Research Paper

The Importance of Brand Name in Consumer Decision Making with Focus on CNC Machine Tool Industry in India

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Abstract

Branding has always been a hot subject among researchers for a long time especially for those in marketing research. The nature of evaluation of a person or an organisation is now a matter of what they have to differentiate from others. Organisations thrive for identifying the uniqueness and mankind try to find out the stand alone capabilities of the special ones so that they are recalled and regarded as someone special. There are firms like Brand Equity which value a person or a product or an organisation based on the value and declare their brand value globally. As I was employed by one of the most reputed and premium CNC machine tool manufacturer to market their products, one statement which used to come across from many was “We really wish we have your machine in our factory” and “One day we will buy one of those machines at least for the sake of prestige”. It was quite sure that they were mesmerized by the brand and those experience lead to choosing this topic. The study was taken systematically through various research methods and explaining it in detail. To get the feedback, respondents were contacted with questionnaires which consisted of three variables i.e., Brand Logo/Symbol, Brand Recall and Perceived quality and to check whether these variables have any effect on consumer decision making. To study the results Chronbach alpha and multiple regressions were used. Hypothesis assuming there is positive relationship between these variables and decision making, the result has shown a negative relationship and has also expressed that these factors are not significant at all. This was against expectation and as there is no previous research on topic in machine tool industry, this opens up an avenue for a detailed and in depth research in future involving more respondents in future.

Key Terms: Brand name, Brand awareness, Brand Recall, Consumer decision making

1. Introduction

Identifying self-identity (who am i) is the basis of existence in the life of human being (Belk, 1988; Berger & Hearth, 2007; Brewer, 1991). The above aspect of distinction of our self from others is the basis for brand creation (Belk, 1988). As far as brands are concerned it is a well-known fact that brands are capable of connecting and symbolizing with customer’s distinctiveness (Bhattacharya &Sen, 2003; Escalas, 2004).
For many people, brand name is so important that they do not buy a specific branded product to meet the need, but to enhance their self-respect in the society (Leslie & Malcolm, 1992). Products get saturated at certain point of time and the best way of getting noticed distinctly among the crowd is through branding. This is attained by the companies by emphasizing on the exclusivity of their product through branding (Lemon, Rust & Zeithaml, 2001). Dodds, Monroe and Grewal (1991) feel that the more the brand awareness the better influence of purchasing decision of the buyer.

Keeping buyers aware of brand name is important as buyers spent less time in active search for information to assist in buying decision (Emma & Byron, 2000). Products get obsolete at some point of time whereas a flourishing brand is ageless it is acquired by customer loyalty and satisfaction (Quiston, 2004).

1.2 Brief introduction to machine tools

![World Machine Tool Production & Consumption](Source: Gardner Research (2014)

Figure 1: World machine tool production and consumption)

Machine tools are called mother of all machines because they facilitate manufacturing or production of all machines including them. It was in 18th century that machine tool started playing a vital part in industrial revolution and spurt of growth in the engineering industry.

The computerized numerical controlled or CNC machines were introduced in 1960’s which used digital control in computers for governing the movement of machine to carry out metal working process like cutting, shaping, boring etc. The biggest advantage was removal of manual work in complicated mathematical calculations to derive shape like curvature and mating with high intricacy and precision (Michael Hauser, 2011).

Machine tool industry all over the world has been estimated at $58,300 million as of 2014. In this, India's position has gone down from 6th position to 11th position citing a downside change of 45% between 2011 and 2013. In monetary terms it was down from $2,627 million in 2011 to $1441 million in 2013 (Gardner survey, 2014).

2. Literature Review

The literatures studied here serves as the basis for conceptualizing consumer relationships exclusively with branding, the central construct of this study, and provide the major rationale for conceptualizing consumer–brand relationships in branding paradigm. Branding of industrial products plays a more important role than anticipated earlier as branding is as important as differentiation in the market (Mudambi, 2002). During the 1980s and 1990s a trend could be observed indicating that industrial companies began focusing on
brands as a means of competition (Nilson, 1998 & Blombäck, 2005, p. 21). There are many drivers which increase the significance of branding like increasing globalization and hyper competition, proliferation of similar products and services, increasing complexity, and high price pressures (Kotler and Pfoertsch, 2006, p. 45).

2.1 Conceptual framework

![Diagram of Conceptual framework]

Figure 2: Conceptual framework of Branding in Customer decision making

2.2 Objective of the study

1) To find out the impact of brand Logo/Symbol on the purchasing decision.
2) To find out connection between brand recall and customer decision

2.3 Research Questions

The research will be carried out on the following questions which will be critical to this study:

1) How does branding impact consumer decision making in CNC machine tool industry?
2) Whether the brand strength of the product has the ultimate authority on customer decision making?
3) Whether the customer is intend to prefer brand over price in buying decision

2.4 Brand Logos/Symbol

The brand logo is prominent in such a way that it helps distinguish product or company from others (Wallace, 2001). The salient feature of brand itself is that through logo it is able to differentiate itself from alternatives (Janiszewski & Meyvis, 2001; MacInnis, Shapiro & Mani, 1999). If we take the history of branding, kings of various countries used logos as a method of creating separate identity. History of brands shows that kings, especially Chinese kings used logos to create separate identity. One such example is the dragon used by ancient Chinese kings (Park et al, 2013). Logos have the effect of influencing brand status (Van den Bosch, de Jong & Elving, 2005) and the consumer's loyalty towards the products (Muller, Kocher & Crettaz, 2011). Apart from that logos have a big impact on the brand value creation of an organization (Van Riel & Van den Ban, 2001). Brand logos in a way show personnel's level of reaching the status or the actual level of status (Chaplin & Roedder John, 2005; Escalas & Bettman, 2005). It can be said that logo of the brand can be referred as an important tool to communicate the relationship between persons and brand and as a result help to accept brand as a part of their own identity (Walsh, Winterich & Mittal, 2010). Logos are powerful in such a way that it not only associate itself with personalities but also emphasize and strengthen which results in
increasing the customer's readiness to invest in resources to continue relationship with the brand (Park et al., 2010; Thomson et al., 2005).

### 2.5 Brand Recall

Many researchers have pinpointed on relationship between brand recall and approach to buying aims (Chi et al., 2009; Balakrishnan et al., 2012). Brand recall can be directly attributed to advertisements (Aydin, 2014). The first duty of an advertisement is to attract attention to remind consumers of the message. Emotion, here a stimulating and attention-drawing factor, triggers and reinforces associations created by ads. This can also be described as a learning process (Du Plessis, 2005). Brand recall is a psychological factor which prompts recall in everybody. Past information and understanding have major effect on present level of thinking, senses and actions (Foster, 2008). If buying actions are accepted as wisdom behaviours, recall can be called as the start-up of decision making. The communication which is transferred to the memory is uncovered and fixed and set right which leads into the decision making process of consumers (Bettman, 1979). According to Foster (2008), programming, securing and recovery are three phases of recall. The process of regular advertisement and sales visit invokes emotions and recollects a particular brand or organisation (Du Plessis, 2005). It is also identified that there is a positive correlation between likeability and brand recall in many researches (Du Plessis, 1994). Sinclair and Seward (1988), in their research found that the primary reason for industrial product’s branding is for getting product differentiation, to superior identification of the product, to emphasise on a speciality of the product and to develop a dedicated customer base.

### 2.6 Perceived Quality

Division of Perceived quality is shown below in a chart which is divided into two namely Product quality and Service Quality (D.Arker, 1991)

Perceived quality may be explained in a simple terms as the expectation of the customer about the particular product or company D.Arker (1991). According to A. Kirmani and V. Zeithaml (1993), customer's view of the quality is mainly considered by managers while building brand equity by incorporating constructive brand image and willingness of customers to pay extra for the image. Perceptible value of the product can be identified as one of the
decision making factor on purchases due to its impact on loyalty of the customer (M. Delong et al., 2004). Brands which have better or high perceived value results in improving a long lasting relationship between the brand and the customers (Schultz, 2001). One of the core point in perceived quality is that consumer is much concerned about the country of origin while making purchasing decisions (N. Papadopoulos et al. 1991). According to Useem (2005) companies which gives priority to branding programmes are more than 50% valuable to those who do not have them and have less than 30% of employee probability to leave

According to Aaker (1991), price plays a vital role in the perceived quality of product in customers mind. According to A.Kirmani and Zeithaml (1993), perceived quality is the summing up of what is received against what is given in simple terms. Aaker (1991) says in the perceived quality it is equally important to have good service quality apart from product quality. Good product with a bad service quality will affect the perception.

2.7 Consumer Decision

Consumer decision making process is based on four behaviours which are multifaceted buying behaviour, conflict reducing, routine and variety seeking behaviour (Kotler et al, 1997). During the process of decision making, the knowledgeable consumer becomes knowledgeable about the discrepancy between real and desired level of product performance (Baba, 2014). According to Boone and Kurtz (2005), opportunity is an important factor in decision making as the customer might have some negative feeling about a particular brand and remembrance of other prominent brand name helps at this point of time. Difference between direct purchases, innovative re-purchases and new target positions are some of the new area of interest in branding with regard to purchasing decision (Robinson et al 1997). Earlier researches have introduced a system called consumer style inventory (CSI) introduced by Sproles and Kendall in 1986 as a regular tool for evaluating the result making flairs of clients.

According to Kotler (2009), two factors which play a crucial role between purchase intention and customer decision making are as follows:

*The first one* is the attitude of the customer,

*The second one* is that of sudden turn of decision based on situation

De Chernatony and McDonald (1998), says consumer decision process takes places when the consumer looks for and assesses bits and pieces of information to take decision on brand purchase. Blackwell et al (2001) has come to the conclusion that the consumer will not buy a product unless they have a problem or a dissatisfaction or further requirement.

Solomon has come out with another view on customer decision making. Recognition of problem is one of the main stages where the customer tries to find out the substantial difference between the expectation and the present state and is followed by information gathering about the product. Level of involvement among the customer plays a big role on information gathering. It is clear that in the case of expensive products the level of involvement is high (e.g. CNC machine tools). Consumer gauges the various qualities and may consider the product features and associate branded products and takes final decision (Solomon, 2010).

Three hypotheses were formed to find out the relationship between the independent variable and decision making which will be analysed based on the survey feedback using statistical tools.

**H1**: Brand Logo/Symbol has a positive relationship with Customer decision making in CNC machine tool industry
H2  Brand Recall has a positive relationship with Customer decision making in CNC machine tool industry

H3: Perceived Quality has a positive relationship with Customer decision making in CNC machine tool industry

3.  Research Design and Methodology

3.1  Research Methodology

Validity and acceptability of a research study is directly impacted by the methodology used for research (McGrath & Brinberg, 1983). Since, the purpose of this research is to study the importance of branding in consumer decision making in CNC machine tools, it is important that research methodology be explained in detail. Research study is mostly in a similar patterns and it is called the hourglass notion of research in a nut shell as given below. (Shalini, Ajith and Eeshoo, 2001)

![Hourglass View of Research](image)

**Figure 2: The Hourglass view of research**

It is said the hourglass view because of the shape of the process as depicted above.

![Research 'Onion' in a nutshell](image)

**Figure 3: Research 'Onion' in a nutshell**
3.2 Research Design

Research design is the groundwork for data collection measurement and detailed analysis (De Vaus, 2001; Trochim and William, 2006).

Even though there are various research designs the prominent among them are Causal, Descriptive and Exploratory designs (Trochim and William, 2006). A diagramme showing the relationship between various research designs are given below:

![Research Design relationship flow chart](Source: Cengage learning)

*Figure 4: Research Design relationship flow chart*

Causal research may be termed as realising an occurrence on the basis of conditional statements in the way, “If X, then Y.” This kind of study is useful in understanding to what extend present rules and norms will have on a change in a particular event. Causal effect arises due to difference in one occurrence, an independent variable which results in difference in another variable which is dependent (Bachman, 2007). In this, there is higher degree of confidence as the study has internal validity due to the methodical subject selection and equity of groups under comparison. The main problem with this design is when there are two or more variables involved and as the cause comes first before effect, it will be difficult to establish which variable is the primary cause of effect (Trochim, 2006). For this research, Causal research will be used and will have three hypothesis formed.

3.3 Research Approaches

This approach may be classified into Inductive and Deductive approaches and further into Qualitative and Quantitative approaches. In simple words, Deduction is testing theory whereas Induction is building theory.

Other important approaches are Qualitative and Quantitative approaches. The difference between both is based on method of study. It is the aptness to give solution which prompts decision of choosing a specific methodology (Bryman, 1988).

This study is conducted using Deductive approach assisted by quantitative data for getting better authenticity and clarity.

3.4 Research Strategy

A research strategy is the plan of action on carrying out the research and is the link between frame work and the method used to collect and analyse data (Gay, Mills and Airasan, 2008). Academics prominently use the following strategy to conduct research:
A) Experiment  
B) Survey  
C) Archival Research  
D) Case Study  
E) Ethnography  
F) Grounded Theory and  
G) Narrative Description.

Of these methods, Survey strategy is the one which can be linked to deductive approach. When formulating survey design, it is important to take a holistic view of the entire survey design to make the survey process a success (Fowler, 2002). This research study will be conducted based on surveys based on primary data collection and for secondary data collection, journals and articles on branding will be used as supporting documents. Since there is no previous study on importance of branding in CNC machine tools, secondary datas specific to this field is not retrievable for reference.

3.6.3 Sampling size and geography of survey

It is a known fact that correctness of the research outcome is directly linked to the sample size. Standard error in statistical tool will be influenced by the size of the sample (Pedhazur and Schmelkin, 1991). Accordingly to Stutely (2003), minimum number of 30 responses for statistical analysis is required to provide a useful result within the survey. It can be calculated on the following formulae:

\[ N^a = \frac{n \times 100}{re\%} \]

Where \( N^a \) is the actual sample size required  
'\( N \)' is the minimum sample size  
'\( re\% \)' is the estimated response rate expressed as a percentage  
In my case, Minimum number of response expected is: 40  
Estimated response rate: 70%  
Hence, questionnaire to be sent for feedback to at least: \( 40 \times \frac{100}{70} = 57.14 \) i.e., 57

3.7 Data analysis

Data analysis is the key part of every survey. Various quantitative analysis techniques like graphs, charts and statistics make it possible for us (Saunders, 2009). One of the most common platforms of data analysis technique used world over is SPSS or Statistical Package for Social Science (Julie Pallant, 2011). For this research, data analysis is done using SPSS 20.

4. Results and Discussion

4.1 Analysis

Totally 45 filled questionnaires were received from this survey. In the survey, demographic portion was divided into 5 namely

1) Gender  
2) Annual Income  
3) Position in the organisation  
4) Investment Proposal and  
5) CNC machine tools availability in shop floor

4.1.2 Job position in the organisation
4.1.3 CNC machine tool Investment consideration

This is a very important part as part of the demographic consideration since it shows the tendency of the surveyed people on whether there will be any investment proposal in the near future or not.

4.1.4 Shop floor details

This section talks about the CNC machine tools which are available in the shop floor of the organisation surveyed. This will give an idea on the capacity of the organisations at the current scenario.

4.2 Reliability of Variables

Reliability in statistics is achieved by a technique called Cronbach’s Alfa, which was identified by Cronbach in 1951. It is nothing but splitting data into two in every possible way and computing correlation co-efficient for each split. The average of the values is equivalent to Cronbach’s alfa which is the mutual calculation of gauging reliability (Field, 2005). General
acceptable limit of Chronbach alfa is 0.8 or more for perceptive tests and 0.7 is suitable for ability tests (Kline, 1999).

4.2.1 Interpretation of Reliability in this research context

Reliability test was conducted successfully showing a consolidated Cronbach’s alfa of 0.839 for the 19 items in the survey questionnaires. Breakup of each item is given below:

<table>
<thead>
<tr>
<th>Reliability Statistics – Brand Logo/Symbol (IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>0.837</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reliability Statistics – Brand Recall (IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>0.486</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reliability Statistics – Perceived Quality (IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>0.902</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reliability Statistics – Decision making (DV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>0.795</td>
</tr>
</tbody>
</table>

4.2.2 Significance of findings of the survey

Multiple Regression is an important tool to calculate how two or more independent variables affect or impact the dependent variable. This is very much used when there is more number of independent variables which is having a direct influence on the dependent variable. This helps to analyse and determine the track of independent variable in forming the dependent variable and the strength (Kumar, 2010).

Multiple regression was carried out see the strength of the variables the result is shown below.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.266*</td>
<td>0.071</td>
<td>0.003</td>
<td>0.36852</td>
</tr>
</tbody>
</table>

The model is showing a summation value of 0.266*. The interpretation of this figure is that three independent variables does not show strength in the forecast of Customer decision making as the R value is around 27%. Likewise, multiple R is also showing a weak model with just 7% which also is not in the acceptable levels.

4.2.3 Hypothesis testing results
**H1: Brand Logo/Symbol has a positive relationship with Customer decision making in CNC machine tool industry**

As it can be seen instead of positive relationship, Pearson Correlation is showing a negative relation between brand logo and symbol meaning there is instead an inverse relationship. Hence, the first hypothesis proves to be not valid anymore and Anova is also on the higher side which shows there is no significance to this hypothesis.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Consumer Decision Making</th>
<th>Brand Logo/Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>Consumer Decision Making</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Brand Logo/Symbol</td>
<td>-0.243</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>Consumer Decision Making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brand Logo/Symbol</td>
<td>0.054</td>
</tr>
<tr>
<td>N</td>
<td>Consumer Decision Making</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Brand Logo/Symbol</td>
<td>45</td>
</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.353</td>
<td>1</td>
<td>.353</td>
<td>2.692</td>
<td>.108b</td>
</tr>
<tr>
<td>Residual</td>
<td>5.638</td>
<td>43</td>
<td>.131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5.991</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Consumer Decision Making  
b. Predictors: (Constant), Brand Logo/Symbol

**H2 Brand Recall has a positive relationship with Customer decision making in CNC machine tool industry**

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Consumer Decision Making</th>
<th>Brand Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>Consumer Decision Making</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Brand Recall</td>
<td>-0.217</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>Consumer Decision Making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brand Recall</td>
<td>0.076</td>
</tr>
<tr>
<td>N</td>
<td>Consumer Decision Making</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Brand Recall</td>
<td>45</td>
</tr>
</tbody>
</table>

Pearson Correlation statistics was in this hypothesis also shows a negative relationship between the two variables. In this case, it is showing at -0.217 and significance is showing 0.076 which is also not in line with Hypothesis and not valid.

**H3: Perceived Quality has a positive relationship with Customer decision making in CNC machine tool industry**

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Consumer Decision Making</th>
<th>Brand Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>Consumer Decision Making</td>
<td>Perceived Quality</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.290</td>
<td>1</td>
<td>.290</td>
<td>2.191</td>
<td>.146b</td>
</tr>
<tr>
<td>Residual</td>
<td>5.701</td>
<td>43</td>
<td>.133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5.991</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Consumer Decision Making  
b. Predictors: (Constant), Perceived Quality

This Hypothesis also shows a negative relationship and insignificance which makes the hypothesis not valid.

5. **Conclusion**

The purpose of undertaking this research was to identify the link between various factors of branding and the relevance of it in customer decision making. Even though the desired result was not achieved, which is not scarce in research, the inverse relationships these factors have on the decision making was surprising. Since no previous research has been done in the field of machine tool industry in this regard, there is ample scope in the future with a large population size and by further understanding the requirements and the factors of decision making in the field.

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