

Dynamics of Industrial Buyer Behavior of Loader Backhoe

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ABSTRACT:

To investigate how the buying behavior of firms work is always needed, since it is an every changing process influenced by many forces in its surroundings. Industrial firms tend to have a smaller number of customers which means that they are easier to identify than customers in consumer markets. Effective marketing strategy relies on understanding consumers and their needs. This understanding must include the industrial buyer if industrial marketing efforts are to be well planned and executed. This study is focused on understanding the buyer behavior of loader backhoe equipment's among Indian consumers. Primary data was collected from 387 buyers with the help of self-administered questionnaires. The hypotheses are tested with the help of chi-square, regression and ANOVA. From the data analysis it is concluded that the brand selection by the buyers of loader backhoe will be influenced by brand awareness, past experience, Reliability, Resale value, Productivity, Service parts and network and less downtime. On considering the various brands JCB has good mind share and market share on loader backhoe equipment's.

Keywords: *Industrial buyer behavior, Brand awareness, Brand selection, Marketing strategy*

INTRODUCTION

All firms, whether making products or delivering services, sell something and are therefore dependent in one way or another on their customers. The satisfaction of customers' needs and wants is according to Brassington and Pettitt (2000), the essence of marketing philosophy. To investigate how the buying behavior of firms work is always needed, since it is an every changing process influenced by many forces in its surroundings. Industrial firms tend to have a smaller number of customers which means that they are easier to identify than customers in consumer markets.

Buying behavior in this study will focus on the industrial buying behavior. Industrial buying behavior is a complex process over time that

involves interaction between several persons, both within and outside an organization (Webster and Wind, 1996). Many have researched this issue and there is a general agreement that the major components of industrial buying behavior are: the buying process; the buying center; and factors affecting the buying process and buying center (Bapista, 2001). Webster and Wind (1996) have identified four different forces, namely individual, social, organizational and environmental. Furthermore there are several factors in the buying organization that influence the buying center in different ways such as structure, technology and people. The buying center includes all members that are involved in the buying process and these

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members' relationships towards each other. Activities that are carried out by the buying center can be divided into different phases and should, according to Wind and Thomas (1980), not be seen as a single event.

According to Robinson, Faris and Wind (1976) Industrial buying behavior can best be looked upon by studying the problem-solving buying process. Tanner (1996) adds that this is something marketers must understand in order to fully appreciate the relationship process. The buying process is hence what this study will concentrate on.

The successful management requires good knowledge of the enterprise's clients and their value perceptions, which is achieved by organizing continual and systematic research of customer behaviors. Focus is on understanding what the value is for clients and how to make inter functional coordination in order to create superior value. This is especially important since once made client relations should be maintained, improved and developed continually. It is also important and necessary to continually invest in building confidence, learning and mutual adjustment. Enterprises which create advantage by using mutual resources in improving quality and processes are in a better position.

Need of the Study

Understanding the behavior of industrial organization as buyers of goods and services is a necessity for any complete theory of marketing. In line with the concept of marketing, effective marketing strategy relies on understanding consumers and their needs. This understanding

must include the industrial buyer if industrial marketing efforts are to be well planned and executed (Johnston and Speckman, 1982). Despite many conceptual and methodological developments contributing to our understanding of industrial organizations as consumers, it is believed that there is not a substantial amount of research or knowledge about industrial buyer behavior. This lack of understanding of industrial buying behavior has been noted as not being low-level problems for the marketers. It is unfortunate to note that considerable less effort is being directed at understanding industrial behavior compared with the behavior of ultimate consumers.

Surprisingly, India is world's largest market of Backhoe Loaders. In other countries even in China – excavators are widely used for earth moving and wheel loaders are used for loading the material. Whereas in India, due to its flexibility, Backhoe loaders are widely used for earth work and the same is also being used for loading the material. Hence in this study of Dynamics of Buyer Behavior was focused to Backhoe Loaders and related equipment only.

If you compare (figure 1) the world market share of Backhoe loaders in the total equipment, it is only around 6% where as in India, it is almost 52% In India, still mini excavators, wheel loaders, excavators and Bulldozers are not widely used and hence this major difference in market share. Since Backhoe Loaders are widely used in our country, it was decided to choose this product for the market research and for identifying the factors, which influence the buyers to buy this product.

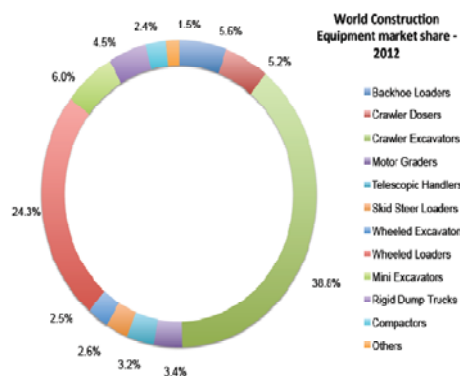


Figure: 1 World construction equipment market share

Literature Review

Blois (2000) says that understanding of a business buyers' behavior is a key element in an organization's ability to compete and develop marketing strategy. Companies try to recognize business buyers' behavior and buyer characteristics and affect them. Business buyers' behavior depends on different factors which are discussed below.

Compared to consumer markets the industrial markets usually involves "greater levels of decision-making input and high transaction costs" (Russell-Bennett et al., 2007) and the buying process is more rationalized and involves longer-term relationships (Cooper and Jackson, 1988). Products are more technically complex, more money, people and procedures are involved and products are often specialized to the customer organization (Cooper and Jackson, 1988).

Homburg and Rudolph (2001) propose a model where satisfaction of industrial customers is measured by seven different dimensions such as satisfaction with product, salespeople, product-related information, order handling, technical services, internal personnel and complaint handling. The model was tested and supported in different industries consisting of suppliers of goods sold to industrial customers. Rossomme (2003) also provides a model based on different dimensions, but with different labeling. The author divides the customer satisfaction of industrial customer into four different dimensions, information satisfaction, performance satisfaction, attribute satisfaction and personal satisfaction.

Barneville Guy et al. (1973) studied residential homebuilders and found that good service was rated significantly higher than quality of the product, low price, location of supplier and availability of credit in terms of major products.

Dempsey (1976) also identified these findings when studying the purchasing managers of electronics manufacturing and electric utilities. Dempsey found that price was rated below delivery capability and quality in the purchase of capital equipment and component materials.

Machine owners seek to minimize the cost of operation by optimum selection of the equipment (Zavadskas and Vilutiene, 2006).

Consequently, it is a main concern of equipment managers to limit and reduce the overall cost of this task. Their responsibilities include selecting and optimizing the equipment fleet, as well as reducing the cost and optimizing productivity.

RESEARCH METHOD

(Coolihan, 1998) describes the purpose of the *expost - facto* design in descriptive research is to observe, describe and document aspects of a situation as it naturally occurs. The researcher has no control over the variables studied and he only reported the opinion and facts collected from the buyer of Loader backhoe machines in India about the brand awareness, brands purchased, factors influencing brand selection, and satisfaction level in respect to loader backhoe equipment. So this present study falls under the *expost-facto* design. The primary data were collected from 387 buyers of loader backhoe equipment all over India with the help of self-administered questionnaires. The samples are selected based on the non-random purposive sampling method. Cronbach's alpha is used to measure the internal consistency and the result is yielded as $r = 0.743$.

RESULTS AND DISCUSSION

Table 1 clearly depicts that 357 and 322 respondents are aware about L&T Case and JCB respectively. Nearly 150 respondents are aware about the CAT and Terex. Less than 100 respondents are aware about the Telcon, Escorts and others. So it is very clear that L&T case stand first on the brand awareness and JCB stand second on the brand awareness

The chi-square result (table 2) clearly represents that the brand awareness is depends on the location of the industry, Years in profession, types of equipment own, age and qualifications of the respondents.

From table 3 it is inferred that 61% of respondents preferred to purchase JCB. 25% and 11% of the respondents are preferred to purchase L&T Case and Caterpillar respectively. Only 3% of respondents are preferred to have other brands. On considering the brands it is found that JCB stands first on brand preference and L&T Case stand second on brand preference.

Table 1: Representing brand awareness on Loader Backhoe

S.N	Brand Name	Frequency
1	JCB	322
2	L&T Case	357
3	Telcon	92
4	CAT	136
5	Terex	154
6	Escorts	63
7	Others	33

Table 2: Chi-Square test on brand awareness

Particulars	Value	Sig
Location of the Industry	31.234	0.008
Type of Industry	23.393	0.555
Reasons for Switching	4.280	.997
Years in Profession	26.113	0.002
Types of Equipment own	49.959	0.013
Length of Profession	22.438	0.317
Age of Respondents	8.369	0.008
Qualifications	13.106	0.003

Table 3: Representing brand preferred by the respondents

S.N	Brands	Frequency	Percentage
1	Caterpillar	41	11
2	JCB	240	61
3	L & T Case	99	25
4	Others	10	3
Total		390	100.0

The significant value of attributes such as Reliability, Past Experience and Recommendations has less than 0.05 (table 4). So it is found to be significant and conclude that these attributes influence the brand selection. The b value of Past experience and Reliability is found to be positive and Recommendations is found to be negative, so it is concluded that Reliability is negatively influence the brand selection. The equation is $Y = 2.341 + 0.1351R + 0.67P - 0.063RE$.

The significant value of attributes such as Resale value, Productivity, Service parts and network and less downtime has less than 0.05 (table 5). So it is found to be significant and conclude that these attributes influence the brand selection. The significant value of Fuel consumption and Operator comfort is found to be more than 0.05. By this it is concluded that fuel consumption and operator comfort will influence the brand selection. The equation represents as how the attributes such as Resale value, Productivity, Service parts and network and less downtime will influence the brand selection. The regression equation is $Y = 2.256 + 0.139R + 0.13P + 0.37S + 0.109L$

Table 6 represents that the satisfaction level on L&T case and JCB is found to be nearly 4 on 5 point rating scale and stands first on brand

comparison. So it clearly depicts that respondents are satisfied with the product quality of L&T Case and JCB. Brands such as Escorts and Terex stands last on respondents' satisfaction with regard to product quality. On comparing the individual attributes of L&T case, the satisfaction level on Machine delivery as per commitment and Machine performance are found to be high. In regard to JCB, the satisfaction level on no major issues at the time of consuming and machine performance is found to high.

Table 7 clearly depicts that the satisfaction level on L&T case and JCB is found to be nearly 4 on 5 point rating scale and stands first on brand comparison. So it clearly depicts that respondents are satisfied with the product reliability of L&T Case and JCB. Brands such as CAT and Telcon followed L&T Case and JCB on satisfaction with respect to product reliability. Brands such as Escorts and Terex stands last on respondents' satisfaction with regard to product reliability. On comparing the individual attributes of L&T case and JCB, the satisfaction level on aesthetics of the new machine and quality of major structure are found to be high.

Table 4: Representing regression analysis on brands selection and reasons for consideration

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.341	0.174		13.457	0.000
Brand Name	0.041	0.037	0.059	1.120	0.264
Reliability	0.135	0.038	0.187	3.545	0.000
Service Support	-0.058	0.038	-0.081	-1.520	0.129
Past Experience	0.067	0.044	0.084	1.512	0.01
Recommendation	-0.063	0.035	-0.093	-1.832	0.008
Warranty	-0.036	0.036	-0.051	-0.984	0.326
Price	-0.059	0.036	-0.084	-1.645	0.101

Table 5: Representing regression analysis on brands selection and attributes

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.256	0.449		5.026	0.000
Resale Value	0.139	0.047	0.176	2.952	0.003
Productivity	0.13	0.063	0.012	0.214	0.030
1 Fuel Consumption	0.028	0.075	0.021	-0.370	0.711
Operator Comfort	0.009	0.058	0.008	0.148	0.882
Service & Parts Network	0.37	0.054	0.036	0.685	0.044
Less downtime	0.109	0.050	0.111	-2.183	0.030

Table 6: Representing consideration on product quality with respect to brands

Product quality	CAT	Escorts	JCB	L&T CASE	Terex	Telcon
Machine delivery as per commitment	3.07	2.9	3.715	3.83	2.9	3.16
No major issue at the time of commissioning	3.1	2.89	3.78	3.78	2.875	3.15
Excellent machine performance within warranty period	3.215	2.92	3.735	3.84	2.9	3.14
Excellent machine performance after warranty period	3.175	2.835	3.66	3.745	2.915	3.115
No major failure	3.15	2.885	3.6	3.725	2.86	3.075

(Mean values on 5 point rating scale)

Table 7: Representing consideration on product reliability with respect to brands

Product Reliability	CAT	Escorts	JCB	L&T CASE	Terex	Telcon
Aesthetics of the New Machine	3.265	2.975	3.785	3.87	2.98	3.18
Paint Quality& Surface Finish	3.39	2.975	3.66	3.78	3.135	3.175
Quality of the components used	3.345	2.95	3.735	3.785	2.95	3.13
Quality of the major structures	3.29	2.89	3.73	3.815	2.945	3.19
Look of the machine after 3000 hours of usage	3.255	2.89	3.665	3.755	2.95	3.095

(Mean values on 5 point rating scale)

The significant value (table 8), the attributes such as Brand name, Reliability, past experience and Recommendations on the above table are found to be less than 0.05. So the null hypothesis is rejected and concluded that there is a difference of opinion on attributes considered for the brand selection on purchase of brand. The significant value of the attributes such as service support, warranty and price is found to be more than 0.05. So it is concluded that there is no difference of opinion among the respondents on brand purchased with regard to attributes considered for brand selection. On considering

the mean values the respondents who purchased Caterpillar and Other brands are highly influenced by the attributes such as Brand name, past experience and Recommendations. As like the respondents who purchased L&T Case and other brands are influenced by Reliability. On considering the total mean values of all the attributes it is found that Price, Warranty, Recommendations, and service support has more influence on brand selection. Attributes such as brand name and past experience has least influence on brand selection.

Table8: Representing ANOVA on attributes consider for brand selection with regard to brand purchased

Attributes	Brand Purchased	N	Mean	Std. Deviation	Sum of Squares	Mean Square	F	Sig.
Brand Name	Caterpillar	39	2.0769	1.59579	14.903	4.968	2.617	0.05
	JCB	240	1.7042	1.23070				
	L&T Case	98	2.0408	1.58549				
	Others	10	2.5000	1.64992				
	Total	387	1.8475	1.38647				
Reliability	Caterpillar	41	1.8049	1.03004	36.455	12.152	7.193	0.000
	JCB	240	2.0417	1.32498				
	L&T Case	99	2.6667	1.37024				
	Others	10	2.7000	0.82327				
	Total	390	2.1923	1.33046				
Service Support	Caterpillar	41	2.4878	0.97780	9.153	3.051	1.733	0.160
	JCB	240	2.4292	1.39454				
	L&T Case	99	2.0909	1.27047				
	Others	10	2.5000	1.43372				
	Total	390	2.3513	1.33075				
Past Experience	Caterpillar	41	2.4878	1.02767	40.437	13.479	9.835	0.000
	JCB	240	1.6375	1.20574				
	L&T Case	99	1.8687	1.16625				
	Others	10	3.0000	0.81650				
	Total	390	1.8205	1.20989				
Recommendation	Caterpillar	41	2.9024	1.11366	43.104	14.368	7.553	0.000
	JCB	240	2.6583	1.45789				
	L&T Case	99	1.9596	1.29299				
	Others	10	2.9000	1.19722				
	Total	390	2.5128	1.41370				
Warranty	Caterpillar	41	2.9024	0.99511	11.933	3.978	2.124	0.097
	JCB	240	2.4000	1.43711				
	L&T Case	99	2.3535	1.35762				
	Others	10	2.9000	0.99443				
	Total	390	2.4538	1.37427				
Price	Caterpillar	41	3.0488	1.07124	7.895	2.632	1.410	0.239
	JCB	240	2.8833	1.37024				
	L&T Case	99	2.6061	1.48336				
	Others	10	3.0000	1.05409				
	Total	390	2.8333	1.36817				

CONCLUSION

Brand awareness is essential in buying decision-making as it is important that consumers recall the brand in the context of a given specific product category, awareness increasing the probability that the brand will be a member of the consideration set. Awareness also affects decisions about brands in the consideration set, even in the absence of any brand associations in consumers' minds. L&T Case and JCB has healthy mind share among all the customer groups. The brand awareness is depends on the location of the industry, Years in profession, types of equipment own, age and qualifications of the respondents. On considering the brands it is found that JCB stands first on brand preference and L&T Case stand second on brand preference.

On considering attributes such as Past experience, Reliability, Resale value, Productivity, Service parts and network and less downtime has positively influenced the brand selection. In regard to the product quality the satisfaction level on Machine delivery as per commitment and Machine performance are found to be high by the customer of L&T Case. The satisfaction level on no major issues at the time of consuming and machine performance is found to high by the customers of JCB. The customers are satisfied with the product reliability of L&T Case and JCB. Brands such as CAT and Telcon followed by L&T Case and JCB on satisfaction with respect to product reliability. Brands such us Escorts and Terex stands last on respondents' satisfaction with regard to product reliability. On comparing the individual attributes of L&T case and JCB, the satisfaction level on aesthetics of the new machine and quality of major structure are found to be high.

It is concluded that the brand selection by the buyers of loader backhoe will influenced by brand awareness, past experience, Reliability, Resale value, Productivity, Service parts and network and less downtime. On considering the various brands JCB has good mind share and

market share on loader backhoe equipment's. L&T Case is the next competitor for JCB on loader backhoe equipment's. Corporates of loader backhoe equipment has to concentrate on the above attributes and improve the same to attract more number of customers to their brands.

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