

Evaluation of Effectiveness Of green Marketing Mix on Consumer Satisfaction and Loyalty: (Case Study: The East Azarbaijan Pegah Dairy Company in Tabriz, Iran)

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Abstract: The purpose of this research study is to evaluate effect of green marketing mix on satisfaction and loyalty of the customers and consumers of the East Azarbaijan Pegah Dairy Company located in Tabriz, Iran. For this purpose all customers and consumers (total of 4500 families) of the company in the East Azarbaijan Province were taken as the statistical population and two forms of questionnaires were distributed among them as the sample population. The customers are taken as those who sell the East Azarbaijan Pegah Company's products in the province and consumers are the people in the province who consume the company's products. After analysis it was concluded that green marketing mix has significant effect on consumer satisfaction. It was also concluded that consumers' satisfaction has significant effect on their loyalty [1]. By considering the effect of green marketing mix upon consumers' and customers' satisfaction and the effect of such satisfaction upon their loyalty, it can be assumed that companies can create competitive advantage in their organization through taking steps in making the green marketing part of their overall marketing strategy.

Key words: Green marketing • Customer loyalty • Customer satisfaction

INTRODUCTION

Green marketing has been viewed as one of the most important academic research subjects since its conception [2]. The issue gained more emphasis in the late 1970s; when the American Marketing Association held its first seminar on Ecological Marketing in 1975, which led to the publication of a book entitled Environmental Marketing [3] by Henion and Kinnear in 1975. The first definition of green marketing was according to Henion (1976); "the implementation of marketing programs directed at the environmentally conscious market segment" [4]. Peattie and Crane (2005) claim that despite the early development, it was only in the late 1980s that the idea of green marketing actually made an appearance because of the consumers' growing interest in green products, increased awareness and willingness to pay for green features [5]. Henion's definition of green marketing has evolved and many more definitions for green marketing have arisen throughout the years. One of the latter definitions is Fuller's (1999, p. 4):

"The process of planning, implementing and controlling the development, pricing, promotion and distribution of products in a manner that satisfies the following three criteria: (1) customer needs are met, (2) organizational goals are attained and (3) the process is compatible with eco-systems". [6]

Consumers have started to show more interest in green products and the tendency to spend on products with green features has increased. Since then, research programs have been conducted to study the interest of people towards the environment and green products.

With respect to the existing data, research results, growing public awareness and also responsibilities, ever increasing attention to environment, increasing attention of companies to customer satisfaction and loyalty and also tendency of organizations to acquire international certificates such as ISO (e. g. ISO 4001) and also the fact that green marketing has brought about a competitive advantage for the companies, the significance of green marketing has been greatly highlighted.

Significance of the Research: Tremendous increase in use of natural resources and inconsiderateness towards environment, human health risks and irreversible severe ecosystem damages make human being more cautious about environment and related health problems. This has also led to the creation of NGOs for protecting the environment. These NGOs have been pressuring governments into developing legislations and regulations about the environment. Since companies look for competitive advantage to increase their customer satisfaction and loyalty, they are being forced to consider environmental issues in producing their products. So far, a lot of research has been done on the management of customer communications, satisfaction and loyalty [7] and also on the subject of green planning management in compiling company strategies [8], however, very little research has been done on green marketing and its relationship with customer satisfaction and loyalty.

Literature Review: Review of the related literature shows that there is not so much research, nor a unique definition about green marketing approach due to its youngness, however, what is a common fact among proposed definitions, is fulfilling the company's goals with the least damage to living environment and human beings. Following is a number of definitions being floated on the subject:

- Green marketing is a managerial process to identify, foresee and meet society's and customer needs via a sustainable and profitable procedure [5].
- Green marketing or ecological marketing focuses on all designed activities to meet human's needs and wants with the least impact on natural environment [9].
- According to the American Marketing Association (1976), green marketing is the study of positive and negative aspects of marketing on pollution and reducing consumption of energy and other scarce resources.
- Green marketing or environmental marketing includes all activities that are designed to facilitate the transactions in order to meet human wants and needs in a way with the least adverse effects on living environment [9].

Primary studies on green marketing and about customer interest for green products was first done by Vandermerwe and Oliff in 1990 [10]. In 1989, a study in the United States of America indicated that 49 percent of

responders have made changes in their purchase habits for the sake of environment. According to another research by Callan and Thomas in 1992, 93 percent of participants stated that environmental consequences have had a role in their purchasing habits [11]. The results of another research which was done in developing countries by Peattie in the same year showed that 75 percent of participants somehow involved environmental criteria in their purchasing [5].

In a study in 1994, Dietz and Stern [12] proved that 42 percent of the British consumers paid attention to environmental consequences in their purchases and 27 percent of them had the will to pay 25 percent more than the normal market prices for environment-friendly products.

According to the studies done by Levinson [13], 83 percent of customers claimed that they chose environment-friendly brands and 80 percent concerned the company reputation regarding environmental protection issues.

Customer Satisfaction: During recent four decades, customer satisfaction has been viewed as an important theoretical and practical issue for most of the marketers and researchers. Kotler (2000) defines it as a feeling in individuals after comparing product and service performances with their expectations [14]. Hawkins (1995) states that such factors as friendly, polite, knowledgeable and useful employees, clear and accurate bills, competitive prices and quick services, can affect customer satisfaction. Satisfaction also refers to pleasant or unpleasant feeling caused with comparison between imaginative function and expectations [15]. If a good's performance is better than expectations, customer will be pleased [16].

Satisfaction is directed to consumer's judgment to the extent to which a product's or service's feature can create joy and pleasantness at the time of consumption [17]. According to experiences and customer comments, satisfaction works as complementing the consumption purposes of the customer [17].

Previous studies have indicated two different conceptualizations from customer satisfaction: 1. Particular purchase and 2. Cumulative purchase.

The former refers to evaluated judgment after purchase for a particular occasion, while the latter is based upon general experience with goods and services of a particular company during a period of time. A common agreement on all the definitions proposed is on the necessity of purpose by which the customer looks for.

All companies face an increasing pressure towards creating greener products. Jamal and Nasser define customer satisfaction as the customer's attitude towards a product or post-usage services [18]. Satisfaction is also referred to as customer reactions to use or consume a product [19]. A comprehensive definition of customer satisfaction would be as follows: "customer satisfaction is a result received through the comparison of expected performance before purchase with the real perceived performance and paid expense" [20].

Customer Loyalty: Customer loyalty refers to the customer's behavior in keeping in touch with institution after buying products and obtaining after sale services [21, 22]. Loyalty is having and keeping a deep commitment to re-purchase of an offered product. In other words, loyalty can be considered as ensuring future behavior for buying a product or a service, or getting in touch with a factory in all situations even if there are other alternatives for purchasing [17].

Therefore, customer loyalty requires a positive attitude towards the company's products and services. It is reached through desired behavior which results in buying goods and services and recommending to others [23]. Customer loyalty is also a sustainable source of income for companies that, as an informal communication channel, introduce the products or services to families and friends [24].

Interrelationship Between Customer Satisfaction and Loyalty: Much research has been done on the interrelationship between customer satisfaction and loyalty. Haskett *et al.* (1994) stated that loyalty is the direct result of customer satisfaction [25]. Andersen and Fornel (1994) state that customer satisfaction depends upon his/her overall satisfaction. All customers do not become loyal due to receiving a satisfying service, but due to the fact that a group of them do not want to bother to transfer to another provider [26].

Background of Study Done Abroad: In their research paper "Green product quality, green corporate image, green customer satisfaction and green customer loyalty", Nai-Jen Chang and Chen-Min Fong (2010) studied the effects of these variables with the use of a questionnaire survey [27]. Consumers who had experienced purchasing green products were identified as the subjects of this study. The results showed that (1) the green product quality is positively associated with green customer

satisfaction and green customer loyalty; (2) green corporate image is positively associated with green customer satisfaction and green customer loyalty; and (3) green customer satisfaction is positively associated with green customer loyalty. The results also indicate that green product quality could bring about green customer satisfaction and green customer loyalty.

In their study "Strategic green marketing: a comparative study of how green Marketing affects corporate strategy within business to business", Oscar Baverstam and Maria Larsson (2009) examined how strategic green marketing can be developed and what incentives there are for companies to do so [28]. To fulfil the objectives of this study, four research questions were formed and a qualitative case study was conducted of three business to business companies from different industries. Interviews helped gain insight as to how companies develop their green marketing strategies and for what reasons. The results indicated that most companies were not segmenting their target markets based on consumer's environmental attitude. Findings also indicated that green market strategies differed for each company and might be derived from a company's individual circumstances including its objectives, resources and competitive advantages. Furthermore, the findings showed that most companies can implement green changes in their marketing mix but that these should be actively promoted when a product's green attributes constitute a key selling point. Finally, the findings indicated that financial benefits and the possibility of gaining a competitive advantage, were the foremost incentives for implementing green measures.

In another research study entitled "A study on the relationship among green marketing, consumer satisfaction, consumer loyalty and the degree of consumer involvement in environmental protection: examples from chain stores in the middle section of Taiwan", Hung-Ta (2009) argued that in recent years, due to the global rise of environmental awareness, enterprises are indirectly let to begin affording more social responsibilities and implementing concepts of social marketing [29]. Thus, it has prevalence on the concept of green marketing and a number of small and medium-sized and even large enterprises are taking part in this trend. Of course, Taiwan is not exception, for example, the convenience chain stores use shopping bags of green environmental protection and the Environmental Protection Administration policies limit use of plastic bags.

So in this study, it takes examples from the four major convenience chain stores consumers in the middle section of Taiwan and use survey method questionnaire to explore the relationship with convenience stores' green marketing, consumer satisfaction and consumer loyalty.

Finally, results show that the convenience stores' green marketing will have positive influence on consumer satisfaction and loyalty and the consumer satisfaction will have positive influence on consumer loyalty and finally consumer satisfaction plays an intermediary role between the convenience stores' green marketing and consumer loyalty. Then, the different degrees of consumer involvement in environmental protection will interfere in the relationship between consumer satisfaction and his/her loyalty.

In their research study "Cosmetics green marketing in Thailand", Johari and Sahasakmontri (1998) surveyed green marketing strategies and consumer attitude towards green products in two competitor companies namely Body Shop and Oriental Princess using a sample of 120 customers. The results showed that from the view of Body Shop's customers, natural materials, shop atmosphere, skin protection, brand logo and lack of animal tests were important factors in their decision to purchase. Questionnaire analysis indicated that Oriental Princess's customers considered such factors as skin protection, product function, ingredient materials, product fragrance and fee, in their decision to purchase [30].

In another exploratory research study "Determination of satisfaction and dissatisfaction using Herzberg's motivator and hygiene factor theory", Chan and Baum (2007), using 29 informed customers in Sukau, Sabah, Malaysia, explored underlying satisfaction dimensions adopting Herzberg's Motivator and Hygiene Factor Theory. The study suggests that consumer satisfaction can be measured by proposing a paradigm that adopts a behavioral and experiential perspective as an alternative to the confirmation/disconfirmation paradigm, rather than the expectancy disconfirmation paradigm that is predominantly employed in measuring consumer satisfaction. Building on Herzberg, underlying satisfaction and dissatisfaction dimensions are linked to job satisfaction in a way that is a function of two types of condition, known as hygiene factors (dissatisfiers), leading to the condition of dissatisfaction (prevention) and motivators (satisfiers), leading to a condition of satisfaction [31].

In a research study entitled "An empirical study on the influence of environmental labels on consumers" by D'Souza *et al.* (2006), the data were collected on an

Australian sample using a structured questionnaire administered on the phone. A total of 155 questionnaires were completed and used for analysis. The data were analyzed using both descriptive measures and correlations between variables. There appears to be a proportion of consumers that find product labels hard to understand. The research found that there are consumers who will buy green products even if they are lower in quality in comparison to alternative products, but would look for environmental information on labels. With respect to price sensitive green consumers, there appears to be a relationship between price sensitivity and 'always' reading labels as well as indicating that there is 'sufficient' information on product labels to make informed purchase decisions [32].

Background of Study Done in Iran: In their research study "measuring the relationship between customer loyalty and relevant factors e-banking in Tehran", S. Javadin *et al.* (2009) assessed the relations of key customer loyalty factors among Tehran bank customers. Attributing the concepts of satisfaction, perceived quality, change costs and accuracy to loyalty and using data analysis of research hypotheses about direct variable effects on each other, they concluded that such factors had positive effects on loyalty [33].

In their research study "designing a model for customer loyalty in banking industry of Iran", Tabatabaie Nasab (2009) explored the model for customer loyalty in banking industry [34]. In this study, first loyalty affecting factors were identified and then interactions between dependant and independent variables were tested within the model framework. At the first level, variables of "trust" and "commitment" as the key medium variables in establishing long-term relations in B2B environment and relational marketing were identified and their effects on loyalty were confirmed. At the second level, different variables of affective and cognitive processes involved in evolving different levels of trust and commitment were analyzed and their relationship in the final loyalty model was clarified. Final model declared that in line with customer satisfaction, customer's relational commitment and trust had important role in reaching loyal customers and consumers.

Methodology: By considering the importance of satisfaction and loyalty of consumers in buying dairy products of the East Azarbijan Pegah Dairy Company and the tendency of the company's management team for green management, the present research is aimed to study

the effect of green management on customers satisfaction and loyalty and the effect of green marketing mix on the customer mental image and value, his satisfaction and loyalty and in practice, to facilitate the way for establishing green management.

Research Hypotheses

Main Hypothesis: Green marketing mix has effect on customer and consumer satisfaction and loyalty.

Minor hypotheses:

- Green marketing mix has effect on customer and consumer satisfaction.
- Green marketing mix has effect on customer and consumer loyalty.

Statistical Population: Statistical population of the research comprises all of the customers/consumers of the East Azarbijan Pegah Dairy Company in Tabriz, Iran. Based on the company's statistical information, the consumers/consumers of the company are 4500 families.

Sampling and Determining Sample Size: To determine sample size, a preliminary study was carried out by distributing a questionnaire among 30 customers and consumers. Through variance analysis of primary sample at the confidence level of 95%, sample size for the customers and consumers was calculated to be 345.

Data Collection Procedures

Required Data Was Collected via Two Procedures Of:

- Library studies
- Field studies

In the library study section relevant sources including scientific books and articles, magazines, brochures and journals are used. In field study section, questionnaire is used to collect data. Regarding the research subject, which focuses on the effect of variables among customers (sales agents) and consumers, two questionnaires with distinct questions were designed and distributed among customers and consumers.

Questionnaires Included Two Types of Questions:

- General questions containing age and sex of the responders
- Technical questions

In design technical questions, different parameters were used. To determine green marketing mix-related parameters, the parameters designed by the Iranian Society for Green Management (ISGM) were provided to the East Azarbijan Pegah Dairy Company. Other parameters were determined from reviewing previous research. In this research, Lickert's ranking scale is used for evaluation. The scale includes options of "very much=5" to "very little=1".

Data Analysis Procedure: Data processing for the research is done at two levels: 1. descriptive statistics and 2. Multi-purpose analysis. In this section, mean (m), standard deviation (SD), maximum, minimum, range of variations, skewness and kurtosis of the variables are calculated to establish a general map of the population. In the second section, multi-purpose analysis, multi-factor, variance analysis is used to measuring the general validity of the research model.

Questionnaire Validity: Questionnaire validity was measured and confirmed using expertise comments.

Questionnaire Reliability: Questionnaire reliability is one of the technical features of measurement, which indicates the extent to which measurement tools devised for measuring particular trait and variable, produce the same results under similar condition. A method of estimating reliability is using Cronbach's alpha. To estimate Cronbach's alpha coefficient in this research, a preliminary study was done by distributing 30 questionnaires among customers and 30 questionnaires among consumers. After that, Cronbach's alpha was calculated with SPSS software. Its value was 0.83.

Frequency Distribution of Gender: Out of the samples under study, 57.1 percent of the consumers are male and 42.9 percent are female. 96.7 percent of customers are male and 3.3 percent are female.

Table depicting frequency distribution of responders' gender

| Group | Gender | Frequency | Percent (%) |
|-----------|--------|-----------|-------------|
| Consumers | Male | 178 | 57.1 |
| | Female | 134 | 42.9 |
| | Total | 312 | 100 |
| Customers | Male | 290 | 96.7 |
| | Female | 10 | 3.3 |
| | Total | 300 | 100 |

Frequency Distribution of Education: Out of the samples under study, 4.8 percent is uneducated (U), 9 percent is at reading and writing level (RW), 11.5 is at high school

diploma (HS), 34.9 percent is with diploma (D), 9.9 percent is with associate degree (AA), 24 percent is with bachelor's degree (BS) and 5.8 percent is with master's degree (MS) and higher. 3.7 percent of customers is uneducated, 6.3 percent is at reading and writing level (RW), 12.7 is at high school diploma (HS), 26.3 percent is diploma, 13.0 percent is with associate degree (AA), 29 percent is with bachelor's degree (BS) and 9.0 percent is with master's degree (MS) and higher.

Table depicting frequency distribution of education of responders

| Group | Education | Frequency | Percent |
|-----------|-----------|-----------|---------|
| Consumers | U | 15 | 4.8 |
| | RW | 28 | 9.0 |
| | HS | 36 | 11.5 |
| | D | 109 | 34.9 |
| | AA | 31 | 9.9 |
| | BS | 75 | 24.0 |
| | MS | 18 | 5.8 |
| | Total | 312 | 100.0 |
| Customers | U | 11 | 3.7 |
| | RW | 19 | 6.3 |
| | HS | 38 | 12.7 |
| | D | 79 | 26.3 |
| | AA | 39 | 13.0 |
| | BS | 87 | 29.0 |
| | MS | 27 | 9.0 |
| | Total | 300 | 100.0 |

Age Description: For age variable, the number of sample, mean, median, standard deviation, minimum and maximum, are calculated and their histogram is drawn, separately for consumers and customers. The mean of age for consumers and customers are 38.57 and 37.94 years, respectively.

Table depicting age description of responders

| | | |
|-----------|--------------------|-------|
| Consumers | Number | 312 |
| | Mean | 38.57 |
| | Median | 38.00 |
| | standard deviation | 8.876 |
| | Minimum | 22 |
| | Maximum | 60 |
| Customers | Number | 300 |
| | Mean | 37.94 |
| | Median | 37.00 |
| | standard deviation | 8.183 |
| | Minimum | 22 |
| | Maximum | 60 |

Description of the Effect of Green Marketing on Satisfaction: For the effect of the variable of green marketing on satisfaction, the number of sample, mean, median, standard deviation, minimum and maximum, are calculated and their histogram is drawn separately for consumers and customers. The range of grades is 1-5. The mean of the variable for consumers and customers are 3.72 and 3.65, respectively.

Table depicting description of the effect of green marketing on satisfaction

| | | |
|-----------|--------------------|---------|
| Consumers | Number | 312 |
| | Mean | 3.7165 |
| | Median | 3.7500 |
| | standard deviation | 0.62617 |
| | Minimum | 2.17 |
| | Maximum | 5.00 |
| Customers | Number | 300 |
| | Mean | 3.6511 |
| | Median | 3.6667 |
| | standard deviation | 0.62351 |
| | Minimum | 1.80 |
| | Maximum | 5.00 |

Description of the Effect of Satisfaction on Loyalty:

For the effect of satisfaction on loyalty, number of sample, mean, median, standard deviation, minimum and maximum, are calculated and their histogram is drawn, separately for consumers and customers. The range of grades is 1-5. The mean of the variable for consumers and customers are 3.71 and 3.79, respectively.

Table depicting description of the effect of satisfaction on loyalty Variable

| | | |
|-----------|--------------------|---------|
| Consumers | Number | 312 |
| | Mean | 3.7051 |
| | Median | 3.6667 |
| | standard deviation | 0.80855 |
| | Minimum | 1.67 |
| | Maximum | 5.00 |
| Customers | Number | 300 |
| | Mean | 3.7911 |
| | Median | 3.6667 |
| | standard deviation | 0.76920 |
| | Minimum | 1.67 |
| | Maximum | 5.00 |

Checking for Normal Distribution of the Grades of the Variables:

To test normality of the distribution, Kolmogorov-Smirnov test (K-S test) is used. Null hypothesis in this test is that variable distribution is normal. If significance level of the test is less than 0.05, null hypothesis will be rejected and it will be concluded that the given variable distribution is not normal.

The result of significance level shows that the variable of green marketing effect on perceived image of both consumers and customers have normal distribution (significance level more than 0.05), while, other variables do not display normal distribution, neither in consumers nor in customers (significance level less than 0.05). However, due to numerousness of samples and lack of irrelevant data, data distribution is supposed to be normal. Finally, parametric and non-parametric tests are both used.

Hypothesis 1: Green marketing mix has effect on customer and consumer satisfaction.

Table depicting results of K-S test for normality of the variable grades distribution

| Variable | Group | Number | Kolmogorov-Smirnov statistic | Significance level |
|--|-----------|--------|------------------------------|--------------------|
| Green marketing effect on satisfaction | Consumers | 312 | 1.979 | 0.001 |
| | Customers | 300 | 1.501 | 0.022 |
| Satisfaction effect on loyalty | Consumers | 312 | 1.835 | 0.002 |
| | Customers | 300 | 2.178 | 0.000 |

With every question in the questionnaire, we directly asked for the amount of effect from the responders. So, there is only one variable. The distribution of this variable was not normal. In regard with large sample size and lack of irrelevant data, to test this hypothesis, single-sample t-test is used. To obtain results confidence, non-parametric binomial test is used. Grades fall in the range of 1 to 5. So, the test size is 3 which is average variable is presumed. The variable mean more than 3 indicates higher effect and variable mean less than 3 shows lower effect.

- Null hypothesis = amount of green marketing mix effect on customer and consumer satisfaction is average (3).
- Alternative hypothesis = amount of green marketing mix effect on customer and consumer satisfaction is not average (3).

Among consumers, variable mean is 3.72 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, null hypothesis is rejected. As a result, green marketing mix has a significant effect on consumer satisfaction.

Among customers, variable mean is 3.65 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, null hypothesis is rejected. As a result, green marketing mix has a significant effect on customers' satisfaction.

The hypothesis was retested with non-parametric binomial test, which produced no difference in results.

Hypothesis 8: Customer and consumer satisfaction has effect on their loyalty.

With every question in the questionnaire, we directly asked for the amount of effect from the responders. So, there is only one variable. The distribution of this variable was not normal. In regard with large sample size and lack of irrelevant data, to test this hypothesis, one-sample t-test is used. To obtain results confidence, non-parametric binomial test is used. Grades fall in the range of 1 to 5, so, the test size is 3 which is average variable. The variable mean more than 3 indicates higher effect and variable mean less than 3 shows lower effect.

- Null hypothesis = amount of satisfaction effect on loyalty is average (3).
- Alternative hypothesis = amount of satisfaction effect on loyalty is not average (3).

Among consumers, variable mean is 3.72 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, null hypothesis is rejected. As a result, green marketing mix has a significant effect on consumer satisfaction.

Among customers, variable mean is 3.70 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, null hypothesis is rejected. As a result, consumer satisfaction has a significant effect on consumers' loyalty.

The hypothesis was retested with non-parametric binomial test, which produced no difference in results.

Table depicting results of single-sample t-test for testing the green marketing effect on satisfaction

| Test size = 3 | | | | | | | | |
|---|-----------|--------|-------|-------|--------|-------|--------------------|--|
| Variable | Group | Number | Mean | SD | t | D.O.F | Significance level | Mean of variable difference with test size |
| Effect of green marketing on satisfaction | Consumers | 312 | 3.717 | 0.626 | 20.212 | 311 | 0.000 | 0.717 |
| | Customers | 300 | 3.651 | 0.624 | 18.086 | 299 | 0.000 | 0.651 |

Table depicting results of binomial test for testing the green marketing effect on satisfaction

| Variable | Group | Size | No. | Observed probability | Probability test | Significance level |
|---|----------|---------|------|----------------------|------------------|--------------------|
| Effect of green marketing on satisfaction | Consumer | Group 1 | <= 3 | 52 | .17 | .50 |
| | | Group 2 | > 3 | 260 | .83 | .50 |
| | Customer | Group 1 | <= 3 | 50 | .17 | .50 |
| | | Group 2 | > 3 | 250 | .83 | .50 |

Table depicting results of single-sample t-test for testing the satisfaction effect on loyalty

| Test size = 3 | | | | | | | | |
|---|-----------|--------|-------|-------|--------|-------|--------------------|--|
| Variable | Group | Number | Mean | SD | t | D.O.F | Significance level | Mean of variable difference with test size |
| Effect of green marketing on satisfaction | Consumers | 312 | 3.705 | 0.809 | 15.404 | 311 | 0.000 | 0.705 |
| | Customers | 300 | 3.791 | 0.769 | 17.814 | 299 | 0.000 | 0.791 |

Table depicting results of binomial test

| Variable | Group | Size | No. | Observed probability | Probability test | Significance level |
|---|----------|---------|------|----------------------|------------------|--------------------|
| Effect of green marketing on satisfaction | Consumer | Group 1 | <= 3 | 83 | 0.27 | .50 |
| | | Group 2 | > 3 | 229 | 0.73 | |
| | Customer | Group 1 | <= 3 | 58 | .19 | 0.50 |
| | | Group 2 | > 3 | 242 | 0.81 | |

Results of Testing the Hypotheses: On the basis of the data analysis, the following results about the hypotheses are obtained:

Considering the fact that the data was not normal, to test this hypothesis, one-sample t-test is used. To obtain results confidence, non-parametric binomial test is used. Among consumers, the variable mean is 3.72 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, it is concluded that green marketing mix has a significant effect on consumer satisfaction.

Among customers, variable mean is 3.65 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, it is concluded that green marketing mix has a significant effect on customers' satisfaction.

The hypothesis was retested with non-parametric binomial test, which produced no difference in results.

As to the second hypothesis, considering the fact that the data was not normal, in the same way, to test this hypothesis, one-sample t-test is used. To obtain results confidence, non-parametric binomial test is used. Among consumers, the variable mean is 3.70 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, it is concluded that consumer satisfaction has a significant effect on their loyalty.

Among customers, the variable mean is 3.79 and significance level of the test is 0.000. Since the mean is more than 3 and significance level is less than 0.05, it is concluded that customer satisfaction has a significant effect on their loyalty.

The hypothesis was retested with non-parametric binomial test, which produced no difference in results.

As a result, the research hypotheses were verified.

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