

Consumer Awareness and Preferences towards Plywood in Chennai City

S. Sasikumar, D. Dharmaraj

Abstract--The purpose of the study is to find out the awareness and preferences of consumers towards plywood in Chennai city. Descriptive and quantitative research design has been adopted for the study. The primary data has been collected through structured questionnaire with open and closed ended questions. Books, magazines, journals, thesis and websites were referred to collect secondary data. The data was collected by adopting purposive sampling technique from 100 consumers. Analysis namely reliability test, descriptive, chi-square test, bivariate correlation and Kendall's W test were used to identify the relationship between awareness and preferences of consumers towards plywood at Chennai city. The study found that there is a significant relationship between consumer awareness and preferences on plywood. It also found that majority of the consumers prefer to have Krishna Plywood followed by Century Plyboards (India) Ltd., GreenPly Industries Ltd., National Plywood Industries Ltd., Uniply Plywood, etc. Possible suggestions and conclusion were discussed.

Keywords--Consumer Awareness, Consumer Preferences, Cracking, Diversification, Resistance

I. INTRODUCTION

Today, trade in wood and wood products around the world is growing rapidly due to various factors such as marketing channels diversification, trade liberalization and other diverse drivers influencing the demand and production of these products. Due to rising incomes, urbanization, investment in real estate, western influence, etc., expenditure on furniture has increased over the past decades. In addition, evolution of new models with varied range of furniture items promoted to the creation of consumer demand for wood based products. In particular, plywood industry has come a long way and has since its inception expanded its product base. Plywood is produced by using powerful adhesives to assemble thin layers of wood veneers bonded together. Besides to well-known plywood types such as commercial, waterproof and marine plywood, various new products have entered the market. These include: plywood that is elastic, fire-retardant and structural. In India, the bulk of plywood is used for furniture production, accounting for two-thirds of wood use. Latest report produced by IMARC Group's "Indian Plywood Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024," finds out that the Indian plywood market reached extra-ordinary growth in 2011-2018. In India plywood industry is segmented as commercial and residential based on end-use. The residential sector is Indian

plywood's largest consumer, holding over half of the total shares. Greenply, Century Plyboards Limited, Merino, Kitply, Uniply, etc. are some of the major players. There are different customer groups that are searching for different product varieties. Few are not responsive to cost, few want a combination of value with affordable price and high durability and few want lower prices and find performance as a secondary factor. Hence, it is challenging for the plywood industry to serve and satisfy all range of customers. The study has been chosen to identify the level of awareness and preference of consumers towards plywood in Chennai.

II. PROBLEM DEFINITION

Plywood industry, like other manufacturing industries in the country, claims a bright future. Consumers often prefer plain wood to have plywood instead because of its resistance to cracking, shrinking, breaking, and warping, and because of its generally high durability. There is a shifting trend in consumer choice from non-branded to branded plywood due to the changing technology. But for most customers, it's very difficult to identify the plywood sheet quality just by looking at it. Until purchasing the plywood, one must therefore be aware of the type of plywood that manufacturers sell, the raw materials used, reliability, water proof and other aspects, including the valid ISI mark—a sign of quality trust. On the other hand, on the basis of their needs and expectations, customers want to use a range of different plywood. They expect high-quality content to meet international standards, particularly with different certifications in place. Wood manufacturers-marketers therefore need to innovate rapidly. To survive and remain competitive, the industry needs to understand and adapt to changing customer requirements. Thus, the study has been chosen to identify the association between socio-economic status, awareness and preferences of consumers towards plywood in Chennai. It also finds out the relationship between awareness and preferences of consumers with respect to plywood, Chennai.

III. SIGNIFICANCE OF THE STUDY

The study identifies the consumers' awareness and preferences of plywood in Chennai City which helps the manufacturer know the level of consumer awareness of plywood and the criteria they use to prefer plywood. The study demonstrates the important connection between the socio-economic status of consumers and their awareness and preferences of plywood, which gives the plywood companies a hint of manufacturing a variety of plywood

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based on consumer age, sex and income status. The study describes the significant relationship between consumer awareness, and preferences on plywood. This assessment helps the plywood companies to know the level of consumer awareness on plywood and to take the necessary steps to increase their preferences on plywood.

IV. SCOPE OF THE STUDY

The study is confined to the consumers' awareness and preferences of plywood in Chennai City. In order to find out the preferences of consumers towards branded plywood, the top branded plywood manufacturers chosen for the study are Green Ply Industries Ltd., Century Plyboards (India) Ltd., Krishna Plywood, Merino Laminates, Mayur Plywood, National Plywood Industries Ltd., Kitply Industries Ltd., Sarda Plywood Industries Ltd., Bansal Sales Corporation Pvt Ltd., Sylvan Plywood and Uniply.

V. OBJECTIVES OF THE STUDY

- 1) To study the socio-economic status of the consumers in Chennai city.
- 2) To examine the level of awareness and preferences of consumers towards plywood in Chennai city
- 3) To identify the significant association between socio-economic status and awareness and preferences of consumers towards plywood in Chennai city.
- 4) To find out the significant relationship between awareness and preferences of consumers towards plywood in Chennai city.
- 5) To assess the most preferred plywood brand by the consumers in Chennai city.
- 6) To offer various suggestions to increase the awareness of consumers in order to enhance their preferences towards plywood at Chennai city.

VI. REVIEW OF LITERATURE

Sanidhya Mittal (2019) Customer preference for branded plywood, introduction of GST and implementation of e-way bills narrowing down the price gap among products offered by organized and unorganized players to 10-15 percent from 25-30 percent, is expected to stimulate the growth of organized plywood company.

Shukri, M., et.al. (2013) investigated consumers' knowledge with respect to common type of wood-based materials namely medium density, plywood, solid timber and particleboard used for the manufacture of household furniture in Malaysia. Moreover, the type of product favored by customers has also been determined. Using conveyance sampling respondents were chosen. From them it was identified that only a mere 20% is able to recognize all the types of wood-based samples where as 80% was able to do the same only to one particular item. The study comes up with the conclusion that solid timber is the best and durable than any other format.

Ismail M. K. (2010) investigated pre-purchase search of consumers and the criteria used by them for selecting the furniture. In addition, this research examined whether the actions and requirements of consumers differed according to the characteristics of consumers. The data for this study was gathered from 12 Cairo, furniture stores from Egypt.

Comparison, cross tabulation and chi-square were the tools in use to analyze the data. Outcome showed customers were using 1 to 3 sources of information and visiting 1 to 8 shops. The most commonly used sources of information were visits to the shop, sales person, and friends / parents. End result showed that there is a noteworthy and substantial connection for the number of sources of knowledge used and literacy. More sources were used by females than by males. The findings from this study of research explain about the consumer pursuit and expectations for furniture which aid the marketing managers to understand the behavior of consumers with respect to furniture.

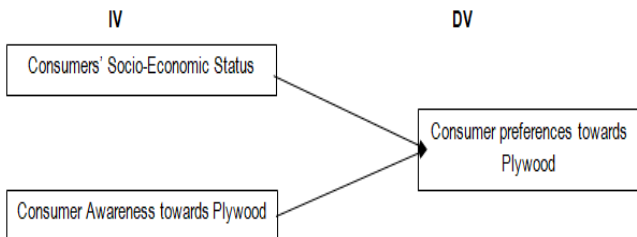
Kaputa, V. & Šupín, M. (2010) tried to understand the preference made by customers on frontiers in the Slovak Republic. Using questionnaires send via e-mail, data was obtained. Demographic data and several closed questions are asked to respondents. Our attitudes toward different furniture characteristics have been represented by a scale of 5 scales. Not surprisingly, value, cost and furniture design are the most important purchasing decision factors. Modern-style furniture is the most preferred by the consumers. It was found, for anyone to make choice for buying furniture, they normally depended upon the available catalog and also used internet to get more knowledge on the same. Finally it had to be approved at home between the hose hold members.

Deborah L. DeLong, et.al. (2007) talks about the struggle of secondary wood manufactures in Canada to be competitive in the market. The results of the study indicated that small to medium enterprises (SMEs) occupies the major part of this sector and both face common issues namely difficulty in obtaining fund for mounting their business, entering new market, research and development in marketing and facing difficulty in increasing the skill and efficiency of employees through training. Based on the analysis, the study found that to get financial and other support for the business in order to increase its profitability, it is better to join as a member of industry's association.

Vlosky et.al. (1999) in his article makes an effort to see how customers are happy to go for those wood products which are certified and branded. The study was conceptual in nature. It explains about the significant influence of environmental awareness, certification involvement and significance of certification towards making choice and spending on such certified products. The end result showed that there is always an important connection between the perceptions on the certified wood work and the readiness to purchase it at any reasonable price. It also identified that there is a significant influence of environmental awareness, certification involvement and significance of certification towards willingness to pay for environmentally certified wood products. Due to the strong awareness about the greenery, consumers are happy to go for wood products that are certified as environmentally fine.



VII. CONCEPTUAL FRAMEWORK



VIII. RESEARCH METHODOLOGY

The research design for the study was descriptive and analytical design. Both primary and secondary information are gathered for the analysis. Primary data consists of open and closed ended questionnaire. The secondary data was collected from newspapers, books, thesis, journals, internet, articles, etc. The sample size of the study was 100 consumers who were judgmental in providing reliable answers for the questions. Statistical analysis namely descriptive, chi-square, bivariate correlation and Kendall's W test was applied by using SPSS to find out the consumers' level of awareness and preferences and the relationship between awareness and preferences of consumers with respect to plywood.

IX. HYPOTHESIS SETTING

- H₁₁: There is a significant association between consumers' socio-economic status and their awareness and preferences towards plywood.
- H₁₂: There is a significant relationship between consumers' awareness and preferences towards plywood.
- H₁₃: There is a significant difference in the preferences of consumers towards plywood brand.

X. ANALYSIS AND INTERPRETATION & RESULTS

a. Reliability Test

In order to find out the consistency of data, Cronbach's Alpha Reliability test is applied.

Table 10.1: Reliability Test for Consumer Awareness and Preferences towards Plywood

S. No.	Scale	No. of Items	Cronbach's Alpha (α)
1.	Consumer Awareness towards Plywood	10	0.925
2.	Consumer Preferences towards Plywood	10	0.943

[Source: Primary data]

It is clearly understood from the table 10.1, for all the factors the Cronbach's Alpha reliability was higher than 80% which indicates that all the variables construct reliable results by making repeated measurements

b. Descriptive Statistics

In order to measure the level of awareness and preferences of consumers towards plywood, descriptive statistics is applied.

Table 10.2: Mean and Standard Deviation for Consumer Awareness and Preferences towards Plywood

S. No.	Scale	N	Min	Max	Mean	S. D.
1.	Consumer Awareness towards Plywood	100	1	5	3.44	0.994
2.	Consumer Preferences towards Plywood	100	1	5	3.21	1.069

[Source: Primary data]

From the above table, the mean value of consumer awareness and preferences towards plywood are below 3.50, which means the awareness (3.44) and preferences (3.21) of consumers towards plywood are at average level.

c. Chi-Square

This test is administered to ascertain the association between consumers' socio-economic status and awareness and preferences towards plywood.

H₀₁: There is no association between consumers' socio-economic status and awareness and preferences towards plywood.

H₁₁: There is an association between consumers' socio-economic status and awareness and preferences towards plywood

Table 10.3: Association between Consumer Socio-Economic Status and their Awareness and Preferences towards Plywood

Socio-Economic Status	Consumer Awareness towards Plywood			Consumer Preferences towards Plywood		
	Chi-Square	P value	Result	Chi-Square	P value	Result
Gender	6.453	0.001**	Accepted at 1%	5.384	0.003**	Accepted at 1%
Age	12.247	0.004**	Accepted at 1%	13.297	0.002**	Accepted at 1%
Educational qualification	16.136	0.008**	Accepted at 1%	16.346	0.006**	Accepted at 1%
Occupation	15.849	0.031*	Accepted at 1%	14.285	0.040*	Accepted at 1%
Income	15.672	0.001**	Accepted at 1%	15.165	0.001**	Accepted at 1%

[Source: Primary data] Note: ** Denotes significant at 1% level. & * Denotes significant at 5% level.

Since P value is less than 0.01, the alternate hypothesis is accepted at 1 percent level of significance. Hence it is concluded that there is an association between gender, age, educational qualification and income with customers' awareness and preferences towards plywood. Since P value is less than 0.05, the alternate hypothesis is accepted at 5 percent level of significance. Hence it is concluded that there is an association between occupation with customers' awareness and preferences towards plywood.

Bivariate Correlation

In order to find the significant relationship between customer awareness and preferences towards plywood, bivariate correlation is used.

H₀₂: There is no significant relationship between customer awareness and preferences towards plywood.

H₁₂: There is a significant relationship between customer awareness and preferences towards plywood.

Table 10.4: Significant Relationship between Customer Awareness and Preferences towards Plywood

Variables	Analysis	Customer Awareness towards Plywood	Customer Preferences towards Plywood
Customer Awareness towards Plywood	Pearson' Correlation	1	0.986**
	Sig (2-tailed)	0.000	0.000
	N	100	100
Customer Preferences towards Plywood	Pearson' Correlation	0.986**	1
	Sig (2-tailed)	0.000	0.000
	N	100	100

[Source: Primary data] Note: ** Denotes correlation is significant at 1% level.

Since the P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence it is concluded that the customers' awareness towards plywood have a positive and strong relationship with their preferences towards plywood (0.986). This implies that as the level of awareness towards plywood increases, the level of preferences towards plywood also increases.

e. Kendall's Coefficient of Concordance (Kendall's W) test

In order to study the customers' preferred plywood brand, Kendall's Coefficient of Concordance (Kendall's W) test is applied. Based on mean rank, the most preferred brand by the customer is identified.

H₀₃: There is no significant difference in the preferences of consumers towards plywood brand.

H₁₃: There is a significant difference in the preferences of consumers towards plywood brand.

Table 10.5: Preferences of Consumers towards Plywood Brand

Brand	Mean Rank	Chi-square Value	P Value
Green Ply Industries Ltd.	3.84	149.562	0.005**
Century Ply boards(India) Ltd.	2.52		
Krishna Plywood	1.43		
Merino Laminates	11.47		
Mayur Plywood	6.64		
National Plywood Industries Ltd.	4.63		
Kitply Industries Ltd.	7.06		
Sarda Plywood Industries Ltd.	8.41		
Bansal Sales Corporation Pvt. Ltd.	9.57		
Sylvan Plywood	10.62		
Uniply Plywood	5.51		

Source: Primary data] Note: ** Denotes significant at 1% level.

Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence it is concluded that there is a significant difference in the preferences of consumers towards plywood brand in Chennai city. Based on mean rank, the most preferred brand for purchase of plywood by the customer is Krishna Plywood (1.43), followed by Century Ply boards (India) Ltd. (2.52), Green Ply Industries Ltd. (3.84), National Plywood Industries Ltd. (4.63), Uniply Plywood (5.51), Mayur

Plywood (6.64), Kitply Industries Ltd (7.06), Sarda Plywood Industries Ltd. (8.41), Bansal Sales Corporation Pvt. Ltd. (9.57), Sylvan Plywood (10.62) and Merino Laminates (11.47).

XI. FINDINGS

It is clearly learnt from the descriptive statistics that the mean value of consumer awareness and preferences towards plywood are below 3.50, which means the awareness (3.44) and preferences (3.21) of consumers towards plywood are at average level. Based on chi-square test, it is understandable that there is a significant association between gender, age, educational qualification, occupation and income with customers' awareness and preferences towards plywood. In addition, based on the correlation, it is understood that the customers' awareness towards plywood have a positive and strong relationship with their preferences towards plywood. It is identified from the Kendall's W test that the Krishna Plywood is the most preferred by the consumers for the purchase of plywood, followed by Century Plyboards (India) Ltd., Green Ply Industries Ltd., National Plywood Industries Ltd., Uniply Plywood etc.

XII. SUGGESTIONS

Consumer preferences for plywood depend on many factors, such as awareness, perceived quality, knowledge, cultural differences, Vastu-Sashtra, brand loyalty and more. The study was undertaken to establish the relationship of consumer awareness and preferences to plywood. It is evident from the correlation that there is a relationship between consumer awareness and preferences for plywood. It is therefore a noteworthy function of plywood manufacturers to increase consumer awareness of the need to increase their preference for appropriate plywood. It also understood that there is a link between consumers' socio-economic status and their awareness and preference for plywood. The plywood manufacturer should therefore segment the market based on the consumer's gender, age, income status, and educational qualifications.

XIII. CONCLUSION

In India, organized branded plywood companies offer plywood for higher cost with quality certificates, on the other hand unorganized sector who contribute equal proportion in the plywood market make and sell locally made plywood brands for lower and reasonable cost with quality comprises. Therefore, sustaining on the market is challenging for both organized and unorganized sectors. Few consumers may be aware of the raw materials used, the type of plywood, its quality and durability, and by undergoing in-depth analysis of plywood they make purchase decisions. In comparison, few customers who have no knowledge of the plywood and its styles can turn over plywood's decision-making and purchasing power to the carpenter who have been experts in that particular field.



To address this, the plywood industry must take steps needed to raise awareness of plywood and its forms among consumers. Companies will have to concentrate on advertising aspects to improve customers' knowledge to make their own purchase decision without requiring any intermediaries.

XIV. LIMITATIONS OF THE STUDY

- 1) The study is limited to consumer awareness and preferences towards plywood in Chennai city.
- 2) This study is limited to 100 consumers.

The study does not take into consideration other aspects of consumer preferences towards plywood namely knowledge, attitude, perception etc.

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