The Role of ICT in Performance of Small and Medium Enterprises

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Abstract
Due to the globalization of markets and competitive developments in the demand for new technologies and innovations hand in small businesses and large industries are growing and even large companies that are able to survive in competitive markets and to make sure market share for years and also have found that competition in the business world rapidly increasingly difficult and to survive and prosper should learned that it had been following the development activities and to respond to business changes rapidly and created regular improvement and modernization of production and processes.

Today turbulent nature of global manufacturing sector, industry and the market products is faced with numerous challenges. These challenges requires that organizations applying new management systems and actually implement them, their base in unstable environments to consolidate and to achieve to the situation in continuous improvement. The other hand small medium enterprises (SME) according to their unique characteristics in industry have a special place. Investigate and understand the competitive advantages and the amount of competitive products SME in country is major step in understanding the present situation and future industrial and explain of long-term and strategic planning

Key Words: Small-Medium Enterprises (SME) - Information and Communication Technology (ICT) – Agility

1. Introduction
Many companies try to review their managerial patterns and to find basic solution so that they can access to competitive advantage (Gilaninia, Ramzani & et al, 2011). Today revolution in information and communication technology has changed in a way that people and organizations are conducting their business. Associated terms of electronic with terms such as commerce, business, and marketing and ... an indication a new philosophy is that managers and organizations should follow it in order to maintain and to achieve competitive advantage (Ebrahimi, 2011). With the beginning 21st century manufacturing organization felt major and strongly changes about their (Gilaninia & et al, 2011).In the era of globalization economy and liberalization of investment and business is considered a role for governments to distinct from the past. In developing countries and non-development in the process of industrial development in the new conditions will be faced with more restrictions, hence special attention is needed to the implementation of market mechanisms and development for competition space (Motaghitalab, 2011). The growing use of networks by based-technology companies are showing their harmony with the larger companies; has long been one of the main advantages of SME towards large companies is their flexibility. Indeed, the most successful SME due to their ability to use external networks are more efficient and more useful.

Move towards an open and competitive economy requires the development and support of private sector and build small medium enterprises (SME). This movement requires training, creating job infrastructure and facilities for transfer of knowledge for increase small-medium jobs and also increases the development of entrepreneurship. The use of information technology promise fundamental changes in organizations. As the
world today cannot consider without electricity industry in the world today cannot imagined without information and communication technology (Mobaraki, 2010). To develop technology, small and medium enterprises due to limited resources and relative inability to absorb the costs and risks associated with technological development within the company, must often make use of the technology transfer process. Considering the potential of small and medium enterprises in economic development as well as their ability to innovate that has a large impact on long-term survival, their determine primary obstacles in the face the development of new technologies and acquisition as well as provide its appropriate tools and policies designed to overcome these challenges, have great importance. Rapid changes in technology and industry developments, intense competitive pressure enter into the country economy. Generally component of competitive advantage including value creation, market orientation, customer satisfaction, identifying potential, moving actual ability, motivation making, skill making, reasonable price, responsiveness and innovation. Since 1980 and with the formation of a third wave of enterprises, large industrial enterprises became to tens and hundreds of small and medium enterprises, and home because these companies providing parts and products needed for large industrial. Characteristics of small industries, such as flexibility, speed development, increase efficiency and innovation in all of world, these industries has preferred to large industries. In order to suitable field for grow and development in industry and economic of country is need that should be attention to this sector and its problems review and toward is act to solving them. One of development factors of small and medium industries to improve and develop scientific management (Bahramzadeh, 2008).

2 Literature Review

2.1 The Necessity and Importance of Research

SME with investments relatively low have considerable employment. Due to the flexibility of geographical and implementation of decentralization program make easy industrial activities. Of course, it can be ancillary industries in the large industries. Moreover, the SME have important capabilities. SME is considering good field for marketing of higher education for industrial employees and provide them in terms of management and technical knowledge in marketing, therefore SME is considered in preparation of set commercial environment that they have the potential power lead to small and medium industries to have behavior that employees have constantly about innovation and creativity competition. The increasing importance of SME in the world due to the increasing reliance on the manufacturing process is a method of stretching and flexibility. Increasing revenues in the current situation in the international mass production cannot be responsive to customer needs. Also flexible production methods is depend to scientific research and studies and therefore production process is transferring from capital intensive methods to knowledge intensive. This new structure is crystallized produced mainly in the SME, and therefore the importance of these industries in industrialized countries is increasing day by day.

2.2 Definition of SME

The term SME covers a wide range of definitions and measures, varying from country to country and varying between the sources reporting SME statistics (Gilaninia, Amiri & et al, 2011). There is no single and fixed definition for small and medium companies and existing definitions is changed from country to country and from one industrial sector to other industrial sectors.

The definition of SME presented by EU is adopted:

Small and Medium Enterprises (SMEs), comprise of institutes which have less than 250 employees, their annual turnover doesn’t exceed 50 million €, and / or their annual balance sheet total is not more than 43 million € (EC, 2005) (Gilaninia, Shahraki, 2011).

Of course there are criteria for defining small and medium enterprises that their most important include: the number of staff, initial capital, and the amount of sales income in European countries, if number of employee in company is less than 250 employees and annual sales of less than 40 million euro are considered part of the small and medium enterprises. But in China, the SME are companies the number of fewer than 155 employees and invest $ 30 million. The SMEs have high flexibility and adaptability to new technologies. In addition to SMEs have high capacity for innovation and exports and utilization of human and financial resources and also their produced cost is low. In some countries such as Singapore and Taiwan are the SMEs are base of economy. While in countries like Japan and Korea base of economy are big companies and small companies operate as their support. Job creation is important characteristics SME’s.in economy based on SMEs is provide the possibility of work of young and creative forces especially in young country that human resources is their main asset (Heidarinejad, 2003).
2.3 Some obstacles and limitations for SMEs

* Internal resource limitation that make them more vulnerable against to market fluctuations.
* Many SMEs are working in the informal market.

*SMEs have more limited access to market information, and usually have less awareness of the opportunities and market changes.
* SMEs have faced with the same policies, laws and regulations with big industries that create numerous obstacles for them.
SMEs have usually less organized in membership of the Employers’ Association or Chamber of Commerce (Afghahi, b, 2009).

2.4 SMEs problems

• The lack of the necessary scale of production, capital market.
• The lack of appropriate environment for business growth as legal, commercial and...
• The lack of infrastructure software and organizational.
• The lack of production technology.
• The lack of effective communication with the financial and banking system
• The lack of cooperation networks between firms
• The lack of understanding of target markets (Afghahi, b, 2009).

2.5 Profile of SME

Joseph Schumpeter is an Austrian economist and he is first person that suggested entrepreneurs’ term. In the first ten years 1940 expressed that Entrepreneurship and SME is the engine of economic development.

1. SMEs are flexibility against changing of market and environment.
2. Activity and initiative of individuals in these firms is found result immediately.
3. Employees of these companies have highly motivated.
4. The initial capital required for these firms is limited.
5. Efficiency of capital is high in these firms.
6. These companies are the main driving of entrepreneurial (Lali, A.2010)

2.6 Challenges in path activities of small and medium enterprises in developing countries and in Iran

In today's business environment is characterized by increasing competition (Gilaninia&Zia Khosooosi& et al, 2011). Distribution pattern of added value in Iran is express that share of big industries is higher than small and medium industries, while in developed countries and other developing observed pattern of balanced distribution from added value. These statistics indicate that there are barriers to economic growth and development of small and medium enterprises in Iran. Therefore it is necessary that overcome weaknesses and infrastructure necessary to create a balanced competitive environment. Reform of the financial infrastructure, information and rules are considered needed certain cases. Small and medium companies are as base of the growth and development and in order to achieve their role is necessary that encouraged industry with high innovation and creativity and management, marketing support and advice to be given to them. Impact of Most small and medium economic enterprises is not often played for specific problems related to the SMEs because SMEs often are not able to market from business opportunities that require high volume production of uniform standards and legal context. Because small and medium companies can overcome on the problems, should provide context and conditions necessary for the exploiting capabilities of the SME.

2.7 Information and communication technology (ICT)

Today, technology has brought systems for business that can help to companies (Rezvani;Gilaninia;Mousavian, 2011,Gilaninia,Salami & et al,2011))The use of computers, peripheral devices connected to it and communication tools for collecting, processing, storage and dissemination of information called information and communication technology. Information and communication technology is a term that applied to any communication device or program, such as: radio, television, cellular phones, computers, software, hardware, networking, satellite systems and the like it that is related numerous services, programs and services to them. Information and communication technology is often in specific concept and position in a more accurate review of application, such as information and communication technologies in education and health, libraries and so on, convergence between computer and communications. The most important feature of information and communication technology is storage method, processing and access to information (Malekian, 2010).
2.8 Problems arising from lack of integrated systems of information exchange

An information transmission system based on integrated information systems is related with integrated flow of data and the flow of business organization and leads to improve administrative and operational efficiency. Lack of such a system may lead to further problems such as long promote time in business processes, long cycle times in transactions, excessive inventory and weak use from financial resources and other resources, low productivity and inventory shortages.

2.9 Problems SMEs in adoption of ICT

Some problems of small and medium enterprises for the adoption of ICT include:

SMEs in addition to don’t having required expertise and knowledge and also lack of familiarity with technology is also beginning to use ICT with face fixed costs very high in comparison to their size, while for large businesses, this is not so. These costs include costs such as creation website, using e-commerce and costs associated with projects of electronic auctions, search engines and similar cases. While the costs associated with deploying advanced ICT technologies for industries and big businesses are not very significant. These are issues that a broad group of SMEs doesn’t know digital technologies related to their business and their goods and services do not know appropriate for e-commerce (E-Business Policy Group 2002).

2. SMEs often have to accept market conditions and they are not in a situation like the big companies that form the market conditions (this issue is concerned follow and leader companies in the market). Moreover, instability (such as financial insecurity in SMEs) and potential risks in e-commerce, many SMEs may be inclined to risk aversion and the choice of conservative policies and in fact they adopt policy of "wait and observed" in acceptance of digital technology. For many SMEs, there is considerable uncertainty about the opportunities and benefits of ICT adoption, this opportunities for them is still unproven. This problem causes that they are reluctance to complete the adoption of new business models and technology.

3. Small and medium companies due to limitations such as low investment, lack of laboratories, capacity less for communicating with and external consultants is facing to experiment with more serious problems for testing new procedures of business. Although financial constraints are the most important limitations but factors such as less time, fewer resources and ... also imposed to these enterprises. Using modern ICT technology is In fact new ways that SMEs will face a substantial risk. Accordingly, we can say that the use of ICT in enterprises depends on the size of the firm.

4. SMEs often tend to use their existing facilities in use of modern technology (including ICT). SMEs indicate that This businesses for use ICT, should invest considerable (due to their size).

3- Result

Evaluate the role IT in agility of small and medium organizations:

When the administration managers of information technology in organization external (small medium) about the grading the impact this technology in operations of organization with evaluation criteria from 1 to 10 is asked (1 very weak and 10 excellent), and 3 effect variables were valuation as following:

1- Quick Products and services: 6/5

2 - Integrated technological solutions and innovation: 5 / 6

3 - Facilitate communication between business units and business partners: 6/4
On the other hand industry analysts valued ability of IT in the top three variables respectively, 1, 4/4, and 4/5. Above results indicate interactions organizational agility in improving of IT in projects agility. This is important in field of information technology managers effectively. Greatest impact of information technology in small-medium enterprises in Iran has occurred facilitating communication between units within organization.

The mean personal views about the impact of IT on agility instances of small and medium enterprise in Iran

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factors</th>
<th>The mean of effect rate of IT</th>
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<th>The mean of effect rate of IT</th>
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<tbody>
<tr>
<td>Improve product / service</td>
<td>Provide effective service after sales</td>
<td>2.10</td>
<td>Ability to development of human resources</td>
<td>Dynamism in attracting and selecting</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>Taking diversity products or services</td>
<td>1.95</td>
<td></td>
<td>Ability to development of knowledge level of human resources</td>
<td>2.75</td>
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<tr>
<td></td>
<td>Applying optimal method of production and to achieve services</td>
<td>2.65</td>
<td></td>
<td>development of Efficiency and motivation of human resources</td>
<td>2.60</td>
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<tr>
<td></td>
<td>Changes in product quality</td>
<td>3.15</td>
<td></td>
<td>Active marketing of new products / services</td>
<td>2.25</td>
</tr>
<tr>
<td>Communicate effectively with the environment (inside and outside (the organization)</td>
<td>Organization's ability to update get information, manage and distribute knowledge</td>
<td>2.40</td>
<td>Respond quickly to market changes and the environment</td>
<td>Reduce the time changes in techniques, equipment, machinery</td>
<td>3.25</td>
</tr>
<tr>
<td></td>
<td>Facilitate communication with customers and business partners and suppliers</td>
<td>2.25</td>
<td></td>
<td>Reduce the cost of changes in equipment, machinery</td>
<td>2.85</td>
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<td></td>
<td>Facilitate communication between units within the organization</td>
<td>3.30</td>
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4- Conclusion
Small and medium enterprises are center of create job and engine of grow a country's economy. One of appropriate solutions for the development of these companies is used from ICT .the minimum consequences development of small and medium companies is attract investment and create jobs. Hence providing field of innovation flourishing in the context of small and medium industries can have optimized and optimum performance that is considered in production chain and related to industries is large. This paper emphasize increasing importance of ICT companies to develop the property list of technological capabilities and this led to applying the SME more than large companies.

Starting from the second industrial revolution in the 1980s, less developed communities has left division of labor law and is demanding a greater share of value added the global economy. That rely on exports of raw materials is considered such as anti-values, and in some newly industrialized countries, the role of small and medium industries is undeniable. High share industry's in GDP of countries that have joined recently industrialized countries, the ability of small and medium industries in the world economy has proved. Minimal consequences for small and medium industries development is attract investment and create jobs. Thus provide a proper field of innovation in small industries for create development technology with local conditions is considering the planning requirements of the oriented-knowledge economy changing. No doubt the collection of excellent expertise, improved technology and power creative under small and medium industries can optimal performance that placed in product supply chain and related large industries.
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