process	Through customer support helpline The procedure depends on individual case. Some complaints can be solved directly Services to customer direct company or service provider	Through customer support helpline The procedure depends on the standard guideline published by company Services to customer through service provider	Through customer support helpline The procedure depends on individual case. Some complaints can be solved directly Services to customer direct company

Warranty and Warranty Extension:

In the three case studies, each company warranty offer differs as shown on table. Company A, B and C offers one warranty that apply for all its products and the have defined the standard terms and conditions as per the company norms. The warranty period and warranty offerings of three companies are different. The extension of warranty are also possible in all three cases with additional cost. Company B have the standard published

guidelines for extension warranty and they are offering extension for 12 – 24 Months. Company A and C offering only 12 Months warranty extension in mining application vehicle.

Table 4: Warranty and Warranty Extension

Warranty and Warranty Extension			
	Company A	Company B	Company C
Standard Warranty	12 Months / 2000 Hrs Engine 24 Months / 5000 Hrs Power Train	24 Months / 5000 Hrs	24 Months / 3000 Hrs
Warranty Extension	Yes, chargeble	Yes	Case to case basis
Extension Warranty Cost	Fixed	Fixed	Not fixed

Field Technical Assistance (Support):

The field technical assistance as the assistance provided from seller to buyer where the buyer can receive encompassing installation, warranty work as well as out-of-warranty repairs, product disposal and check-ups³. Company C handles all after-sales activities by its own network / dealer network. Thus, the reputation of the Company C is relatively better than Company A and B. Company A has service dealer network, they are not much active in some of region, so in that case company are taking care of customer. Company B has is having large service provider network in pan India for excavator segment.

Service Inspection:

Company C executes the field technical assistance activities themselves or through dealer, Company A and B conducts it through service providers. Company C takes care of all its field technical assistance as well as check-ups, it is stated in the interview that the company prefers taking care of check-ups and field technical assistance themselves to take full responsibility of their products and build a close relationship with its customers. Whereas Company B executes the service support through service dealer to takes care of all its field technical support, it is stated in the interview that the company prefers this type support to take full responsibility of their products and build a close relationship with its customers and provide equal support at all locations, so that customer should not feel difference in service.

Table 5: Service Inspection

Service Inspection			
	Company A	Company B	Company C
Provision Inspection of	Service dealers are responsible for service inspection	Service dealers are responsible for service inspection	Provides checks themselves or through dealer
Frequency check ups of	Every 500 hours of vehicle operation	Every 500 hours of vehicle operation	Every 500 hours of vehicle operation
Warranty Service	Manpower cost are covered by company. Consumable are chargeable	Manpower cost are covered by company. Consumable are chargeable	Manpower cost are covered by company. Consumable are chargeable
After Warranty	Manpower and consumables are chargeable.	Manpower and consumables are chargeable.	Manpower and consumables are chargeable.

The companies also differ on how frequent they provide service check-ups, Company B has a more established way of supplying check-ups, the customer will receive check-ups after the machine has been used 500 hours and then after 500 hours. Company C has technicians continuously working at site and able to provide check-ups if the customer requests it. Additionally, Company C has a routine of calling the customer after large reparations are made.

The main purpose of warranty is to provide an after sale remedy for the customer when a product fails to meet its intended achievement during a certain period. In the interview company representative indicated that the cost of service inspection labor is covered by company and consumables are at cost to customer. All three companies are follow the same procedure in the exactor segment.

Service Management:

The number of warehouses as well as repair centers increases relative to the size of the company, customer base and vehicle operation. For all cases, it was their distributor network which determined the number of warehouses and repair centers. The company is also aware of the importance of holding spare parts inventory; thus, they have introduced a thorough enterprise resource system for their central spare parts warehouse. The main purpose with spare parts distribution is considered as ensuring the right availability of spare parts at the right time for the customers' needs¹⁵. While, warehouses and repair centers can represent the ease of access, well organized delivery can indicate the right time perspective.

Table 6: Service Management

Service Management			
	Company A	Company B	Company C
Nos of Warehouses	01	04	01
Nos of Repair Centre	32	82	04 own + 48 Dealers
Location of Repair Centre	Pan India	Pan India	Pan India
Spare Parts Delivery	Within 24 hours after receipt of confirm order	Within 24 hours after receipt of confirm order	Within 24 hours after receipt of confirm order
Spare Parts Ordering Process	Customer to Service Dealer Service Dealer to Company	Customer to Service Dealer Service Dealer to Company	Customer to direct Company or through service dealer

In the investigated cases in the construction equipment excavator segment, the average speed of delivery is similar between all companies. Only in case of company C, customer have direct access with company so they are getting fast response compare to company A and B. Company B is more active in terms of spare parts delivery, they are using air services in case of emergency order or vehicle off road order. Company A using road transport services and many times they facing delivery issue at remote location, it take days to deliver the spare parts.

CUSTOMER RELATIONSHIP MARKETING:

Service Quality:

In all three of the cases, the goal of providing after-sales service seemed evident for the respondents, it is to satisfy customers’ needs and demands. Case B and C particularly considered after-sales to be the main mission of their work, with the goals of satisfying the customer requirements after purchase and to maintain the customer until the next purchase of a new machine. Poor customer service can quickly contradict the advantages associated with a product offer of superior quality¹⁶; therefore the companies need to apply superior service quality to stay competitive.

Table 7: Service Quality

Service Quality			
	Company A	Company B	Company C
Delayed in delivery	High	< 5%	Not measured.
Frequency of defective parts delivery	Approximate 01 per month	No	2 times per year
Frequency of inaccurate deliveries	It occurs due to the many types of machines, consisting of different parts and features	It occurs and usually due to misinterpretations or customers have ordered the wrong parts.	Approximately once per month. Reasons vary, it could be due to the human factor, computer defaults.
Repeat complaint	5 – 10%	< 5 %	< 5%
Complaint restoration time	Average 48 – 72 Hours	Average < 48 Hours	Average < 48 Hours

The construction equipment companies need to apply superior service quality standards to stay competitive. Measuring the service quality comprised questions related to delayed deliveries, defective parts deliveries, and inaccurate deliveries, repeat service complaint and service complaint restoration time. It has been observed that, in all the three cases, there was lack of accurate measurement on

the frequency of delayed, defective or inaccurate delivery occurrences. In terms of service response company B and C are giving good service support to customer, the repeat complaint rate is less than 5% means they are restoring the vehicle in one go which resulting higher vehicle up time.

Customer Relationship Profitability:

The financial outcome of a customer relationship through service quality improvements is resulting in that service management and perceived service quality are tied together with relationship marketing¹¹.

Table 8: Customer Relationship Profitability

Customer Relationship Profitability			
	Company A	Company B	Company C
Methods of order placing	Through DMS, Online	Through DMS, Online	Through DMS
Frequency of backorder	40%	10%	10%
Average back order days	> 30 days	30 days	30 days
Estimated profit from after sales	Not calculated.	Not estimated.	Service and Spare parts generates the largest part of the after-sales activities.
After Sales influence on customer relationship	Extremely important	After-sales influence the relationship, to the extent that the customers will change brand if not handled correctly.	After Sales influence the reputation of the company in market.

As indicated in table, the estimated profit from after-sales proved to be a rather difficult question for the respondents to answer. There was no concrete answer regarding the estimation on profit made on after-sales activities. The service management and perceived service quality affects the financial outcome on customer relationship, the successfulness of the service quality should be able to be measured based on profitability¹¹. The chain of impacts regarding service quality’s impact on satisfaction, satisfaction’s impact on customer retention and customer retention impacts on profitability has been measured in terms of methods of placing order and backordered availability¹⁰. The methods available for placing an order are same, in case A and B the methods are similar. In case C, the customers are directly placing order to company through email and company representative are logging it to DMS.

The frequency of backordered items was answered differently by the three companies. It seems as if Company B and C mostly manage their orders instantly, the frequency is seldom, while Company A view the frequency of backordered items as something unpredictable. It can take some time if the ordered items are no longer in production or the supplier has reduced items in the warehouses and so forth. All three companies expressed its view point on the impact after-sales services have upon the relationship with its customer. Thus, the awareness of the importance of providing high quality service indicates that the companies

consciously try to structure their after-sales services in a way that will satisfy their customers.

CONCLUSION:

The purpose of the study was to investigate the major activities of the construction equipment exactor segment after-sales service focusing on customer relationship among different companies in mining segment application. This study suggests that customer care is the most focused activity of after-sales services in the construction equipment company for this segment of application. Technical and commercial information provision is progressively more important in CE Excavator segment application and all three companies are supporting customer. When the turnover of the company is higher, they focus on availability and have more structured and effective way of responding to customers. Moreover, customer care is executed on relatively similar in all companies and the after-sales employees had equal responsibilities to provide customer care in case it is needed.

The companies have a pre-defined procedure for providing field technical assistance in mining segment and today approach is one step ahead due to its proactive nature; problems are discovered before they occur. The warranty features become more extended and complex due more competition in this segment.

Spare parts distribution can be considered as the most profitable activity of after-sales. The warehouses and repair centers of companies naturally varied per firm sizes. To meet customer demand, the warehouses and repair centers are located all around, especially in the bigger cities. The location of the warehouses as well as internal communication systems can influence the delivery time of spare parts to customers.

The construction equipment companies do not have accurate measurements for delayed, inaccurate or defective parts deliveries. They are aware of the incidents, especially when it comes to defective parts deliveries; they are not able to identify the cause of the problem. The awareness of the importance to provide quality after sales services, the services are consciously structured by the companies, consequently after-sales services contribution to customer relationship marketing in all companies are equal.

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