The Relationship Between Knowledge Management and Development in Individual Entrepreneurship at Industrial

Mahmood Ghorbani, Abedian Hajinezhad and Vahid Seyyed Zadegan

Department of Management, Bojnord Branch -Islamic Azad University, Bojnord, Iran

Abstract: Goal of this paper is studying relationship between knowledge management and five dimensions of that (management, ideas, missions, learning organization and work of group according to Sallis and Jones) as the independent variables and the individual entrepreneurship of personnel in Khorasan Razavi as the dependent variable. Furthermore the variables like generic state, age, education and CV are known here as adjustment variables. This project is descriptive and applicable. It is field and survey type and using standard questionnaires also using descriptive and inferential statistics on population, including managers, assistances, employees. According to results knowledge management, ideas, missions and work of group have effect on individual entrepreneurship of personnel. And there is a meaningful relationship between them, but there is not such a connection among management, learning organization and strategy in organization. So according to these results its better for managers in order to improvement the entrepreneurship let more and more ideas and also advise the personnel about the group working.

Key words: Knowledge management % Dimensions of knowledge management % Individual entrepreneurship

INTRODUCTION

Nowadays the most important competition way in today and future business is knowledge [1]. Organizations have great amount of data and information. And because of this the importance of knowledge management is increasing. Many of managers know that having knowledge base on information is very important in business [2]. On one hand Knowledge management help the organization in individual and organizational entrepreneurship and the other hand results in improvement, additional benefit, no stagnancy, more jobs and etc [3]. At present that economy condition of country is entangled in shortage and managements which results unemployment rough situation, lake of gross production, deduction in government investment and so on, at a glance to world economy we understood that entrepreneurship is the best way to confront the nowadays economy challenge [4]. Importance of the entrepreneurship and its key roles in development of societies caused many of developed and developing countries noticed to this issue [5]. According to this entrepreneurship is considered from different dimensions and among them, knowledge management is one of the most important. According to all above and with the close relationship between entrepreneurship and knowledge management, this issue is studied in this project. To show what is the effect of knowledge management on improvement of individual entrepreneurship of personnel of Khorasan Razavi industrial part.

Review of Literature

Knowledge Management: This is not a new concept or new thought. Human binges always have produced knowledge during his historical and social evolution and have used that to change the society [6]. New thing in this issue is awareness about the knowledge management [7]. The concept of that is explained in different ways by different connoisseurs. Some of them are noticed to functional part of knowledge management and some of them are noticed to its concept. Some of the writers considered it from the Mechanical approach and the humanity points of view. The knowledge management is the process of discovery, achievement, development and creation, maintenance, assessment and appropriate usage of knowledge in appropriate time by the fit person in the organization, which is done by having the joint between human source, IT, communications and the suitable
organization schedule in order to achieve the goals [8].
According to Hanley’s definition, the knowledge
management is a general explanation of culture, process,
substructures and the technologies which are in an
organization. And these are the knowledge capital for
achieving the goals [9]. According to the Adam and
McCreedy points of view the knowledge management,
basically is a kind of activities which noticed to some
strategies in order to manage the humanities mental
capitals [10].
Sallis and Jones believe, knowledge management is
not a collection of technological views for one issue, but
it is a social and humanity process and maybe by the
technological it be facilitated. They considered 10
dimensions for knowledge management which are as
follows: Management at organization, strategy at
organization, organization culture at organization, mental
capital at organization, learner’s part at organization,
teamwork, sharing knowledge, creating knowledge, Digital
fallacy at organization and ideas [11].
Hansen et al. are believed that successful
organizations to use the knowledge management should
have two basic strategies: A) knowledge collection
strategy, B) knowledge interchanging strategy [12].
Peter Drucker is argued the main strategy is behavior
management; according to this idea the behavior let
men to continue. He suggested Four strategies in order to
development and stimulates the personnel: 1-recognition
the people strength; 2-the best position according to each
person; 3-behaving such a partner; 4-impose to them, the
challenging [13].
are defined the knowledge strategy as “collection of
managers answers to learning needs of organization”.
They were believed that the manager’s strategic decisions
are according to learning speed, knowledge depth and
type of organization learning [14].
Keskin is suggested two different strategies
according to the difference between clear knowledge
and implicit knowledge, the strategy of clear knowledge
management and implicit [15].
Hansen et al. (1999) think that there are two type of
strategies for knowledge management at least: coding
strategy and personalized strategy. The former one is
noticed to management, function and the reserve of
organized knowledge capital of an organization. Quick
response to customers. Reducing in cost of knowledge
transaction and coding the strength of an organization, by
use of IT and with goal of reducing the complicities,
accessible and knowledge re-usage, are the key bases of
this strategy. The organization can achieve to
organization and economy efficiency, by re-usage of
coding knowledge. Personalized strategy is connected to
all personnel of organization one by one: the persons
whom are creating the knowledge and share it with others
[16]. Emphasizing on sharing the knowledge in the
relations and discussions which by means of them the
social nets and specialized teams are formed; are the most
important bases of personalized strategy [17]. Bierly and
Daly are identified 4 strategies for companies, which are
as follows: strategy of knowledge creating; two side
learning; strategy of situation maintenance; and
knowledge revenue operation [18].
Models and Theories about Knowledge Management:
According to Nonaka and Takeuchi’s model knowledge
is creating by continues relationship between knowledge
of wisdom and the universe. According to this theory
knowledge is divided in to 2 basic groups: implicit
knowledge and clear knowledge (the second one can be
coding and easily could be cleared, transfer and stored in
data’s base, the implicit knowledge is personal and
formulizing it is very hard). With creating active reaction
between these two type of knowledge we achieve to four
basic strategies: socialism, externally, combination,
internally [19]. (Figure 1).
Another theory which is talking about knowledge
management is learning organization theory. This theory
has been produced during the process of systematic
view and leaning on that. This theory considered the
organization as a system which is open, an authority and
alive, learning organization consist of skill and ability of
organization in creating, achieving and transferring the
knowledge and reforming the others behavior to reflect
the new knowledge and thought [20].
There are more than these theories, which you can
see below:
Fundamentally, Hicks (2000) model divided the
knowledge management into four processes; creating,
storing, publishing and using [21]. Beckman (1997) is
suggested 8 level: recognition, subjugation, selection,
store, publish, use, creation and business [22].

Fig. 1: The knowledge creation process in Nonaka and
Takeuchi’s model
Mark McElroy (1995) is defined a cycle for knowledge age and emphasized that “knowledge is been just when produced and after that we can code or share it” so he divided it in to two part: Knowledge producing and Continue of knowledge [23]. The 7C model is established base on seven worlds which started with C. These concepts have very important roles in creating organized knowledge and are as follows: creation; conjunction, comprehension, connections, conceptualizing, cooperation, Collective Intelligence [24]. The Probst, Raub and Reinhardt’s (2002) Model which is named “foundation of knowledge management building”, believed that knowledge management is like a active cycle which is cycling continually.

This model includes 8 parts and 2 cycles: Inner and Outer (Inner cycle contains: Knowledge investigates and exploration, Knowledge development, knowledge portion, Application and usage of knowledge and protection of knowledge and Outer cycle contain: aims of knowledge determination and knowledge evaluation). Feedback is complement of 2 cycles. Finally parts of knowledge management process presented by Bekovitz and Williams include 7 factors: finding, apply, learn, portion, evaluation, create, protect and remove; which should be managed integrated for invest creation based on knowledge [25].

**Definition of Entrepreneurship:** Entrepreneurship associate employment and its direct relation with job, in minds usually. Difference and paradoxes in Entrepreneurship, in one hand shows its widen and importance which can be studied in different point of view and on the other hand shows dynamism of subject which leads to present different models and theories [26].

John Thompson: Entrepreneurship is a process that can be created new material in that, with new value used of creativity, time, resources, risks and other ingredient. [27]. In Arthur Cole opinion, Entrepreneurship is a targeted activity includes coherent decision made by person or team to create, develop or keeping the economical unit. On the other view, Robert Nash defines Entrepreneurship as risk acceptance, chasing opportunities; satisfy demands by creativity and business establishment. according to John Batist C Entrepreneur is a person who handles responsibility of production and distribution of his economical activities and entrepreneurship means resources revenue upgrade in one level to upper level. According to Shomppitter viewpoint, Entrepreneur is a main engine of economical development. Timmons (1999) defines entrepreneurship as ability to create and product something valuable from nothing. This concept means create and fund a company or organization. [28] Entrepreneur begins new and small economical activity with invest: Peter Dracker [29].

**Different Approach to Entrepreneurship:** Economists study how society's scarce resources such as Land, labor, raw materials and machinery to produce goods and services. Richard Cantillon (1680-1734) was first person that introduced word entrepreneurship to the literature of economic science. He introduced the entrepreneur as a private that buys with a fixed price and sells with a uncertain price. So rather than potential profit goes to risk. Frank Knight (1921) with distinction between the concept of predictable risk and unpredictable risks, Defined an entrepreneur as individual that Want to provide money and fame in contrast with uncertain expect to receive the Unknown benefits and prestige and job satisfaction from the production and distribution processes [30].

Psychological perspective wants to identify personality behaviors and characteristics of successful entrepreneurs that are unique. Where features are defined as the characteristic mood of people who are too strong. McClelland (1961) posed need for success as a potential in entrepreneurship [31].

Thomas Begley and David Boyd (1987) point to five dimensions of entrepreneurs: necessity to achieve success; rely on control center, risk, facing to ambiguous situations and type A behavior; means in appropriate time u should achieve to more results [32].

At socialism points of view, the social groups and construction had been examined to predict the entrepreneurship’s activities. Improvement of active entrepreneurship is considered as social and constructions out pot. Weber was interested in studying the effects of unequal power sharing; in his opinion entrepreneurship can predict and define by defined social forces like: people roles expectations, leveled bases and general tendency about innovation [33].

Social – cultural view is joined the entrepreneur to environment or social and cultural basis. And consider the culture as fixing factor of entrepreneurship. For entrepreneurship development in a society fit ideological structures and economic behaviors is essential. According to this view the entrepreneur is a decision maker in a social – cultural collection. Hofstede is mentioned 4 dimensions for a culture: power, individualism face to socialism, confidence and patriarchy [34].
Relationship Between Knowledge Management and Entrepreneurship: Knowledge management cannot improve the entrepreneurship lonely; perhaps it has effect on continuously improvement. Furthermore the implicit knowledge is mentioned as key obstacle for entrepreneurship. In the other hand because implicit knowledge is usually a part of long time learning process and has place in thinking construction, so act as a protection element in connection with entrepreneurship. And also as a part of safety system prevents the copying of system [35].

The results of Liebowitz (1999) shows there is relationship between knowledge based strategies and entrepreneurship. He believes that one of the important factors for successful knowledge management is having a clear strategy and planned program[36]. Nazem and Karimzadeh study (2010) also confirms the relationship between knowledge management and entrepreneurship. They achieved these results in their study that there is a relationship between knowledge management and entrepreneurship in employees of insurance organization of Tehran [37]. Akhavan et al. (2006) in his study concluded that organizational culture has a positive effect on creativity and entrepreneurship[38]. And also Wong and Chin (2007) Study results showed that the beliefs and culture of organizations is one of the key factors in entrepreneurship development [39]. Hannu Littunen (2000) believes that risk, innovation, business knowledge and marketing, the ability of hunting opportunities and a positive attitude towards business is a profile of entrepreneur [40].

Conceptual Model of Research: According to presented theories and also the related studies to knowledge management and entrepreneurship, to evaluate the relationship between knowledge management and entrepreneurship, the following model could well show the relationship between knowledge management and entrepreneurship.

![Diagram](image)

This research will be done in the categories of descriptive, correlation and applied research.

Statistic Society: According to considered objectives in this research and its implementation method, after an investigation, the Statistic society included all administrators, deputies and employees of Industrial Estate of Khorasan Razavi, which are about 89 members.

Sample and Determine its Size: To determine the required sample size was used from the estimated sample size schedule of Morgan Jersey.

According to The Morgan formula, the number of population sample size is as follows formula:

\[
n = \frac{NI^2 \cdot p(1-p)}{N \cdot d^2 + t^2 \cdot p(1-p)}
\]

- \(n\) = Number of samples
- \(N\) = The total number of population
- \(t_2\) = Student t value, when the significance level of 0/05 is lower.
- \(d_2\) = Approximation in estimating population parameters, the equivalent of 2 05/0
P = Probability of the trait

(1-P) = the probability of the no trait

Thus, including figures and according to this formula, the sample size was 73.

Data Collection Tool: According to goals the best way to collect data is questioner.

After different studies and interviewing it’s identified 2 questioners for this research.

C  KM questionnaire includes 22 questions in 5 chapters, each question on a scale of five items were encoded as the following tables.

C  Individual entrepreneurs Questionnaires: Includes 15 questions, each question coding based on three alternative, that total 15 questions identifies the rate of individual entrepreneurship.

Its Validity: As regards to standardized questionnaires and also through the preliminary sample, reliability was examined again, so its validity is confirmed.

Reliability: Reliability of the used questionnaire in this study is evaluated by Cronbach's Alpha and the alpha estimated coefficients for questions regarding the internal validity of the questionnaire have been approved.

Test of Variables Normality: If the variables are normalized, parametric test is recommended and otherwise equivalent non-parametric test will be considered. To check normality of variables, we used the Kolmogrov Smirnov test - the results showed that all the variables are normal.

The Results of the Research Hypotheses Test: Research hypotheses, including hypotheses and five sub-hypotheses and also side theories which are examined the relationship between the dependent variable with moderating variables. this is the results of hypothesis testing that will be discussed.

The Main Hypotheses: There Is Relationship Between the Individual Entrepreneurs and Knowledge Management in Employees of Khorasan Industrial Estate: After assessment obtained Results from relevant questionnaires and their analysis, it was found, that there is significant relationship between knowledge management and individual Entrepreneurship of Khorasan Industrial Estates employees. Correlation between 2 studied variables was 0/275 and the likelihood amount of significant level is equal to 0/017. Also, since the coefficient of Equivalent was 0/24, so its size is acceptable. In the other hand, Watson statistic is equivalent of 1/929. So the final model fit and residuals are independent. Analysis of Dependent variable individual and independent entrepreneurship and aspects of knowledge management is as in Table 1.

As you can see from Table 5 there are regression model for above defined variables. The results of the coefficients regression of these two variables is given in Table 2.

According to the results in Table 6 can be commented that the idea and mission, organizational culture, of such size knowledge creation and teamwork have a linear relationship with individual entrepreneurship development.

Sub Hypothesis Testing: After studying the results of distributed questionnaires and their analysis, the following results were obtained.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Z statistic</th>
<th>Significant level</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge management</td>
<td>0/481</td>
<td>0/975</td>
<td>Normal</td>
</tr>
<tr>
<td>Leadership and Management</td>
<td>1/024</td>
<td>0/245</td>
<td>Normal</td>
</tr>
<tr>
<td>Ideas and missions</td>
<td>1/039</td>
<td>0/218</td>
<td>Normal</td>
</tr>
<tr>
<td>strategy</td>
<td>1/082</td>
<td>0/192</td>
<td>Normal</td>
</tr>
<tr>
<td>Learning organization</td>
<td>0/963</td>
<td>0/312</td>
<td>Normal</td>
</tr>
<tr>
<td>teamwork</td>
<td>1/Jan</td>
<td>0/178</td>
<td>Normal</td>
</tr>
<tr>
<td>Individual entrepreneurship</td>
<td>1/003</td>
<td>0/267</td>
<td>Normal</td>
</tr>
</tbody>
</table>
Table 5: Results of Analysis of the dependent variable Variance and independent

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Freedom rate</th>
<th>Mean Squared</th>
<th>F statistics</th>
<th>Significant level</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>121/413</td>
<td>10</td>
<td>12/541</td>
<td>2/083</td>
<td>0/039</td>
<td>0/495</td>
<td>0/246</td>
</tr>
<tr>
<td>remaining</td>
<td>375/253</td>
<td>64</td>
<td>5/926</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>502/667</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Results of the regression coefficients of independent and dependent variables

<table>
<thead>
<tr>
<th>Index Variable</th>
<th>Regression coefficient</th>
<th>Coefficient Standard deviation, Standardized regression coefficients</th>
<th>T statistics</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>26/934</td>
<td>4/012</td>
<td>6/714</td>
<td>0/000</td>
</tr>
<tr>
<td>Ideas and mission</td>
<td>0/615</td>
<td>0/203</td>
<td>0/459</td>
<td>3-Mar 0/004</td>
</tr>
<tr>
<td>teamwork</td>
<td>0/335</td>
<td>0/164</td>
<td>0/324</td>
<td>4-Feb 0/045</td>
</tr>
</tbody>
</table>

Table 7: Pearson correlation test to investigate the relationship between leadership and management development and individual entrepreneurs

<table>
<thead>
<tr>
<th>Leadership &amp; management dimension</th>
<th>Pearson correlation</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual entrepreneurship</td>
<td>0/19</td>
<td>0/103</td>
</tr>
</tbody>
</table>

Table 8: Pearson correlation test to investigate the relationship between missions and ideas the development of individual entrepreneurship

<table>
<thead>
<tr>
<th>The dimension of ideas &amp;missions in organization</th>
<th>Pearson correlation</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of individual entrepreneurship</td>
<td>0/361</td>
<td>0/001</td>
</tr>
</tbody>
</table>

C According to the results in Table 7 the relationship between leadership and management and entrepreneurial development of individual employees of Khorasan Industrial Estates is not significant. (The correlation coefficient between two variables is equal to 0/19 and the probability associated regarding to significant level is 0/103).

C According to the results in Table 8 there is a relation between ideas and the organization's mission and business development staff of Khorasan Industrial Estates. (Correlation coefficient between two variables is 0/361. and the probability associated with a significant level is equal to 0/001).

C According to the results in Table 9 the relationship between strategy and employees individual entrepreneurship at the Khorasan Industrial Estates is not significant. (The correlation between two studied variables is 0/084 and the probability associated with a significant level equal is to 0/474).

C According to the results in Table 10 the relationship between learning organization and development of individual of employee of Khorasan Industrial Estates entrepreneurship is not a significant. (Correlation coefficient between them is 0/159 and the probability associated with a significant level is equal to 0/174).

C According to the results in Table 11 there is a relationship between individual entrepreneurship of employee of Khorasan Industrial Estates and the teamwork. (Correlation coefficient between them is 0/266 and the probability associated with a significant level equal is to 0/021).

Subsidiary Hypotheses Test: The results of the test T and Pearson correlation test to examine the relationship between variables, with knowledge management and entrepreneurship showed that among the people perception of knowledge management and its dimensions as well as individual entrepreneurs in men and women there is not significant differences. The relationship between age and understanding of knowledge management and its size and individual entrepreneurs is not significant. Between people Understanding of knowledge management and its dimensions as well as individual entrepreneurs with experience, there is no relationship between people understanding of knowledge management and its dimensions and also the income of individual entrepreneurs, there is no relationship. And finally, in examining the relationship between people's understanding of knowledge management and its dimensions as well as individual entrepreneurs with the education level results, only between education level and digital sophistication there is significant relationship and in other cases there is no relationship.
Table 9: Pearson correlation test results to investigate the relationship between strategy and individual entrepreneurs

<table>
<thead>
<tr>
<th>The strategy</th>
<th>The Pearson correlation coefficient</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual entrepreneurship</td>
<td>0.840</td>
<td>0.074</td>
</tr>
</tbody>
</table>

Table 10: Pearson correlation test to investigate the relationship between learning organization and individual entrepreneurship

<table>
<thead>
<tr>
<th>The learning organization</th>
<th>The Pearson correlation coefficient</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual entrepreneurship</td>
<td>0.159</td>
<td>0.174</td>
</tr>
</tbody>
</table>

Table 11: The results of Pearson correlation test to investigate the relationship between teamwork and individual entrepreneurs

<table>
<thead>
<tr>
<th>The teamwork</th>
<th>The Pearson correlation coefficient</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual entrepreneurship</td>
<td>0.266</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Limitations of Research:

- Limitations due to the complexity of human behavior
- Limitation due to intervening variables:
  - Although the researcher could not control intervening variables.

Recommendations Based on Research Findings:

According to the results obtained from testing the main hypothesis that there is a significant relationship between knowledge management and individual entrepreneurs this is recommended managers to enhance their employees. Dimensions of knowledge management use these strategies to help the development of employees' individual entrepreneurship:

- The establishment of digital library system for information distribution in high volume and low time.
- Creating the conditions for doing research in organizations for academic circles and participating in scientific meetings.
- Conference, conferences and seminars to exchange information about the activities of the staff work and about succeed and good ideas.
- Establishing research Center, with good facilities for research.

According to The sub hypothesis test results, at the beginning of study which showed a significant relationship between leadership and management and entrepreneurship development, there is no relationship, it’s recommended managers follows policies and procedures in the organization that has highlighted Management and leadership roles in organizations more and specify the duties of directors. This is requires the cooperation of senior management, understand the culture of the organization and planning based on it.

According to the results of the second research sub hypotheses test which showed there is relationship between ideas and the organization's mission and develop a sense of entrepreneurship. It is suggested that managers support of new and entrepreneurial thoughts and ideas and they welcomed the new changes in the organization and Employees exchange good ideas about business activities with each others.

According to the results of the third sub hypothesis test, which showed there is no significant relationship between the strategy in an organization with individual entrepreneurship it’s recommended more research be done in this area and relationship between strategy and entrepreneurship in the organization closely examined.

According to the results of the fourth sub-hypothesis test, it showed that there is no meaningful relationship between learning organization and individual entrepreneurs in the sample studied, recommended that make clear the concept of learning organization for employees as well as broader studies done in this area. Staff encouraged doing activities that provide their development and learning needs and also is held training courses that meet the learning needs of staff.

According to results of the fifth sub hypothesis test and the meaningful relationship between teamwork and development of individual entrepreneurship it’s recommended team learning and encourages staff to teamwork. Also forming the multi specialized teams for projects, can have high effects. This provides the
opportunity that people with different specialties come together and because of diversity of expertise, skills and experiences it is provided informal learning opportunities and creation of new ideas.

REFERENCES


34. Kordnaeej Asadollah and others, 2007. Assessment of personality characteristics of entrepreneurs, Office of the scientific works publication of Tarbiat Modares University, first edition.


