The Role of Innovation in the Relationship between Knowledge Management and Competitive Advantage
(An Empirical Study of Tourism Industry)

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ABSTRACT

The main purpose of this research is to analyses the role of innovation in the relationship between knowledge management and competitive advantage. In the conceptual framework of this research, at first the effect of innovation on competitive advantage has been examined and then knowledge management dimensions (Knowledge gaining, Knowledge sharing and Knowledge usage) effect on innovation has been studied.

We designed questionnaires with 30 questions about research variables. The population of the study is tourism industry experts in Guilan province. SEM (structural equation modeling) was employed to test the theoretical model.

The results showed that innovation have a significant direct effect on competitive advantage and Knowledge gaining and Knowledge usage may lead to innovation.

KEYWORDS: Competitive Advantage, Innovation, Knowledge Management, Structural Equation Modeling, Tourism.

INTRODUCTION

Nowadays tourism is regarded as one of the world's most economic prosperity activity. This industry in most of world's countries has more prompt growth in comparison to other economic sectors and through creating new job opportunities, is regarded as a progressive industry. Tourism is so effective on economic and social development of countries; in which, economists call tourism as "invisible export". Therefore, in order for having permanent development and replacing new resources instead of income of oil reserves, it is required to use from all facilities and abilities. Thus, fundamental requirement of each country is developing tourism industry; in which, economists believe that this is third dynamic and growing economic phenomenon after oil and automobile industry (Madhoushi and Naserpour , 2003).

One key requirement for corporate success in this competitive environment is recognizing how to sustain competitive advantage. According to Porter (1999), we can create competitive advantage as we make tough choices about what we will do and not do. Competitive advantage is normally defined as the ability to earn returns on investment consistently above the average for the industry (Halawi, et al., 2005).

Tourism is regarded as ability of a country to create added value and increasing national wealth through resource, processes and attractions management (www.tourismscienc.ir). It is obvious that one of the most important factors on developing tourism, is organizations involving in tourism including: hotels, travel agencies, tourism organizations … therefore the present article intends to study effective factors on competitive advantage on organizations related to tourism activity in Iran.

Knowledge is seen as a strategic asset with the potential to be a source of sustainable competitive advantage for an organization. There is a general agreement that knowledge management will represent the most important competitive advantage factor for organizations (Halawi etal., 2005 / Alipour etal., 2010 / Dehghan Najm, 2009). Knowledge management (KM) initiatives are expanding across all types of organizations and companies worldwide (Bechina & Ndlela , 2007) . In Ovum (1999) Knowledge Management is defined as the task of developing and exploiting an organisation's tangible and intangible knowledge resources. KM covers organisational and technological issues (Duffner, 2000).

Francis Biken (1597) offered the issue of knowledge as power. Peter Senge mentions that the key for success of organization is knowledge and adds that value is created through production and

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innovation that both of them use of knowledge (Najafbeigi, 2007). Therefore, knowledge and information are regarded as principal tool for encountering with nowadays organizational problems; thus, knowledge management is regarded as suitable opportunity for improving performance of employees and creating competitive advantage for organization (Shafizadeh , 2007).

On the other hand, literature of knowledge management regards innovation as a vital factor for companies to create value and keep competitive advantage at complicated and dynamic environment of today's world. In addition, researchers believe that improving innovation is regarded as key factor to obtain competitive advantage (Mirfakhredini et.al, 2010). Nowadays, innovation is regarded as one of the principal advantages for survival of company. Emergence of knowledge innovation not only enables organization to obtain competitive advantage, but also offers useful tool for improving organizational performance. In fact, organizational managers and policy makers believe that successful innovation is knowledge based innovation. Each organization attempts to use opportunities offered by knowledge management for creating innovation (Dehghan Najm, 2009). Therefore the present research deals with studying role of innovation in the relationship between knowledge management and competitive advantage at tourism industry. Principal question of the present research is, whether knowledge management through innovation may leads to sustainable competitive advantage in companies affiliated to tourism industry.

LITERATURE REVIEW

The issue of competitive advantage has received great attention in management literature and strategic marketing. According to Michael Porter's model, if strategy causes that organization implements its activities in different and distinct way from its competitors, core competencies facilitate the choice of diversity and differentiation; therefore, it may result in competitive advantage of organization (Mehri and Hosseini, 2004). Kinicki and Williams (2006) defined competitive advantage as "the ability of an organization to produce goods or services more effectively than competitors, thereby outperforming them." Therefore competitive advantage it is not about being different. It achieved if organization add real value to its customers (Al-Rfou and Trawneh, 2010).

Sustainable competitive advantage results only from strategic assets. Competitive advantage can be created in numerous ways, for instance, by size, location, access to resources, or even by plain luck. Lasting advantage comes from using knowledge management systems to support what we do well and to add value to resources we possess that.

According to theories related to competitive advantage, factors including communication, organizational, environmental, managerial, intelligent and competitive abilities considered as factors for assessing dependant variables. It is to be noted that managerial ability is subset of organizational ability that due to its importance is regarded as separate factor: (Mehri and Hosseini, 2004)

1- Environmental abilities are including: national infrastructures, strategy for developing tourism industry, structure of industry, related industries and conditions of demand.

2- Organizational abilities are including: content abilities, strategic abilities, marketing strategies, technical abilities and technologic abilities.

3- Environmental abilities are including: network competition, sale network, relationship with customers, informational systems and inner organizational relationship.

4- Managerial abilities are including: ability of working with employees, creation motivation in employees, ability of understanding situation of organization and solving all problems and disasters.

5- Competitive intelligence is including: social intelligence, technologic intelligence and strategic intelligence.

Throughout the early 1990's, the importance of the knowledge-based economy and the value of companies' intellectual assets became increasingly apparent. In the mid-1990s, prominent thinkers like Peter Drucker (1995) and Nonaka and Takeuchi (1995) published influential articles about how knowledge would become a significant basis of competition in the future. (Smith and McKeen , 2003)

The concept of knowledge does not necessarily mean awareness and information transmission; rather knowledge means, creativity, creation and dynamism. On this basis, knowledge based organization, creates and applies new ideas and in this way obtains competitive advantage (Akbari et al., 2007). Management thinkers believe that the only basis for creating, keeping and improving competitive advantage is knowledge database. They believe that competitive advantage sustainability depends on innovation and on the other hand, innovation depends on knowledge management database (Amirkhani, 2004, p. 24). Therefore, the present article applies knowledge management and innovation as variables for preparing suitable grounds of competitive advantage.

Knowledge Management

"Knowledge is information within people's minds; without a knowing, self-aware person there is no knowledge". In Allweyer (1998) the term knowledge is defined as: "knowledge is information in a certain context, which is valuable for the person who possesses this information and enables him to do something which he wouldn't be able to do without this information."(Duffner, 2000)

Knowledge exists in many different forms in organizations. Some of them are *tangible*, while others are more subtle and *intangible* in nature. Examples of tangible knowledge assets are patents, written procedures "how to" knowledge about certain tasks), books, manuals, and research and development outputs such as papers published and new products. Tangible knowledge has also been referred to as "articulated" knowledge in the literature. Intangible knowledge assets of a company include company "culture," the experience and expertise of employees, informal associations, synergies from group interactions and more generally all knowledge that is no verbalized, intuitive, and unarticulated. Intangible knowledge has also been termed as "tacit" knowledge in the Literature (Dutta , 1997).

The effective management of knowledge is increasingly seen as an important basis of competitive advantage for corporations (Dutta , 1997) .

It is commonly agreed that although there are plenty of technical solutions supporting different knowledge processes such as knowledge creation, representation, storage, and sharing and so forth, there is still a need to understand the factors impacting not only the acceptance of the knowledge management systems (KMS) by the knowledge worker but also their efficient usage. (Bechina and Ndlela, 2008).

In literature of knowledge management several theories are offered in relation to aspects of knowledge management; in which, three aspects including: knowledge gaining, knowledge sharing and knowledge usage are common in all of them.(Chung and Huang,2009). In this article, three mentioned variable are used as aspect of knowledge management.

1. Knowledge Gaining: It is required to collect and analyze express knowledge and information in order to fulfill any task; in which, this event is regarded as initiation point for process of knowledge gaining. Organizations gain knowledge through organizational learning and search process.

2. Knowledge Sharing: one of the most important sections of knowledge management is to culture of distribute knowledge all through the organization; since, there are many problems in this way at organization. Knowledge sharing includes exchanging knowledge by assistance of others.

3. Knowledge Usage: organizations by having best knowledge do not obtain competitive advantage; unless to use it in the best way. One method for encouraging and using knowledge is to use financial and social reward for new behavioral patterns. One method for using new knowledge in organization is having independence at organization (Ajali Gheshlajoghi et al., 2007).

Innovation

Yet, innovations reflect a critical way in which organizations respond to either technological or market challenges. Organizational innovation has been consistently defined as the adoption of an idea or behavior that is new to the organization. The innovation can either be a new product, a new service, a new technology, or a new administrative practice. (hag, 1999). Mexias and Glynn (1993) define innovation as 'non routine, significant, and discontinuous organizational change that embodies a new idea that is not consistent with the current concept of the organization's business'. Cohen and Levinthal (1990) argue that innovative outputs depend on the prior accumulation of knowledge that enables innovators to assimilate and exploit new knowledge (Lam, 2004).

According to previous studies, 3 factors including: creativity, pioneer in offering service and encouragement for innovation, are regarded as indices for assessing innovation.

* Creativity as offering new ideas for related operational fields.

* Pioneer in offering service as first person offering a special service in specific industry.

* Encouragement for innovation as supporting new ideas at organization.

Structural equation model

Structural model of the present research consists of 2 levels that studies simultaneous effect of aspects of knowledge management (gaining, sharing and using knowledge) on ability of innovation and also effect of innovation on competitive advantage at organizations related to tourism industry in Iran. Regarding the general point mentioned above, the model is shown in Figure 1.also scale of variables is shown in table 2.

The following are hypothesis in the framework of structural equation model.
1- Knowledge gaining has a significant positive direct effect on innovation.

2- Knowledge sharing has a significant positive direct effect on innovation.
3- Knowledge usage has a significant positive direct effect on innovation.
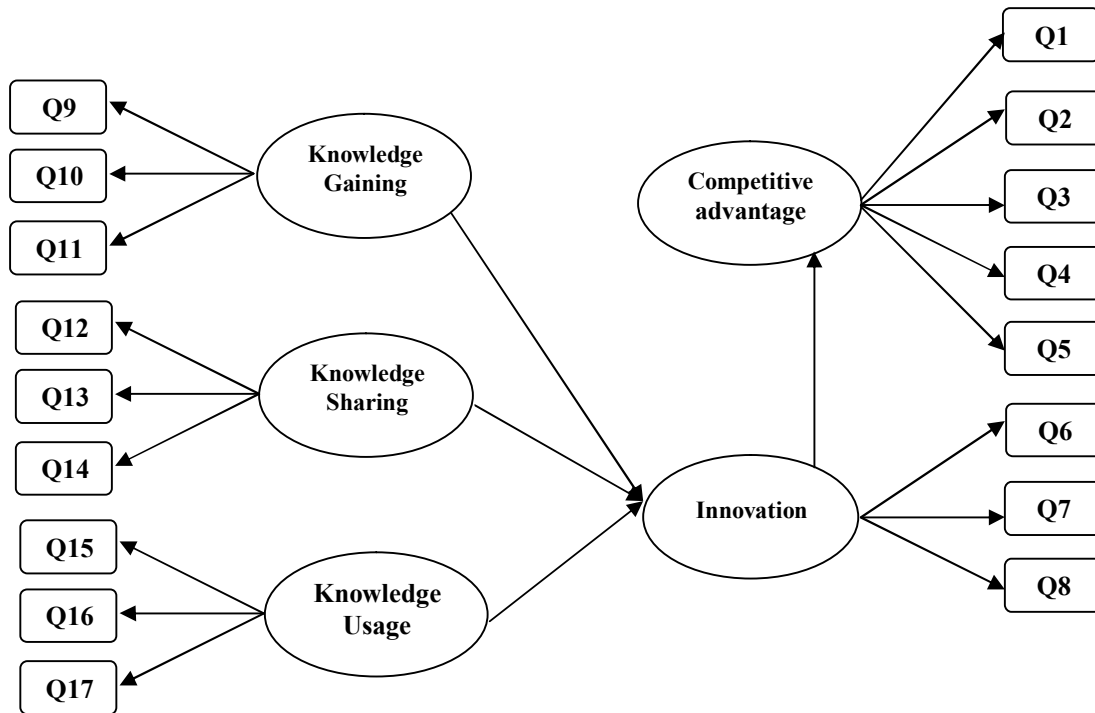4- Innovation has a significant positive direct effect on competitive advantage.

Figure 1.Causal Model of Survey of Tourist Competitive Advantage.

Table 1. Scales of variables.

Competitive advantage
Organizational abilities **Q1**
Q2 Communication capabilities
Q3 Environmental capabilities
Q4 Competitive intelligence
Q5 Management abilities

Innovation
Q6 The creativity
Q7 Encourage employees to innovate
Q8 Pioneer in offering new services

Knowledge gaining
Q9 from customers
Q10 from colleagues
Q11 from competitors

Knowledge sharing
Q12 with colleagues
Q13 between units
Q14 between supervisor and subordinate

Knowledge usage
Q15 Effective management of knowledge in the practical application
Q16 Staff commitment to applying the knowledge
Q17 Effective application of knowledge

RESEARCH METHODOLOGY

The content of this article is based on research that is descriptive- analytical in nature. To collect data, a survey study was done by the use of questionnaire. Various article, research and books were primarily investigated to design the questionnaire. Then, measurement component were derived to each variable in question. The questionnaire included 30 close question based on Likert Scale of 5 multiple-

choice items. The validity of questionnaire was supported by some of the university teachers and informed individuals in tourism industry and also it was used from confirmatory factor analysis method for determining validity of questionnaire. Cornbach's Alpha coefficient test was used to determine the reliability of the research. The coefficient reached for questionnaire was 0.89. This indicates that the questionnaire has the required reliability.

Statistical Population of the present research is all experts of organizations related to tourism industry in Guilan province including: Iran Tourism Industry, Cultural Heritage Organization, Travel Agencies, Travel Tours and Hotels. In order to determining sample size, it was used from table for determining sample size from a given population of Krejcie and Morgan (1970). Whereas statistical population of the present article has 140 members, size of statistical sample is observed as 103 persons. Of course, it is to be noted that 120 questionnaires were distributed among attendees; in which, 107 questionnaires were collected. Statistical samples were selected through simple random sampling method.

To describe the data and information gathered and to test the hypothesis, the indicators of descriptive statistics and the structural equation model in term of causal relations were respectively used. In this research, Lisrel 8.5 software has been used to carry out the structural equation model.

DATA ANALAYSIS AND RESULT

In this part, the result related to the survey of structural equation model and the hypothesis made for the variables are investigated. For this purpose, firstly, the model is presented on the basis of a meaningful coefficient test. Hypothesis testing is then described. The result of statistical analysis of the research model and the result of hypothesis testing are shown in Figure 2 and Table 2 respectively. Also, describing the fitting of model is shown in table 3. The original output of Lisrel software is shown in Index.

Considering the hypothesis testing, there was no meaningfully structural relationship between knowledge sharing and innovation and other structural relations at research model are confirmed.
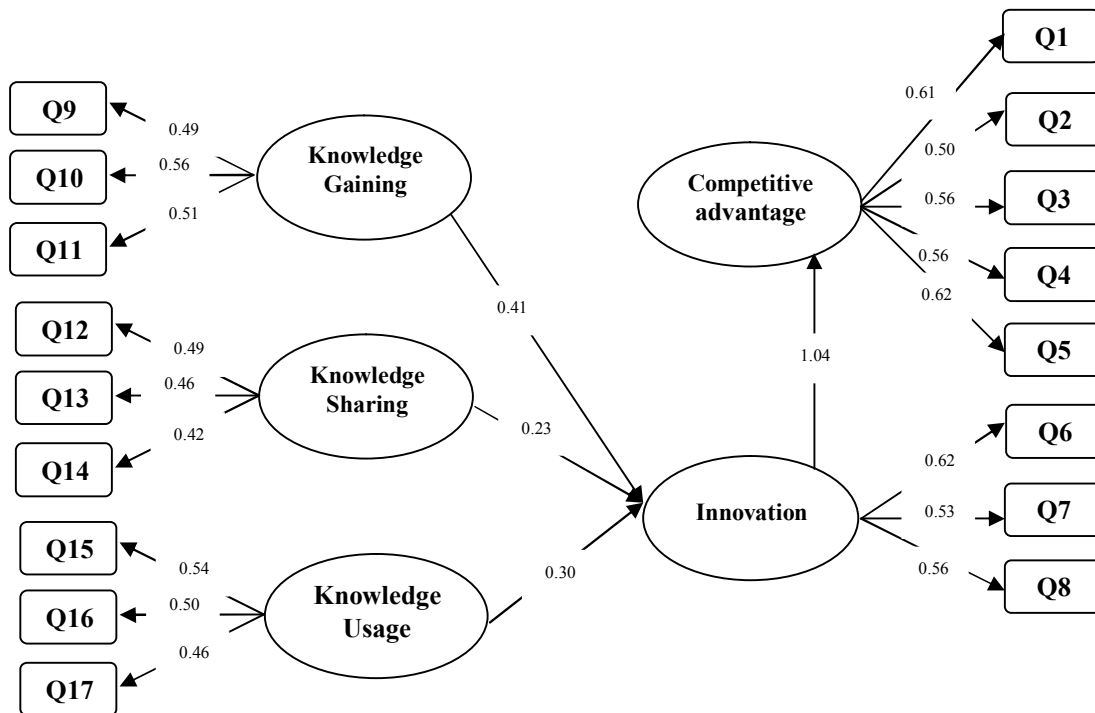

Figure 2. Tested Model (Standard Estimated).

$$chi - square = 186.20, df = 112, p - value = 0.00001, RMSEA = 0.079$$

$$\frac{\chi^2}{df} = \frac{189.20}{112} = 1.66, NFI = 0.92, CFI = 0.99, GFI = 0.83, NNFI = 0.99, IFI = 0.99, RFI = 0.91$$

Table 2. Results of the Structural Model.

Hypotheses	Standardized Beta	(t Value)	Conclusion
H1 (Knowledge gaining ⟶ Innovation)	0.41	(2.59)	supported
H2 (Knowledge sharing ⟶ Innovation)	0.23	(1.77)	not supported
H3 (Knowledge usage ⟶ Innovation)	0.30	(1.98)	supported
H4 (Innovation ⟶ Competitive Advantage)	1.04	(5.56)	supported

Table 3. Goodness of Fit Measures for the Estimated Model.

Goodness-of-fit measure	estimated model
Likelihood-ratio chi-square (x^2)	185.20
Degrees of freedom (DF)	112
Non-centrality parameter (NCP)	74.20
Goodness-of-fit index (GFI)	0.83
Root mean square error of approximation (RMSEA)	0.079
Nor med Fit Index (NFI)	0.92
Non-Nor med Fit Index (NNFI)	0.99
Parsimony Nor med Fit Index (PNFI)	0.76
Comparative Fit Index (CFI)	0.99
Incremental Fit Index (IFI)	0.99
Relative Fit Index (RFI)	0.91

Conclusion

According to statistical reports of global tourism organization, tourism has very important effect on economic system of world's countries. Whereas goal of tourism is increasing market share, creating competitive advantage is regarded as a key issue. Importance of tourism on modern societies, results in increasing attention to scientific studies. Therefore, understanding key factors on creation and survival of competitive advantage is vital. The principal goal of the present article is studying effective factors on competitive advantage of organizations related to tourism industry in Guilan province by emphasis on knowledge management and innovation. Results of present study confirm result of several previous researches concerning to effect of obtaining and application of knowledge on organizational innovation and also confirm that innovation is effective on competitive advantage in organizations. Therefore, it is possible to conclude that in organizations related to tourism industry of Guilan province, existence of innovation results in competitive advantage; and innovation requires to gaining and using related knowledge to this industry. Generally according to the obtained results, in order to increasing competitive advantage in the field of tourism, the following suggestions are offered:

Supporting and encouraging new ideas and creative solutions, applying creative ideas, accepting risk due to innovation by senior managers, creating innovation culture, commitment toward supplying new and innovative services continuously; may result in improving organizational and communicational abilities and have considerable effect on competitive advantage. According to important role of innovation in obtaining competitive advantage, organizations shall create suitable grounds for developing innovation. Role of manager on creation of innovation is very sensitive; since, managers are able to identify and educate creative thought. For developing innovation, it is recommended to managers and supervisors to seriously follow up innovation culture; remove the fear of innovation failed; offer creative plans as part of evaluation system for performance of employees, and grant independence to them for offering new ideas and fulfilling them. The most important factor that results in obtaining innovation is training employees and having enough knowledge through applying correct knowledge management. Thus, organization shall have ability of gaining, sharing and using knowledge. In order to improve ability of gaining knowledge, organization shall obtain required information from coworkers, customers, partners and rivals and attention to successful activities of rivals due to experience and systematic search. Having powerful and up-to-dated informational systems, maybe very effective on collecting related information and knowledge. For correct usage of knowledge, it is required to attention logical asset, research work, and support from methods that enable people and regarding usage of knowledge within teamwork as key success factors. In the

present research on the contrary of previous researches it is not supported the effect of sharing knowledge on innovation. Whereas the issue of knowledge plays key role at organizational success, managers shall recognize knowledge sharing obstacles and take duly action to solve them. Some of the impediments are as follows: shortage of time for sharing knowledge, difference in level of knowledge, experience of employees, lack of self-confidence, unaware from benefits of sharing knowledge, shortage of reward systems for motivating employees and lack of job security.

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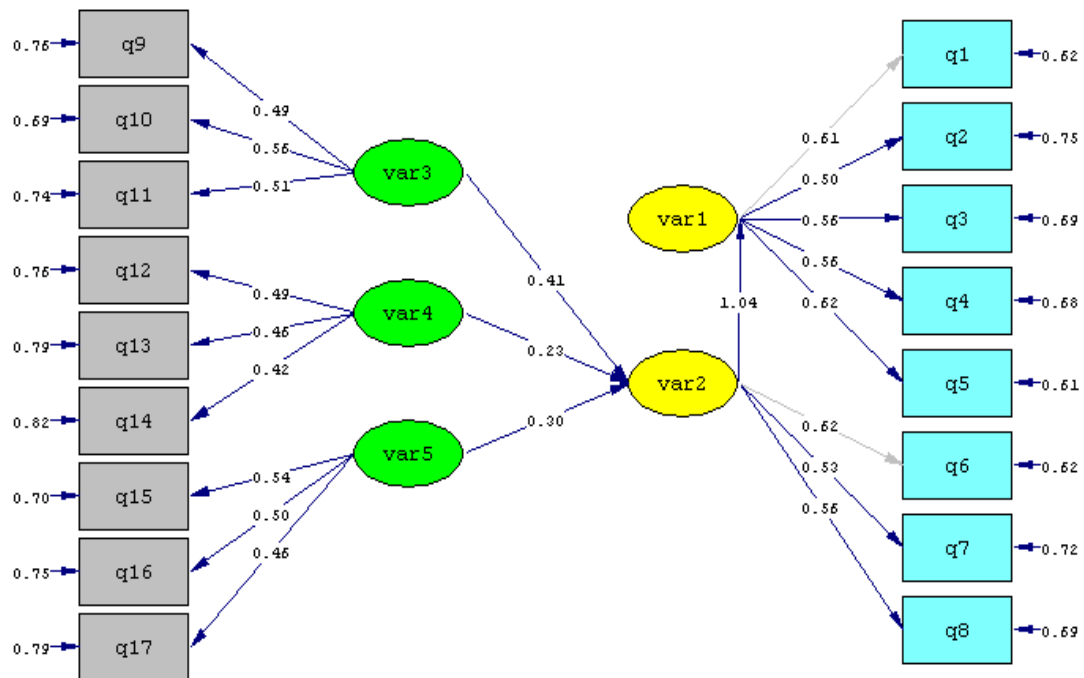
Original output of Lisrel (standard estimated)