AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN KNOWLEDGE MANAGEMENT AND INFORMATION TECHNOLOGY AND ENTREPRENEURIAL SKILLS DEVELOPMENT AMONG MANUFACTURING AND INDUSTRIAL UNITS IN THE COUNTRIES OF CHORAM KOHKILUYEH AND BOYER AHMAD

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ABSTRACT
This paper aims to study the relationship between knowledge development management and information technology and entrepreneurial skills development among manufacturing and industrial units in the counties of Choram Kohgiluyeh and Boyer Ahmad. This is a descriptive survey study with a sample of 400 statistically selected from the statistic population. After gathering information in the form of standardized questionnaires on information technology, knowledge management, data were analyzed by correlation coefficient statistical tests and linear regression in the form of descriptive analytic tables in SPSS. Results show that there is a correlation between knowledge development management and entrepreneurial skills (r = 0.66), and between information technology and entrepreneurial skills (r = 0.51). In addition, 43.8 percent of entrepreneurial skill changes associates with information technology and 50.1 percent to the synchronous effect of information technology and knowledge management. A correlation was also observed between organizational relations and entrepreneurial skills (r = 0.42), with the 17.8 percent of entrepreneurial skill changes relating to organizational relations. The correlation coefficient between organizational transparency and entrepreneurial skills was reported at 0.42 (r = 42). The 27.1 percent of entrepreneurial skill changes, thus, associates with organizational transparency. There was also a correlation between the organizational solidarity and entrepreneurial skills (r = 0.50), with 24.2 percent of entrepreneurial skills relating to organizational solidarity. Another case was reported about problem-solving and entrepreneurial skills (r = 0.46), and the 21.3 percent of changes occurred in entrepreneurial skill associates with the problem-solving skills. Furthermore, creativity was correlated with entrepreneurial skills (r = 0.45) and 19.9 percent of entrepreneurial skill changes was related to it. Finally, the research and development were also correlated with entrepreneurial skills (r = 0.36) and 13 percent of entrepreneurial skill changes was related to it. Therefore, there is significant correlation between information technology, knowledge management and its component and entrepreneurial skills (p<0.05).

Keywords: Information Technology, Knowledge Management, and Entrepreneurial Skills

INTRODUCTION
Knowledge management is a key organizational requirement should be generated, attracted and developed. It is, thus, important for any organization to take advantage of the latest knowledge and information in order to survive. In our today's post-industrial society, the labor-based technology has been replaced by the knowledge-based technology. In current fast-changing world, societies and organizations can take forward steps toward development. This allows them to equip their human resources with entrepreneurial knowledge and skills so that they apply their precious capacities to steer and management other sources toward value-creating and achieving the demanded growth and development (Abolfazli, 2008). Using the information technology and communication is now underlined as the most important component of interacting with the global society, sharing information with others, exchanging...
experiences, informing of environmental issues, pioneering in technology, and developing public welfare. As a principle column of knowledge production and development, training plays a major role, because producing and distributing knowledge is of the necessities of creating an informative society, and is the first step is to teach ICT. Employees should benefit from computer and internet as a useful tool in their work life as to develop their capabilities, practice the important skills required for their life, identify other cultures, and build up their international interaction and cooperation skills. They have to be active in teaching-learning process, learn problem-solving and project-based learning skills, learn the behavior of applying information and communication technologies, and develop their self-training habits using information and communication technologies (Feeder and John, 1989).

Knowledge management and entrepreneurship are two closely linked subjects with causal relations. Knowledge development, on the one hand, helps organizations develop their entrepreneurial skills, because people achieve such capacity when they have the required knowledge. On the other hand, the entrepreneurship provides the needed resources and means for facilitating the growth of organizational knowledge.

As to the role and the importance of entrepreneurship in the economic development and social welfare and other positive effects having on the whole society and organizations, it could have attracted great attention and is called as a driving force of economic, social and cultural development.

Note, also, that what has a close relationship with knowledge development is the growth of entrepreneurial skills. That is to say, people with required knowledge can be further effective in the entrepreneurship area.

Manufacturing and industrial units in the counties of Choram Kohgiluyeh and Boyer Ahmad are not excluded from what explained above. The researcher, thus, attempts to study the relationship between the ways of developing knowledge and technology and employees' entrepreneurial skills in the manufacturing and industrial units in the counties of Choram Kohgiluyeh and Boyer Ahmad.

**Literature Reviews**

**Information and Communication Technologies**

The information technology is a medium to express a wide range of information, thoughts, implications and messages. Having various characteristics, this phenomenon is defined in different forms. Information technology is a collection of means and methods to somehow gather, store, retrieve, process, and distribute in different forms. The importance of this phenomenon is as high as it is considered as a center of guided activities having the responsibilities of controlling management, productivity, production, training and improving a system. In another higher perspective of the information technology, it is defined as a strategy, thought, insight, and means in human being which is accompanied by innovation (Ibrahimi, 1998).

**The Effect of Information Technology on Different Aspects of Training**

**Electronic Teaching**

Electronic teaching is a system providing educational services independently or along the traditional instruction. Taking advantage of features and capabilities presented by internet and modern technologies and aiming to improve the scientific and cultural level of the society and preventing from material resources and scientific capitals, this system extensively distribute the current knowledge and capabilities of universities in a wide range. The electronic training results from applying information technology to the teaching process leading to electronic learning.

The electronic training is an information technology-based teaching including a wide range of applications such as web-based teaching, computer-based teaching, and virtual classes. In other words, the electronic teaching is a broad collection of practical software and methods of information technology-based teaching (e.g. computer, CD, internet, intranet, and virtual university) providing teaching possibilities for any individual, in any context, at any time, and in any place (Jafari, 1989). Although virtual teaching and electronic teaching are synonymous terms, both are considered a type of an electronic education. And its implementation does not depend on the presence of instructors and learners and a physical space called class.
Web-based Teaching
Web-based teaching is a type of instruction carried out using computer and based on web technology. This is based on personal studies or group teaching. In such case, users' learning can be appraised and allow teachers to have access to users' scores. It is useful when there is large number of employees. It is possible to connect to information banks, images, graphics, voice, and texts. Additionally, web provides the required ground for discussion, sharing information, and creating discussion community.

Asynchronous Virtual Classes
Asynchronous virtual class is an internet class asynchronously gathers the trainer and trainees using different web and internet technologies. Put it differently, all shared the educational setting, but each refers to it at the interested time to be informed of what have happened in the class. Employees can see others' questions and answers; teachers' notes, other employees' work report and other useful information, at the same time raise their own points. In such method, the social aspects of the educational setting are also considered and there is a relative interaction between employees and managers.

Synchronous Virtual Classes
Synchronous virtual class is a live educational environment in which the manager and employees are trained simultaneously but in different physical locations using computer networks. This means that the class is held in real time and timing should be as to all members use the facilities at the same time. This is considered as of its limitations and disadvantages, because it technically complicates the system.

Virtual University
Virtual university is an internet university-like environment in which students enroll in the university and select their courses by internet from what have been presented. Students use electronic classes, electronically take exams and have electronic communication with their instructors and classmates (Fathian and Ehsani, 2008).

Knowledge Management
Knowledge management includes identifying and analyzing the available and required knowledge capitals and processes relating to knowledge, planning, and controlling consequence operations to develop capitals and processes and achieve goals. These processes include producing, developing, maintaining, exploiting and using knowledge (Abdolkarimi, 2005). The general model of knowledge consists of four major activities (Bagheri, 2007).

1. Creating Knowledge
This stage includes activities injecting new knowledge to the system. Here, activities such as discovering, creating or developing knowledge are important. As Davenport and Prosaik state, when talking about creating knowledge, the knowledge created inside the organization is as important as what is acquired by organization (Davenport and Prosak, 1980).

2. Keeping and Maintaining Knowledge
The scientific and empirical knowledge is stored in three forms:

A. Structured warehouse: is the same as database.
B. Irregular warehouses: in most organizations, these types of storage are like reports, notes, scientific information, and other types of documents.
C. Employees' brain (Noeipour, 2004)

3. Communicating Knowledge
Communicating knowledge is classified based on five factors: (1) the perceived value of the knowledge of each unit as a resource; (2) knowledge resource inclination to share information; (3) communication channels and enriching them; (4) making interest to acquire knowledge; and (5) the capacity of recipient units as gathering abilities and using the transferred knowledge (Hosseini, 2006).
Components and Conditions of Knowledge Development

To develop organizational knowledge, some conditions and factors are needed including (1) creativity; (2) organizational and individual problem-solving skills; (3) research and development; (4) organizational interaction and relations; (5) organizational transparency; and (6) organizational transparency. The following figure shows these factors and conditions.

Entrepreneurship

Entrepreneurship is the process of adventurously steering an innovation in order to make optimal changes, create new job opportunities, raise productivity and achieve valuable results (material and spiritual) (Golestan, 2003).
Research Article

When an entrepreneurial activity is executed inside the organization by an entrepreneur or a group of entrepreneurs, it is called inter-organizational entrepreneurship. In such case, the entrepreneurs or a group of entrepreneurs use the organizational capacities and capabilities and start an entrepreneurial activity as an activity with organizational affinity. Such entrepreneurship usually results in a new unit or department inside the organization, developing and offering new services, and creating new values. Peter Drucker is a renowned author invariably emphasizing on innovation and entrepreneurship. According to him, in the current world of changes and innovations, organizations should pay serious attention to entrepreneurship and its development. "Dynamic and stable organizations are those that are innovative, creative and entrepreneurial".

The term "organizational entrepreneurship" was first introduced in 1985 by a researcher called Gyfvrd Pyncht.

Research Hypotheses

Leading Hypothesis

There is a significant correlation between knowledge management and information technology and entrepreneurial skill development.

Secondary Hypotheses

First Hypothesis: There is a significant correlation between organizational interaction and the entrepreneurial skill development.

Second Hypothesis: There is a significant correlation between organizational transparency and the entrepreneurial skill development.

Third Hypothesis: There is a significant correlation between organizational solidarity and the entrepreneurial skill development.

Forth Hypothesis: There is a significant correlation between problem-solving skills and the entrepreneurial skill development.

Fifth Hypothesis: There is a significant correlation between creativity and the entrepreneurial skill development.

Sixth Hypothesis: There is a significant correlation between research and development and the entrepreneurial skill development.

Seventh Hypothesis: There is a significant correlation between information technology and the entrepreneurial skill development.

MATERIALS AND METHODS

This is a descriptive survey study with a statistical population including the employees working for the manufacturing and industrial units in the counties of Choram Kohgiluyeh and Boyer Ahmad in 2014, forming the available population. A sample of 400 employees working for the manufacturing and industrial units in the counties of Choram Kohgiluyeh and Boyer Ahmad was randomly selected by the Cochran's theorem.

The research tools include a 38-items questionnaire of knowledge development management, a 32-item questionnaire of information technology, and a 30-item questionnaire of organizational entrepreneurship. Questionnaires are based on the most important indices and factors of knowledge development evaluating the effects of these factors on entrepreneurial skills in manufacturing and industrial units. The questionnaires reliabilities (knowledge management, information technology, and organizational entrepreneurship) were estimated by Cronbach's alpha at 0.93, 0.86 and 0.81 respectively. Data were analyzed by linear regression and Pearson's correlation coefficient.

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As observed in the above table, there is a significant correlation between knowledge management and information technology and entrepreneurial skill development. The significance level and the correlation coefficient between knowledge management and entrepreneurial skill development are $P = 0.001$ and $r = 0.66$ and between information technology and entrepreneurial skill development are $P = 0.001$ and $r = 0.51$.

As seen in table 2 and according to the results of multiple regression analysis by stepwise method, knowledge management and information technology have affected the entrepreneurial skills. Therefore, 43.8 percent and 50.1 percent of changes occurred in the entrepreneurial skills related to information technology and knowledge management respectively. In the model of synchronous effect, there is a significant correlation between knowledge management and information technology and the entrepreneurial skills ($p<0.001$).

First Hypothesis

As observed in the above table, there is a significant correlation between organizational interaction and the entrepreneurial skill development. The significance level and the correlation coefficient between organizational interaction and entrepreneurial skill development are $P = 0.001$ and $r = 0.42$. Therefore, the entrepreneurial skills increase with organizational interaction.
Table 4: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>P</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Organizational interaction</td>
<td>0.178</td>
<td>F = 86</td>
<td>P &lt; 0.001</td>
<td>β</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.348</td>
</tr>
</tbody>
</table>

As seen in table 4 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between organizational interaction and the entrepreneurial skills (p<0.05). Therefore, 17.8 percent of changes occurred in the entrepreneurial skills relate to organizational interaction.

Second Hypothesis

Table 5: Simple correlation coefficients between organizational transparency and the entrepreneurial skill development

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Correlation Coefficient (r)</th>
<th>Significance Level</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Organizational transparency</td>
<td>0.52</td>
<td>0.001</td>
<td>400</td>
</tr>
</tbody>
</table>

As observed in the above table, there is a significant correlation between organizational transparency and the entrepreneurial skill development. The significance level and the correlation coefficient between organizational interaction and entrepreneurial skill development are P = 0.001 and r = 0.52. Therefore, the entrepreneurial skills increase with organizational transparency.

Table 6: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>P</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Organizational transparency</td>
<td>0.271</td>
<td>F = 148</td>
<td>P &lt; 0.001</td>
<td>β</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.396</td>
</tr>
</tbody>
</table>

As seen in table 6 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between organizational transparency and the entrepreneurial skills (p<0.05). Therefore, 27.1 percent of changes occurred in the entrepreneurial skills relate to organizational transparency.

Third Hypothesis

Table 7: Simple correlation coefficients between organizational solidarity and the entrepreneurial skill development

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Correlation Coefficient (r)</th>
<th>Significance Level</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Organizational transparency</td>
<td>0.50</td>
<td>0.001</td>
<td>400</td>
</tr>
</tbody>
</table>

As observed in the above table, there is a significant correlation between organizational solidarity and the entrepreneurial skill development. The significance level and the correlation coefficient between organizational solidarity and entrepreneurial skill development are P = 0.001 and r = 0.50. Therefore, the entrepreneurial skills increase with organizational solidarity.
Table 8: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>P</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Organizational solidarity</td>
<td>0.242</td>
<td>F = 129</td>
<td>P &lt; 0.001</td>
<td>β 0.354 t 12 sig P&lt;0.05</td>
</tr>
</tbody>
</table>

As seen in table 8 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between organizational solidarity and the entrepreneurial skills (p<0.05). Therefore, 24.2 percent of changes occurred in the entrepreneurial skills relate to organizational solidarity.

Forth Hypothesis

Table 9: Simple correlation coefficients between problem-solving skills and the entrepreneurial skill development

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Correlation Coefficient (r)</th>
<th>Significance Level</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Problem-solving skills</td>
<td>0.46</td>
<td>0.001</td>
<td>400</td>
</tr>
</tbody>
</table>

As observed in the above table, there is a significant correlation between problem-solving skills and the entrepreneurial skill development. The significance level and the correlation coefficient between problem-solving skills and entrepreneurial skill development are P = 0.001 and r = 0.46. Therefore, the entrepreneurial skills increase with problem-solving skills.

Table 10: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>P</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Problem-solving skills</td>
<td>0.213</td>
<td>F = 108</td>
<td>P &lt; 0.001</td>
<td>β 0.307 t 10 sig P&lt;0.05</td>
</tr>
</tbody>
</table>

As seen in table 10 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between problem-solving skills and the entrepreneurial skills (p<0.05). Therefore, 21.3 percent of changes occurred in the entrepreneurial skills relate to problem-solving skills.

Fifth Hypothesis

Table 11: Simple correlation coefficients between creativity and the entrepreneurial skill development

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Correlation Coefficient (r)</th>
<th>Significance Level</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Creativity</td>
<td>0.45</td>
<td>0.001</td>
<td>400</td>
</tr>
</tbody>
</table>

As observed in the above table, there is a significant correlation between creativity and the entrepreneurial skill development. The significance level and the correlation coefficient between creativity and entrepreneurial skill development are P = 0.001 and r = 0.45. Therefore, the entrepreneurial skills increase with creativity.
Table 12: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Creativity</td>
<td>0.199</td>
<td>F = 99</td>
<td>β</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P &lt; 0.001</td>
<td>t sig</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.286</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P &lt; 0.05</td>
<td></td>
</tr>
</tbody>
</table>

As seen in table 10 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between creativity and the entrepreneurial skills (p<0.05). Therefore, 19.9 percent of changes occurred in the entrepreneurial skills relate to creativity.

Sixth Hypothesis

Table 13: Simple correlation coefficients between research and development and the entrepreneurial skill development

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Correlation Coefficient (r)</th>
<th>Significance Level</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Research and development</td>
<td>0.36</td>
<td>0.001</td>
<td>400</td>
</tr>
</tbody>
</table>

As observed in the above table, there is a significant correlation between research and development and the entrepreneurial skill development. The significance level and the correlation coefficient between research and development and entrepreneurial skill development are P = 0.001 and r = 0.36. Therefore, the entrepreneurial skills increase with research and development.

Table 14: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Research and development</td>
<td>0.130</td>
<td>F = 59</td>
<td>β</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P &lt; 0.001</td>
<td>t sig</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.222</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P &lt; 0.05</td>
<td></td>
</tr>
</tbody>
</table>

As seen in table 14 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between research and development and the entrepreneurial skills (p<0.05). Therefore, 13 percent of changes occurred in the entrepreneurial skills relate to research and development.

Seventh Hypothesis

Table 15: Simple correlation coefficients between information technology and the entrepreneurial skill development

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Correlation Coefficient (r)</th>
<th>Significance Level</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Information technology</td>
<td>0.51</td>
<td>0.001</td>
<td>400</td>
</tr>
</tbody>
</table>

As observed in the above table, there is a significant correlation between information technology and the entrepreneurial skill development.

The significance level and the correlation coefficient between information technology and entrepreneurial skill development are P = 0.001 and r = 0.51. Therefore, the entrepreneurial skills increase with information technology.
Table 16: Results obtained by regression analysis of research variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Coefficient of Multiple Determination (R.adjst)</th>
<th>F</th>
<th>P</th>
<th>Regression Coefficients (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial skill development</td>
<td>Research and development</td>
<td>0.130</td>
<td>(F = 59)</td>
<td>(P &lt; 0.001)</td>
<td>(\beta) 0.222 (t) 80 (\text{P}&lt;0.05)</td>
</tr>
</tbody>
</table>

As seen in table 14 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between information technology and the entrepreneurial skills (\(p<0.05\)). Therefore, 43.8 percent of changes occurred in the entrepreneurial skills relate to information technology.

**Conclusion**

**Leading Hypothesis**

As observed in table (1), there is a significant correlation between knowledge management and information technology and entrepreneurial skill development. The significance level and the correlation coefficient between knowledge management and entrepreneurial skill development are \(P = 0.001\) and \(r = 0.66\) and between information technology and entrepreneurial skill development are \(P = 0.001\) and \(r = 0.51\).

As seen in table 2 and according to the results of multiple regression analysis by stepwise method, knowledge management and information technology have affected the entrepreneurial skills. Therefore, 43.8 percent and 50.1 percent of changes occurred in the entrepreneurial skills relate to information technology and knowledge management respectively. In the model of synchronous effect, there is a significant correlation between knowledge management and information technology and the entrepreneurial skills (\(p<0.001\)).

**First Hypothesis**

As observed in table (3), there is a significant correlation between organizational interaction and the entrepreneurial skill development. The significance level and the correlation coefficient between organizational interaction and entrepreneurial skill development are \(P = 0.001\) and \(r = 0.42\). Therefore, the entrepreneurial skills increase with organizational interaction.

As seen in table 4 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between organizational interaction and the entrepreneurial skills (\(p<0.05\)). Therefore, 17.8 percent of changes occurred in the entrepreneurial skills relate to organizational interaction.

**Second Hypothesis**

As observed in table (5), there is a significant correlation between organizational transparency and the entrepreneurial skill development. The significance level and the correlation coefficient between organizational transparency and entrepreneurial skill development are \(P = 0.001\) and \(r = 0.52\). Therefore, the entrepreneurial skills increase with organizational transparency.

As seen in table 6 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between organizational transparency and the entrepreneurial skills (\(p<0.05\)). Therefore, 27.1 percent of changes occurred in the entrepreneurial skills relate to organizational transparency.

**Third Hypothesis**

As observed in table (7), there is a significant correlation between organizational solidarity and the entrepreneurial skill development. The significance level and the correlation coefficient between organizational solidarity and entrepreneurial skill development are \(P = 0.001\) and \(r = 0.50\). Therefore, the entrepreneurial skills increase with organizational solidarity. As seen in table 8 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between organizational solidarity and the entrepreneurial skills (\(p<0.05\)). Therefore, 24.2 percent of changes occurred in the entrepreneurial skills relate to organizational solidarity.
Research Article

Forth Hypothesis
As observed in table (9), there is a significant correlation between problem-solving skills and the entrepreneurial skill development. The significance level and the correlation coefficient between problem-solving skills and entrepreneurial skill development are $P = 0.001$ and $r = 0.46$. Therefore, the entrepreneurial skills increase with problem-solving skills.

As seen in table 10 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between problem-solving skills and the entrepreneurial skills ($p<0.05$). Therefore, 21.3 percent of changes occurred in the entrepreneurial skills relate to problem-solving skills.

Fifth Hypothesis
As observed in table (11), there is a significant correlation between creativity and the entrepreneurial skill development. The significance level and the correlation coefficient between creativity and entrepreneurial skill development are $P = 0.001$ and $r = 0.45$. Therefore, the entrepreneurial skills increase with creativity.

As seen in table 10 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between creativity and the entrepreneurial skills ($p<0.05$). Therefore, 19.9 percent of changes occurred in the entrepreneurial skills relate to creativity.

Sixth Hypothesis
As observed in table (13), there is a significant correlation between research and development and the entrepreneurial skill development. The significance level and the correlation coefficient between research and development and entrepreneurial skill development are $P = 0.001$ and $r = 0.36$. Therefore, the entrepreneurial skills increase with research and development.

As seen in table 14 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between research and development and the entrepreneurial skills ($p<0.05$). Therefore, 13 percent of changes occurred in the entrepreneurial skills relate to research and development.

Seventh Hypothesis
As observed in table (15), there is a significant correlation between information technology and the entrepreneurial skill development. The significance level and the correlation coefficient between information technology and entrepreneurial skill development are $P = 0.001$ and $r = 0.51$. Therefore, the entrepreneurial skills increase with information technology.

As seen in table 14 and according to the results of multiple regression analysis by stepwise method, there is a significant correlation between information technology and the entrepreneurial skills ($p<0.05$). Therefore, 43.8 percent of changes occurred in the entrepreneurial skills relate to information technology.

Suggestions
1. According to research findings, there is a significant correlation between knowledge management and information technology and entrepreneurial skill development. It is, hence, suggested to develop entrepreneurial skills by promoting and developing information technology relating to more job opportunities, regarding the need and application of information technology in the society.
2. It is suggested to provide a ground for entrepreneurial skill development based on scientific and knowledge management principles by developing knowledge management and scientific objectives to create a profound scientific revolution in the society.
3. It is suggested to develop organizational communication and interaction so that the required capacities and skills are transferred to administrative levels and we could observe entrepreneurial skill development.
4. It is suggested to provide a good ground for creating more job opportunities and having more productive human resources by maintaining the social unity and solidarity in manufacturing and industrial organizations.
5. It is suggested to take transparent working policies and organizational objectives for manufacturing and industrial units. This allows clearly planning for creating more job opportunities based on strategic objectives.
6. It is suggested to set the ground for developing entrepreneurial skills by using latent aptitudes and capabilities, employing innovation and creating new opportunities.
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7. It is suggested to build up problem-solving skills in organizations and industrial and manufacturing units so that more job opportunities and more entrepreneurial skills are developed. This helps to solve problems in units and organizations.

8. It is suggested to do more scientific research relating to manufacturing and industrial objectives in order to develop more entrepreneurial skills based on new findings and public approaches.

REFERENCES


