The effect of social network marketing on online purchase intention: a model in the health market

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Abstract

Background: This study aimed to investigate the role of social network marketing on the intention of online shopping in the health market.

Methods: This study was a descriptive survey. The data collection tool was a researcher-made questionnaire and its validity was confirmed by university professors and its reliability was confirmed by Cronbach's alpha test. Students of Islamic Azad University, Kermanshah Branch were statistical population and sample selected with random sampling. Considering that students are active and knowledgeable groups in the field of social networks, therefore, the effect of social network marketing on brand awareness and perceived security on the willingness to buy online in this group of social was investigated. SPSS software, One-Sample T-Test, and the Friedman test were used to rank the variables. AMOS was used to rate the importance of each component.

Results: The men's groups were up 57% of the population, and the age group of 18 to 22 years was the largest. The correlation coefficient of brand awareness, Perceived security component, advertising component, promotion component, Information sharing, and creating friendship groups were 0.76, 0.74, 0.59, 0.55, 0.49, and 0.47, respectively. Data analysis showed that the significance differences of advertising, advertising, creating friendship groups, information sharing, brand awareness, and perceived security were 0.12, 0.16, 0.39, 0.24, 0.25 and 0.17, respectively. A significant difference was between the total observed variables and the latent variable in the proposed model all correlation coefficients have a significant difference.

Conclusion: It is necessary to use new digital marketing strategies in health marketing to maximize the efficiency of marketing costs and create a higher rate of return.

Introduction

Over the past decade, the great increase in social media has had great effects on research and the performance of health care. Social media modifies health information management in different ways, from providing more affordable ways to improve physician, patient communication, the exchange of information and health-related experiences, to the ability to discover new knowledge and information (1). Also, along with the growth and development of health

technologies and the growing acceptance of society in the use of various tools in this area, social media as the most important communication tool in virtual space in recent years has transformed the world of health business and marketing. Social media pays more attention to the potential of virtual space, which is important in terms of their intention to purchase the products (2). In social networks, individuals or organizations are connected by one or more specific types of communication such as financial exchanges, friendships, business, emotions, etc., and connect users with different interests (3).

Social networks marketing is a simple word that means marketing through social networks (4). The growing relevance of health innovations and the diversity of social networks double the focus on marketing. In this regard, 44% of the marketing costs of health-related products and services are allocated to cell phone and digital platforms (5). TV advertising costs have dropped to less than 33% and are expected to continue to decline since the cost-effectiveness of placing a product or service on TV does not seem to justify the investment (6). Nowadays, a huge amount of specialized information about health tools and equipment is available on social networks, blogs, and information-sharing sites. Organizations and firms have expanded their advertising scope from private circles and social media user friendship groups to mass media. Thus, the main aim of this study is to recognize the role of using marketing in social networks along with the relative and specialized knowledge of the marketer in introducing health tools among potential users and customers, in the attitude and intention to purchase products and identify security indicators that are important in the use of this platform. The research hypothesizes that advertising, promotion, creating friendship groups, information sharing, brand awareness, and perceived security, are effective on brand awareness. The main question of this research is whether social network marketing and perceived security had a positive and significant effect on brand awareness and purchase intention in the health area?

Conceptual model of research:
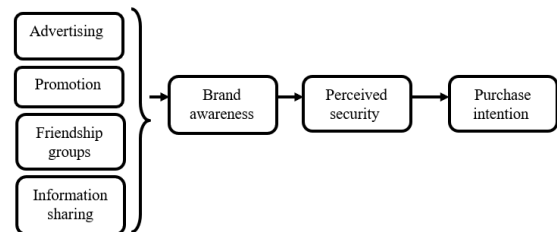
The conceptual model of research is in Figure 1.

Figure 1. The conceptual model of research adapted from Dehghani and Tomer's model

Methods

This study was a descriptive survey and a questionnaire were used to collect information. In the researcher-made questionnaire, a five-point Likert scale was used. To determine the validity and reliability, all hypotheses and questions were tested and validated. To examine the content validity of the researcher-made questionnaire, the opinions of 5 professors of management of Azad and Razi Universities of Kermanshah as well as some experts in the field of research were used. The researcher-made questionnaire validity was confirmed by the opinions of university professors and its reliability was checked by Cronbach's alpha test.

Students of Islamic Azad University, Kermanshah Branch who were studying in the field of health economics were used as a statistical population and select them by simple random sampling. After randomly selecting the samples and explaining the purpose of the study and how to complete the questionnaire, informed consent was obtained and asked them to specify their level of agreement or disagreement with each item in the questionnaire. 371 students were randomly selected according to their student numbers based on the random numbers method and entered the study. If the student did not consent to

Table 1. Evaluation of the reliability of the questionnaire variables

Indicator	Number of items	Reliability of indicators
The effect of advertising on brand awareness	4 items	0.715
The effect of promotions on brand awareness	3 items	0.718
The effect of friendship groups on brand awareness	3 items	0.724
The effect of information sharing on brand awareness	3 items	0.725
The effect of brand awareness on perceived security	5 items	0.728
The effect of perceived security on the purchase intention	6 items	0.720
Sum of indicators	24 items	0.721

participate in the study, the next number of that student was entered to study.

The statistical descriptive and analytical factors used are included: mean, frequency distribution, One-Sample T-Test, Cronbach's alpha test, Kolmogorov-Smirnov, and the Friedman test were performed in SPSS-24 software. Finally, the Factor Analysis method and AMOS software were used.

Determining the validity or reliability of research tools

By their examining and applying the proposed corrections to them, it was revealed that the considered indicators were selected correctly. In the present study, Cronbach's alpha coefficient was used to measure reliability. This method is used to calculate the internal consistency of measurement tools such as questionnaires or tests that measure different characteristics. Cronbach's alpha indicates that the questions are overlapping and aligned, and indicates that the respondents answered the questions carefully and consciously. The closer this number is to 1, the more reliable the questionnaire is. Cronbach suggested a reliability coefficient of 45% low, a reliability coefficient of 75% moderate and acceptable, and a reliability coefficient of 95% high (7). In many sources, the values obtained above 70% are considered desirable and acceptable. Thus, the alpha coefficient of a total of 24 items in this study, which was used for 30 subjects, was obtained at 0.721 % in Table 1.

Results

The demographic information of the study participants is presented in Table 2 The men's groups were up 57% of the population, and the age group of 18 to 22 years was the largest. In education level subgroups, bachelor's degree was (55.8%) the highest.

Inferential analysis

Kolmogorov-Smirnov test compares the distribution of a characteristic in a sample with the distribution assumed for it in the population. Kolmogorov-Smirnov test was used to evaluate the normality of the distribution of variables he variables of advertising with 0.12, advertising with

Table 2. Demographic distribution of subjects

	Categories	Number	Percent
Gender	male	213	57.4
	female	158	42.6
	total	371	100
Age groups (years)	18 to 22	100	29.6
	23 to 27	77	20.8
	28 to 32	91	24.5
	33 to 37	67	18.1
	above 38	26	7
	Total	371	100
Level of education	Associate	66	17.8
	Bachelor	207	55.8
	Master and above	98	26.4
	Total	371	100
Possibility of online purchase	Yes	254	66
	No	126	34
	Total	371	100
Interest in membership	Yes	319	86
	No	52	14
	Total	371	100

0.16, creating friendship groups with 0.39, information sharing with 0.24, brand awareness with 0.25, and perceived security with 0.17 were according to Table 3 at the significant level. According to the above test and the level of significance of all variables, which is more than 0.05, it can be concluded that all variables follow the normal distribution.

The Significance level of the Kolmogorov-Smirnov test to check the normality of the distribution of variables (Advertising: 0.12, Promotions:0.16, Creating friendship:0.39, Information sharing:0.24, Brand awareness:0.25, Perceived security:0.17) were obtained.

Based on the value of the t-statistic of all variables was included advertising, Promotion, creating friendship groups, information sharing, brand awareness on perceived security of customers in social networks and perceived security is effective on purchase intention were effective on brand awareness (Table 3).

Table 3. One-Sample T-Test analysis

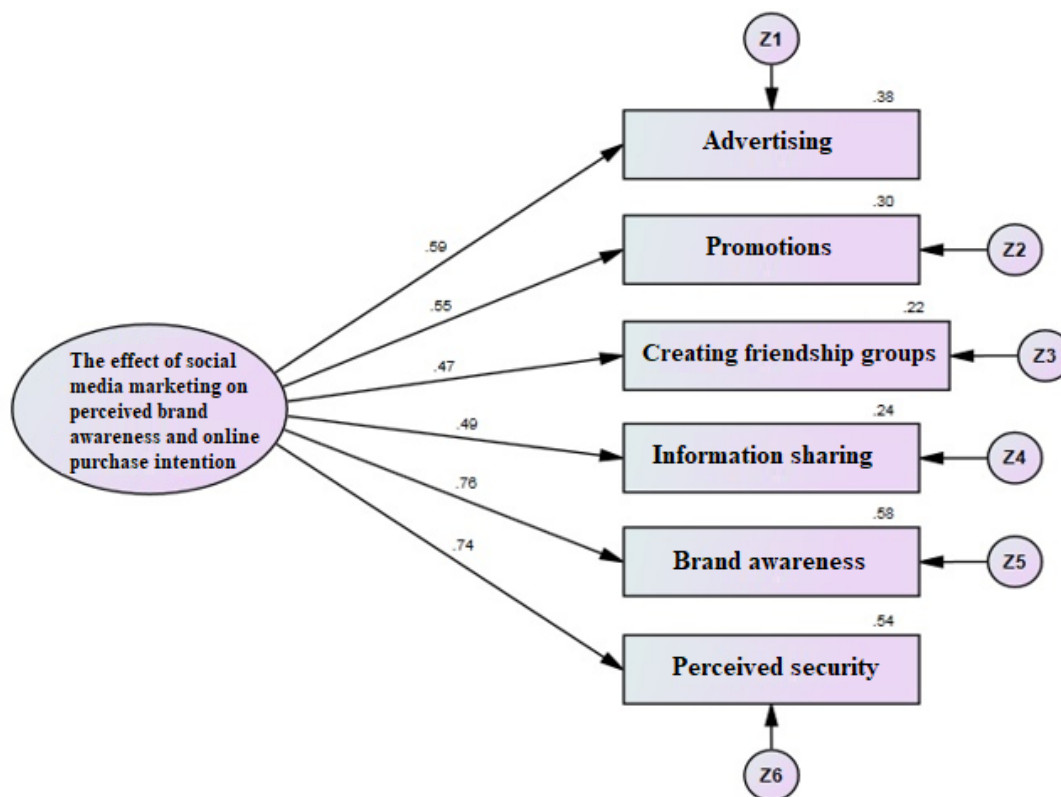| Variable	N	Mean (SD)	t.test	sig
Advertising	371	3.55 (0.56)	18.70	0.0001
Promotion	371	3.49 (0.73)	12.82	0.0001
Creating friendship groups	371	3.49 (0.65)	13.57	0.0001
Information sharing	371	3.65 (0.59)	20.24	0.0001
Brand awareness on perceived security of customers in social networks	371	3.86 (0.51)	31.90	0.0001
Perceived security is effective on purchase intention	371	3.76 (0.43)	30.69	0.0001

Figure 2. First-order Confirmatory Factor model for examining and ranking research components

Table 4. Regression weights

Indicators	Standardized values	Critical points	sig
Advertising	1	**	**
Promotions	2.40	2.09	0.03
Creating friendship groups	2.37	2.02	0.04
Information sharing	2.75	2.04	0.04
Brand awareness	4.07	2.16	0.03
Perceived security	3.72	2.16	0.03

The above Confirmatory Factor model shows that the following components are of the highest to least important in explaining the role of social network marketing in brand awareness and perceived security on online purchase intention in Table 4 and Table 5:

1- Brand awareness component with a Factor Load or correlation coefficient of 0.76 and a coefficient of determination (R2) of 58%

2-Perceived security component with a factor load or correlation coefficient of 0.74 and coefficient of determination (R2) of 54%

3-Advertising component with a factor load or correlation coefficient of 0.59 and a coefficient of determination (R2) of 38%

4-The promotion component with a factor load or correlation coefficient of 0.55 and the coefficient of determination (R2) of 30%

5- Information sharing component with a factor load or correlation coefficient of 0.49 and a coefficient of determination (R2) of 24%.

6-Component of creating friendship groups with a factor load or correlation rate of 0.47 and the coefficient of determination (R2) of 22%

•All significance levels (P-Value) in the output of regression weights are less than 0.05, which indicates that all correlation coefficients between the observed variables and the latent variable in the above model have a significant difference.

• Evaluation indicators of the model generality have also shown that he situation of bad indicators fitting the model (CMIN / DF and RMSEA) and good indicators of model fit (CFI and PCFI) are at the desired and standard level of the model and there is no need to modify the model

Secondary results of the research

Based on the results of the Friedman test ranking, The degree of importance of the research variables based on the Friedman test is media advertising, providing services, interactive two-way interactive communication, ease of access to information and information comparison (equal rank), feeling of security in the field of quality and safety of health tools based on information available, security for online payment and the method of sending goods, respectively. Following components because the significance level of the Friedman test less is than 0.05, a significant ranking has been reported in Table 6.

Table 5. Model generality evaluation indices (model fit indices)

Index status	CMIN/DF	CFI	PCFI	RMSEA
Desirable	Smaller than 5	Larger than 0.90	Larger than 0.90	Smaller than 0.80
Reported status	4.20	0.93	0.52	0.07
After model correction	**	**	**	**
Model generality	The model is desirable			

Table 6. The results of the Friedman test ranking

Components	variable	Mean rank	N	Chi-square	p. value
Advertising on brand awareness	Media advertising	3.16	371	218.03	0.0001
	Entertainment	2.60			
	Private Messages	2.30			
	Celebrities	1.93			
Promotions on brand awareness	Providing motivational services	2.08	371	83.4	0.08
	Online public relations	1.94			
	Promoting calendar occasional programs	1.97			
Creating friendship groups on brand awareness	Membership in friendship groups	1.84	371	70.20	0.0001
	Word of-mouth marketing	2.03			
	Establishing two-way and interactive communication	2.13			
Information sharing on brand awareness	Ease of access to information	2	371	0.003	0.98
	Basic product information	1.99			
	Comparing information	2			
Brand awareness on customer	Protecting personal information	2.99	371	37.86	0.0001
	Inserting a symbol or logo	3.08			
	Brand reputation	2.94			
	Feeling security in using online payment methods	3.30			
	Feeling security of product quality	2.69			
Perceived security on customers' purchase intention	Electronic payment methods	3.58	371	99.40	0.0001
	Using secure protocols	3.17			
	Using credit cards with less balance	3.29			
	Product and service guarantee	3.22			
	quality of a brand	3.52			
	The way of delivery of goods	4.22			

Discussion

The present study examines the role of social network marketing in brand awareness and perceived security on purchase intention of health products online. The results of this research are in line with those of studies conducted by Salarzehi & Amiri (6), Kheiri & Naiji (8), Mahmoudi et al., (9), Berthon et al., (10), Li & Wang (11), and no study inconsistent with these results was observed. The results showed that social network marketing in brand awareness and perceived security has a positive and significant effect on online purchase intention. The results of the factor model of this study also show that the components of social network marketing in brand awareness and perceived security on online purchase intention in order of priority are brand awareness, perceived security, advertising, promotions, information sharing, and creating friendship groups. In other words, the research results show that brand awareness and previous recognition of a brand product have retained their role as one the significant points considered by purchasers, customers, and media users. They prefer that among different health products to choose what they need from well-known and trusted people.

Security is important to social media users and its importance doubles in financial transactions. Perceived security indicator is so important for the users of commercial companies that are selling their products that in addition to giving importance to data security with the help of powerful firewalls, virus detectors, and other software and hardware options, they pay more attention to financial transactions connected to banking networks, the protection of users' personal information, payment methods for purchased goods, as well as possible

similarities between fake websites and the possibility of being exploited by hackers. Users' access to the basic information of each product and the possibility of comparing the quality and price of similar products is one of the things that is ranked third in terms of importance among other characteristics. Users prefer to purchase a product that knows all its hidden and visible angles. It is also important for them to have access to information on similar products. Advertising may be moderately important to users, but because extensive and purposeful advertising allows businesses to bring new products from customers' favorite brands along with new ways of preparing the product and the services that can be provided to customers, its special gifts and discounts to users as soon as possible, and to take steps towards continuous customer relationship management.

Gathering customers in friendship groups and forming a special customer club, creating shopping facilities for members of the business groups of any company can also increase the need to pay more attention to retaining loyal customers of companies and enhance the importance of friendship groups from the external clients' point of view. The secondary findings of the study also confirm the need for more attention to each of the above-mentioned items for health tools and equipment. In the health area, social media can facilitate disease monitoring, mass communication, health education, knowledge translation, and cooperation between health care providers in low- and middle-income countries. Incorrect information or poor information can lead to negative health behaviors and adverse health consequences among consumers, hysteria, and chaos. Organizations that use social media must provide accurate and readable information. Promoting reputable social media sites by governments, health care professionals, and researchers, and training the proper use of social media can reduce the impact of incorrect information. This is new literature

and future research should examine the relative effectiveness of different platforms for different users, and other potential applications with a wider geographical focus (12).

Lutkenhaus et al. conducted a study entitled "Adaptation in the digital age: stimulating dialogue on health issues in collaboration with social network influencers. This study reflects what health communicators may learn from effective strategies and recommends digital methods for targeting and regulating health communication in the digital age. More specifically, it provides methods for (a) identifying online communities involved in a particular health issue (B) Outlining specific community cultures and health perceptions (C) identifying influencers as potential partners. Therefore, a different approach should be taken to design by focusing on the creative and cultural competencies of social influencers, and aligning its methods with the media mapping protocol to create effective strategies that fit different cultures and perceptions related to different people's health. Online audience sections show the potential of these methods by studying the practice of vaccination among Dutch Twitter users (13). A study proposes a conceptual framework for managing health information based on social media using multidisciplinary research. Using this framework, the present study presents relevant research challenges, identifies important and non-explored research subjects, and discusses promising directions for future studies (1). The results of a study conducted by Li & Wang suggest that information support, emotional support, and the satisfaction of individuals' autonomy and communication needs play a major role in influencing people's health search intentions on social media. The present study is one of the first studies that adopted theories of self-determination, social support, and trust to examine the intentions of individuals to seek health information on social media (11). To survive, businesses have to refine or even

change their advertising strategies to cope with the changes, facts, and behaviors of their customers. These days, e-commerce is shifting from a basic transaction mode to a basic social network or basic trust. It is necessary to ensure that this change decision is strategic and efficient (14). Publishing content on social media introduces people to the brand. Factors influencing the improvement of the use of social media to promote and market products, the use of attractive and generally educational or entertaining videos, along with the presentation of some product capabilities It is the content that leads the users. Most existing studies on social media marketing focus on issues such as consumer behavior (15, 16, 17), customer relationship management (18), Brand Management (19), innovation management (20), and employee recruitment (21).

Recommendations

In line with such studies, it is recommended for researchers to rank different social media based on the results of similar marketing activities on consumer behavior and examine the impact of government-centered marketing on social media in creating perceptual security on online purchase intention of health tools. Also, the use of operational research techniques, especially fuzzy AHP or TOPSIS, is recommended to identify and select important indicators of success in online sales and ranking and introducing top stores.

Conclusion

The results show that advertising, promotion, creating friendship groups, and sharing information on social networks have an effective role in brand awareness, which enhances the perceived security of customers from medical or health tools or health, and this issue is very effective in the customers' online purchase intention. Brand awareness is the priority in ranking the components of social network marketing for buying health tools online.

To strengthen this component in social networks, it is necessary to provide accurate information and effective strategies on different platforms in the area of health payment equipment.

Authors' contribution

Toktam Salari and Omar Yousefi developed the study concept and design. D. Anand acquired the data. Toktam Salari and D. Anand analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

Conflict of interest

The authors declare that they have no conflict of interests.

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