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Original Article

Investigating The Effect of Knowledge Sharing on The Dual Capability of Innovation In Manufacturing Companies Located in the Industrial Cities of Rasht and Anzali

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Abstract

Organizational innovation, is a one important issues in the present day, and is a One of the issues that, has been too much emphasis to it In the humanities and social sciences. Innovation is a one of important aspects in human history. Innovation is seen as a multidimensional concept and Different theorists have different opinions about it. There are many factors that can impact on organizational innovation, But in this study, according to the model used in it, One of aspects of knowledge management, namely knowledge sharing is named as a factor affecting on innovation. therefore, the main goal of this study is investigating The effect of knowledge sharing on the dual capability of innovation In manufacturing companies located in the industrial cities of Rasht and Anzali. Therefore, the current research is applied study and in terms of research category,based on how data collection is A descriptive study and in terms of method is correlational research. the statistical population of this study was all active Companies in the industrial cities of Rasht, Anzali. sampling method was quota sampling and simple random sampling. The number of samples studied in this research was 153 company. Data collection tools in this study was, questionnaires of BvlvtlarKamsak (2014). Data analysis was done through SPSS software. For data analysis, software spss version 19 was used. The results obtained via questionnaires Were analyzed with using Kolmogorov - Smirnov test, Pearson correlation coefficient, simple linear regression. The results of tests showed a positive and significant impact of knowledge sharing on exploration innovation and utilization innovation in the industrial cities of Rasht and Anzali.

Key words: Knowledge sharing, Innovation, Exploration innovation, Utilization innovation, Industrial cities.

INTRODUCTION

Innovation in Organizations is a One of the important things that has always attracted the attention of many researchers. with developing the competitive and complex environments, Only organizations can operate in this environment which have ability to improve their performance in the field of innovation (Farsijani and NistaniSamii, 2011). Many Iranian companies, particularly industrial companies, for providing better service to customers, And stay in one industry Should reduce production time periods, operate With a minimum fixed assets, decrease product development time, Empower employees, enhance the adaptability and flexibility, capture Information, and Create and share their knowledge. But most of Iranian companies are slow in this field (Yusefi et al, 2012). In fact, we can say that The only remaining solution for manufacturing companies, To survive, in regional and global market, Even in internal markets, is moving in the direction of Innovation. based on the statics and information of Standard Institute in Industrial Research of Iran,Gilan province in terms of industry situation and operation of operating companies in industrial towns, Faces with a serious problem. There are 16 industrial town in Gilan Province which The number of active firms in these towns are about 640 units. According to statistics of 1392, About 30 percent of these companies are operated with 50 percent of their nominal capacity. Therefore it can be said that, In terms of cost-benefit analyze, Many of these

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companies are considered as the impaired companies. One of the main reasons of Failure inthese companies, is lack of manager's strategic vision to innovation, and Lack of attention to market changes (Mohammadi and Haji Ali Akbari, 2015).

Many of these industries continues The path, with any attention to customer needs and without any change in their production process, and with any attention to the internal and external environment analysis, and Finally, faced with reduced capacity and are closed (Haj Ali Akbari and Reza zadeh, 2015). Today, More businesses, not only consider, innovation perception as a necessity, But consider it as a most important factor needed to maintain a competitive position in activities development. Business success in the market, need key factors to achieve innovative performance (Lendel & Varmus, 2014). Innovativeness, is willingness and ability of organization to adapt, or develop innovation, in the form of product, service, process or system (Tang, 2014). Innovation is creating, evaluating, exchanging and applying new ideas In order to transcend firms in the market of goods and services, Which lead to national economy and social development. Anglyn and colleagues introduce innovation trends, as a strategies and organizational measures toward innovation (Engelen et al, 2013). Innovation used in companies as a tools to create an organization adaption, cope with the pressures of intense competition, and changing customer demands. with using innovation, Companies reach to effective responsiveness to environmental demands and thus to maintain and improve organizational performance. Innovation enables a company to acquire new knowledge, new products and new production findings showed that, The severity and type of research, and development of international activities, are determinants of innovation performance (Hsu et al, 2014). Based on investigation of kamasak and Bulutlar (2014) Knowledge sharing is a one of the factors that impact on innovation (Kamasak & Bulutlar, 2014).

In order to achieve and maintain a competitive advantage in the global economy, Today's organizations most correctly use from its knowledge resources. Knowledge is one of the most vital resources for competitiveness of organizations. Although recently it was recognized that organizational knowledge can be a barrier Instead a catalyst factor (Hsieh et al, 2012). Knowledge sharing created from providing new knowledge and demanding new knowledge (Kim & Lee, 2013). Knowledge sharing is one of the most important components. Critical and determinant yield of knowledge sharing, is creating new knowledge and innovation (Ibrahim & Hock Heng, 2015). Knowledge sharing, to be considered as a most important and most determinative factor in the success of knowledge management strategies. Effective and efficient knowledge sharing activities, allow people to re-create knowledge in the individual and organizational level (Hong et al, 2011). Due to explaining the problem in the statistical population, and Describing the relationship between variables, The main research question was proposed as follows: What is the effect of Knowledge sharing on the dual capability of innovation in manufacturing companies located in the industrial cities of Rasht and Anzali?

Theoretical Framework

theoretical framework is a conceptual model, Based on theoretical connections between a number of factors, which recognized as an important in this issue. theoretical framework is a basic that all research's issue is based on it. This framework is a logical, and descriptive network that consist of relationship between variables which recognized through Processes such as interviews, observation and review (Skaran, 2014). Conceptual model is based on the investigation of kamasak and Bulutlar (2014) which provided in Figure1. In this model, Knowledge sharing has a role of independent variable,and Exploitation and utilization innovation has a role of dependent variables.

Methodology

This study, in terms of purpose was functional and based on method was descriptive which describe Sample characteristics and then. extend these features to the statistical population. Briefly, it can be said that, the method of this study was descriptive and was correlational survey method. In order to collect information in the field of theory and literature, Library studies and articles were used And In order to collect information and data for analysis, A questionnaire was used. the statistical population of this study was all active Companies in the industrial cities of Rasht, Anzali. sampling method was quota sampling and simple random sampling. Given that the level of analyze was organizational level, in each company, the highest senior position, is selected, for sample. The final sample size in this study were 153 companies. total of 160 questionnaires distributed among the company's seniors during five-day. among distributed questionnaires, 158 questionnaire was rejected to researcher. After reviewing the questionnaires,

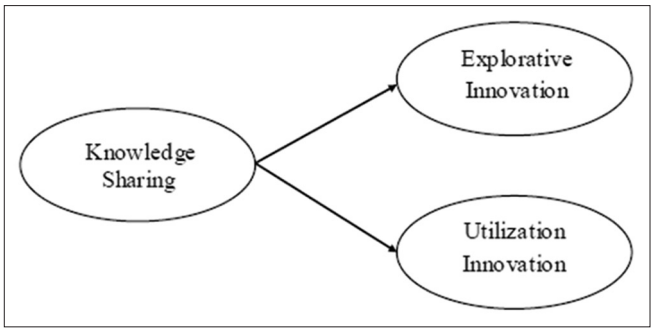

Figure 1: Conceptual model (Kamasak & Bulutar, 2014)

it was find that Several questionnaires were partially completed and eventually, among 158 questionnaires, 153 questionnaires were selected for analysis. Information related to questions of questionnaire, was provided in Table 1 In terms of number of questions and resources.

Reliability and Validity of Questionnaire

To ensure that the data of measurement is reliable,Measure should have two validity and reliability characters. in this study, Logical consistency have been evaluated between the questions of questionnaire with Using Cronbach's alpha. To investigating the validity of content, The study's questionnaire was provided to scholars and experts and In several meetings, their Reforms was applied to structure and content of questionnaire. After designing and developing the questionnaire, and after that It was confirmed by professors and experts, Researchers should determine the reliability of questionnaire.

Therefore, first, An initial sample consist of 30 questionnaires were pre-tested. and then, with using obtained data from theses questionnaires and with Using SPSS statistical software, The confidence factor with alpha cronbakh method was calculated for these tools.Cronbach's alpha values for all parameters of the study, were upper than 0.7. The exact values of these coefficients provided in Table 2.

Data Analysis

The Kolmogorov-Smirnov has been used by researcher, To investigate the normal distribution of data Before analyzing the data. Kolmogorov-Smirnov test is a simple non-parametric method To determine the homogeneity of experimental data with statistical distribution.in this test, We will test the null hypothesis that, consist of observations, and specific distribution with a certain parameter, which With conjecture and circumstantial evidence, these observations distribution is correspond with specific distribution. Given that the significant level of all the variables, is smaller than 5%, therefore, Data distribution of all variables, does not follow a normal distribution. So for statistical analysis, PLS software is used.

The results of pearson correlation coefficient and Simple Linear Regression For research

Hypotheses

Two study hypothesis with results of correlation and simple linear regression analysis is provided as follow:

The First Hypothesis of Research

Knowledge sharing has an impact on exploration innovation in active manufacturing companies located in the industrial cities of Rasht and Anzali.

In Table 4 it can be said that, Pearson's correlation coefficient 0.574 is obtained with a significance level of 0.000.and because that significant level is lower 0.05, hypothesis 1 is confirmed. Therefore can be said that: Knowledge sharing, has an impact on exploration innovation, in active manufacturing companies located in the industrial cities of Rasht and Anzali. After calculating the correlation coefficient,Simple linear regression can be calculated and also can examine the relationship between two variables, which. the output of the linear relationship between two variables and corresponding regression coefficients, are presented ass follow:

B Represents the slope of regression line. If knowledge sharing showed with X and exploration innovation showed with y. Their relationship is expressed as follows:

$$\hat{y} = -0.223 + 0.835\ X$$

From last column of table 6,It is clear that, Both factors are significant. slope interpretation is like that,with increasing

Table 1: Information of questionnaire

Variables	Number of questions	Source
Exploration innovation	6	Kamasak and butlar (2014)
Utilization innovation	4	Kamasak and butlar (2014)
Knowledge sharing	9	Kamasak and butlar (2014)

Table 2: Reliability coefficients of the questionnaire variables

Variables of model	Cronbach's alpha coefficient
Exploration innovation	0.845
Utilization innovation	0.893
Knowledge sharing	0.904

Table 3: Result of kolmogorov-smirnov test

Variables of model	Number of samples	Z statistic	Significant level
Exploration innovation	153	1.217	0.103
Utilization innovation	153	1.415	0.056
Knowledge sharing	153	1.152	0.141

Table 4: Correlation between knowledge sharing and exploration innovation

	Knowledge sharing	Exploration innovation
Knowledge sharing		
R	1	0.574
Significance		0.000
The number of samples	153	153

one unit in knowledge sharing, The exploratory innovation increases about 835/0 unit.

Table 7 shows the overall situation of model which in there,determination Adjusted coefficient is the most important indicator. Determination Adjusted coefficient 0.324 was obtained which shows The determined amount of dependent variable by independent variable which can be said that 32.4 percent of variability in exploration innovation (dependent variable) was determined by knowledge sharing (independent variable). Durbin-Watson statistic was used for investigating the Independence of errors. According to that the amount of this statistic is between 1.5 to 2.5, The lack of correlation between errors will be accepted.

Table 5: Simple linear regression in knowledge sharing and exploration innovation

Model	Total of squares	D.F.	Mean square	F statistic	Sig.
1					
Regression	35.182	1	35.182	74.009	0.000
Remaining	71.781	151	0.475		
Total	106.963	152			

Table 6: Regression coefficients of knowledge sharing and exploration innovation

Model	Non -Standardized coefficients		Standardized coefficients	T	Sig.
	β	Error of standard deviation	β		
1					
Fixed variable	–0.223	0.340	0.574	–0.658	0.512
Knowledge sharing	0.835	0.097		8.603	0.000

Table 7: Summarize of model between knowledge sharing, and exploration innovation

Model	R	R^2	Adjusted R^2	Estimating the standard deviation error	D-W
1	0.574	0.329	0.324	0.68947	1.583

Table 8: Correlation coefficient between knowledge sharing and utilization innovation

	Knowledge sharing	Utilization innovation
Knowledge sharing		
R	1	0.556
Significance		0.000
The number of samples	153	153

Research Second Hypothesis

knowledge sharing, has an impact on utilization innovation, in active manufacturing companies located in the industrial cities of Rasht and Anzali.

In table 8 it can be said that, Pearson's correlation coefficient 0.556 was obtained. with a significance level of 0.000 and because that significant level is lower 0.05, hypothesis 1 is confirmed. Therefore can be said that: Knowledge sharing, has an impact on utilization innovation, in active manufacturing companies located in the industrial cities of Rasht and Anzali. After calculating the correlation coefficient, Simple linear regression can be calculated and also can examine the relationship between two variables, which the output of the linear relationship between two variables and corresponding regression coefficients, are presented ass follow:

B Represents the slope of regression line.ifknowledge sharing showed with X and utilization innovation showed with y. Their relationship is expressed as follows:

$$\hat{y} = -1.232 + 0.673\ X$$

From last column of table 10, It is clear that, Both factors are significant. slope interpretation is like that,with

Table 9: Simple linear regression in knowledge sharing and utilization innovation

Model	Sum of squares	D.F.	Mean square	F statistic	Significance
1					
Regression	22.885	4	22.885	67.521	0.000
Remaining	51.177	151	0.339		
Total	74.062	152			

Table 10: Regression coefficients of knowledge sharing and utilization innovation

Model	Non-Standardized coefficients		Standardized coefficients	T	Sig.
	β	Error of standard deviation	β		
1					
Fixed variable	1.232	0.287	0.556	4.297	0.000
Knowledge sharing	0.673	0.082		8.217	0.000

Table 11: Summarize of model between knowledge sharing and utilization innovation

Model	R	R^2	Adjusted R^2	Estimating The standard deviation error	D-W
1	0.556	0.309	0.304	0.58217	2.020

increasing one unit in knowledge sharing, The utilization innovation increases about 0.673 unit.

Table 11 shows the overall situation of model which in there, determination Adjusted coefficient is the most important indicator. determination Adjusted coefficient 0.304 was obtained which shows The determined amount of dependent variable by independent variable which can be said that 30.4 percent of variability in utilization innovation (Dependent variable) was determined by knowledge sharing (independent variable). Durbin-Watson statistic was used for investigating the Independence of errors. According to that the amount of this statistic is between 1/5 to 2/5, The lack of correlation between errors will be accepted.

Conclusion and Recommendation

to providing practical suggestions, Weak structures related to each variable, was provided as follows: it is necessary to mention that The prioritization basis is based on the results of path analysis. And The best path have been studied through indirect effects, presented As the first offer. Therefore recommendations are as follows:

1- It is recommended that Senior managers have more emphasis on long-term equilibrium with suppliers. and For monthly meetings with suppliers, consider meetings in the organization calendar.and Try to pathology various problems and issues, through expert working groups, and To solve them, put urgent actions on their agenda. on the other hand, It is recommended that Market study teams, in coordination with the quality assurance team, consider All client's indicators, in a produced program report, which the export performance of organization improved.

2- It is recommended that Seminar executives with suppliers tries to reduce the cost of work, Because, on average, 70% of factories final product, consist of purchase cost of raw materials, and services received from outside., this proportion in high-tech companies, even reach to 80 percent.so increasing raw material costs, had direct impact on, total cost, and product pricing.and In exports items, the cost is more important.

3- It is recommended that Senior managers of organizations with formal and informal knowledge sharing within the organization, In relation with key indicators such as using new production technologies for shortening product design to production process, Improving product quality, reducing the cost of parts, and energy optimization, interact with each other until Export performance improved.

4- It is recommended that Senior corporate executives hold courses such as teamwork and knowledge sharing and Reports, such as doing works, and duties before knowledge sharing, and after knowledge sharing, be prepared, and relevant cases presented In formal and informal meetings and conferences., These reports can be in the form of cost savings, create new knowledge in the field of exports, and improving the process of export in organizations.

5- It is recommended that Quality assurance team, in the Quality Assurance process, randomly investigate the, performance of service quality for foreign clients and In formal and informal meetings, all of these cases, reflected as a statistical reports., And Inside the production halls, these reports installed in the form of summary graphs.also It is recommended that The market studies teams, in a weekly manner, investigate the performance of competitors in the field of export such as exports volume, diversify of export products and export's numbers.

6- It is recommended that managers in, strategy codification sessions, or meetings that are held based on the official calendar of every year, ask from employees about compliance between organizational values and personal values and their opinions. So that, appropriate Overlap, create between personal values and corporate values.on the other hand It is recommended that organization Managers, strengthen staff perspective, about continuous improvement of services and products, and Six Sigma, On the other hand, with considering that most corporate activities are field works, Therefore, it is recommended that organizational projects status be evaluated via planning and project control, in the form of project quality control, project time management, project resource management and human resource control. and required Expertise, and deficiencies be identified until The performance of new products, strengthened to improve export performance,

7- It is recommended that managers through market study teams identify customers' needs,and Products productions accordance with their ideas.,in this way, Companies can use tools like matrix of quality house to identify and prioritize customer needs and demands. Companies must increase channels of communications with customers and by meeting, telephone interviews and sending questionnaires gather their views,and consider them In development and design of new products.

8- It is recommended that organization insix-or three month fixed periods, obtain feedback on product quality from productions. and investigate All effective components, on quality of products, from customer perspective in different time series.,until Unfavorable factors identified and Companies strengthen them.

9- It is recommended that relation with customer's Experts, aware staff in other parts of organization through formal or informal meetings from customers

opinions. And Even design monthly planning, for a meeting between the head of halls, and complain customers, until staff aware from customers needs.

Finally It should be noted that, The research work is not free from restrictions. In this study, there were restrictions which Some of them are enumerated by researcher and for each restriction, provide recommendation.

1- In this study, All companies in terms were not in a same level from new product perspective and innovation performance. and Some companies have a higher rate of new products and some had lower rates, Therefore, this factor may have influence on the outcome of investigation.
2- Given that the size of the company is one of the factors that influence on innovation and producing new products, The impact of this factor is not included in this study.
3- Given that the reputation of companies, in production,is a one of the determining factors in innovation, The impact of this factor is not included in this study
4- Given that, Gilan province, is a one of very poor states, in the field of industry, The status of industry in this area has not been investigated.
5- In this study only impacts of one dimension of knowledge management, namely knowledge sharing on innovation is studied.

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