

Impact of marketing knowledge management on organizational performance (with respect to Pharmaceutical Organizations)

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Abstract: In current competitive and challenging marketplace, many companies need to take a holistic and systematic approach toward internal organizational knowledge in favor of making a competitive advantage. Therefore, in recent years they have been concentrating on knowledge sustaining and utilization. In general, most of the effective marketing approaches, which have been hidden under customers' characteristics and their shopping approach can be revealed by a knowledge based on marketing management. Specific emphasis on managing the communication with customers has made marketing responsibility as an applied domain for customers' data analysis. Knowledge can be a critical tool if organization uses it as a mean toward utilization of current opportunities in competitive market. The main motivation of current paper is to evaluate the effect of marketing knowledge management (MKM) on organizational performance. Based on these variables, a questionnaire was developed using previous studies and a Cronbach's Alpha obtained is 0.824, which indicates reasonable reliability of 400 of distributed questionnaires. The data was analyzed using SPSS and Lisrel. Results from analysis indicates that if an organization poses some of the MKM advantages and capabilities then it will make competitive advantage, which in turn the organizational performance shall be improved as well. Any kind of increasing in MKM capabilities and properties would lead into better organizational market performance. In particular, such capabilities will make them to have better performance in target markets.

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1. Introduction

Industrial activities in current global market are unlimited; therefore, diverse demands and tastes require higher quality and better products. Such goals can be achieved only if organizations identify their capabilities and limitations, allocate sufficient resources, evaluate their abilities and finally design and develop long-term strategies. This approach would assist managers to identify barriers and potential assisting factors on one hand and to select feasible methods on the other hand, which will determine their future steps toward achieving highest expecting yield.

In order to access to secure and constant internal and international markets, commercial institutions are very much concerned to identify threats and opportunities for marketing and exporting. Therefore, being familiar with MKM and analyzing the most influential factors on marketing are critical to solve the problem.

In recent decades, considerable studies have reviewed the concept of knowledge management (KM) (Irannejad and Sasangohar,1992; Bahrami,1994; Gary,1995; Davenport and Prusak,1998; Zack,1999; Duffy,1999; Beach et

al.,2000; Gupta et al., 2000;Hackett, 2000;Bishop et al., 2000;Alvis and leidner, 2000; Garnett, 2001; Alvis and leidner, 2002; Garcia-Ayuso, 2003; Drlikowskil, 2003; Kakabadse et al., 2003; Jennex and Olfman, 2004; Gandhi, 2004;Esmailpour, 2005;Hung, 2005; Artail, 2006; Bart and Van, 2006;Abtahi and Salavati, 2006;Abrain, 2007; Abutorabi et al., 2007; Bozbura, 2007; Andreou and Bontis, 2007; Alvani et al.,2007; Wang and Chang, 2007;Che ,2008; Danpoort and prosatt, 2009). Hence, these researches are not consistent with definition of knowledge and knowledge management. Furthermore, more awareness of knowledge influence on organizational performance via various studies has been evaluated (Blackler,1995; Miles et al.,1998; Susana,1998; Perez,1999; Seemann et al., 1999; Kotler, 2000; Parsaeiyan, 2001;Bhatt, 2001;Marr and Schiuma,2002; Lee and Choi, 2003; Susana, 2003; Plessis and Boon,2004;Susana et al.,2004; Malhotra,2005; Sanchez et al., 2006; Kautz-Karl, 2006; Ourmozdi,2007; Tafavogh,2007; Monacko, 2008; Scott and Morgan,2008;Marco and Art,2009).

Due to insufficient attention devoted to KM in Iran from both academic and commercial sectors,

studies on KM are not complete. However, few studies in this area have been conducted that are accessible. These studies are mainly focused on understanding the concept of KM in Iranian organizations and its determinant factors. Along with new developments and economic improvements, more understanding of KM, its utilization and its role in Iranian economy seems to be required. Therefore, relationships between various parts of KM and Iranian organizational performance need to be evaluated to justify more investments in this area.

Providing a resource based organizational view and evaluating the existing KM definitions is something that Macintosh (1998) proposed in his paper on KM. According to him, KM needs to be applied based on knowledge capabilities and properties toward achieving organizational goals. This definition is a practical method for KM evaluation as a holistic concept obtained from knowledge unique role. This definition also indicates knowledge role on various organizational performance, which leads into better understanding of reactions and responses that present unrealistic and holistic results.

Present study aims to apply a comprehensive definition with emphasis on MKM in specific area of knowledge. This paper shall introduce a model to evaluate the relationship between MKM and organizational performance (Pharmaceutical organizations).

Iranian pharmaceutical industry, in regard to various opportunities in the country, is able to be an important part of Iranian economy. This industry indicated a huge growth in recent years, which present its competitive nature. This situation has put pharmaceutical companies in a position which is very suitable for research to evaluate the impacts of MKM capabilities and properties on pharmaceutical organizational performance (either producing, importing or distributor companies). It is found that specific pharmaceutical marketing properties and capabilities are necessary to get effective MKM and improve pharmaceutical organizational performance.

2. Methodology

In order to accomplish, the research data was collected from 116 pharmaceutical companies. Data in the first phase was gathered via hierarchical sampling and in the second phase via random sampling. Data was collected by distributing developed questionnaire consisting of 33 questions. In this study 400 questionnaires were distributed to 34 importing, 60 producing and 22 distributing companies in Tehran during one year. Collected data were analyzed by using SPSS 18 and Lisrel. Questionnaire was designed in two sections: in the

first section, there was personal information such as age, gender, income and so forth, and in the second section there was some of the criterion in which question variables are supposed to be evaluated. Following table presents variables, items and Cronbach's Alpha for each variable (Table 1).

As it is shown in foregoing table, reliability for all items obtained to be higher than 0.7 means that data are reliable. After checking reliability, it is time to take appropriate analysis technique. For the purpose of current study, structural equation modeling (SEM) is used. In doing so, multivariable analysis seems to be the most suitable approach in which SEM is one of the major methods for analysis. In this regard, SEM is used to analyze various variables which in a theoretical structure it can indicate variables mutual effects on each other. In order to discuss the final results, in first part it is worth to present respondents' demographic information as descriptive analysis.

Table 1. Variables, items and Cronbach's Alpha for each variable

Criteria	Number of Item	Source	Cronbach's Alpha
Developing marketing properties	1-7	Akroush & Al-Mohammad (2006)	0.757
Investment in marketing properties	8-13	Akroush & Al-Mohammad (2006)	0.761
Internal marketing capabilities	14-20	Akroush & Al-Mohammad (2006)	0.815
External marketing capabilities	21-24	Akroush & Al-Mohammad (2006)	0.719
Financial performance	25-27	Akroush & Al-Mohammad (2006)	0.768
Market performance	---	Akroush & Al-Mohammad (2006)	0.784
Customer performance	---	Akroush & Al-Mohammad (2006)	0.774

3. Findings

Descriptive Analysis

3.1. Gender

According to data collected from respondents, the sample comprises 126 male and 274 female.

3.2. Age

As shown in Table 2, respondents are classified into six groups in which those who are in age of 25 to 29 comprises the highest rates while respondents who are in group 40 to 44 years old comprise the lowest rate.

Table 2

Age	Frequency	Percentage%
20-24	96	0.24
25-29	140	0.35
30-34	98	5.24
35-39	26	5.6
40-44	20	0.5
45 and above	20	0.5
Total	400	100

3.3. Academic Qualification

Respondents who are awarded as bachelor degrees seem to comprise highest number and those with associate degree comprise the least rates (Table 3).

Table 3

Qualification	Frequency	Percentage (%)
Diploma and lower	18	5.4
Associate degree	13	3.3
Degree	164	0.14
Master	59	14.8
PhD	146	36.5
Total	400	100

3.4. Career

Among other factors, respondents' career status also was evaluated. As shown in the following table (Table 4), most of the respondents are operating in private companies, which comprise 58.5% of total sample.

Table 4

Career	Frequency	Percentage (%)
Student	113	28.3
Governmental job	13	3.3
Private companies	234	58.5
Self-employed	35	8.8
Unemployed	5	1.3
Total	400	100

3.5. Income

According to Table 5, most of the respondents can earn an average income of between 250 \$ to 500 \$ and the minimum numbers can earn 150 \$ to 250 \$ per month.

Table 5

Income	Frequency	Percentage (%)
Less than 150\$	85	21.3
150 to 250\$	50	12.5
250 to 500\$	97	24.3
500 to 750\$	85	21.3
More than 750\$	83	20.8
Total	400	100

In the second part, analytical results are provided. As mentioned before, current study implemented structural equation modeling (SEM), which is a comprehensive approach toward testing the research hypotheses and relationship between observed variables and latent variables. By using this approach, it is possible to test reliability of the theoretical models using regression and other tools. Multivariable analysis is the most powerful and reliable method for analysis used in social sciences because such social issues naturally are multivariable. In this regard, SEM is one of the most frequent used approaches which analyzes "K" independent variable and "n" dependent variable simultaneously. In this approach, first we need to evaluate the validity which is done under Confirmative Factor Analysis (CFA). In this approach, operational load of each measure should be an amount of "t" (higher than 1.96). In present study we could obtain such validity; therefore, it is suitable to precede the analysis which comprise features of latent variables as well.

However, in order to get to the final structural model, structure needs to be modified a little. As discussed in SEM, researcher should apply to use the difference level of chi-square and main model. In doing so, D2 test is required to be implemented, which judge the decline in chi-square. As shown in Table 6, initial model after three phases and in the form of fourth model has reached to suitable space being used in SEM. Therefore, the operation to free covariance between variables is stopped at the fourth phase to get the best matrix covariance (Table 6).

Table 6. Research performed models

Reformed Models	X^2	ΔX^2	df	RMSEA	Chi-square test
Model1	24.81	---	4	0.169	---
Model2 (start of reformation)	17.31	7.50	3	0.102	1%
Model3	9.81	7.50	2	0.085	2%
Model4	2.31	7.75	1	0.064	Not significant

Therefore based on findings from this model, now it is easy to either keep some of the questions or eliminate them. In the fourth model value of variance error is significant, which are statistically reliable. The “t” value also has been evaluated for each structure which are reliable and valid for further processing as it is shown in Table 7.

Table 7. “t” value

Research structure	Sign in model	Operational Load	t	p-value
MKM Properties and capabilities	Property Capital Internal External	73.0 68.0 82.0 80.0	31.15 94.13 07.18 35.17	1% 1% 1% 1%

In order to assess CFA, there are various criterion path models. In current research criterion such as x^2 , RMR, GFI, AGFI, NFI, NNFI, IFI, CFI and also variance error criteria of RMSEA. Among these criteria, x^2 is known as successful criteria; the less value of x^2 is the best. The following table (Table 8) indicates the value of variance based on each of foregoing criterions.

Table 8. CFA based on various criterions

Criteria	Acceptable limit	Reported value
RMR	Close to Zero	0.01
SRMR	Close to Zero	0.01
GFI	0.9 and above	0.99
NFI	0.9 and above	0.99
NNFI	0.9 and above	0.99
IFI	0.9 and above	0.99
CFI	0.9 and above	0.99
RMSEA	Less than 0.08	0.06

As shown the “t” value in all of the criterions seem to be higher than 1.96, which indicates that

research structure is suitable to be assessed under latent features.

4. Results and Discussion

After discussing the findings, this section would present conclusion based on those findings. Current study laid mainly on previous studies on marketing knowledge management and organizational performance that had led into a new model based on specific cultural and social dimensions in the country. In addition, suggestions also are provided in line with limitations. Implementation of research findings requires looking at limitations as well.

Hypothesis testing and interpretation

4.1. Hypothesis 1

KMK properties and capabilities (KMKPC) can positively affect overall organizational performance.

H0: KMK properties and capabilities cannot positively affect overall organizational performance

H1: KMK properties and capabilities can positively affect overall organizational performance

4.1.1. Statistical analysis

According to the research findings, research hypothesis 1 is accepted. As it is discussed, coefficient value of the effect of MKM capabilities and properties on organizational performance is 0.84 and a “t” value of 10.25, which is higher than 1.96. Therefore, MKM capabilities and properties have positive effect on overall organizational performance.

4.1.2. Interpretation

Due to meaningful and positive influence of MKMPC, it can be argued that in question sample existence of MKMPC would create organizational competitive advantage that in turn can enhance organizational performance (OP). In other word, statistically there is a significant and direct relationship between MKMPC and OP; and the more MKMPC, the better OP.

4.1.3. Comparison with previous studies

Findings from this study are consistent with what has been asserted in Akroush and Al-Mohammad (2006), which opined the positive influence of MKMPC on overall OP.

4.2. Hypothesis 2

MKMPC can positively affect market performance of pharmaceutical companies.

H0: MKMPC cannot positively affect market performance of pharmaceutical companies

H1: MKMPC can positively affect market performance of pharmaceutical companies

4.2.1. Statistical analysis

As shown coefficient value of the effect of MKM capabilities and properties on organizational performance is 0.79 and a "t" value of 8.34, which is higher than 1.96. Therefore, MKM capabilities and properties have positive effect on pharmaceutical overall organizational performance.

4.2.2. Interpretation

Due to meaningful and positive influence of MKMPC, it can be argued that in question sample existence of MKMPC would create organizational brand image and reputation among consumers that in turn can promote sales and market share. In other words, statistically there is a significant and direct relationship between MKMPC and companies' market performance and the more MKMPC the better market performance among pharmaceutical companies.

4.2.3. Comparison with previous studies

Findings from this research are consistent with Akroush and Al-Mohammad (2006), which asserts MKMPC can positively affect pharmaceutical companies' overall market performance.

4.3. Hypothesis 3

MKMPC can positively affect pharmaceutical companies' customer performance.

H0: MKMPC cannot positively affect pharmaceutical companies' customer performance

H1: MKMPC can positively affect pharmaceutical companies' customer performance

4.3.1. Statistical analysis

As shown coefficient value of the effect of MKM capabilities and properties on pharmaceutical companies' customer performance is 0.56 and a "t" value of 9.31, which is higher than 1.96. Therefore, MKM capabilities and properties have positive effect on pharmaceutical companies' customer performance.

4.3.2. Interpretation

As it is discussed, MKMPC can positively affect pharmaceutical companies' customer performance in this sample, which can create more satisfaction, enhance customers' loyalty, promote new products in target markets, develop new supply channels and enhance relationship with customers that in turn would increase sales and market share. It also can be argued that by providing more competitive advantages for customer, companies can

enhance customers' performance. In other words, the higher MKMPC the better pharmaceutical companies' customer performance.

4.3.3. Comparison with previous studies

Findings from this research are consistent with Akroush and Al-Mohammad (2006), which asserts MKMPC can positively affect pharmaceutical companies' customer performance.

4.4. Hypothesis 4

MKMPC can positively affect pharmaceutical companies' financial performance.

H0: MKMPC cannot positively affect pharmaceutical companies' financial performance

H1: MKMPC can positively affect pharmaceutical companies' financial performance

4.4.1. Statistical analysis

As shown coefficient value of the work independency on employees' job motivation is 0.58 and a "t" value of 8.67, which is higher than 1.96. Therefore, MKM capabilities and properties have positive effect on pharmaceutical companies' financial performance.

4.4.2. Interpretation

As it is discussed, MKMPC can positively affect pharmaceutical companies' financial performance. In other words, the higher MKMPC the better pharmaceutical companies' financial performance.

4.4.3. Comparison with previous studies

Findings from this research are consistent with Akroush and Al-Mohammad (2006), which asserts MKMPC can positively affect pharmaceutical companies' financial performance.

Suggestions

I: Once the importance of MKMPC in organizational performance was elaborated, authors suggest enhancing MKMPC in organizations to promote performance as well

II: More investment on brand image and reputation would create more competitive advantage and also can improve the performance.

III: Based on the third hypothesis, it is suggested to apply MKM directly which can lead into more satisfaction and loyalty.

IV: Financial performance is considered as one of the basic principles related to leadership style and it is known as an important criterion in health commercial operation which should be considered in MKM at modern organizations as tangible reward.

Limitations

- Lack of sufficient paper and resources in MKM
- Lack of cultural concerns in filling up the questionnaires among respondents
- Problems in developing self-designed questionnaire
- Problems in converting MKM models into a measurable model
- Finding the accessible marketing knowledge in pharmaceutical companies

Further research

As this research was focused on marketing capabilities and properties aspect, it is suggested to further study the structures and MKM conceptualization. Current study is conducted among pharmaceutical companies in Tehran; further studies would be performed on other organizations and industries. In addition, while this study investigates the direct relationship between MKM and commercial performance of pharmaceutical companies, further studies can be done on evaluation of introductions and results of MKM and their impact on organizational performance. Finally, the main motivation in this study is devoted to MKM; it is suggested to study the collaboration between MKM and organizational performance and the way they affect commercial performance

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