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The Effect of Marketing Knowledge Management and Organizational Performance: Case Study

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Abstract

In this research we investigate the relationship between marketing knowledge management (MKM) and performance in Iranian telecommunications organizations (ITOs). A quantitative methodology is adopted in which a model is developed. An extremely structured questionnaire is developed and distributed to a sample of 339 managers in ITOs. Structural equation modeling is utilized to test the stated hypotheses and model. Result shows that MKM resource and potentials have a positive effect on the entire performance of ITOs, with all its potentials. Create-in marketing resource, internal marketing potentials and external marketing potentials show the strongest influence on market performance and customer performance and financial performance respectively. While with showing the least influence on financial and market performances, expend-in marketing resource has a positive relationship with all potentials of ITOs' performance.

Keywords: Resource, Marketing, Telecommunications, Iran, Knowledge management, Organizational performance

Introduction

The conception of knowledge management (KM) has a considerable research during the last two decades (Carrillo et al., 2003; Wong, 2004; White, 2005; Young, 2006; Maddan, 2009). In the conditions of Iran research into KM is still needed. However, in order to justify interest and investments in such conceptions and structure in this research we refer to Macintosh's (1998) definition on KM, which emphasizes the survival of certain knowledge-related resource and potentials applied to realize organizational goals and objectives. Furthermore, in this research we

discuss on KM, as conceptions, of the contribution of knowledge derived from different functions within the organization, which might cause diverse following among respondents, and present unrealistic results. The research applies and focused on marketing knowledge management (MKM) as it represents a specific research, range of knowledge. According to previous research the significance of examining the role KM plays in technology-focused industries operating in enclosed economies (Alavi and Leidner, 2001; Bruton et al., 2007), the research introduces a model examining the relationship between MKM and the organizational performance of Iranian telecommunications organizations (ITOs). The considerable growth of industry is distinguished by a competition which makes it a suitable locale for research to survey the influence of MKM resource and potentials on ITOs' performance. In this research we argue that the survival of certain marketing resource and potentials is necessary for realizing an effective MKM capable of improving ITOs' performance. Therefore the objectives of this research are as:

- (1) Describe and follow MKM resource and potentials in ITOs;
- (2) follow the scope of marketing knowledge which is available, as a main part of performance;
- (3) Survey the relationship between MKM resource and potentials and ITOs performance; and
- (4) Survey the resource and potentials of MKM on ITOs performance.

Literature Review

In this research according to differences of defining KM we discuss on two factors. The first is related with the problems in providing a global definition of the "knowledge" conceptions itself. Knowledge has been described and categorized in a different ways: tacit and explicit; procedural and declarative, (Vail, 2001). The second factor is related with the fact that KM covers all the characteristics of organizations' procedures (Iftikhar, 2003) and, as Mckeller (2005) describes; it includes many directions such as document, infrastructure, and customer relationship management and etc. However there are a large number of definitions on "knowledge" and "knowledge management" (Kaner and Karni, 2004). In this research, we refer to the definition of knowledge as "knowledge is information combined with experience, conditions, explanation and reflection that is ready to apply to decisions and actions." (Davenport et al., 1998). According to above differentiates definition between "knowledge" and "information" Zeleny's, (2005) stated that While information includes data, graphics and text, knowledge included human feedback and collaborative learning. Furthermore, knowledge within the business conditions can fall within the spectrum of tacit knowledge and explicit knowledge (Carrillo et al., 2003). Hence, a knowledge range needs to cover a specific area of business activity (Collison and Parcell, 2005), in order to avoid any miss-explanations pointed by the "knowledge" conceptions. "Knowledge" conceptions and "knowledge management" can be defined as: A direction that involves the recognition and analysis on the market and needed knowledge resource and knowledge potential-related procedures, and the ensuing planning and control of actions to develop both the resource and the procedures so as to accomplish organizational objectives (Macintosh, 1998). This definition suggests that KM has two primary element; knowledge resource, and knowledge potential-related procedures or potentials. The definition is related with the resource-based outlook, which identifies organizational potentials with potential-conferring procedures for the utilization of actual and in- actual value generating resource (Akroush, 2006; Clulow et al., 2007; Kristandi and Bonits, 2007). According to the resource-based outlook, the suitable deployment of organization's knowledge-related resource and potentials increases its long-run modification in the face of environmental possibilities (Pitt and Clarke, 1999), and creates a competitive potential for that organization (Moustaghfir, 2008). KM research has attempted to

highlight some of knowledge-related resource and potentials. According to resource-based outlook and the adopted definition of KM, in this research once the right combination of knowledge-related resource and potentials is applied, KM can accomplish organizational objectives. However, as highlighted earlier, organizations take control of different range of knowledge; each of them is presented through the deployment of certain resource and potentials. Therefore, each range of organizational knowledge should be addressed through the resource and potentials related with it. The category of organizations' resource and potentials under different range of knowledge should permit organizations to allocate their resources and efforts towards managing those resource and potentials relevant to organizational success.

Marketing-related KM – resource and potentials outlook

MKM refers to the range of knowledge related with organizational marketing procedures. A marketing process include of a different of activities that range in their purposes and responsibilities. According to Macintosh's (1998) definition of KM in the MKM research is that different definitions were introduced to describe both "marketing resource" and "marketing potentials" (Moller and Anttila, 1987; Hooley et al., 2001). In this conditions, marketing resource are defined as "resource endowments the firm has acquired more than time and what can be positioned to potential in the market place" (Hooley et al., 2001). On the other hand, marketing potentials are defined as "complex bundles of skills and collected knowledge, exercised through organizational procedures that permit firms to coordinate activities and make use of their resource" (Day, 1994). The interesting research in this area was that to create upon the resource-based outlook (Hooley et al., 1999, 2003; Akroush, 2006), under which researchers were suggesting that the survival of certain marketing resource and potentials was essential for successful marketing strategies (Hooley et al., 1999; Akroush, 2006; Malmelin, 2007) and increased organizational performance (Hooley et al., 1999, 2005; Fahy et al., 2000; Akroush, 2006). Several authors have attempted to survey the cooperative between marketing resource and potentials and organizational performance (Hooley et al., 1999, 2003; Andreou and Bontis, 2007; Moustaghfir, 2008).

Therefore the marketing resource and potentials suggested by different authors which highlight four main observations relevant to this research. First, there is no agreement on a certain set of marketing resource, or potentials, among authors. Therefore, it could be pointed by differences between organizations themselves. According to Day (1994) it is not possible to enumerate all possible potentials, because every business develops its own configuration of potentials that is defeated in the realities of its competitive market, past duty and expected requirements. Further, while organizations might use the same terminology for certain potential or capacity, this potential or capacity might be applied differently from one organization to another. Therefore, empirical research should attempt to categorize marketing resource and potentials on industry level, since that studying each organization individually is an impossible task. Second, the lack of a universally adopted set of marketing assets, marketing literature has emphasized their contribution to organizations' improved performance (Moller and Anttila, 1987; Barney, 1991; Hooley et al., 1999, 2005; Akroush, 2006; Andreou and Bontis, 2007; Linzalone, 2008; Moustaghfir, 2008). According to O'Regan and Ghobadian (2004), recent resource-based literature emphasis on the uniqueness of an organization's resource is not sufficient to comfort competitive potential. Both resource and the way organizations use them must continuously change, leading to the creation of continuously changing temporary potential (Foil, 2001). This suggests that it is the way resource are configured and not the potentials as such that is the source of competitive potential (O'Regan and Ghobadian, 2004).

Hence this research argues that organizations need to utilize their existing marketing resource while, at once investing in improving and developing those resource. This argument is further emphasized through the MKM definition adopted by this research where marketing resource need to be developed in order to reach the circulation to realize organizational objectives. Therefore, this research divides marketing resource into “create-in” and “expend-in” resource. Create-in marketing resource are those resource collected by the organization more than time. Expend-in marketing resource refers to that resource likely to be improved through considerable investments positioned by the organization. Third, organizational procedures can be widely classified into external and internal procedures. External procedures are involved with following the external environment of the organization, with all its elements, providing essential understanding with regard to organization’s competitive position and needed actions. Internal procedures, on the other hand, are related with transporting value-added products that meet competitive demands. Internal procedures extremely rely on external procedures for purpose and direction. In the structure of this category, Moller and Anttila (1987) suggested that marketing potentials can be employed to the external and internal working-related procedures. In their outlook of marketing capacity, Moller and Antilla (1987) divided marketing potentials into internal and external marketing potentials. External marketing potentials are involved with the potentials of the organization to management a full and complete analysis of the macro-industry environment characteristics through a monitoring, analyzing, and following of these characteristics. On the other hand, internal marketing potentials include strategic management, functional integration, and marketing and operations management.

Moller and Anttila (1987) finding results shows that companies in different industries in different competitive positions need different profiles of marketing potentials. The category of marketing potentials into external and internal potentials accepts the matching nature of organizational procedures responsible of organizational performance. Fourth, certain elements are considered as marketing resource (Hunt and Morgan 1995; Fahy et al 2000) and some other authors consider the same elements as marketing potentials (Roth and Velde, 1989); while others considered as distinguishing potentials (Pitt and Clarke, 1999). Hence, it could be argued that authors’ classification of a certain element as marketing potential or capacity is a matter of conception creates upon experience and organizational conditions.

MKM and organizational performance

Research showing the effect of MKM on business performance is needed (Tsai and Shih, 2004; Akroush, 2006). However, analysis on empirical research on KM and MKM highlights three main observations: first one is involved with the focus and operationalization KM and MKM (Carrillo et al 2003; Wong, 2004; Lin and Tseng, 2005). Second observation is involved with the nature of cooperative between KM, regardless of its focus or range, and organizational performance (Tanriverdi, 2005; Tsai and Shih, 2004). Third observation is involved with the lack of consistency among KM researchers on how to define and measure organizational performance as a dependent variable (Claycomb et. al, 2001); Lin and Tseng, 2005; Tanriverdi, 2005). This observation highlights that differences among KM and MKM researchers go beyond KM’s focus, range and definition to reach their conceptions on what elements of organizational performance are most affected by KM, and how those elements should be measured.

Hypotheses and Model

In this research we state the empirical evaluation of KM's influence on organizational performance must accept the control of different range of knowledge organizations. Such influence should be studied through knowledge resource and potentials related with KM's different range. While performance should be evaluated with its potentials to provide an outlook of KM's effect and highlight those characteristics of performance most influenced by KM. Therefore, we proposes a model which addressing a range of knowledge and its influence on ITOs' performance (Figure 1).

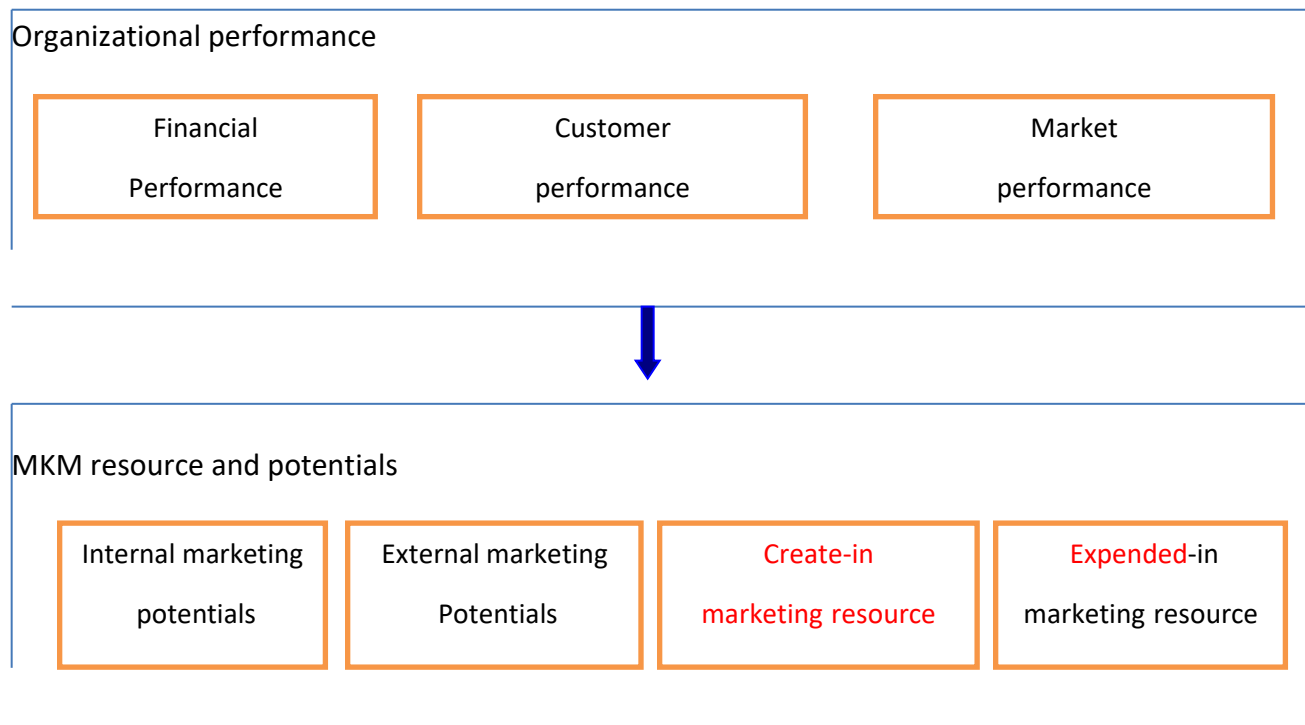


Figure 1. Proposed model

According to the model (Figure 1), MKM include of four main elements: create-in marketing resource, expended-in marketing resource, internal marketing potentials, and external marketing potentials. The model suggests a direct relationship between MKM's resource and potentials and organizational performance. Figure 1 of this research creates on resource-based outlook literature (Hooley et al., 1999, 2003, 2001; Akroush, 2006; 2007; Kristandi and Bontis, 2007). Claycomb et al. (2001) highlighted that the competitive potential of firms is mostly attributable to differences in organizational resource and potentials. Once knowledge-related resource and potentials are positioned in the organization's operations, the competitive potential can be obtained, and consequently, better performance can be realized. Accordingly, this research argues that the relationship between MKM and organizational performance can be studied through examining the relationship between MKM-related resource and potentials and organizational performance. Structure on the adopted definition of MKM and the conditions of ITOs, the survival and implementation of certain marketing resource and potentials will positively affect ITOs' performance. Therefore, it can be hypothesized that:

H1. MKM resource and potentials positively affect ITOs' entire performance.

Relationship between MKM resource and potentials and both market and customer performance, a main performance potentials of investigation in this conditions is financial performance. Financial performance is one of the primary issues on top management's schedule and is a main index of "healthy" business operations. It is considered as one of the actual rewards of MKM in modern organizations and is significance for executives. ITOs are no exception. According to previous research (Day and Wensley, 1998; Fahy, 1993; Day, 1994; de Chernatony and McDonald, 1998; Doyle, 2001; Clulow et al., 2003; Akroush, 2006; Smith, 2006), we argues that MKM resource and potentials will affect organizations' financial performance too. Hence, it can be hypothesized that:

H2. MKM resource and potentials positively affect ITOs' financial performance.

Organizational performance (Figure 1), include of three potentials: market, customer, and financial performances. Create-in marketing resource such as the distinguishing organization standing and image may lead to customers' choice irrespective of levels of satisfaction (Keller, 1993), hence, increasing sales volume and market shares. In addition, investments in developing organization's standing and brand image may positively affect its competitive position in the market, but, positively will not affecting its market performance. In the conditions of MKM, it is expected that the implementation of MKM resource and potentials will not positively affect the entire performance of the organization through affecting its market, customer, and financial performances. The survival of MKM resource and potentials will not permit the organization to perform better in its targeted markets. Furthermore, external marketing potentials such as potentials of conducting a complete analysis of the organization's external business environment (Vorhies et. al., 1999), potentials to process and analyze information to anticipate market requirements of competitors (Roth and Velde, 1989), potentials of matching the company's distinguished capabilities with external opportunities in the marketplace (Fahy et al., 2000), and potentials of identifying the strategic activities that not lead the company to realize a competitive potential of competitors. All those potentials may not positively affect the organization's position in the market comparing to its competitors, thus, positively not affecting its market performance. On the other hand, potentials to develop and manage integrated marketing schedule better than competitors, may place the organization in a better position than its competitors in the market. Therefore it can be hypothesized that:

H3. MKM resource and potentials positively not affecting ITOs' market performance.

In addition to external marketing potentials, internal marketing potentials may have a positive impact on customer performance. For instance, organization's potentials to provide, communicate, price, and distribute new quality products may positively affect customer satisfaction, hence increasing customer loyalty. Furthermore, human resources potentials, both in terms of managers and employees, may not improve customer loyalty through better products and customer relationship. With regard to customer performance, create-in marketing resource is directed towards creating un-satisfied and un-loyalty customers. Furthermore, employees' distinguishing ability to serve and handle customers' disorder cannot increase customer satisfaction. On the other hand, external marketing potentials such as the following of the customer needs and wants, in addition to creating, encouraging, and increasing relationships with the firm's customers (Hooley et al., 2003) will not permit the organization of effectively connecting with its customer base, which may not increase customer satisfaction and loyalty. Therefore the hypothesis can be followed such as:

H4. MKM resource and potentials positively will not affect ITOs' customer performance.

Methodology of Research

Our research population is the telecommunications organizations during 2010 which randomly we choose 82 organizations and all the organizations were called and invited to participate in the research survey. Since the government of Iran believes that the private sector takes the lead in the development process of the Iranian economy, all the ITOs in Iran are privately held and owned by the private sector. During the analysis and based on our research objectives, there was no attempt made by the researchers to classify the ITOs because all of them belong to the same industry which is homogenous. Our research sample included marketing, sales, customer service, customer relations, quality, top marketing management activities and performance which is include with previous empirical studies that have been coordinated in this research area (Lin and Tseng, 2005; Tanriverdi, 2005; White, 2005; Young, 2006). Therefore, the highest number of questionnaires received was 680 from ITO. Further, it has three sub-headquarters in Iran that were represented equally in the survey. The other organizations in the industry are medium to small size and represented sufficiently in the research survey. On the other hand MKM requires interdepartmental approach rather than the traditional marketing department approach that focuses on restricting MKM within the department boundaries. The nature of interdepartmental approach relies on the fact that structure marketing resource and potentials requires cross-functional integration with and among other departments and units in modern organizations. Therefore, multiple respondents from each telecommunication organization were included in the sample since they have a crucial effect on MKM resource and potentials, and the unit of analysis in this study was "the manager" rather than "the organization." This is including with MKM resource and potentials literature that focused on following MKM resource and potentials and their contribution to business performance from managers' outlooks primarily. This study is designed to survey the effect of marketing resource and potentials on ITOs performance from "managers" outlooks rather than an "organizational" outlook. Further, to supported the work discussions with managers in leading telecommunications organizations showed that several managers from each organization provide brief information related to MKM and performance, those managers were chosen to participate in the study.

Samples

In this research most ITOs managers are males (%92.2) that is include with the Iranian society and still relatively a male dominated especially on the top management positions and most of them are young. As well as most of managers has more than 5 years of experience (%39). This holds a strategic implication that shows that ITOs does not have relevant and sufficient business industry experience that is crucial for structure and encouraging marketing resource and potentials as a source of competitive potential on the long-term. Therefore 78.6 percent of managers do not have relevant education background therefore there is no reasonable recruitment process in ITOs that focus on quality of people as one of their main resource to realize a success. Finally, the table shows that ITOs size is reasonably scattered on the three levels of size, namely; large, medium, and small; as in any developing economy. Table 1 shows the research create measurement and items. Five items were used to measure the Create-in marketing resource which most items were pulled from available literature with some modifications to suit research conditions. Five items were used to measure the Expended-in marketing resource which some of the items used to measure it were pulled from available literature, while other items were developed by this research. Internal marketing potentials were defined as internal procedures related with transporting value-added products that meet competitive demands. Five items were used to measure this setup. While External marketing

potentials involved with following the external environment of the organization with all its elements, such as customers, competitors, suppliers, and distributors. Three items were used to measure this set up. Organizational performance based on market, customer, and financial measures. Two market measures were used to evaluate market performance, and two customer measures were used to evaluate customer performance and two financial measures were used to evaluate financial performance. These measures were pulled from the literature analysis discussed in this research (Table 1).

Table 1. Constructs measurements

Items	Author(s)
Items measuring create-in marketing resource	
Distinguishing ability to conduct strategic marketing planning	Moller and Antilla (1987)
Distinguishing service quality	Developed for this study
Distinguishing services delivery procedure activities	Developed for this study
Distinguishing knowledge in the market place and customers	Olavarrieta and Friedmann (1999) and Vorhies et al. (1999)
Distinguishing ability in serving customers and handle their complaints	Moller and Antilla (1987) and de Chernatony and McDonald (1998)
Items measuring expended-in marketing resource	
Investments in creating customer service	Akroush (2006)
Investments in creating customer service quality	Developed for this study
Investments in developing new services	Day and Wensely (1988)
Investments in your company promotion and customer education	Developed for this study
Investments in people skills, capabilities, and knowledge	Moller and Antilla (1987), Barney (1991) and Hooley et al. (2003)
Items measuring internal marketing potentials	
Company potentials to develop and manage integrated marketing schedule better than competitors	Chang (1997)
Company potentials to innovate and develop new services	Vorhies et al. (1999) and Hooley et al. (2005)
Company potentials in providing distinguished quality of services	Hooley et al. (1999) and Fahy et al. (2000)
Having superior skills, abilities, and knowledge of marketing and technical specialists	Akroush (2006)
Having superior financial and human resources and potentials	O'Regan and Ghobadian (2004) and Hooley et al. (2005)
Items measuring external potentials	
Potentials of the understanding of customer wants and needs	Moller and Antilla (1987)

Potentials comprehensive analysis for the company's external business environment	Vorhies et al. (1999)
Potentials of matching the company's Distinguished competencies with external opportunities in the market place	Fahy et al. (2000)

Our research instrument was based on previous empirical research of marketing resource and potentials and organizational performance (Malhotra, 2007). The part of research instrument was personal interviews with key managers in ITOs to follow it for the research purposes. The instrument was personally delivered to all ITOs' managers and the objectives of research were explained to them. Data collection process lasted around four month period during 2010. Therefore we delivered 680 questionnaires to ITO from which 550 were returned (%85). The valid and useable questionnaires for data analysis were 450; 78.1 percent from the returned questionnaires. In this research two types of data were employed Secondary data, which define the research objectives and develop the research model. Primary data collection process was carried out using an extremely structured questionnaire that was developed for the research purposes. The research items were measured on five-point Likert-type scales ranging from 5 – strongly agree to 1 – strongly disagree (Churchill, 2001; Malhotra, 2007).

Validity

The research instrument was evaluated through content validity and creates validity. The primary issue in content validity lies in the procedures that are used to develop the research instrument (Churchill, 2001). With regard to create validity, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are used to evaluate create validity (Hair et al., 1998). Thus, EFA was performed to operationalize the marketing resource and potentials element and organizational performance variables and to test the degree to which the items are tapping the same conceptions. Moreover, it has been recommended that CFA, derived from structural equation modeling (SEM), is a more rigorous test of unidimensional (Garver and Mentzer, 1999). Thus, CFA was also utilized to confirm the unidimensional of potentials that resulted from the EFA. Statistical Package for Social Sciences shows which variables “clump together.” Based on theory, the contents of variables are up to the researcher to propose possible explanations (Pallant, 2001). To evaluate the CFA, goodness of measurement model fit using SEM was followed (Chau, 1997): $\chi^2 (P \geq 0.05)$; goodness-of-fit index (GFI ≥ 0.87); adjusted goodness-of-fit index (AGFI ≥ 0.77); normed fit index (NFI ≥ 0.87); non-normed fit index (NNFI ≥ 0.87); comparative fit index (CFI ≥ 0.87); and root mean square error of approximation (RMSEA, 0.10). Factor loadings are the correlations of the variables with the factor, the weighted combination of variables which best describes the variance. Higher values (e.g. more than 0.40) making the variable representative of the factor (Hair et al., 1998). The results of EFA and CFA are shown in Tables 1 and 2, respectively.

Table 2. EFA results for marketing resource and potentials

Marketing resource and potentials components	EFA results ^a			
	Factor 1	Factor 2	Factor 3	Factor 4
Expended-in marketing resource				
Investments in creating customer service	0.83			
Investments in creating customer service quality	0.87			
Investments in developing new services	0.79			
Investments in your company promotion and customer education	0.72			
Investments in people skills, capabilities, and knowledge	0.55			
Create-in marketing resource				
Distinguishing ability to conduct strategic marketing planning		0.49		
Distinguishing service quality		0.67		
Distinguishing services delivery process activities		0.65		
Distinguishing knowledge in the marketplace and customers		0.66		
Distinguishing ability in serving customers and handle their complaints		0.63		
Internal marketing potentials				
Distinguishing ability to provide your customers value for money better than competitors			0.52	
Company potentials to develop and manage integrated marketing schedule better than competitors			0.62	
Company potentials to innovate and develop new services			0.65	
Company potentials in providing distinguished quality of services			0.76	
External marketing potentials				
Having superior skills, abilities, and knowledge of marketing and technical specialists				0.70
Having superior financial and human resources and potentials				0.76
Potentials of thorough understanding of the customer wants and needs				0.70
Potentials of matching the company's distinguished competencies with external opportunities in the marketplace				0.57
Eigen values for each factor	20.2	3.3	2.4	2.2

Notes: ^aEFA results: extraction method: principal component analysis; rotation method: varimax with Kaiser normalization; rotation converged in four iterations; varimax rotation was used since it is a good general approach that simplifies the interpretations of factors; sampling adequacy (Kaiser-Meyer-Olkin measure greater than 0.5): 0.957

As shown in Tables 2 and 3 the results of CFA show that the factors of the marketing resource and potentials sensitive on only four factors. The same procedures were applied on the organizations' performance measures items.

Table 3. CFA results for marketing resources and potentials

Marketing assets and potentials components	Factor 1	Factor 2	Factor 3	Factor 4
Invested-in marketing resources ^a				
Investments in creating customer service	0.75			
Investments in creating customer service quality	0.82 *			
Investments in developing new services	0.75 *			
Investments in your company promotion and customer education	0.60*			
Investments in people skills , potentials , and knowledge	0.52 *			
Create-in marketing resources ^b				
Distinguishing service quality		0.70 *		
Distinguishing technological abilities, e.g. computerizing the company's processes		0.73 *		
Distinguishing knowledge in the marketplace and customers		0.61 *		
Distinguishing services delivery process activities		0.56 *		
Distinguishing ability in serving customers and handle their complaints		0.50 *		
Internal marketing potentials ^c				
Distinguishing ability to provide your customers value for money better than competitors			0.53 *	
Company potentials to develop and manage integrated marketing programs better than competitors			0.63 *	
Company potentials in providing distinguished quality of services			0.73 *	
Having distinctive marketing communications potentials			0.63 *	
External marketing potentials ^d				
Having superior financial and human resources and potentials				0.75 *
Potentials of thorough understanding of the customer wants and needs				0.62 *
Potentials ability of creating, sustaining and enhancing relationships with the firm's customers, financial institutions				0.85 *
Potentials to process and analyses information to anticipate market requirements ahead of competitors				0.40 *

Notes: Model goodness-of-fit: ^a $\chi^2 = 11.2$, $P = 0.12$, GFI = 0.97, AGFI = 0.91, NFI = 0.95, CFI = 0.97, NNFI = 0.95, RMSEA = 0.06; ^b $\chi^2 = 8.3$, $P = 0.09$, GFI = 0.94, AGFI = 0.92, NFI = 0.94, CFI = 0.95, NNFI = 0.93, RMSEA = 0.6; ^c $\chi^2 = 8.4$, $P = 0.11$, GFI = 0.95, AGFI = 0.91, NFI = 0.91, CFI = 0.97, NNFI = 0.95, RMSEA = 0.08; ^d $\chi^2 = 7.2$, $P = 0.70$, GFI = 0.95, AGFI = 0.91, NFI 0.92, CFI 0.95, NNFI 0.94, RMSEA 0.07

Table 4. EFA results for organizations performance measures

Organization performance variables	Factor1	Factor2	Factor3	Factor4
Financial performance indicators				
Contribution to return on investment compared with our competitors	0.86			
Contribution company's profitability compared with our competitors	0.79			
Market performance indicators				
Contribution to company's financial resource		0.53		
Increasing the company's ability to develop new company services		0.81		
Contribution to company's non-financial resource		0.50		
Customer performance indicators				
Contribution to improving customer satisfaction			0.75	
Contribution to improving customer loyalty to our company			0.46	
Eigenvalues for each factor	6.8	3.8	3.8	

Notes: aEFA results: extraction method: principal component analysis; rotation method: varimax with Kaiser normalization; rotation converged in four iterations; varimax rotation was used since it is a good general approach that simplifies the interpretations of factors; sampling adequacy (Kaiser-Meyer-Olkin measure greater than 0.5): 0.946

Table 5. CFA results for organizations performance measures

Organizations performance indicators	Factor 1	Factor 2	Factor 3
Financial performance indicators ^a			
Contribution company's profitability compared with our competitors	0.70 *		
Contribution to return on investment compared with our competitors	0.87 *		
Market performance indicators ^b			
Increasing the company's ability to develop new company services		0.75 *	
Contribution to company's non-financial assets		0.67 *	
Customer performance indicators ^c			
Contribution to improving customer satisfaction			0.47 *
Contribution to improving customer loyalty to our company			0.65 *

Notes: Model goodness-of-fit: ^a $\chi^2 = 6.8$, $P = 0.08$, GFI = 0.95, AGFI = 0.91, NFI = 0.91, CFI = 0.91, NNFI = 0.94, RMSEA = 0.08; ^b $\chi^2 = 4.7$, $P = 0.06$, GFI = 0.94, AGFI = 0.89, NFI = 0.89, CFI = 0.88, NNFI = 0.90, RMSEA = 0.06; ^c $\chi^2 = 3.9$, $P = 0.06$, GFI = 0.95, AGFI = 0.92, NFI = 0.91, CFI = 0.90, NNFI = 0.92, RMSEA = 0.07

As shown in Table 5 CFA resulted in three factors related to organization performance measures: financial, market, and customer. Create validity-MKM resource and potentials element. Table 2 shows the results of EFA that show that the 19 items of the marketing resource and potentials sensitive on only four factors. These results provide general support for the MKM literature that

supported that the MKM resource and potentials are four elements. To confirm and validate the findings that come out from using EFA, the four marketing resource and potentials were evaluated by CFA using EQS 6.1 software. The measurement model of the CFA relates the observed variables to their latent variable.

Table 3 shows the potentials models of MKM resource and potentials and a summary of each model goodness-of-fit. As shown in Table 3 all measures of goodness-of-fit were met. It should be noted from Table 4 that there were non-significant loadings; this is due to the measurement model identification. The parameters without (*) in all table contents are specified as starting values “specified as fixed.” A starting value is needed for each of the parameters’ create to be estimated because the fitting algorithm involves iterative estimation, starting from a suitable approximation to the needed results and proceeding to their “optimum” values (Dunn et al, 1994). As shown in Table 5, the results come out from CFA support the findings that come out from EFA and all items loadings well be greater than the cut-off point value: 0.40.

Create validity – organizational performance. Table 6 shows the results of EFA that show that the eight items of the organizations’ performance sensitive on only three factors. These factors are financial-, market- and customer-based measures of performance. As shown in Table 4 all items of the three factors are greater than the cut-off point value: 0.39. These results provide general support for the business performance literature analysis that supports that organizational performance is a multi-measurement set up. To confirm and validate the findings that come out from using EFA, the three factors of organizational performance were evaluated by CFA using EQS 6.1 software.

Table 6. Reliability coefficients for the research construct

Research constructs	Number of items	Reliability coefficients
Marketing resource and potential components		
Invested-in marketing resource	5	0.903
Built-in marketing resource	5	0.889
Internal marketing capabilities	4	0.879
External marketing potential	5	0.897
MKM assets and potential	19	0.908
Organization performance indicators		
Financial performance	2	0.902
Market performance	2	0.867
Customer performance	2	0.886
Entire organizational performance	6	0.922

X³ = internal marketing potential

X⁴ = external marketing potential

Table 5 shows the potentials models of the organizational performance and a summary of each of the models goodness-of-fit. As shown in Table 6, all measures of goodness-of-fit were met. It should be noted from Table 5 that there were non-significant loadings; this is due to the measurement model identification. Based on the CFA results shown in Table 5 only two items of the three items of market-based measures of performance were confirmed by the CFA results, meanwhile one item (contribution to organization’s financial resource, e.g. stock price) was deleted because of weak factor loading (0.34). In general, the results come out from CFA support the findings

that come out from EFA all items loadings will be greater than the cut-off point value: 0.39. The results of EFA and CFA show that MKM included four elements and organizational performance is multi-measurement in ITOs in Iran. These findings provide empirical evidence from a developing business environment, Iran, to support MKM and organizational performance literature analysis and this research argument. EFA and CFA findings that show that MKM element in ITOs are four, namely: expend-in marketing resource, create-in marketing resource, internal marketing potentials, and external marketing potentials. Further, ITOs performance include of three potentials that are financial, market, and customer performances. The significance of the EFA and CFA findings comes from the fact that this research is the first empirical work, based on the resources-theory outlook, in a developing country, that has classified.

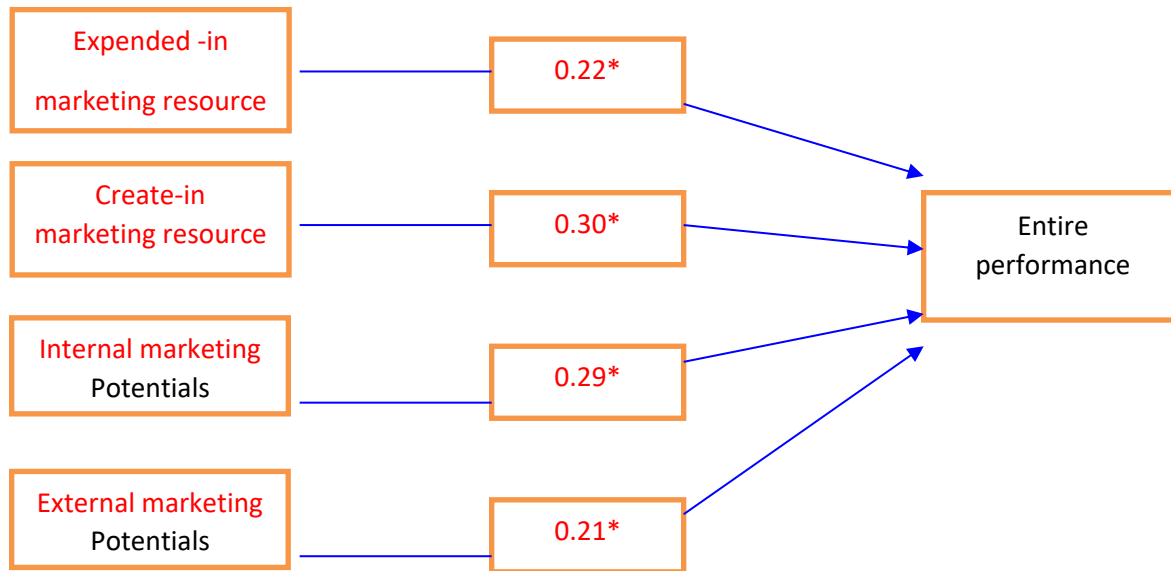
Reliability

The reliability of the research instrument was evaluated by examining the Cronbach's alpha coefficient (Hair et al., 2003). The values of Cronbach's alpha range from zero to one. Table 6 shows the reliability coefficients' for all the research variables that were all above the cut-off point, 59 percent, of alpha used in this research. The reliability coefficients for the all variables ranged from 0.929 to 0.979. Consequently, the research instrument and variables are of reasonable reliability and have considerable internal reliability coefficient.

Analysis and findings

In this research we were used Parametric statistical to analyze the data and to test hypotheses by EFA and CFA, reliability, and structural path models analysis and the procedures to test hypotheses we evaluate the model goodness-of-fit to check to which the hypothesized model is similar to the observed data. Therefore the significance of the parameter estimates was evaluated through constants, β -coefficients, the calculated t -values for each coefficient and the coefficient of determination. Four structural path models were to survey the research hypotheses as shown below:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$$



Model goodness of fit	
Chi-square	9.01; P = 1.00
CFI	0.97
AGFI	0.94
NFI	0.97
CFI	0.97
NNFI	0.95
RMSEA	0.09

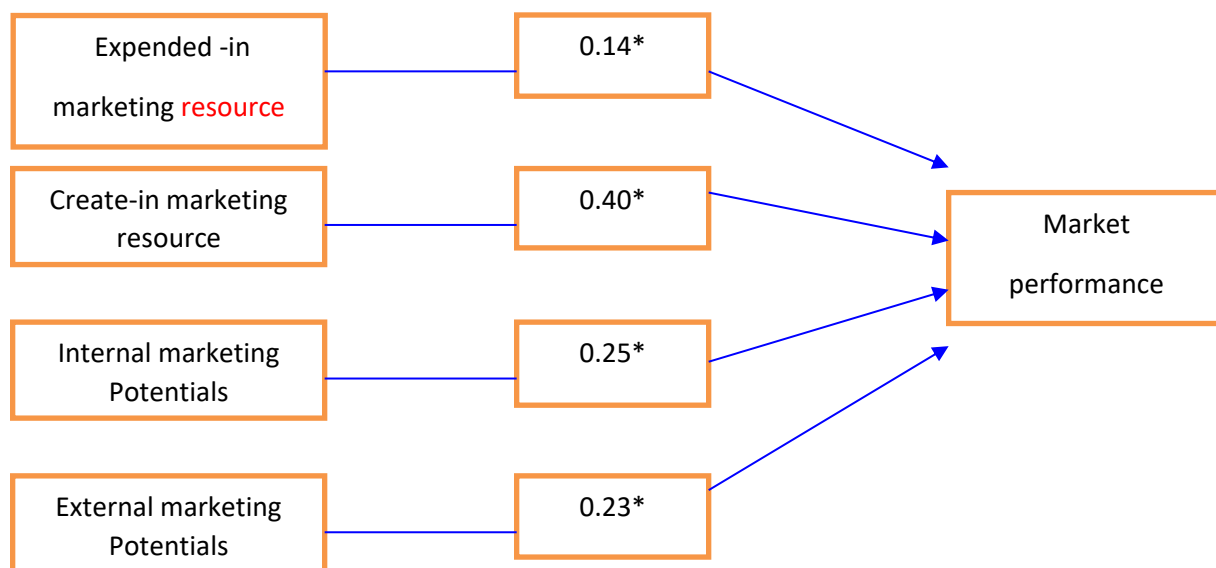
Figure 2. Model of the relationship between MKM and entire performance

Figure 2 shows the structural path model relationship between the MKM and entire performance. The analysis of the goodness-of-fit measures specifies that they will be greater than the cut-off values. Table 7 shows the resulted structural path that there is a significant and positive relationship between the MKM and the entire performance of telecommunications organization (H 1). In the entire model, R² is 0.892, significant at 0.000. Table 7 shows 91.8 percent of the difference in entire performance which show a positive effect of MKM resource and potentials more than organizations' entire performance. Furthermore, the findings show that create-in marketing resource are the strongest predictor of differences in entire performance ($\beta = 0.310$, significant at 0.032) internal marketing potentials ($\beta = 0.273$, significant at 0.031), external marketing potentials ($\beta = 0.239$, significant at 0.031), and expend-in marketing resource ($\beta = 0.176$, significant at 0.030). Consequently, the entire findings and results support H1. Figure 3 shows the structural path model that surveyed the relationship between the MKM and market performance.

Table 7. Structural path model results

R ₂	Adjusted R ₂	Analysis of Variance	
		F-value	Sig. F
0.915	0.914	801.084	0.000
Dependent variable in the regression path is entire performance			
Independent variables	Standardized coefficients β	t-value	Sig. t
Expend-in marketing resource	0.176	5.753	0.030
Create-in marketing resource	0.310	9.552	0.032
Internal marketing potential	0.273	8.542	0.031
External marketing potential	0.239	6.994	0.031

Note: MKM and entire performance



Model goodness of fit	
Chi-square	2.02; P = 1.00
GFI	1.00
AGFI	0.95
NFI	0.97
CFI	0.95
NNFI	0.94
RMSEA	0.08

Figure 3. Model of the relationship between MKM and market performance

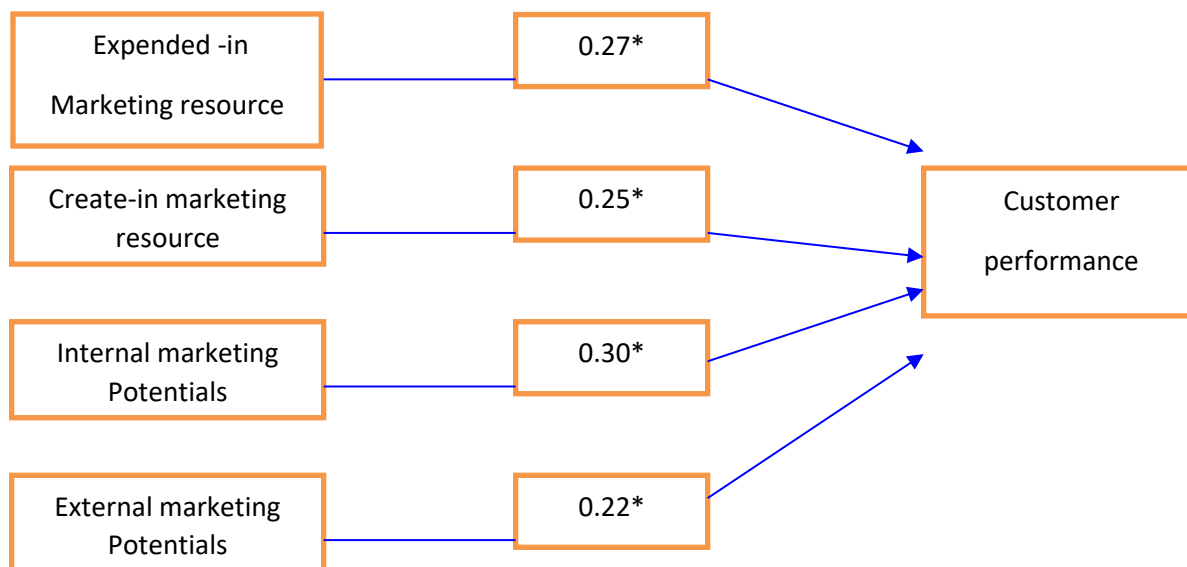
The analysis of the goodness-of-fit measures specifies that they will be greater than the cut-off values. Table 8 shows the resulted structural path that there is not a significant and positive relationship between the MKM and the entire performance of telecommunications organization (H₂). In the entire model, R₂ is 0.765, significant at 0.000. Table 8 shows that 79.4 percent of the difference in market performance which show a negative effect of MKM resource and potentials less than organizations' market performance. The findings show that create-in marketing resource are

not the strongest predictor of differences in market performance ($\beta = 0.385$, significant at 0.039), internal marketing potentials ($\beta = 0.243$, significant at 0.037), external marketing potentials ($\beta = 0.201$, significant at 0.036), and expend-in marketing resource ($\beta = 0.112$, significant at 0.036). Consequently, the entire findings and results are not supporting H2.

Table 8. Structural path model results

R ²	Adjusted R ²	Analysis of Variance	
		F-value	Sig. F
0.765	0.880	549.333	0.000
Dependent variable in the regression path is market performance			
Independent variables	Standardized coefficients β	t-value	Sig. t
Expended-in marketing resources	0.113	3.010	0.036
create-in marketing resources	0.385	10.519	0.039
Internal marketing potential	0.243	6.754	0.037
External marketing potential	0.201	5.031	0.036

Note: MKM and market performance



Model goodness of fit	
Chi-square	10.09; P = 0.08
GFI	0.94
AGFI	0.97
NFI	0.95
CFI	0.94
NNFI	0.95
RMSEA	0.07

Figure 4. Model of the relationship between MKM and customer performance

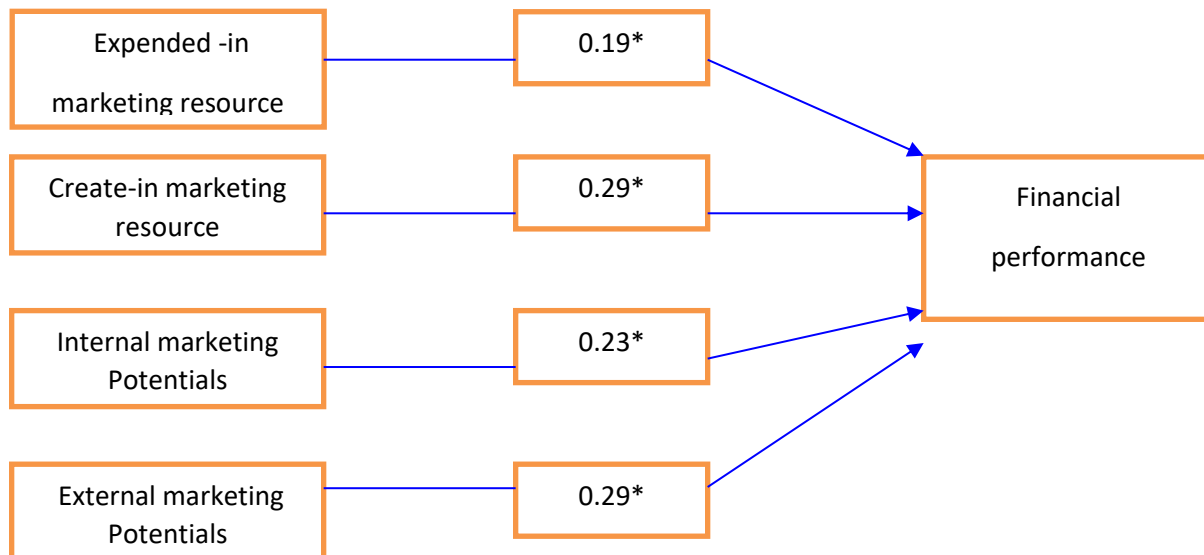
Figure 4 shows the analysis of the goodness-of-fit measures specifies that they well not be greater than the cut-off values.

Table 9. Structural path model results

R ²	Adjusted R ²	Analysis of variance	
		F-value	Sig. F
0.745	0.873	527.279	0.000
Dependent variable in the regression path is customer performance			
Independent variables	Standardized coefficients β	t-value	Sig. t
Expended-in marketing resources	0.223	6.313	0.036
Create-in marketing resources	0.218	5.883	0.037
Internal marketing potential	0.311	8.062	0.038
External marketing potential	0.194	4.861	0.036

Note: MKM and customer performance

Table 9 shows the resulted structural path that there is not a significant and positive relationship between the MKM and customer-based measures of performance of telecommunications organization (H 3). In the entire model, R2 is 0.745, significant at 0.000. Table 9 shows 85.0 percent of the difference in customer performance which is not showing a positive effect of MKM resource and potentials more than organizations' customer performance. Therefore internal marketing potentials are not strongest predictor of differences in customer performance ($\beta=0.311$, significant at 0.038), expend-in marketing resource ($\beta=0.223$, significant at 0.036), create-in marketing resource ($\beta = 0.218$, significant at 0.037), and external marketing potentials ($\beta=0.194$, significant at 0.036). Consequently, results do not support H3.



Model goodness of fit	
Chi-Square	14.45; P = 0.06
GFI	0.92
AGFI	0.93
NFI	0.94
CFI	0.94
NNFI	0.95
RMSEA	0.06

Figure 5. Model of the relationship between MKM and financial performance

Figure 5 show the analysis of the goodness-of-fit measure specifies that they will not be greater than the cut-off values. Table 10 shows the resulted structural path findings show that there is not a significant and positive relationship between the MKM and the financial performance of telecommunications organization (H4). In the entire model, R² is 0.745, significant at 0.000. Table 10 specifies that 84.0 percent of the difference in financial performance which is not showing a positive effect of MKM resource and potentials more than organizations' financial performance. Therefore external marketing potentials are not the strongest predictor of differences in customer performance ($\beta = 0.282$, significant at 0.039), create-in marketing resource ($\beta = 0.269$, significant at 0.040), internal marketing potentials ($\beta = 0.219$, significant at 0.040), and expend-in marketing resource ($\beta = 0.170$, significant at 0.039). Consequently, the results support H4.

Table 10. Structural path model results

R ²	Adjusted R ²	Analysis of variance	
		F-value	Sig. F
0.745	0.861	478.735	0.000
Dependent variable in the regression path is financial performance			
Independent variables	Standardized coefficients (β)	t-value	Sig. t
Expended-in marketing resources	0.170	4.476	0.039
Create-in marketing resources	0.269	6.656	0.040
Internal marketing potential	0.219	5.772	0.040
External marketing potential	0.282	6.815	0.039

Note: MKM and financial performance

Results Discussion

Empirical results extended EFA, CFA, and structural path analysis support the main dispute and presented model. First, according to the presented model, structural path analysis do not support four hypotheses presented in the model. Through empirically supporting H1, structural path analysis showed a positive relationship between ITOs' marketing resource and potentials and their entire performance. Therefore such findings are support previous empirical research (Moller and Anttila, 1987; Akroush, 2006; de Sabro et al., 2007; Battor et al., 2008), and it is highlighted that different classifications of marketing resource and potentials have applied different levels of influence more than ITOs' entire performance. Therefore, create-in marketing resource have applied the strongest influence on ITOs' entire performance ($\beta=0.310$, significant at 0.032). According to the definition,

create-in marketing resource are those resource collected by the organization more than time, exploratory and confirmatory factor analyses have highlighted what ITOs' considered as their distinguishing create-in marketing resource. Interestingly, ITOs' internal marketing potentials were the second variable affecting ITOs' entire performance ($\beta = 0.273$, significant at 0.031). ITOs' internal marketing potentials widely include potentials to develop and manage integrated marketing schedules, with superior marketing mixes, and potentials to innovate and develop new products. Therefore such finding supports earlier research according to the effect of internal marketing potentials on performance (Moller and Anttila, 1987; O'Regan and Ghobadian, 2004), it highlights the significance of such potentials in the particular conditions of ITOs, especially since they represent the mechanisms, or procedures, under which ITOs' marketing resource are positioned to realize their objectives. This specifies that the deployment of ITOs' marketing resource does not rely only on internal marketing potentials. ITOs' external marketing potentials permit them to follow and develop strong relationships with their external environment, especially customers, and tackle competitors. Hence, external marketing potentials provide more direction to ITOs in realizing their objectives. Finally, ITOs' expend-in marketing resource were the variable with the least influence on ITOs' entire performance ($\beta = 0.176$, significant at 0.030). Expend-in marketing resource was defined as to be improved through considerable investments positioned by the organization.

The fact that such resource apply the least influence on ITOs' entire performance might be expected considering that ITOs' investments in current and new resource require some time before their results can realize the needed performance levels. Nevertheless, the fact that expend-in resource still utilizes a positive effect on ITOs' performance is an indicator of ITOs' position that such investments are necessary for improved organizational performance. Second, in relation to the resource-based outlook (O'Regan and Ghobadian, 2004), this research has not adopted the marketing resource need continuous investments and development to realize continuously changing competitive potential, hence, proposing that marketing resource may be classified into create- and expend-in marketing resource. Empirical result do not supports such classification which ITOs' conditions have provided suitable explanation to such results. In a growing competitive market, ITOs' seems to find it hard, if not impossible, to realize comfortable competitive potential. And since that the way resource are configured is not the source of competitive potential and ITOs may find a need to continuously invest in adding and improving their marketing resource in order to provide new configurations of marketing resource capable of realizing temporary competitive potentials which is not supporting the finding of O'Regan and Ghobadian, 2004. Third, both exploratory and confirmatory factor analyses have highlighted that ITOs considered their marketing resource and potentials as element of their MKM. While such findings not supporting the presented definition and operationalization of MKM which may be explained in the conditions of the Iranian telecommunications industry.

As declared earlier, competitive markets are usually distinguished by continuous change creating new opportunities and threats for organizations operating in them. Success in such markets requires effective management of marketing knowledge to realize competitive potential (Hanvanich et al., 2003). While marketing resource and potentials have not the potential to realize competitive potential, such potential cannot show through applying marketing knowledge to the deployment of those resource and potentials. In other words, marketing resource and potentials could not be considered as ITOs' tools to realize competitive success; however, such tools can realize their potential without marketing knowledge providing direction through effective marketing decisions. Fourth, ITOs' external marketing potentials were the variable with the least effect on their customer

performance ($\beta = 0.194$, significant at 0.036). The explanation to such result might be that ITOs' external potentials are not focused on other external environment factors than customers. Therefore, ITOs' external potentials need not to focus more on customers in addition to other environmental factors. Therefore result of structural path analysis showed a negative relationship between MKM's resource and potentials and ITOs' financial performance. These findings reject H4 and not supporting earlier empirical research (Day, 1994; Hooley et al., 1999; Fahy et al., 2000; O'Regan and Ghobadian, 2004; Vorhies and Morgan, 2005; Akroush, 2006; Cohen and Kaimenakis, 2007). ITOs top management focus on realizing sound financial performance as one of the actual outcomes of successful business. MKM's resource and potentials appear to be a main driver of ITOs' financial outcomes. ITOs' external marketing potentials were $\beta = 0.282$, significant at 0.039. An indicator of the significance of following organizations' external environment is not realizing better market share and profitability, hence, realizing better financial performance. ITO's create-in marketing resource were affecting financial performance ($\beta = 0.269$, significant at 0.040). This shows that the collection and development of ITOs' resource is not more than time has its financial rewards in addition to its main impact on customer and market performance. ITO's internal marketing potentials were affecting financial performance ($\beta = 0.219$, significant at 0.040). Therefore result could be that innovation, new product development and marketing schedule all require financial investment which might show immediate results on ITOs' financial performance. ITO's expend-in marketing resource were the variable with the least effect on financial performance ($\beta = 0.170$, significant at 0.039). While ITOs' investments in structure customer service, product quality, and new product development might have not immediate effects on customers, they still require some time to show significant financial rewards. However, the negative relationship is in indicator of the significance of such investments to ITOs.

Fifth, the structural path analysis resulted showed that there are negative and significant relationships between MKM's resource and potentials and ITOs' customer performance. These findings reject H3 and not supporting earlier empirical findings (Hooley et al., 2003; Akroush, 2006). Therefore the findings not reflecting the direct influence MKM's resource and potentials utilize on ITOs' customers. ITOs' internal marketing potentials were the variable utilizing the strongest influence on their customer performance ($\beta = 0.311$, significant at 0.038). ITOs' internal marketing potentials may permit them of introducing innovative products and effective marketing mixes and schedule, hence, increasing customer dissatisfaction, disloyalty, and not attracting new customers. Therefore result shows that ITOs' investments in certain marketing resource such as customer service, service quality, product development, and effective marketing mixes, may not reflect on the relationship with customers; through increasing customer dissatisfaction and not attracting new customers. While ITOs' create-in marketing resource were affecting customer performance ($\beta=0.218$, significant at 0.037), they apply a very close influence on customer performance to that of ITOs' expend-in marketing resource. This specify that ITOs' market knowledge and standing should not work parallel to investments in other resource with direct influence on customer performance such as customer service, product quality, and product development. Finally, structural path analyses resulted showed that there is not a positive and significant relationship between MKM's resource and potentials and ITOs' market performance. Market performance indexes financial resource, ITOs' ability to develop new services and ITOs' standing and image in the market. The result of this research rejects H2 and earlier empirical findings (Doyle, 1995; Olavarrieta and Friedmann, 1999; Hooley et al., 2003). They further reflect the influence of MKM's resource and potentials on ITOs' ability to differentiate themselves in the Iranian market, which could not lead to distinguishing competitive

potential and better market performance. Therefore $\beta=0.385$, significant at 0.039. This might be an indicator of the significance such resource receive in ITOs where they are not considered as the cornerstone in ITOs market-related activities. Furthermore, ITOs' internal marketing potentials were affecting their market performance ($\beta = 0.223$, significant at 0.036). Clearly, when ITOs take control of certain market-related potentials such as product development, innovation and strong marketing schedule, their chances of better market performance may not increase. ITOs external marketing potentials are involved with the capacity of those organizations to conduct a full and complete analysis of the macro industry environment characteristics through a monitoring, analyzing and following of these characteristics. Such potentials may not permit ITOs to develop new competitive products and build stronger standing in the market. Therefore the effect of ITOs external potentials on performance has not their effect on ITOs market performance which is not considering their focus on external environment. ITOs' expend-in marketing resource were the variable with the least influence on their market performance ($\beta = 0.113$, significant at 0.036). Yet, they still apply negative effect which specifies the significance of investments in marketing resource from the outlook of resource-based theory in ITOs.

Conclusions

In the particular conditions of ITOs, result show the research's dispute and presented model. While the main conclusion shows that ITOs' resource and potentials not affecting their entire performance, several important conclusions may be emphasized. First, with regard to ITOs' performance, the research has focused on three main potentials of ITOs' entire performance, i.e. market, customer, and financial performances.

Such attempt has proved relevant since it highlights the different effects of MKM's resource and potentials. Focusing on one measurement could have resulted in different conceptions about certain variables. Focusing on one potentials of performance could have created an accurate conception about the contribution such resource have ITOs' entire performance. This conclusion applies to all MKM's resource and potentials, not only expend-in marketing resource. Hence, in order to follow the size of influence MKM's resource and potentials utilize on ITO's entire performance, a detailed examination of the different potentials of performance may abandon, in order the unique nature and workings of such resource and potentials. Second, both ITOs' internal and external marketing potentials have not considerable impact on their performance potentials. This finding is not of particular significance since it highlights the validity of the presented definition of MKM which is not expected marketing potentials as the procedures under which marketing resource are not utilized to realize better organizational performance.

Hence, when ITOs' marketing resource considerably impact their performance, ITOs' marketing potentials are not necessary for them to take full potential of such resource. Third, ITOs' create-in marketing resource was not controlling factor in impacting the different potentials of their performance, i.e. market, customer, and financial performances. On the other hand, ITOs' expend-in marketing resource has applied the least positive impact on performance potentials, with the exception of customer performance.

This highlights the significance of marketing resource collected less than time to ITOs' performance, i.e. create-in resource, therefore ITO create-in marketing resource not needed certain investments in the past in order to realize their current state. The fact that ITOs' expend-in marketing resource has shown negative relationship with performance potentials reject the previous conclusion, and highlights the need for continuous development and investments in current and new

marketing resource. Fourth, all of the MKM resource and potentials have negative relationship with all the potentials of ITOs' performance in the telecommunications industry in Iran. Even with the different types of resource and potentials have not applied different levels of impact on ITOs' performance, they all shared some influence on ITOs' performance. This specifies that ITOs may address such resource and potentials less than individually.

The focus should not be on a certain type of marketing potential or capacity, but on all of those marketing resource and potentials available to the organization. Finally, when we try to develop and manage their MKM, ITOs need to focus on their available marketing resource and potentials as main element of any effort to manage such important range of knowledge. The limitations of this study have realized its objectives; therefore we recognize this study has its own limitations. First, this study has investigated the direct relationship between MKM and business performance in telecommunications companies. A valuable area of future research is to investigate antecedents and consequences of MKM and their effect on business performance. Second, the findings of these studies are limited to the telecommunications organizations in Iran. Third, a valuable area of research is to survey interactions between MKM and other KM stations among organizations functional areas and how they affect business performance. Fourth, a possible area of research is to extend create and conceptions utilizations of MKM to find out if there are other element of MKM that affect business performance.

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