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## Original Research Article

# Analyzing customer satisfaction and loyalty in packaging industry in Rajkot district

Nehaliba Zala<sup>1,\*</sup>

<sup>1</sup>Dept. of Management, Christ Institute of Management, Rajkot, Gujarat, India



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### ABSTRACT

The printing and laminating manufacturing industry is growing rapidly in India. The domestic demand for printed and laminated products is increasing which increases the manufacturing of printing and laminating machines. So it becomes very mandatory to know if the customers are satisfied with the product and showing loyalty towards the company. Therefore this research mainly focuses on satisfaction and loyalty of customers in the packaging industry. Packaging industry includes the printing and lamination machinery manufacturing industries. For this research descriptive research methodology is used. Sampling technique used is Convenience (non-random sampling) sampling with a sample size of 100 out of all the customers of the packaging industry. Data is collected from customers through questionnaire and analysis is done. For statistical analysis Chi square test and Kruskal Wallis test is used. There is applicability of Conceptual Research model which shows that customer service quality and product quality influence customer satisfaction and customer satisfaction influences customer loyalty.

This research concludes that 16% of customers are moderately satisfied and 54% of customers are highly loyal. Customers are satisfied with the service quality and product quality provided by the packaging industry.

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## 1. Introduction

The production value of printing machinery across India was around 100.6 billion Indian rupees in the year 2021. Laminating machines market's revenue was US\$ 560.2 million in 2021 and with the propulsion demand from the end use industries, the global laminating machine market is projected to reach US \$955.9 million by 2032. The need of printing and lamination machinery is increasing in the packaging industry. I hereby want to analyze the customer satisfaction and loyalty for the customers of the packaging industry in Rajkot district. All the manufacturing industries that use the printing and lamination machinery in Rajkot are the target audience for this research. It mainly includes all the business units as this industry deals in B2B market.

Packaging is essential in all business verticals so the packaging laminates market size is expected to grow at a significant CAGR of 5.1% during the forecast period. As the manufacturing unit increases the number of customers in the packaging industry also increases. There are various industries manufacturing printing and lamination machines so competition is increasing and so it becomes essential to analyze customer satisfaction and loyalty.

## 2. Literature Review

Latif, A. S., Wibowo, T. S., Nurdiani, T. W., Alimin, E., & Suharyat, Y. (2023). Increasing Customer Loyalty Through Service Quality And Customer Satisfaction In The Digital Era. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 7(2).

\* Corresponding author.

E-mail address: [zalanehaliba@gmail.com](mailto:zalanehaliba@gmail.com) (N. Zala).

The aim of this study is to determine and analyse the effect of service quality and customer satisfaction on customer loyalty in the Digital Era. Findings for the study is that if companies want to increase customer loyalty, companies should improve service quality and customer satisfaction. This study conclude that service quality and customer satisfaction has a positive and important effect on customer loyalty in the digital era.

Elsäßer, M., & Wirtz, B. W. (2017). Rational and emotional factors of customer satisfaction and brand loyalty in a business-to-business setting. *Journal of Business & Industrial Marketing*, 32(1), 138-152.

The purpose of this study is to examine the success factors of branding in a B2B market and to do the analysis of their performance impact on customer satisfaction and brand loyalty. Factors convincing buyer's rational and emotional behavior in business to business market can be known through this study. Data was collected from 258 buyers of mechanical and plant engineering companies. It is concluded that all the dimensions of emotional brand association and rational brand quality influence customer satisfaction and brand loyalty.

Bhakane, B. (2015). Effect of customer relationship management on customer satisfaction and loyalty. *International Journal of Management (IJM)* Volume, 6, 01-07.

The objective of this research is to know the effect of CRM on factors such as customer satisfaction and customer loyalty. Importance of CRM for an organization and the CRM practices adopted in industry is explained in this research. Through this study it can be stated that CRM is needed in any organization and it will optimize the profitability, income and will fulfill the needs of the customers.<sup>1-6</sup>

Long, C. S., & Khalafinezhad, R. (2012). Customer satisfaction and loyalty: A literature review in the perspective of customer relationship management. *Journal of Applied Business and Finance Researches*, 1(1), 06-13.

The objective of this study is to review the effective relationship between CRM, customer satisfaction and customer loyalty. Concentration of this paper is to the literature on the impact of customer relationship management on customer satisfaction and customer loyalty. On the basis of literature review on various models and previous studies critical elements that link with customer satisfaction and loyalty are found out.

Rahim, A. G., Ignatius, I. U., & Adeoti, O. E. (2012). Is customer satisfaction an indicator of customer loyalty?.

The aim of this research was to investigate whether customer satisfaction is an indicator of customer loyalty. This study has identified the existence of interdependency of customer satisfaction and customer loyalty. In this research it is said that for achieving loyal customer base, only customer satisfaction is not enough. Because there

are various other reasons also for the repeat purchase of customers. Emotive, inertia and deliberative this are the three attitudes that underlies loyalty profiles. It is found that customers with emotive attitude shows more loyalty

Jahanshahi, A. A., Gashti, M. A. H., Mirdamadi, S. A., Nawaser, K., & Khaksar, S. M. S. (2011). Study the effects of customer service and product quality on customer satisfaction and loyalty. *International Journal of Humanities and Social Science*, 1(7), 253-260.

The objective of this research is to known, "The effect of customer service quality and product quality on customer satisfaction" and "Relationship between customer satisfaction and customer loyalty" in context with automotive industry. The population for this study is Tata Indica car owners in Pune. Through the key features of excellent customer service and criteria for the product quality the customer satisfaction is analyzed. Through this study it is analyzed that there is positive correlation between the constructs of customer service and product quality with customer satisfaction and loyalty

Čater, B., & Čater, T. (2009). Relationship-value-based antecedents of customer satisfaction and loyalty in manufacturing. *Journal of Business & Industrial Marketing*, 24(8), 585-597.

The purpose for this research is to increase the knowledge of customer satisfaction and loyalty in business to business markets. Structural equating model is used for empirical analysis. 477 customer-supplier relationships in the manufacturing context are used for this. The outcome of the result is that satisfaction is negatively affected by price and positively by other elements. The main findings for the study is that delivery performance, supplier know how and personal interaction is affecting more to the satisfaction.

Naumann, E., Williams, P., & Khan, M. S. (2009). Customer satisfaction and loyalty in B2B services: directions for future research. *The Marketing Review*, 9(4), 319-333.

This is conceptual paper addressing some missing links in understanding customer loyalty. The implication of this paper is that several other factors should be included while measuring customer satisfaction by the future researchers. Company factors, customer factor, industry and competition factor, macroeconomic factor are showed in this paper. This research has found out that 75-85% of defecting customers would have been satisfied or very satisfied on their last customer survey. Many customers will defect even if they are very satisfied and have an excellent relationship.

Torres-Moraga, E., Vásquez-Parraga, A. Z., & Zamora-González, J. (2008). Customer satisfaction and loyalty: start with the product, culminate with the brand. *Journal of consumer marketing*, 25(5), 302-313.

The paper discusses the importance of product satisfaction and its impact on customer loyalty, emphasizing that customer appreciation often begins with the product

itself rather than the brand. It suggests that this relationship is especially significant for innovative products compared to traditional ones. Additionally, the paper proposes a product-brand typology and presents findings that show the presence of satisfaction-loyalty relationship when evaluating products alone, albeit weaker than when evaluating the brand alone.

Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context. *Journal of the academy of marketing science*, 32(3), 293-311

This study shows the relationship between Customer Value and Customer Satisfaction, relationship between Customer Satisfaction and Customer Loyalty, relationship between Switching Cost and Customer Loyalty, interaction effect between Customer Satisfaction and Switching Costs on Customer Loyalty and the reciprocal effect of Customer Loyalty on Customer Satisfaction. 268 responses at a response rate of 9 % was collected and chi-square test of independence was used for statistical analysis. This study allows a service provider to identify its strengths and weakness on the value components relative to its competitors.<sup>7-10</sup>

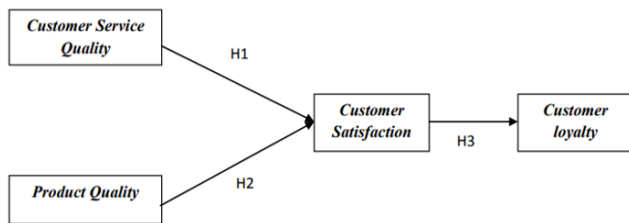


Fig. 1: Model analysis

( source: Jahanshahi, A. A., Gashti, M. A. H., Mirdamadi, S. A., Nawaser, K., & Khaksar, S. M. S. (2011). Study the effects of customer service and product quality on customer satisfaction and loyalty. *International Journal of Humanities and Social Science*, 1(7), 253-260)

The application of this model shows:

1. Customer service quality influence the customer satisfaction.
2. Product quality influence the customer satisfaction,

Through the ratings given by the customers for the customer service quality, product quality, satisfaction and loyalty analysis is done with implication of this model. Hence, it can be said from all this analysis that Customer service quality and product quality influence customer satisfaction. Customer satisfaction influence the customer loyalty . Customers are satisfied with all the customer service quality and product quality and so they are the loyal towards the company. This analysis is done form the interpretation of the charts from the collected data.

### 3. Research Methodology

#### 3.1. Research problem

The high growth is expected in packaging industry, which also leads to high competition so there arise a need to examine the customer satisfaction and loyalty along with, influence of service quality and product quality on customer satisfaction in packaging industry. This study explore the effectiveness of customer support, delivery time, purchase experience, product quality and features in influencing overall customer satisfaction and loyalty. Customer feedback is analyzed and assess the factors for influencing customer satisfaction and loyalty.

### 4. Research Objectives

1. To analyze the customer satisfaction for packaging industry.
2. To analyze the customer loyalty for packaging industry.
3. To know the experience of customers for service quality and product quality.
4. To know that customers are satisfied more with which aspect of the product.
5. To know which factors contribute most for the customer’s loyalty.

#### 4.1. Research design

Table 1:

Particulars	Details
Research Methodology	Descriptive Research
Population	Customers of packaging industry
Sample	100
Sampling Methods	Non-probability – Convenience Sampling Method
Data Collection Instrument	Questionnaire
Statistical Analysis	Chi Square Test Kruskal Wallis Test
Model Analysis	Conceptual Research Model

#### 4.2. Data analysis and interpretation

The data shown in the Figure 2 clearly represents that customers are satisfied with the product on the basis of ratings given by them.

The data shown in the Figure 3 shows customers are satisfied most with the quality of the product.

The data given in Figure 4 represents the ratings for product reliability, customer service, delivery and lead time, pricing and technical support. It can be clearly interpreted on the basis of ratings that customers are highly satisfied.

The data given in Figure 5 shows that product quality is the factor that contribute most to the customer’s loyalty.



Fig. 2: How satisfied are you with the products?

WHAT ASPECT OF THE PRODUCT YOU WERE MOST SATISFIED WITH?



Fig. 3: What aspect of the product you were most satisfied with?

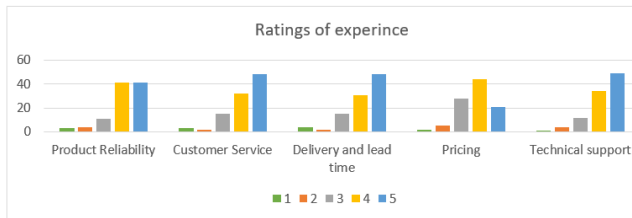


Fig. 4: Rating of experience

WHAT FACTORS CONTRIBUTE MOST TO YOUR LOYALTY TOWARDS THE COMPANY ?



Fig. 5: What factors contribute most to your loyalty towards the company?

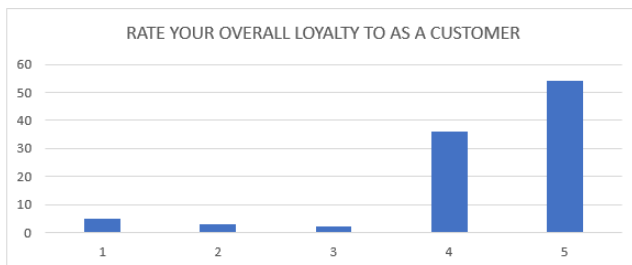


Fig. 6: Rate your overall loyalty to as a customer

The data given in the Figure 6 shows the ratings given by customers for loyalty and from this it can be clearly said that customers are highly loyal.

4.3. Chi square test – Test of independence

Gender and what aspect of the product customers are satisfied with.

Null hypothesis = There is no significance impact of gender on aspect of the products the customers are satisfied with.

Alternate hypothesis = There is significance impact of gender on aspect of the products the customers are satisfied with.

Observed frequency - contingency table

Table 2:

Gender	After sales service	Price	Purchase experience	Quality	Shipping facility	Grand Total
Female	3	2	7	10	2	24
Male	8	5	11	50	2	76
Grand Total	11	7	18	60	4	100

Table 3:

Observed frequency	Expected frequency	(Observed frequency - Expected frequency) <sup>2</sup>	(Observed frequency - Expected frequency) <sup>2</sup> / expected frequency
3	2.64	0.1296	0.049090909
8	8.36	0.1296	0.015502392
2	1.68	0.1024	0.060952381
5	5.32	0.1024	0.01924812
7	4.32	7.1824	1.662592593
11	13.7	7.1824	0.52502924
10	14.4	19.36	1.344444444
50	45.6	19.36	0.424561404
2	0.96	1.0816	1.126666667
2	3.04	1.0816	0.355789474
Total			5.583877623

Level of significance = 0.05

Degree of freedom = (R-1) \* (C-1) = 4

$\chi^2_{tab} = \chi^2_{0.05, 4} = 5.58$

H0 is accepted as calculated chi square value is less than the critical chi square value so it is analyzed that aspect of the product customers are satisfied with is independent of gender, so there is no significance of gender on this factor.

4.4. Kruskal wallis test

Age and satisfaction ratings given by the customers for overall quality of the product.

Null hypothesis - The satisfaction ratings have the same distribution across all the age group.

Alternate hypothesis - The satisfaction rating of at least one group differ significantly from the others.

**Table 4:**

Age	Sum of ranks	Counts of rank
25-30	83	13
30-35	98	11
35-40	107	12
40-45	203	24
45-50	349	39
50 and above	9	1
		100

N=100

Calculated value using the formula:

$$H = \frac{12}{100(100+1)} \left( \frac{83^2}{13} + \frac{98^2}{11} + \frac{107^2}{12} + \frac{203^2}{24} + \frac{349^2}{39} + \frac{9^2}{1} \right) - 3(100+1)$$

Is 24.522

Level of significance =0.05

Degree of freedom = Number of age group-1  
6-1=5

The critical chi square value is 11.070.

The calculated chi square value is greater than critical chi square so it can be said that satisfaction rating of at least one group differ significantly from the others.

## 5. Conclusion

This research shows that customers are ecstatically and elatedly satisfied with the products in packaging industry. 60% customers are satisfied with the quality of the product, 18% customers are satisfied with the purchase experience, 11% customers are satisfied with the after sales service, 7% customers are satisfied with the price and 4% customers are satisfied with the shipping facility. Customers are satisfied and so they are highly loyal towards the industry. It is concluded that customer service quality and product quality influence the customer satisfaction and customer satisfaction influences the customer loyalty in packaging industry in Rajkot.

## 6. Source of Funding

None.

## 7. Conflict of Interest

None.

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## Author biography

Nehaliba Zala, Student

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