

## A SURVEY OF THE ROLE OF KNOWLEDGE MANAGEMENT IN STRATEGIC ORIENTATION, ORGANIZATIONAL INNOVATION AND NEW PRODUCT DEVELOPMENT

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**Abstract:** *The present study aimed to evaluate the role of knowledge management in strategic orientation, organizational innovation and new product development by structural equations. To do this, 233 managers and experts of insurance industry participated in the present study. They responded the questionnaires of knowledge management, strategic orientation, organizational innovation and new product development. For data analysis, structural equations model with Lisrel software is used. The results showed that knowledge management had direct, positive and significant effect on strategic orientation, organizational innovation and new product development. Strategic orientation had direct, positive and significant effect on organizational innovation and new product development. Organizational innovation had positive, direct and significant effect on new product development. The indirect effect of knowledge management on new product development was positive and significant via strategic orientation and organizational innovation. Totally, findings emphasized the role of knowledge management on strategic orientation, organizational innovation and new product development.*

**Keywords:** *Knowledge management, New product development, organizational innovation, Strategic orientation.*

### INTRODUCTION

The main source of success in competitive advantage for companies in future is successful and continuous development of new and improved products (Ogawa and Piller, 2006). The term new products development is used both about the products as new in the world and about applying the minimum improvement and change in existing products (Khan, 2012). Today, most organizations are affected considerably by global markets and competition due to IT progress and economic globalization. The growth of IT and increase of competition reduced life cycle of products, increase of rate of products exit, high quality products growth,

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growth of introduction of new products into market. These factors have caused that organizations follow development of new products by considering factors as reduction of product development time, high quality products, reduction of costs and better delivery performance to maintain profitability and situation of their market (NazariShirkuhi *et al.*, 2013). New products can lead to profit growth and sale in organization, new product development is one of the strategic activities in most organizations. Indeed, new products are one of the key factors for organization success in market. Considering the various dimensions of desires and requirements of customers is one of the important factors to present new products for organizations. Today, in most industries, development of successful products is one of the stable competitive advantages in business. Any product has relevant life cycle and the profit of this product is maximum at maturity period. The question is here, the organizations attempt to maintain their profit in maturity stage, how should be survival in this condition. Today, development of new products is one of the main solutions for survival of organizations in this condition (Balachandraand Friar, 1997, Fuller2011).

On the other hand, dynamics and complexity of new product development concepts, its interdisciplinary nature and competition of organizations with formation of new manufacturing equipment and sciences and various services have challenged production of new products and caused that researchers take different approaches in their studies and achieve useful findings. Most researchers believe that development of new product is an important factors in economic wealth of a country, unfortunately the importance of new product development is not consistent with its success level and failure risk in development of new product is high (Ardakani *et al.*, 2010). Thus, based on the importance of new product development and its role in economic growth, identification of effective factors is necessary. Based on the importance of new products and its role in economic growth, identification of effective factors is necessary. The present study investigates the role of knowledge management variables, strategic orientation, organizational innovation on new product development in insurance industry. One of the variables, the investigation of its role is of great importance in new product development is knowledge management. The goal of knowledge management is maximizing profitability and increasing organizational effectiveness. In knowledge-based era, knowledge management is of great importance. Effective knowledge management needs the people with useful experience in providing knowledge and they are professional and experienced people providing knowledge and giving to those developing organizational information reserve (Ganji, 2004). To increase their ability in goods improvement and services and using customers and consumers, they need knowledge. The improved goods and services should be with the changes in systems, structures,

problem-solving methods (Davenport and Prusak, 1998; Dalkir 2013).

The organizations locating knowledge management in their main capability have considerable difference from other organizations. Some of the changes are speed of processes, identification and adaptation with changes, growth of intellectual assets and stable competitive advantage *via* continuous creativity (Darvish, 2009). Chow (1996) stated the aim of knowledge management in organizations as identification and follow up of collective knowledge of organization to achieve strategic goals and helping the organizations to compete in global era and remaining in it (Metaxiotis and Ergazakis, 2005; Hislop 2013). To increase their ability in improvement of goods and services and using customers and consumers, companies need knowledge. Improved goods and services should be with the changes in systems, structures, problem-solving methods (Davenport and Prusak, 1998). Evolution in effective factors in national development of countries shows that simple labor force, raw materials and consumption markets have given their place to science and technology and data conversion to information, information to knowledge and knowledge to technology are observed rapidly. Innovation is of great importance for survival of companies and countries and this is supported by empirical investigations (Ghazinuri and Ghazinuri, 2008). In the current business competitive environment, anything is changing and the only fixed thing is changes phenomenon. Rapid changes of technology in various industries and low life of products and services and close competition are effective factors on increasing innovation in organizations (Boly *et al.*, 2003). The organizations with high innovation and new capabilities development allow them achieve better performance and be successful in responding the varied environments (Montes *et al.*, 2004). Today, innovation is the most important sustainable competition of organization (Chen *et al.*, 2015). Most authors consider innovation as the basis of competitive economy (Porter and Ketels, 2003). Most innovation theorists believe that only the organizations using innovation in their activities by creating competitive advantage can lead to their long-term life (Skalen *et al.*, 2014). The studies have shown that innovation is affected by strategic orientation and knowledge management. Cohen and Levinthal (1990) state that innovation performance and capabilities are affected mostly by absorbed, shared and applied knowledge by organization and they convert innovation capabilities to innovation. The previous studies have shown that there is a positive association between knowledge management and innovation (Darroch 2005; Wu 2010).

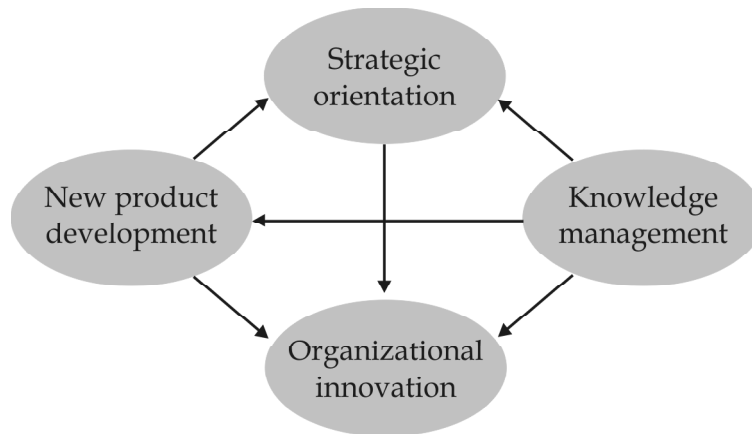
Strategic orientation is defined as managerial information and perception of internal and external features of organization, attitude and skill preparations, motivations, tendency and desires as the guidance of strategic planning and strategic development process (Gatignon and Xuereb, 1997; Deshpandé 2012). In

other words, strategic orientation is managers perception of competitive environment and their rapid reaction by considering long-term goals (Spanjol *et al.*, 2012). Strategic orientations of company create its preparation for meta-reactional encountering with external and internal changes and managers can decide correctly and they can be effective on company performance (Morgan, R.E., Strong, 2003; Griffith *et al.*, 2012; Cheng and Huizingh, 2014). The study of companies with low life shows that these companies in knowledge management, intellectual capital and strong strategic orientation are weak and these factors lead to their weak performance compared to other competitors and their failure (Johnson *et al.*, 2012). Formation of strategic orientation is affected by environmental factors including structure, culture and organizational system (Zhou *et al.*, 2005). One of the effective variables on strategic orientation of organization is knowledge management. A few researches have evaluated the relationship between knowledge management and strategic orientation. Ferraresi *et al.*, (2012) in their study found that strategic orientation was effective on innovation.

Despite 80 years of entrance of insurance in Iran, this industry is not developed much in Iran. This non-development is observed in very low per capita consumption of insurance compared to neighboring countries with similar conditions including India and Pakistan regarding most of insurance products and in insurance companies, the presented products were simple and traditional and their benefits were not consistent with the current needs of customers and have no attraction about the variety of services and benefits. Under these conditions, it is required that insurance companies absorb people for various new insurance products and outperform to other rival companies and try to increase products and create variety in them and design products based on the needs of various classes of people and use the mentioned processes of new products. There are a few local papers regarding new products development processes in industries namely in insurance industry, it seems that new product development processes are not taken into attention until now. Insurance companies as activists in applied sector of new product process development and authors and researchers in theoretical dimensions of development of this section of science should mostly consider this issue (Noralizade *et al.*, 2012). Based on the significance of effective factors on new product development in insurance industry, this study evaluates the effect of knowledge management variables on strategic orientation, organizational innovation and new product development.

## CONCEPTUAL MODEL OF STUDY

Based on the theoretical and research literature, conceptual model of study is shown in Figure 1. In this model, knowledge management is considered as independent variable and strategic orientation and organizational innovation are mediating



**Figure 1: Conceptual model**

variables and new product development as dependent variable. Thus, hypotheses of present study are followings:

- H1: Knowledge management has direct effect on strategic orientation.
- H2: Knowledge management has direct effect on organizational innovation.
- H3: Knowledge management has direct effect on new product development.
- H4: strategic orientation has direct effect on organizational innovation.
- H5: strategic orientation has direct effect on new product development.
- H6: Organizational innovation has direct effect on new product development.
- H7: Strategic orientation and organizational innovation have mediating role in relationship between knowledge management and new product development.

## **METHOD**

The present study is descriptive (non-experimental) and study design is correlation of path analysis. In this study, the relationship between variables is investigated in the form of causal model.

### **Participants**

Participants in the present study are managers and experts of insurance industry in various departments of organization including strategic and engineering researches, marketing, research and development unit and etc. as associated with new products development. 250 questionnaires are distributed among managers and experts of insurance industry. Of which 239 questionnaires are responded, 6 questionnaires were eliminated as many questions were not responded and 233 questionnaires entered the analysis.

## **Data Collection Measure**

### ***Knowledge management***

To measure knowledge management, the questionnaire of Gold *et al.*, (2001) is used. This questionnaire consists of 4 items. The items are scored based on five-item Likert scale of totally disagree = 1 to totally agree = 5. The internal consistency coefficient of this questionnaire is 0.74 by Cronbach's alpha. Also, confirmatory factor analysis indices GFI = 0.94, AGFI = 0.92 and RMSEA = 0.057 and they show that the model has good fitness with data.

### ***Strategic orientation***

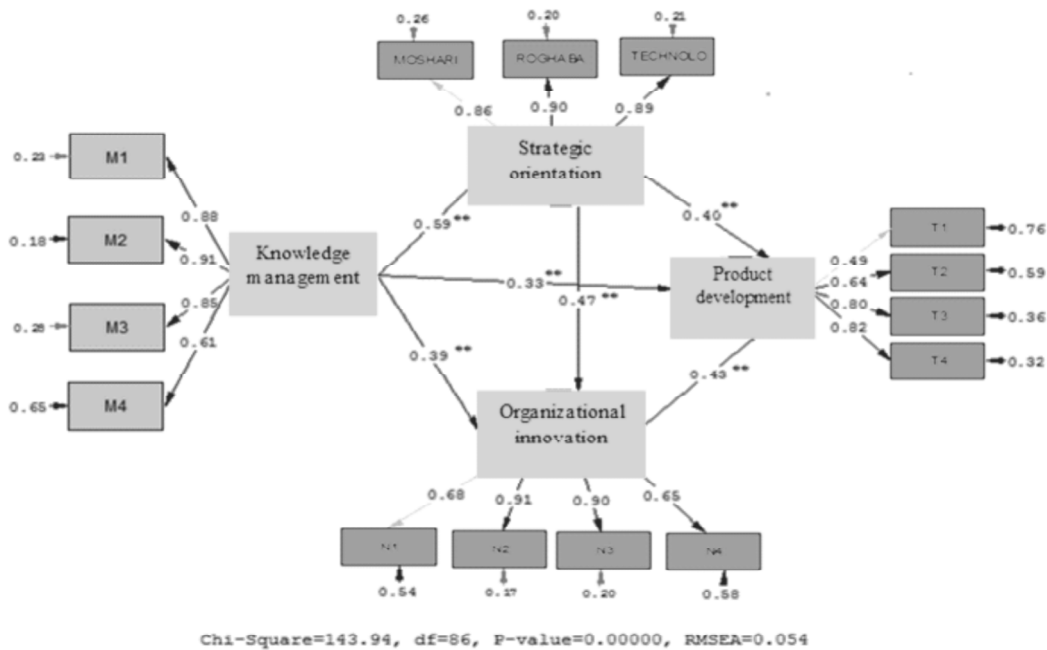
Strategic orientation is composed of three dimensions of customer orientation, competitors orientation and technology orientation. To measure customer and competitors orientation, the questionnaire of Narvar and Slutter (1990) is used. To measure technology orientation, Gatignon H, Xuereb (1997) is applied. In the questionnaire, 4 items evaluated customer orientation, 3 items competitors orientation and 4 items technology orientation. The items are scored based on five-item Likert scale of totally disagree = 1 to totally agree = 5. The internal consistency coefficient of this questionnaire is 0.94 by Cronbach's alpha. Also, confirmatory factor analysis indices GFI = 0.93, AGFI = 0.061 and RMSEA = 0.90 and they show that the model has good fitness with data.

### ***Organizational innovation***

To measure organizational innovation, Yu *et al.*, (2013) questionnaire was used. This questionnaire consists of 4 items. The items are scored based on five-item Likert scale of totally disagree = 1 to totally agree = 5. The internal consistency coefficient of this questionnaire is 0.86 by Cronbach's alpha. Also, confirmatory factor analysis indices GFI = 0.95, AGFI = 0.044 and RMSEA = 0.92 and they show that the model has good fitness with data.

### ***New product development***

To measure new product development, Danels and Klinsmidet (2001) questionnaire is used. This survey consists of 4 items. The items are scored based on five-item Likert scale of totally disagree = 1 to totally agree = 5. The internal consistency coefficient of this questionnaire is 0.794 by Cronbach's alpha. Also, confirmatory factor analysis indices GFI = 0.96, AGFI = 0.93 and RMSEA = 0.051 and they show that the model has good fitness with data.



**Figure 2: Study fitted model**

### Data Analysis Method

After calculation of descriptive indices of study variables, to evaluate causal relationship between variables, structural equations method is used. For data analysis, SPSS, LISREL software is applied.

### RESULTS

As the analysis basis of causal models is correlation matrix. Correlation matrix, mean and standard deviation of studied variables are shown in Table 2.

As shown in Table 2, correlation coefficient of knowledge management has positive and significant correlation with strategic orientation ( $r = 0.58$ ), organizational innovation ( $r = 0.43$ ) and new product development ( $r = 0.41$ ) at level 0.01. Correlation coefficient of strategic orientation with organizational innovation ( $r = 0.53$ ) and new product development ( $r = 0.47$ ) is positive and significant at level 0.01. Correlation coefficient of organizational innovation with new product development ( $r = 0.49$ ) is positive and significant at level ( $P < 0.01$ ).

Figure 2 shows fitted model of new product development. The values on paths are standard parameters. As shown in Figure 2, all path coefficients are significant at the level  $P < 0.01$ . Among existing variables, organizational innovation model has highest direct effect on new product development (0.43).

**Table 2**  
Correlation matrix and descriptive indices of study variables

<i>New product development</i>	<i>Organizational innovation</i>	<i>Strategic orientation</i>	<i>Knowledge management</i>	<i>Variables</i>
			1	Knowledge management
		1	**0.58	Strategic orientation
	1	**0.53	**0.43	Organizational innovation
1	**0.49	**0.47	**0.41	New product development
3.31	2.80	2.86	2.77	Mean
0.88	0.97	0.93	0.80	SD

\*\* $P > 0.01$

Fitness features of structural equations model are shown in Table 3.

**Table 3**  
Fitness indices of structural equations model

<i>NFI</i>	<i>CFI</i>	<i>AGF</i>	<i>GFI</i>	<i>IRMSEA</i>	<i>df/χ</i>
0.98	0.99	0.94	0.96	0.054	1.67

As shown in Table 3, chi-square to degree of freedom ( $\chi_2 = df = 1.67$ ), goodness of fit index (GFI = 0.96), Adjusted goodness of fit (AGFI = 0.94) and RMSEA = 0.054. Thus, fitness of fitted model is at good level.

The present study aimed to evaluate the effect of knowledge management on new product development with emphasis on the mediating role of organizational innovation and strategic orientation by structural equations method. Table 4 shows the coefficients of direct, indirect, total effect and explained variance and significance level between the study variables.

**Table 4**  
Estimation of standardized coefficients of direct, indirect effect, total, explained variance of model

<i>Explained variance</i>	<i>Total effect</i>	<i>Indirect effect</i>	<i>Direct effect</i>	<i>Path</i>
46%	**0.43	-	**0.43	On new product development from Organizational innovation
	**0.60	**0.20	**0.40	Strategic orientation
	**0.86	**0.53	**0.33	Knowledge management
37%	**0.47	-	**0.47	On organizational innovation from Strategic orientation
	**0.67	**0.28	**0.39	Knowledge management
35%	**0.59	-	**0.59	On Strategic orientation, from Knowledge management

\*\* $P < 0.05$  \*  $P < 0.01$



As shown in Table 4, direct effect of knowledge management on strategic orientation ( $\beta = 0.59$ ), organizational innovation ( $\beta = 0.39$ ) and new product development ( $\beta = 0.33$ ) at level  $P < 0.01$  is positive and significant. Direct effect of strategic orientation on organizational innovation ( $\beta = 0.47$ ) and new product development ( $\beta = 0.40$ ) is positive and significant at the level  $P < 0.01$ . Direct effect of organizational innovation on new product development ( $\beta = 0.43$ ) is positive and significant at the level ( $P < 0.01$ ). Indirect effect of knowledge management on new product development ( $\beta = 0.53$ ) is positive and significant at level  $P < 0.01$ . Indirect effect of strategic orientation on new product development ( $\beta = 0.20$ ) is positive and significant at level  $P < 0.01$ . Totally, 46% of new product development variance, 37% of organizational innovation variance and 35% of strategic orientation variance are explained by study model.

## DISCUSSION AND CONCLUSION

The present study aimed to evaluate the role of knowledge management on strategic orientation, organizational innovation and new product development by structural equations. Results of structural equations showed that proposed model had relatively good fitness with the data of study and explained 46% of new product development. Results of structural equations showed that knowledge management had direct, positive and significant effect on strategic orientation. This finding is consistent with the results of study of Ferraresi *et al.*, (2012). This finding shows that knowledge management *via* external knowledge, employment of experienced employees, inviting experienced employees for registering their knowledge and experience, encouraging the employees to find suitable solutions, supporting the recommendations in company, analysis of errors and mistakes for better application in future, selection and organizing information for storage in company, documentation and keeping information of projects, knowledge registering as administrative booklets, work measurements, organizational standards, guiding low-experienced employees, knowledge availability of projects for all members of company, encouraging employees for knowledge sharing, providing required facilities for knowledge sharing, encouraging creative ideas can increase organizational knowledge and suitable orientations of company to identify needs of customers and their satisfaction, improvement of abilities of company to cope up with competitors and accepting new technologies in organization.

In other words, organizational strategic orientation is not created alone and it needs knowledge and improvement of knowledge management in organization. Another finding of study showed that knowledge management had positive, direct and significant effect on organizational innovation. This finding is consistent with the studies of Darroch (2005) and Liao, S., and Wu (2010). This finding shows that

innovation is occurred in organization when organizations distribute power, information, knowledge and rewards in organization. Knowledge management facilitates knowledge integration among groups and dispersed work units and also facilitates knowledge flow among groups and knowledge is integrated rapidly and effectively. In addition, knowledge management provides tools, processes and required infrastructures for knowledge sharing among employees and affects organizational innovation. Thus, without knowledge in organization, innovation is not possible. In other words, innovation is not created alone and it needs required conditions.

Other results of structural equations are as knowledge management has direct, positive and significant effect on new product development. This finding shows that knowledge management in organizations *via* knowledge acquisition, knowledge creation, knowledge sharing, holding and application of knowledge can provided required ground to increase abilities, capabilities and knowledge for new product development and affect it. Also, results of study showed that strategic orientation had direct, positive and significant effect on organizational innovation. This finding is consistent with the results of study of Ferraresi *et al.*, (2012). We can say understanding the customers' needs, considering customers satisfaction, measuring customers satisfaction, considering after sale services, sharing information of competitors with customers, discussing about competitors by company management, using advanced technologies in new products production, acceptance of technological innovations in company and projects management have positive effect on organizational innovation and it increases organizational innovation.

Thus, strategic orientation *via* identification of customers and considering their satisfaction can cope up with competitors and use new technologies in production can improve organizational innovation. Other findings of study show that strategic orientation had direct, positive and significant effect on new product development. This finding shows that new product development needs identification of customers needs and their satisfaction, acceptance and application of new technologies and awareness of strategies and activities of competitors. If company considers strategic orientation components (competitors, customers and technology) can be pioneer in presenting new services and products to customers. The results showed that organizational innovation had direct, positive and significant effect on new product development. Innovation is necessary for survival of each organization and non-creative organizations are eliminated over time. Although such organization is successful in operation as involved in a level of its life, it is obliged to stop or change the system (Mohammadi and Tabari, 2008). The organization providing new thoughts and its suitable application, is intended to

change and it can act as a factor to create change in the environment. Indeed, we can say by rapid changes in present world, continuous change process is one of the major processes in human life. The companies and organizations creating or maintaining competitive advantage, are obliged to flexibility and acceptance of changes and *via* development of new products can fix their durability. The results of structural equations showed that strategic orientation and organizational innovation had mediating role in relationship between knowledge management and new product development.

Thus, knowledge management is effective on new product development *via* affecting strategic orientation and organizational innovation. Totally, the results of study showed that knowledge management led into strategic orientation and organizational innovation and affected new product development. Thus, to achieve sustainable competitive advantage, considering existing knowledge and effective use and creating a structure to use new knowledge is of great importance. Like a work strategy, knowledge management acts in entire organization and it is a general plan progress tool in an organization. Also, knowledge management provides the ground to increase organizational innovation and strategic orientation along the continuous organizational changes and affects new product development.

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