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Investigating the Effect of Network Marketing on Customer's Satisfaction in Manufacturing Companies accepted in Tehran Stock Exchange

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ARTICLE INFO	ABSTRACT
<p>Article History: Received 29 October 2018 Received in revised form 4 November 2018 Accepted 11 February 2019 Available online 1 March 2019</p> <p>Keywords: Network Marketing, Speed of Service Delivery, Customer Satisfaction.</p>	<p>Marketing plays a pivotal role in the success of e-commerce. Without effective marketing strategies, even the highest-quality products may remain unprofitable, and superior services may fail to attract customers. The present study adopts an applied purpose and employs a descriptive-survey design for data collection. The statistical population comprises experts from manufacturing companies listed on the Tehran Stock Exchange. Using a simple random sampling method, 385 experts were selected as the study sample. Data analysis was conducted using confirmatory factor analysis (CFA) and structural equation modeling (SEM) based on the partial least squares (PLS) approach. The findings revealed that network marketing has a significant positive impact on customer satisfaction and service delivery speed among manufacturing companies listed on the Tehran Stock Exchange.</p>

1. INTRODUCTION

Nowadays network marketing, is a very powerful way to sell and create employment and increase managerial capabilities in individuals. Network marketing has become one of the strongest methods of distributing and selling goods and services. It is also one of the most attractive patterns of work and revenue in the modern economy. Even today, many large traditional companies are struggling to find new ways to achieve the strengths of this approach. In fact, network marketing has become one of the driving forces of the 21st-century economy [1].

Four important factors in achieving network marketing success include:

1. Customer profit
2. Ability to provide the needed online services and information for the client
3. Ability to control and direct the website
4. Creating the integrity of network marketing activity with other activities.

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1.1. Research objectives

- Investigating the effect of network marketing on customer satisfaction
- Investigating the impact of network marketing on increasing the speed of customer service delivery
- The effect of network marketing on increasing the knowledge of manpower

1.2. Research questions

- Does network marketing lead to increased customer satisfaction?
- Does network marketing lead to increasing the speed of customer service delivery?
- Does network marketing lead to increasing the knowledge of manpower?

1.3. Research hypotheses

- Network marketing increases the speed of customer service delivery.
- Network marketing increases customer satisfaction.
- Network marketing leads to increased knowledge of manpower.

2. Background

Maryam Abbasi conducted research in 2011 to investigate the effect of network marketing on the effectiveness of staff and customers of Zarangah Parsian Company. The data collection instrument in this research was a questionnaire. The study was done on 400 samples who's showed that considering the impact of network marketing on increasing the effectiveness of the investigated company, this kind of marketing could be used as an alternative to the current traditional techniques of private companies and public companies across the country to increase their effectiveness [2].

In 2011, in his thesis entitled "Jurisprudential and legal review of activities in the network marketing system", Bibi Rahimeh Ebrahimi stated that network marketing was a new phenomenon in the field of business management that aimed to eliminate intermediaries. This sales model was divided into two categories of healthy and unhealthy. Based on this study, jurisprudential-legal investigations in the healthy part focused on matching the titles of bail, rent, jealous, lawyer of peace, dealerships, and the business of work. In the unhealthy part, however, the assertive and conditional Sentences were reviewed for general and specific reasons. As a result, sanctity, corruption, lack of ownership, guaranty, and crime were proven [3].

In 2013, Attarzadeh, Jalilian, and Sarikhani investigated network marketing in terms of jurisprudence and criminal law of Iran. The positive side of this economic phenomenon had a lot of benefits and not only sold all domestic goods on time, but also it led to increased employment and wealth generation in the community [4].

Sanjar Salajegheh, Hossein Arabnejad Khanoki, and Danial Arab Nosrat Abadi, in an article titled "network marketing and supply chain management" in 2014, introduced network marketing as a strategic chain management tool. Through reviewing and analyzing relevant concepts, they revealed that the network marketing pattern was very important due to the growth of the Internet. This research has been carried out with respect to service and production companies that complete the supply chain strategy model-network marketing [5].

In 2015, Hossein Rouhani, in his research on the impact of network marketing in advancing the objectives of the resistance economy, concluded that one of the marketing branches was the network marketing, which unfortunately there were no proper understanding of it, and there were many contradictory interpretations regarding this field. Network marketing is a compensation scheme for independent vendors that reduce distribution costs. This kind of marketing has positive effects and, given the existing unemployment problem, the most important effect is the

creation of a job. The philosophy and core of network marketing is the existence of social networks and relationships between individuals. Regulating the activities of network marketing companies, setting up pyramid anti-structuring laws, and accurately defining network marketing protocols and constructions, creating the right environment for investment and reducing unemployment, are some of the strategies used for preventing the occurrence of pyramid structures [6].

In the year 2016, Dehdashti, Nasehinia and Yazdani-Moghaddam in a research entitled “Prioritizing factors affecting people's willingness to engage in network marketing”, used a questionnaire and a statistical society of 117 people. They concluded that these days, many companies operate in the field of network marketing in our country that one of their goals is to exacerbate employees for better performance and thus gain more profit and trust in the company, Company support (commercial and psychological). Moreover, their study indicated that the company training had a significant impact on the willingness of employees to network marketing, and the trust in the company had the most impact [7].

In 2016, Shafiee, Luluei and Tahaniyan, after having searched, concluded a study entitled “network marketing survey in Iran” and indicated that that network marketing was the use of the young workforce and the recruitment of a freelance marketer and seller with a guaranteed future career and if these companies went bankrupt, these people who had spent their time in this job would be unemployed without a back-up and an acceptable resume and without answer to their right. As for the products, most of them are marketable easily and at a price that is even more affordable and reliable with a trusted brand [8].

In 2008, Huang on Ton Kit, Marie Surunta, and Jennifer Roly introduced network marketing as a way to expand products and provide information to consumers through social communication. With the expansion of network marketing in the global network, they introduced two models. In the first model, the decision to buy by any consumer happened randomly, but in the other model, the partial information came from the consumer through social communication, and through numerical simulation, which would increase the number of consumers and ultimately the company's profits [9].

In 2012, Colin Campbell, Carl Ferro and Sin Sendez in their study "the segmentation of consumer responses to network marketing" classified customers based on their responses to social networking marketing. They found that in total there were five sections regarding passive, spokesperson, hesitant, active and opposed along with other variables such as a search for information, consumers get information through the marketing of social networks.[10]

According to a research conducted by Reavis in China in 2014, the majority of people had a negative attitude towards network marketing, and in most cases, many of the fraudsters have been covered by network marketing, which is also known as Ponzi designs or pyramid structures. According to Reavis' research, in a healthy network marketing, the person's position in the pyramid changed on the basis of payment [11].

In 2014, Resalin Jones, Marie Surunta and Jennifer Roly, in their research titled "strategic network marketing in small and medium-sized technology", sought to discover strategic entrepreneurial marketing networks. They created a B2B perspective as a basis for determining value created by strategic groups of medium-sized network actors. The results of qualitative computing with the people of two small and medium enterprises in the United Kingdom and the United States highlighted the importance of network marketing development to increase the linkages between organizations, employees, business customers, and other stakeholders [12].

In 2014, Diego Manfrez, Andrew Blsa, and Maria Riponer, using the structural equation model, reviewed the impact of the network marketing orientation on the adaptation, absorption and innovation of dynamic capabilities in Spanish companies (als) and their impact on the performance of these companies. They argued that network marketing was globally effective in facilitating dynamic and exploratory capabilities (capability and adaptability) and this, in turn, would be effective in building the capacity to exploit knowledge to innovate and create higher performances [13].

2.1. Statistical Population

The statistical population of the present study, considering the variables of the research, included all experts of the manufacturing companies listed in the stock exchange.

3. Sampling Method

To determine the minimum required sample size, the Cochran formula was used for an uncertain society:

$$n = \frac{N \cdot \left(\frac{Z_{\alpha}}{2}\right)^2 \cdot s^2}{\varepsilon^2(N-1) + \left(\frac{Z_{\alpha}}{2}\right)^2 \cdot s^2} \tag{1}$$

α : Error level N: size of society ε : maximum error accepted by the researcher.

$\frac{Z_{\alpha}}{2}$: The size of the variable in the normal distribution is extracted from the table at the desired confidence level.

σ : Standard deviation

The maximum error considered in this study for ε was 0.05. The 95% confidence level was also used to determine the number of samples, which according to the normal distribution table was 1.96. Given the fact that 35 preliminary examples were available through the distribution of the questionnaire, the standard deviation of the questionnaire was calculated using the information obtained from the questionnaires, which was 0.517. Given this value, the sample size is equal to:

$$= 183n = \frac{350 \cdot (1.96)^2 \cdot (0.517)^2}{0.05^2(350-1) + (1.96)^2 \cdot (0.517)^2}$$

The sample count is 183 experts.

4. FINDINGS OF THE RESEARCH

The descriptive information of respondents to the questionnaire of this research has been examined and analyzed in terms of gender and marital status.

4.1. Gender

Table 1. Gender

Gender	Number	Frequency
Female	23	32.0
Male	160	68.2
Total	183	100

According to Table 1, it is noted that among respondents, 23 people were equivalent to 32% female and 160 people were equivalent to 68% male.

4.2. Marital status

Table 2. Marital status

Marital status	Number	Frequency
Single	47	38.3
Married	136	61.7
Total	183	100

According to Table 2, it is noted that among respondents, 47 people were equivalent to 38.3% single and 136 people were equivalent to 61.7% married.

4.3. Search Engine Variable

This variable is specified in the questionnaire by 7 items and its characteristics are as follows.

Table.3: Descriptive statistics related to the search engine variable

Variable	Average	Standard deviation	Minimum	Maximum
Search engine	4	0.584	1.6	5

According to Table 3, this variable had an average of 4, a standard deviation of 0.584, minimum of 1.6 and a maximum of 5.

4.4. Blog variable

This variable was specified in the questionnaire by 7 items and its characteristics were as follows:

Table 4. Descriptive statistics related to the blog variable

Variable	Average	Standard deviation	Minimum	Maximum
Weblog	3.431	0.754	1	4.75

According to Table 4, this variable had an average of 3.431, a standard deviation of 0.754, and a minimum of 1 and a maximum of 4.75.

4.5. Attractive design variable

This variable was specified in the questionnaire by 6 items and its characteristics were as follows:

Table 5. Descriptive statistics of the attractive design variable

Variable	Average	Standard deviation	Minimum	Maximum
Attractive design	3.376	0.690	1.80	4.80

According to Table 5, this variable had an average of 3.376, a standard deviation of 0.69, and a minimum of 1.8 and a maximum of 4.8.

4.6. Reliability of the measurement model

As shown in Table 7, the values obtained for Cronbach's alpha and composite reliability were more than 0.7, which indicated the optimum reliability of the research variables. Therefore, the measurement models had desirable reliability. These indices resulted from examining internal correlations or factor loads between the reagents on the simultaneous reliability of the variables. But since the reliability of the reagents was different, the reliability of each reagent should be evaluated on its own. Researchers believe that a variable should explain a significant part of the referenced dispersion (usually at least 50%). Therefore, the magnitude of the correlation between a structure and any of its variables (i.e., the magnitude of the standardized output loads) should be greater than 0.7.

Table 6. Reliability Indexes

Variable	Composite Reliability (CR)	Cronbach's alpha
Obtaining Position in Search Engines	0.809	0.746
Publish news in blog	0.822	0.713
The attractive site design	0.801	0.738
Human resource knowledge	0.795	0.753
Customer Satisfaction	0.711	0.769
0.709 Increasing speed	0.706	0.709
Network marketing	0.736	0.712

In order to obtain convergent validity and correlation, composite reliability and mean-variance tests were evaluated. Reliability greater than 0.8 with a mean of the variance of at least 0.5 were two prerequisites for convergent validity and the correlation of a structure. The results of the validity and reliability analysis and the confirmatory factor analysis of the research model are presented in Table 7.

Table 7. Results of validity and reliability analysis and confirmatory factor analysis

Item	Factor Load	The result of the credit	Composite Reliability	Mean of Variance
The attractive site design				
Question 1	0.566	Appropriate	0.752	0.795
Question 2	0.594	Appropriate		
Question 3	0.603	Appropriate		
Question 4	0.442	Appropriate		
Question 5	0.663	Appropriate		
Question 6	0.574	Appropriate		
Question 7	0.650	Appropriate	0.803	0.762
Question 8	0.552	Appropriate		
Question 9	0.633	Appropriate		
Question 10	0.582	Appropriate		
Question 11	0.672	Appropriate		
Question 12	0.591	Appropriate		
Question 13	0.620	Appropriate	0.854	0.862
Question 23	0.568	Appropriate		
Question 24	0.719	Appropriate		
Question 25	0.624	Appropriate		
Question 26	0.508	Appropriate		
Question 27	0.540	Appropriate		
Question 28	0.584	Appropriate	0.730	0.759
Question 29	0.658	Appropriate		
Question 30	0.562	Inappropriate		
Question 31	0.528	Appropriate		
Question 32	0.573	Appropriate		
Question 33	0.520	Appropriate		
Question 34	0.569	Appropriate	0.906	0.854
Question 35	0.753	Appropriate		
Question 36	0.752	Appropriate		
Question 37	0.654	Appropriate		
Question 38	0.513	Appropriate		

Question 39	0.753	Appropriate	0.879	0.783
Question 40	0.752	Appropriate		
Question 41	0.654	Appropriate		
Question 42	0.213	Appropriate		
Question 43	0.557	Appropriate		

The table data showed that the composite reliability obtained for all variables was greater than 0.7 and the average of the variance obtained for all variables was also greater than 0.5, which indicated the high convergence validity.

4.7. Examining the research model in meaningful numbers before using network marketing

Using this mode, a meaningful relationship between the variables of the research could be found. In this case, there were significant numbers that were outside the range (1.96 and -1.96). This meant that if the t-test was a number between 1.96 and -1.96, it would be meaningless.

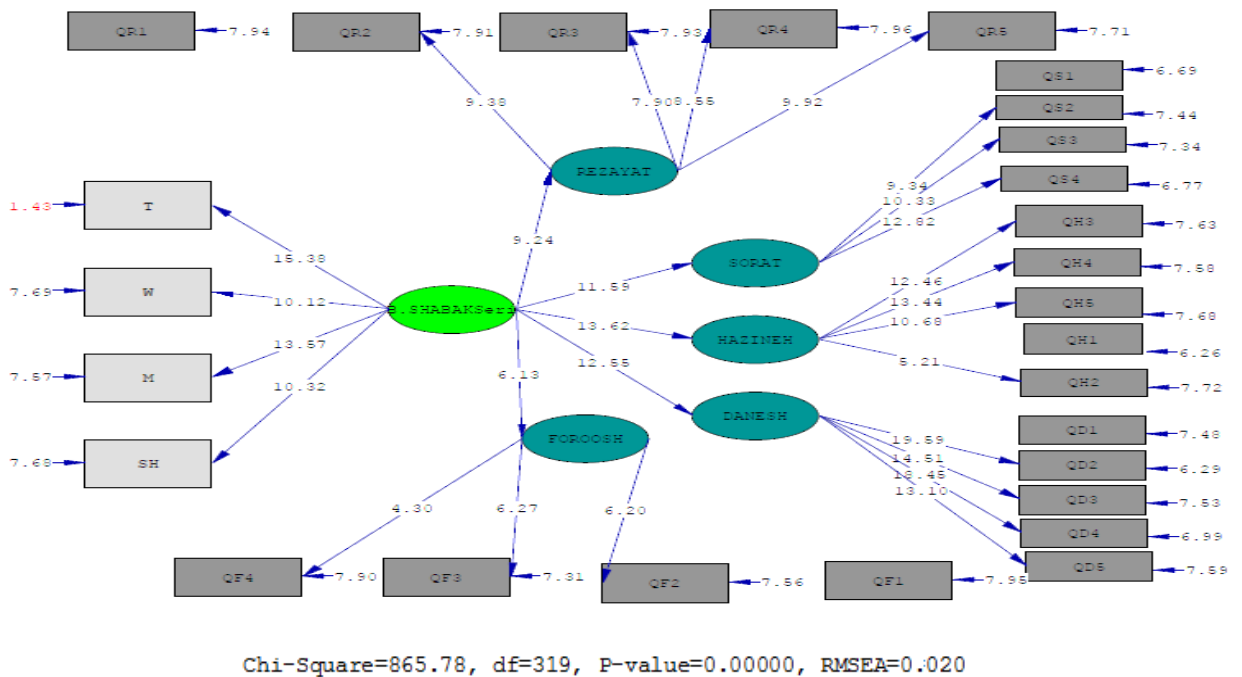


Diagram 1. Testing the research model (meaningful mode) before using network marketing

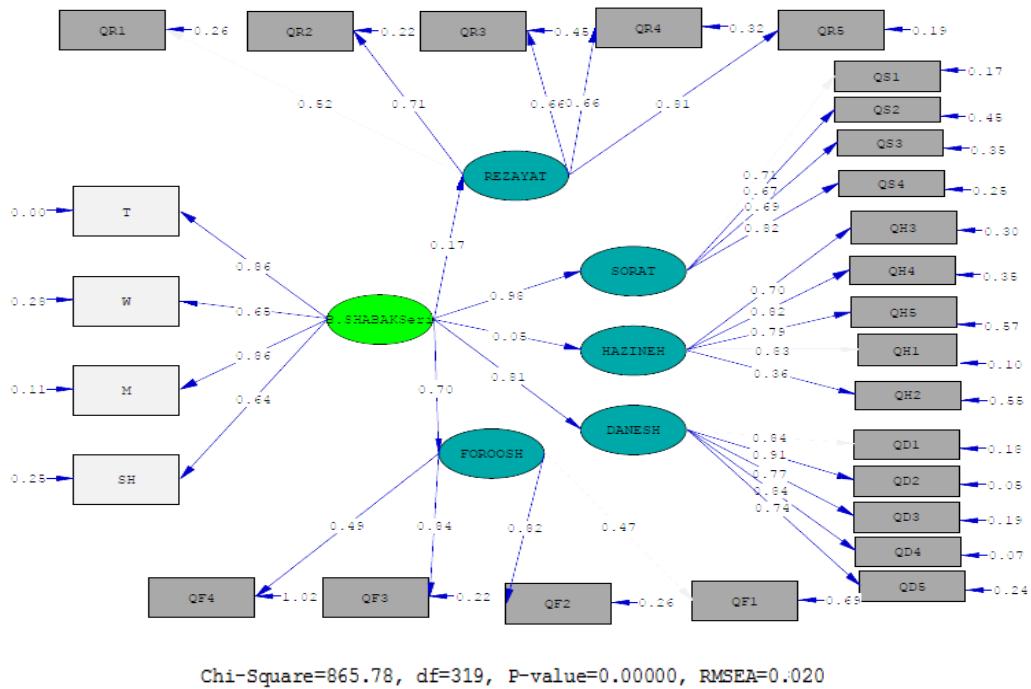


Diagram 2. Reviewing the standard research model after using network marketing

4.8. Testing hypotheses

In this section, the results of the use of inferential methods are presented in the form of a structural equation model.

Table 8. The statistics of variables of the research

Hypothesis	Hypothesis title	T statistics
1	Network marketing increases customer satisfaction.	9.24
2	Network marketing increases the speed of customer service delivery.	11.59
3	Network marketing leads to increased knowledge of manpower.	12.55

4.9. Results of research hypotheses

Table 9. Results of research hypotheses

Hypothesis	Hypothesis title	Result
1	Network marketing increases customer satisfaction.	Confirmation
2	Network marketing increases the speed of customer service delivery.	Confirmation
3	Network marketing leads to increased knowledge of manpower.	Confirmation

5. DISCUSSION AND CONCLUSION

The research findings showed that network marketing was conducive to customer satisfaction. In fact, network marketing increased customer satisfaction. So, it could be concluded that network marketing worked with the promise of success and having numerous subscribers for each distributor. Suppose everything goes well and sellers are getting more and more. When the number of vendors increase by exponential, marketing would not be available for hire. The company is facing a lot of vendors who are going to offer products to buyers, but there are no customers to buy. Customers have also become sellers. In this case, the massive volume of supply and the desire of vendors to supply the goods have satisfied the past customers or current vendors.

Also, with regard to the philosophy of the existence of network-based marketing companies that are either self-produced or connected directly to the manufacturer or the importer without intermediaries, the marketers do not earn money from their team members, but merely earn revenue from their sales volume. Hence for the building and sales team to rise firmly, team members should be simulated in their teams, which would increase their knowledge.

On the other hand, by setting up network marketing companies through marketers in the market, while avoiding increasing prices and managing the appropriate distribution of goods along with lower costs and immediate supply of goods between the producer and the consumer, and increasing the speed of service delivery, the customer satisfaction would also increase.

Conflicts of Interest

The authors declare no conflict of interest.

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