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Investigation of the social network marketing influence on consumer behavior with the mediating role of brand value (a case study for iPhone market)

Abstract. The purpose of this research is to investigate the influence of social network marketing on consumer behavior with the mediating role of brand value in the iPhone market. The current research is a descriptive survey in terms of practical purpose and in terms of the data collection method. The target population includes digital channels of the famous iPhone brand store (followers of Amazon website pages and famous sellers of the iPhone brand), whose number is unlimited. 384 people were selected in 2022 by Cochran's formula and the questionnaire was distributed among them in a simple random manner. Cronbach's alpha coefficient was used to determine the validity of the questionnaire using the method of content validity and reliability of the questionnaire, and finally, the coefficients showed that the data collection tool has high reliability. In order to check the validity of the questionnaire, confirmatory factor analysis was used and in order to check the research hypotheses, structural equation modeling (SEM) was used with the help of SmartPLS 3 software, and all the research hypotheses were confirmed. Suggestions and solutions for improving and promoting social network marketing and consumer behavior in the iPhone market have been presented.
Keywords: Social Network Marketing; Consumer Behavior; Brand Value; iPhone Market
JEL Classifications: E24; E41; E64; I18; J28; J31

1. Introduction

Brand or trademark is one of the most important elements of marketing and success in a business enterprise. Every business enterprise can distinguish its goods and services from other competitors by means of its brand and refer to the brand as an idiosyncratic valuable and profitable asset (Murti et al., 2023; Liao et al., 2006). Brand marketing in social media is one of the types of digital marketing in which the goal is to communicate with audiences and customers in order to provide products and services (Ananda et al., 2016). Therefore, social media can be used to brand a product or business in the Internet space and digital marketing (Dehdashti Shahrokh & Naeli, 2020).

In Age of Globalization, organizations and companies must always gain a competitive advantage by identifying and studying the behavior of consumers (Schmitt et al., 2009). Since consumers are the core element of all marketing activities, it is necessary to start successful marketing with understanding why and how consumers behave. Studying and examining the factors that influence consumer behavior and examining the effect of each of these factors on behavior will lead to the recognition and understanding of brand value, and only then marketers will be able to offer a product that is compatible to the needs and demands of consumers. In other words, they promote a product that will be the consequent of effective factors of social media marketing on the behavior of consumers and ensure their maximum satisfaction (Hood and Day, 2014; Bahman & Shaker 2023). The luxury market has grown rapidly in recent years. There are many examples that can describe this phenomenon.

Marketing managers are interested in knowing the behavior of customers about brand value to increase the sales of their current or new products or services. Therefore, the information related to the brand value can help managers in marketing decisions related to the demand for a product, market segmentation, and development and promotion strategies (Ananda et al., 2016). The motivation to buy luxury is completely based on western attitude and markets. Cultural values have been shown to influence brand value in many studies.

In a research, Yadav and Rahman (2017) measured consumers' understanding of marketing activities through social media in the electronics industry. They concluded that consumers' understanding of marketing activities through social media has a positive and significant impact on purchase intention. In their research, Kim and Ko (2012) have studied the role of content strategy in social networks on the quality of brand communities in Indian higher education institutions. The results showed that content agility and content type have a significant effect on the number of likes and comments, which indicate the level of user engagement. The conceptual model of the research is given in Figure 1. According to the theoretical foundations and background of the research, the following hypotheses have been formed: «Social media marketing with the mediating role of brand value has a significant effect on consumer behavior».

Research sub-hypotheses:
• Social media marketing has a significant effect on brand value.
• Social media marketing has a significant effect on the behavior of consumers.
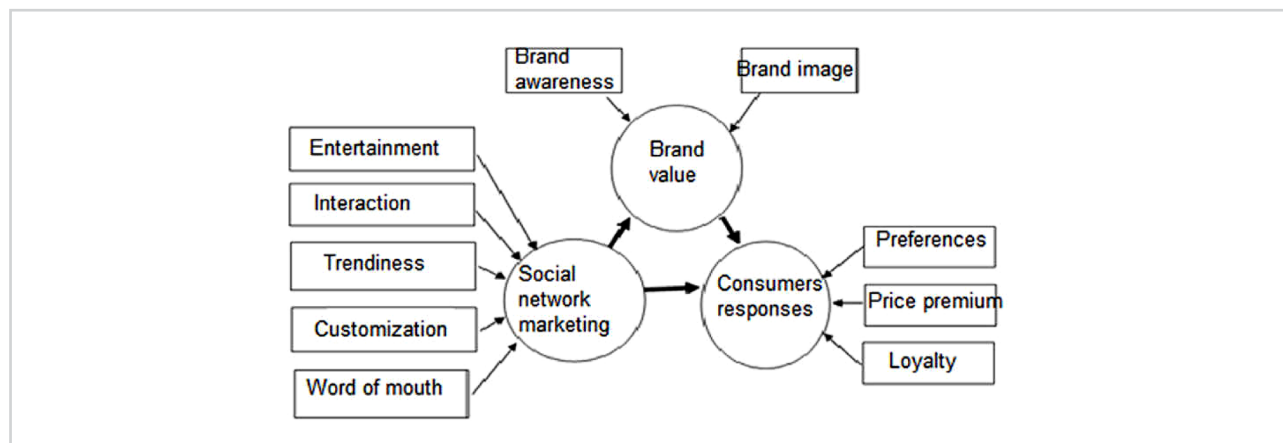• Brand value has a significant effect on the response of consumers.

Figure 1:
Conceptual model of research
Source: Compiled by the authors

2. Research Method

Since this research has tried to help the iPhone market to increase the quality of consumer behavior, it is practical in terms of purpose. Also, in terms of nature, it was classified as descriptive-analytical research. On the other hand, since it studies the manner and extent of the effects of variables and their correlation with each other, it is also considered a kind of correlational research. Finally, this research is classified as quantitative research according to the way it is conducted.

Statistical population, sample size and sampling method

According to the purpose of the research and the topic of the research, the statistical population includes the virtual pages of the famous iPhone brand store (followers of the pages of the Amazon website and famous sellers of the iPhone brand). In this research, due to the lack of access to all the customers of the studied community, Cochran's formula is used to determine the sample size, which is described below:

$$n = \frac{Z_{1-\alpha} - 2pq}{\varepsilon^2}, (\varepsilon = 0.50) \tag{1}$$

$$n \geq (0.25 \times 1.96^2) / (0.05)^2.$$

Since the size of the statistical population is assumed to be unlimited, this calculation is done with an error level of 5%, so the size of the statistical sample is considered to be 384 people according to the above formula. The random sampling method is simple. In this research, a questionnaire was used to collect information in order to investigate social network marketing on consumer behavior with the mediating role of brand value (case of study: iPhone market). To measure social network marketing, five components are used: Entertainment aspect; Interaction aspect; 3- Trendiness aspect; Customization aspect; Word of mouth advertising.

3. Results

A total of 384 completed questionnaires, containing personal characteristics questions and questions related to research hypotheses were collected from the sample. After collecting the questionnaires, it was subjected to statistical analysis. In order to check the validity of the questionnaire, confirmatory factor analysis was used and in order to check the research hypotheses, structural equation modeling (SEM) was used with the help of SmartPLS 3 software. In the studied group, 57.0% of subjects (219 people) were male and 43.0% of subjects (165 people) were female. In the studied group, 17.7% had an under-diploma degree, 18.8% had a diploma, 20.3% post-diploma degree, 24.5% had a bachelor's degree, 12.5% had a master's degree, and 6.3% had a Ph.D. degree. In the studied group, 24.5% of the subjects were under 25, 30.2% were between 25-30, 29.7% were 30-40 years old, and 15.6% were 40 years old and older.

According to Table 1, the criteria for the desired structure are higher than 0.7, which indicates the appropriate reliability of the model. Considering the higher combined reliability coefficient of the variables in the above table, it shows the appropriateness and acceptable fit of the measurement models. If the average variance extracted for a variable was lower than 0.5, then

Table 1:
Cronbach's alpha coefficient, composite reliability, average variance extracted (AVE)

Variables	Cronbach's alpha	CR	AVE
Social network marketing	765.0	769.0	0.645
Entertainment aspect	863.0	861.0	0.661
Interaction aspect	729.0	727.0	0.596
Trendiness aspect	786.0	782.0	0.603
Customization aspect	794.0	799.0	0.685
Word of mouth advertising aspect	765.0	768.0	0.616
Brand value	873.0	870.0	0.687
Brand awareness	818.0	823.0	0.608
Brand image	839.0	837.0	0.700
Consumers responses	798.0	800.0	0.610
Preferences	799.0	797.0	0.655
Price premium	890.0	888.0	0.633
Loyalty	824.0	826.0	0.614
Total reliability	796.0	798.0	0.628

Source: Authors' own research

the question with the lowest factor loading should be answered. Considering that the AVE values for all variables are greater than 0.5, therefore the convergent validity of the constructs is acceptable.

In this research, the PLS method was used with the help of Smart PLS 3 software to fit the research conceptual model and test the hypotheses. One-sample Kolmogorov-Smirnov test was used to check the normality of the studied variables. If the significance level is greater than 0.05%, the variable is normal. Otherwise, the data is abnormal. Therefore, according to Table 2, all variables are abnormal. Since the factor loading of all items is greater than 0.4, also the value of t-statistic is greater than 1.96, so the questionnaire has good validity.

Table 2:
The results of the Kolmogorov-Smirnov test to check the assumption of normality or abnormality

Variables	Sample	t-statistics	P-value
Social network marketing	384	1.940	0.000
Entertainment aspect	384	1.165	0.000
Interaction aspect	384	1.138	0.000
Trendiness aspect	384	1.331	0.010
Customization aspect	384	2.522	0.000
Word of mouth advertising aspect	384	1.191	0.003
Brand value	384	2.009	0.000
Brand awareness	384	1.182	0.001
Brand image	384	1.032	0.000
Consumers responses	384	1.145	0.000
Preferences	384	1.277	0.000
Price premium	384	1.104	0.000
Loyalty	384	1.221	0.000

Source: Authors' own research

Significant coefficients of t-value

The fit of the structural model using t coefficients is such that these coefficients must be more than 1.96 in order to confirm their significance at the 95% confidence level. The significant results of the coefficients are reported based on the value of the t-statistic (Figure 2). Hence, if the value of t-statistic is greater than 1.96, it can be concluded with 95% confidence that the independent variable has an effect on the dependent variable.
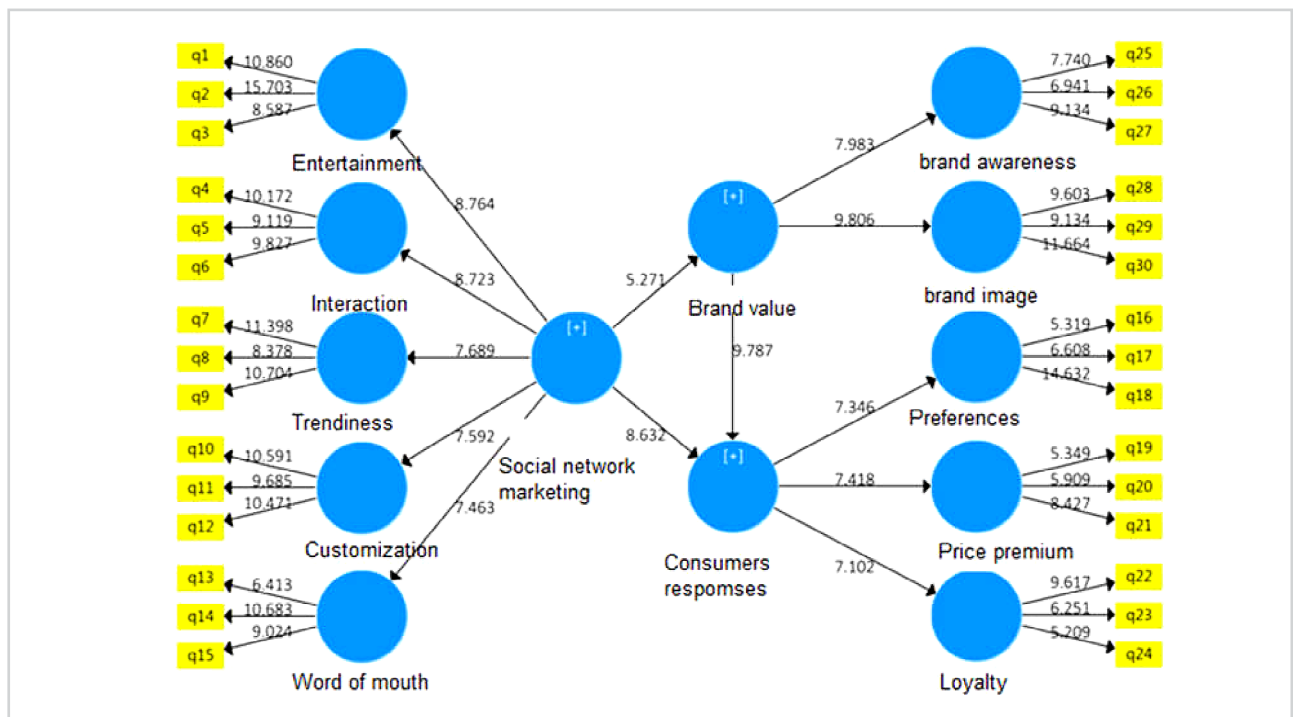

Figure 2:
Significant coefficients of t-value
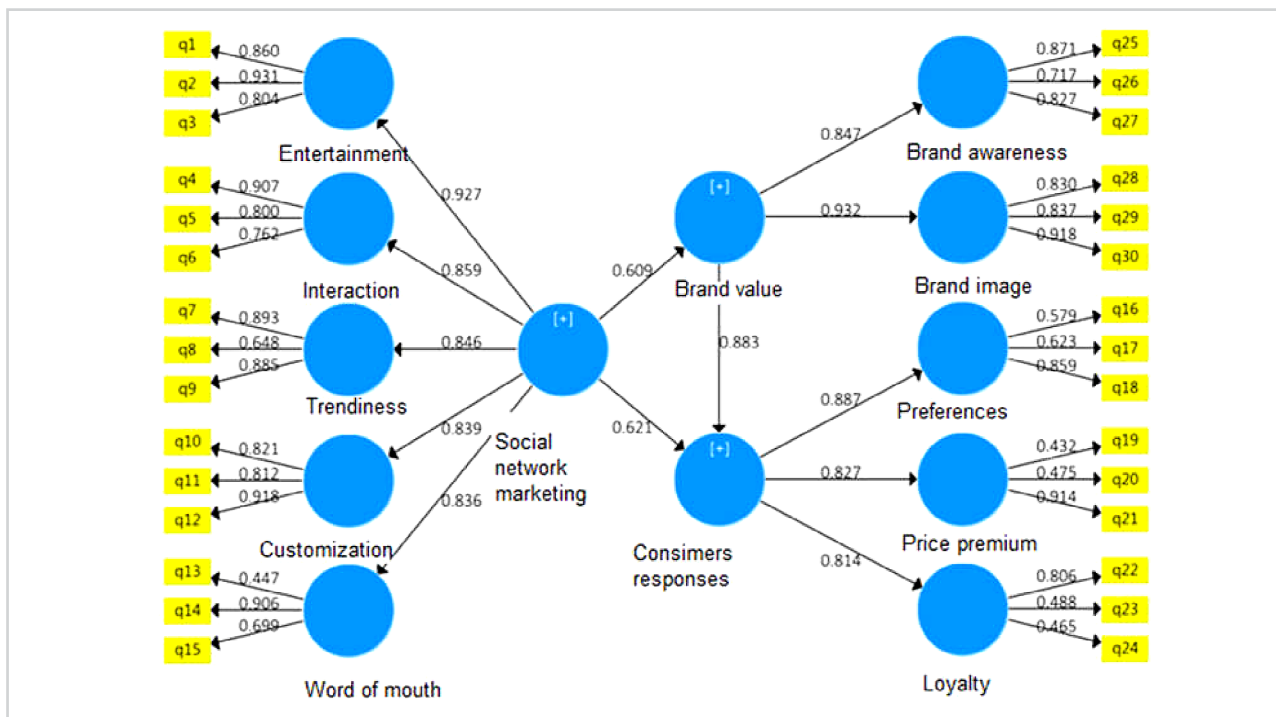Source: Authors' own research

Figure 3:
Confirmatory factor analysis in standard estimation mode
Source: Authors' own research

Factor loadings indicate the correlation between each manifest variable (questions) and its related factors. Questions with factor loadings less than 0.4 are not sufficient to remain in the model and should be removed. As you can see in the model (Figure 3), all the numbers are above 0.4, so no question is deleted (Figure 3).

As presented in Table 3, the value of R2 is calculated only for the dependent (endogenous) structures of the model, and in the case of exogenous structures, the value of this criterion is zero. The higher the value of R2 related to the endogenous structures of a model, the better the fit of the model. Chain (1998) considers three values of 0.19, 0.33 and 0.67 as criteria values for weak, medium and strong values of the fit of the structural part of the model by the R2 criterion. Prediction quality criterion (Q2) specifies the prediction of the model. Models that have an acceptable structural fit must be able to predict the indicators related to the endogenous structures of the model. Hensler et al. (2009) have defined three values of 0.02, 0.15 and 0.35 to show the weak, medium and strong predictive power of the structure or related exogenous structures.

Table 3:
Determination coefficient and predictive quality (Q2)

Dependent variable	R^2	Q^2	Intensity
Consumers' response (behavior)	0.648	0.466	Medium

Source: Authors' own research

Model's goodness of fit (GOF): three values of 0.01, 0.25 and 0.36 have been introduced as weak, medium and strong values for this criterion:

$$GOF = \sqrt{Community \times \underline{R^2}} = \sqrt{0.648 \times 0.46} = 0.549. \tag{2}$$

According to the above results, it can be said that the model has a strong fit.

4. Discussion and Conclusion

In the first hypothesis, the variable path coefficient of social network marketing and brand value is 0.609, and the t-statistic is 5.271. Therefore, it can be said that social network marketing significantly affects brand value, and this hypothesis is confirmed. The results of the confirmation of

this hypothesis are consistent with the studies of Daneshparvarh and Dehdashti Shahrokh (2021), Chen et al. (2016), James et al. (2001), Ananda et al. (2016) and Moridgoban et al. (2018). The variable path coefficient of social network marketing and consumer response is 0.621 and the t-statistic is 8.632, so it can be said, social network marketing has a significant effect on consumer response and this hypothesis is confirmed. The results of confirming this hypothesis are consistent with the studies of Kim and Ko (2012). The variable path coefficient of brand value and consumer response is 0.883, and the t-statistic is 9.787, so it can be said that brand value has a significant effect on consumer response, and this hypothesis is confirmed. The results of this hypothesis are in agreement with the studies of Dehdashti Shahrokh and Naeli (2020).

The website product purchase information should be easily understood by the audience and the customer. The site should send it to the customer via email or other means. When there is ambiguity in using the website or any questions, it is easy for customers to communicate with the website. Website should provide facilities for customers so that their voice can be heard more easily by the sales, marketing, management and other departments of the company to gain more customer satisfaction. Moreover, websites ought to be innovative in their services to keep the customer loyal to the company's services. Among the limitations of this research, it can be mentioned that the research is cross-sectional, limiting the generalization of the results. The use of cross-sectional data does not help us in interpreting the impact of social network marketing with the mediating role of brand value on consumer behavior. Therefore, it is suggested to conduct longitudinal studies to increase our knowledge regarding the possible relationship between causes and effects.

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