

The Analysis of the Impact of Information Technology and Social Capital on Entrepreneurial Orientation in Iran Pharmaceutical Industry (Case Study: Alborz Drug Company)

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ABSTRACT:

One of the main branches of entrepreneurship is entrepreneurial orientation as it certainly plays an important role in the success and growth of the organizations. Entrepreneurial orientation is rooted in adopting a strategy. Many organizational policies which are formulated for the development of entrepreneurship are associated with information and communication technologies, in the other hand, from the perspective of social scientists; entrepreneurship is a process that locates the network of social relations. The aim of this study is to analyze the impact of information technology and social capital on entrepreneurial orientation. The study is applied and its method is Descriptive-correlation. The study population consisted of 326 employees at ALBORZ drug corporate. A study sample of 177 subjects was selected through application of Cochran formula at random. The three questionnaires (information technology, social capital and entrepreneurial orientation) Was used for data collection. The Validity (content, convergent, divergent) and Reliability (Loadings factors, composite reliability coefficient, Cronbach's alpha coefficient) of questionnaires showed that measurement tools have very good reliability and validity. Test results of the variable by applying SMART-PLS software and using of T- test statistic and the path coefficients (β) showed that Information Technology has a strong direct and significant effect on social capital; while social capital has a direct and significant weak effect on entrepreneurial orientation. Moreover, Information technology has a strong direct, indirect and significant effect on entrepreneurial orientation. This means that while social capital has the mediator role in relationship between information technology and entrepreneurial orientation information technology as a moderator variable increases the positive impact of social capital on entrepreneurial orientation.

Keywords: *Information technology, Social capital, Entrepreneurial orientation*

INTRODUCTION

Nowadays, increasing growth of information technology (IT) has inevitably influenced people's daily life in various societies. IT is an incentive for products and markets globalization, increasing dynamics and flexibility of financial services and cash flows, and often preparing the

ground for increased productivity and efficiency (SeifiDivkolahi and AhangrValokolahi, 2011). This is why many organizations have recognized the importance of IT and its effects on the speed and accuracy of affairs' flow, customer satisfaction, supporting systems, management

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decision-making, and, in particular, organizational efficiency (Yardly, 2005), Term “ Information technology” was introduced for the first time by Leavitt and Whisler in 1958, of which different perceptions existed at that time. It was used to express computer maps in order to support decisions and to process information, with its different images being presented in different assemblies due to abovementioned perceptions. In common concept, technology signifies a set of hardware and equipment's. Many researchers consider it not only as hardware being used to do things but also as employees' skill and knowledge and even as features of objects being worked on (Sarafi Zadeh, 2011). In answer to the question “what is IT?”, organization for economic cooperation and development defines IT as including whole manufacturing and service industries being used to keep, transfer, and display data and information electronically. According to Baharestan et al. (2011) IT is formed by linking and combining a set of produced useful thoughts, not by computers, super computers, wires and cables and tools of this type. It is thoughts of intellectual people that produce information in IT. Each person with a different attitude gives a different definition of IT. DanaeiFard (2004) IT is a toolkit which can be used to convert data into information and to transfer this information to several places with different distances. Imani et al. (2011) IT has been defined as a wide range of equipment, computers, and tools, data storage, communication and network tools, applications and services applied by any organizations in order to create data, information, and knowledge. Khalifa and Liu (2003) state that IT is a mediator that allows for expression of a wide spectrum of information, thoughts, concepts, and messages. Tippins and Sohi (2003) argued that in most researches, IT is attributed to the number of computers, accessories, and hours the users make use of computers to do things and of Internet. But given the effects of IT in potentials of organizational dynamics, here the major challenge is to determine IT position in an organization as an asset. An appropriate method of conceptualizing IT is to use its merits. Sambamurthy et al. (2003) defined IT merits as an organizational bed of IT resources and description of an organization capacity to innovate based on IT with the benefits of

available IT resources, and abilities to change assets and services of IT into strategic applications. Bhatt and Grover (2005) believe that merits of IT are important to an organization due to encouraging identification of scarce, invaluable, and unimitable resources. They classified IT merits in 4 general dimensions: (a) IT in communication, which refers to what is directly involved with information exchange and includes e-mail, fax, telephone, access to Internet, intra organizational Internet network, organizations' websites used to advertise, Intranet, data exchange with suppliers and buyers; (b) IT in production and operations, which serves as an umbrella covering a range of computer technologies in order to support, directly and indirectly, control, and monitor production and operational activities; (c) IT in decision support, which refers to application of IT to support managers within decision-making process and includes decision support systems, data analysis techniques, and predictive software; and (d) IT in administration and pecuniary affairs, which refers to application of IT in order to aid administrative or official activities such as organizational documents, data organization and storage, etc.

The successful application and useful usage of IT by organizations double the need for understanding social capital as it can make social capital richer Yang et al. (2009). Adam and Urquhart (2009) research shows that IT facilitates the creation of social capital through increasing information flow Memarzadeh et al. (2009). The term “social capital” was outlined on a paper by Hanifan from Western Virginia University for the first time before 1916. Putnam and Goss (2002) He emphasized on the importance of renewal of social participations in order for democracy to be sustained and for social centers of rural schools to be developed. Afterwards, concept of social capital was reproduced and used many times, for example, by Seely and his colleagues, in 1950s, in order to analyze club membership of suburban dwellers; by Jean Jacobs, in 1960s, in order to place emphasis of aggregate value of informal friendly associations within modern metropolitans; and by Coleman, in 1980s, in order to clarify education content. Finally in 1980s, Bourdieu found that social capital is a form of capital. It should be noted that social capital became an

important concept basically in 1990s, was paid too much attention to by social science disciplines, entered such disciplines' documents and dialog, and was evoked by politicians and economists in order to find answer to many questions they have faced in their disciplines (Taghizadeh and ZeinaliKermani, 2011). Gholipour et al. (2008) so it can be said that social capital is a new concept now being used in sociology and economics and more currently in management and organizations extensively. This concept refers to bonds and communications among members of a network as an invaluable source resulting in realization of members' objective by creating norms and mutual trust. Baker (2003) today, social capital plays a more important role in organizations and societies than physical capital and human capital do; and is a network of social and group relationships making people and organizations coherent. Adler (2002) in the absence of social capital, other types of capital will lose their effectiveness and to cover development and cultural / economic perfection ways will become more difficult and rough. Cohen and Prusak (2001) social capital provides a highly appropriate bed in different organizations for taking advantage of human resource productivity and exploitation. On the other hand, social capital makes exploitation of other organizational capitals possible. Ejtehadi (2004) believes that unlike other kinds of capital, social capital does not exist in a physical form; rather it is the result of group and social interactions and norms. Social capital has been defined from different points of view, for which numerous definitions have been given. Hanifan is the first author using term "social capital" and believes that it is something and / or a phenomenon hidden in relationships among people, creating good faith among them, motivating them to be intimate toward each other, making them follow the group, and, in this way, providing the grounds for more socialization and permanent relationships among them. Greene (2001) believes that social capital is a set of institutions, actions, tools, and learned behaviors enabling groups and individuals to make physical space efficient and socio-cultural space effective. Putnam, (2000) Social capital is mostly a by-product of other social activities. This capital is usually formed in bonds, norms, and trust, being transferable from some social

conditions to another one. Azkia and Ghaffari (2009) argue that World Bank identifies social capital as a phenomenon resulting from effects of social institutions, human relationships, and norms on the quantity and quality of social interactions. Experiences of this organization have shown that this phenomenon influences economies and development of various countries significantly. From economic view, social capital can be considered as another form of organization (human, natural, pecuniary, and material ones) and / or community capitals; however, organizational capital is classified into 4 categories: human capital, natural capital, pecuniary and material capital, and social capital. Considering organizations as a social system results in this fact that social capital is placed on this list because it reflects economic value of trust networks and reduces the costs of exchanges and interactions. In other words, social capital represents economic storage of cultural and social components between human capitals. Glasser (2000) identifies 5 dimensions for social capital: mutual trust and cooperation; participation; justice establishment; responsibility, commitment and responsiveness; value-orientation, efficiency, and honesty. Hoffman et al. (2005) consider also 5 dimensions for social capital: communicational channels; social norms; commitments and expectations; ethical underlying structure; and identity. Dudwick et al. (2006) consider 6 dimensions for social capital: groups and networks; trust and uniformity; group activities and cooperation; information; social coherence; political activity and empowerment. In the point of view of organization, Nahapiet and Ghoshal (1998) define social capital as the aggregate of actual and potential sources existing inside, accessible through path, and caused by the network of an individual or a social unit relations. These 2 researchers place different aspects of social capital in 3 categories: structural, relational, and cognitive. Structural dimension: includes patterns of bonds among group members and composition of these members organization. Indexes of this dimension are: (a) bonds existing in the network including extent and intensity of communications in network; (b) network shape and composition including network hierarchy, degree of network connectivity and density; (c) organizational suitability: to what extent a

network created for a specific purpose may be used for other purposes. Relational dimension: refers to the quality of interactions and communications among a group member. There are such indications as trust, norms, mutual relationship, and common identification in this dimension. Cognitive dimension: can be considered as values shared by a group member and are less measurable than social capital is. This dimension includes values, beliefs, narratives, urban culture, etc. (NasrEsfahani et al., 2011).

Social capital influences individuals' creativity and entrepreneurship. Coleman (1988) Amirkhani (2011), and Piran et al. (2012) believe that as a social phenomenon, social capital causes creativity and idea-making to appear and facilitates innovative and risk-taking behaviors and, in general, entrepreneurship. Arfaei et al. (2012) since entrepreneurship is a dynamic process including ideals, transition, transformation, and creativity. SadeghZadeh and ValiNataj (2012) Entrepreneurship is a process falling into a variable network of social relationship, and this can limit and / or facilitate relationships of entrepreneur with resources and opportunities. Entrepreneurship requires discovery of a social need and this is, in turn, dependent on understanding community, its needs, and its cultural, social, social, and economic contexts. So, social capital can have a positive effect on entrepreneurial orientation. KhodadadHosseini and Baharifar (2005) Word "Entrepreneurship" was coined by Richard Cantillon in 1755. To his mind, an entrepreneur is a risk-taking person buying a product at a known price and selling it at an unknown price. Rezaei and SelahiEsfahani (2003) in other words, an individual must combine production factors (land, labor force, and capital) in order to produce something, to do business, or to provide services, which is called entrepreneur and the job he does is called entrepreneurship. GhaziNouri (2004) on this basis, entrepreneurship is of 2 types: individual and organizational entrepreneurship. If innovation and production of a new product and /or providing new services, with respect to a market, is the result of an individual efforts, it is called individual entrepreneurship; but if it is the result if a team's efforts within an organization, it is called organizational entrepreneurship. Shane and Venkataraman (2000) before defining entrepreneurship in general terms, we should

distinguish Entrepreneurial Orientation and entrepreneurship itself at first, Entrepreneurship is, in fact, opportunity search. Ahmadpour Dariani and Azizi (2010) Entrepreneurship is the process of making profits through a new, unique, and invaluable combination of resources in an environment with ambiguity and uncertainty. And, ultimately, entrepreneurship means onset and/or growth of an emerging organization through innovative and risk-taking management. But Lumpkin and Dess (1996) attributed entrepreneurial orientation to processes, activities, and decision-making tasks resulting intentionally and practically in optimal action of entrepreneurship. Wiklund and Shepherd (2005) entrepreneurial orientation means tendency toward entrepreneurship, adventure, activity self-direction, and being more leading and aggressive to take advantage of market opportunities than competitors are. Wiklund and Shepherd (2003) entrepreneurial orientation is like a vessel containing a company processes, activities, decision-making style, and strategic bias. Sharma and Dave (2011) entrepreneurial orientation is considered as a company tendency to be innovative, be leading in arena of using market opportunities and be willing to take risks. Stromberg (2012) describes entrepreneurial orientation as the process of paying attention to behaviors, strategies, and outlook of an organization rather than to individual features. Zainol and Ayadurai (2011) identified entrepreneurial orientation as a factor determining an organization growth and profitability. Miller (2011) entrepreneurial orientation is a process, a way and a method showing how entrepreneurs act in order to develop new inputs, new organization, new product, new technology, and/or new markets. Entrepreneurial orientation constitutes an organizational phenomenon reflecting management potentials of firms embarking on being pioneers to take brave steps to change outlook of their rivals in order to gain advantages. [Given above definitions of entrepreneurship and entrepreneurial orientation, in general, the difference between them is related to general definitions follow]. Lumpkin and Dess (2001) believe that entrepreneurial orientation reflects entrepreneurial key processes answering this question, "How to make new investments? While entrepreneurship refers to the content of entrepreneurial decision-making

considering what is being done. Jantunen et al. (2005) in addition, structure of entrepreneurial orientation are used mainly to solve some conflicts inherent to efforts made to operate entrepreneurial behavior. Entrepreneurial orientation supports opportunities identified in new markets. Thus, according to Mintzberg (1973) it needs to be said that Entrepreneurial orientation has its own roots in the process of taking strategies, which is an extensive organizational phenomenon blended in planning, analysis, decision-making, value systems, mission, and many cultural aspects of organizations. Entrepreneurial orientation represents policies and actions making the grounds for entrepreneurial activities and decisions; therefore, it is viewed as the process of taking entrepreneurial strategies of which key decision-makers make use to preserve their outlooks and to create competition advantages in direction of organizational objectives. For firms involved in searching for new investments, Entrepreneurial orientation provides a framework suitable for doing research into entrepreneurial activities. Hosseini (2007) above definitions show that Entrepreneurial orientation suggests that organizations may be interested in different entrepreneurship located on one spectrum, but may be opposite to each other. Early in 1980s, many scientists were searching for those components by which they could measure the extent to which an organization was interested in entrepreneurship and evaluate impacts of that phenomenon on organizational performance. At first, Miller (1983) identified 3 dimensions for entrepreneurial orientation: innovation, risk-taking, and pioneering. Innovation is represented by introducing new products, services, and processes. Innovation is a critical competition tool for long-term survival and success of organizations. Deshpande and Farley (2004) Amount of new knowledge used by some innovation determines its level. Those organizations having more innovation capacity can respond to their environments better, achieve capabilities necessary to enhance organizational performance more easily, and give strength to sustainable competition advantages. Potential for innovation suggests that a firm begin to take actions actively by discovering new opportunities, not rely on merely exploiting current strengths. So, innovative efforts are of

interest in order to meet customers' extensive expectations. Menguc and Auh (2006) Risk-taking is attributed to commitment of considerable sources in uncertain environments and to acceptance of high loan rate and borrowing money to do ventures. Miller (1983). It is spirit of employees' risk-taking that enables them to give new ideas and to take responsibilities. Taslimi et al., (2006) Risk-taking is viewed as an inherent innovative feature of, developing new business, and active and/or aggressive actions of an existing organization. Progressiveness is a search for opportunities in order to gain competition advantage. Antonic and Hisrich (2003) Pioneering refers to pursuit of opportunities and/or entering new markets. Pioneering is a measure showing the tendency of organizations to lead, not to follow, their rivals in such cases as key business domains while introducing products / services, and using office techniques and technologies. Future pioneering approach has been outlined in making predictions and taking actions based on future needs. In their subsequent studies, Lumpkin and Dess (1996) added 2 more dimensions, brave competitiveness and autonomy, to 3 previous ones. Boling (2012) defines brave competitiveness as tendency of an organization to challenge or compete with rivals. Brave competitiveness is reflected by direct activities a firm does in order to challenge its rivals in an effort to become the leader of industry. Covin and Wales (2011) assume that the state of entrepreneurship is reflected in a firm's tendency to compete aggressively with its industry rivals. They view aggressive competition as management attitude described by the organization's desire to dominate rivals. Most researchers distinguish aggressive competitiveness from pioneering while that following corporation entrepreneurship forgot these 2 dimensions; however, these 2 dimensions need to be distinguished. As Lumpkin and Dess (2001) argue, aggressive competitiveness and pioneering can be considered as 2 distinct dimensions of entrepreneurial orientation. With this approach, such distinction relates to this fact that pioneering is to respond to opportunities while aggressive competition is to respond to threats. Autonomy means independent activities done by an individual and/or a team in order to achieve entrepreneurship opportunities. Boling

(2012) for one concept of entrepreneurship, autonomy is independent activities of a team and / or an individual to initiate an idea or an outlook and, then, to observe results after completing that activity. Aghajani and Ganjehkhor (2010) Autonomy is in agreement with this view that for entrepreneurship to be independent, it is necessary to initiate and complete an idea freely from organizational bureaucratic bounds. Autonomy encourages innovation, increase competitiveness and effectiveness, and promotes making new investments in firms.

As mentioned above, it can be said that Information and communication technology (ICT) facilitates and encourages processes of information transfer and dissemination in an organization and plays a crucial role in decision-making process. Once information and communication have been made available to general public via high-speed Internet channels, they can be at disposal of entrepreneurs and support them (HassanMoradi, 2007). In other words, Shabani (2005) to identify needs of any entrepreneurial activities, a theorist needs to have some insight into environment and know what solutions have been provided to meet those needs in other parts of the world. HassanMoradi (2007) like communications, therefore, information and knowledge are essential for any entrepreneurial activities. Since, IT has made social capital richer and its formation easier. Bhagavatula et al. (2010) it should be noted that social capital influences recognition of opportunities by individuals through their knowledge and skills. Shane and Venkataraman (2000) Entrepreneurial opportunity is a set of ideas, beliefs, and activities which make creation of future products / services, having no market already, possible. However, the more extensive the social entrepreneur networks are, the more opportunities are identified for entrepreneurial orientation. Yang et al. (2009) perhaps it is for this reason that it was said social networks are a factor effective in recognizing opportunities. These networks cause entrepreneur to face more resources and opportunities and extend his selection circle. For this reason, social capital is considered as a power or energy shaping the structure of economic factors, focusing on a specific objective in a social field. In other words, as SadeghZadeh and ValiNataj (2012) found, entrepreneurship is a process within a

variable network of social relationships which can limit and / or facilitate relationship of entrepreneur with resources and opportunities. Given the aim of this research, that is to analyze effects of IT and social capital on entrepreneurial orientation within ALBORZ Drug Co., researchers search for the answer to this question, “Do IT and social capital have a significant effect on entrepreneurial orientation within ALBORZ Drug Co., or not?”

Literature Review

Numerous researches have been done on different research variables around the world, of which the following examples can be referred to:

SadeghZadeh and ValiNataj (2012) examined effects of social capital on entrepreneurship within Babolsar industrial Park companies. Results showed social capital and its dimensions relate significantly positively to entrepreneurship. Mousavi Hejazi et al (2012) examine impact of information and computer technology (ICT) on Staff organizational entrepreneurship in Islamic Azad University in the province of Tehran. Results showed that there was a significant positive impact between information and computer technology (ICT) on Staff organizational entrepreneurship. Kameli, and Habibzadeh Maleki (2010) studied the roles ICT and social capital play in shifting decision-making and policy-making approaches of organizations from traditional to network practices. (NAJA organization case study). Results showed that there was a direct relationship between ICT, social capital and shifting organizations' policy-making performance from traditional or hierarchical to network practices. AlamBeigi et al. (2009) investigated effects of components of ICT on organizational entrepreneurship development in Iranian Agriculture extension organization. Results showed a significant positive relationship between components of ICT and organizational entrepreneurship development. Gholipour et al. (2008) analyzed relationship of social capital with and its effects on organizational entrepreneurship (a case study for Sadid industrial group). Results showed a significant direct relationship between social capital and its dimensions and organizational entrepreneurship, that is, organizational entrepreneurship increases (decreases) as social capital increases

(decreases). Taslimi et al. (2006) examined relationship of social capital with intra organizational entrepreneurship. Results showed that there was a significant positive relationship between social capital and intra organizational entrepreneurship. Nasiri Zang Abad (2005) Studied relationship of IT with organizational entrepreneurship within Tabriz Tractor Manufacturing Moulding Co., Results indicated that there was a direct relationship between IT and marketing and organization performance improvement with organizational entrepreneurship, but this relationship was paler between IT and supply chain. ZekiSimsek and Jansen (2012) examined relationship of social capital with Entrepreneurial Orientation. Results demonstrated that there was a significant positive relationship between social capital and Entrepreneurial Orientation. Huang et al. (2010) investigated relationship of Entrepreneurial Orientation with resource achievement, with social capital playing a buffer role. Results showed that there was a significant relationship between Entrepreneurial Orientation and resource achievement with the buffer role of social capital. Thapa and Sein (2010) examined ICT, social capital, and development. Results showed that Nepalian wireless network project influenced economic development and social capital positively in rural areas. Chen et al. (2007) studied the relationship among social capital, entrepreneurship direction, organizational resources, and entrepreneurship performance for making new investments in Taiwan. Results indicated that there was a significant relationship among social capital, Entrepreneurial Orientation, and organizational resources, all of which influence entrepreneurial performance. Therefore, serious investments are cost-effective. Runyan et al. (2006) studied relationship of Entrepreneurial Orientation with social capital in small-sized firms given gender (males and females). Results demonstrated that there was some difference between Entrepreneurial Orientation and social capital in relation to gender. Wolff and Pett (2006) examined relationship between Entrepreneurial Orientation, organizational learning, and IT and its effects on small-sized businesses' performance.

Results showed relationship between Entrepreneurial Orientation, organizational learning, and IT having effects on small-sized businesses' performance. IManev et al. (2005) studied relationship between human and social capitals and Entrepreneurial Orientation and its effects on small-sized businesses' performance. Results showed a significant positive relationship between human and social capital and Entrepreneurial Orientation having effects on small-sized businesses' performance. Denison et al. (2003) studied relationship of social capital with ICT in Australia. Results demonstrated a significant positive relationship between social capital and ICT. In their research, Sherer et al. (2003) mentioned IT as one of factors shifting organizations toward entrepreneurship and, in this connection, paid attention to organization management support for IT, employees' capabilities, and timely providing information. In a research, Marsili (2002) examined role of IT and its content with improvement of entrepreneurial behaviors. He believes that IT-based entrepreneurship increase an organization's competitive advantages in its own turbulent environment. Taube and Dominique (2001) studied relationship of social capital with application of Internet as an indication of IT in Switzerland. Results showed there is a significant positive relationship between social capital and Internet application.

According to research variables, the research hypotheses are as follows:

- ✓ **First hypothesis:** Information Technology has affected on Social Capital.
- ✓ **Second hypothesis:** Social Capital has affected on Entrepreneurial Orientation.
- ✓ **Third hypothesis:** Information Technology has affected on Entrepreneurial Orientation.
- ✓ **Fourth hypothesis:** social capital has mediator role in relationship between information technology and entrepreneurial orientation.
- ✓ **Fifth hypothesis:** Information Technology has a moderator role between the relationship Social Capital and Entrepreneurial Orientation.

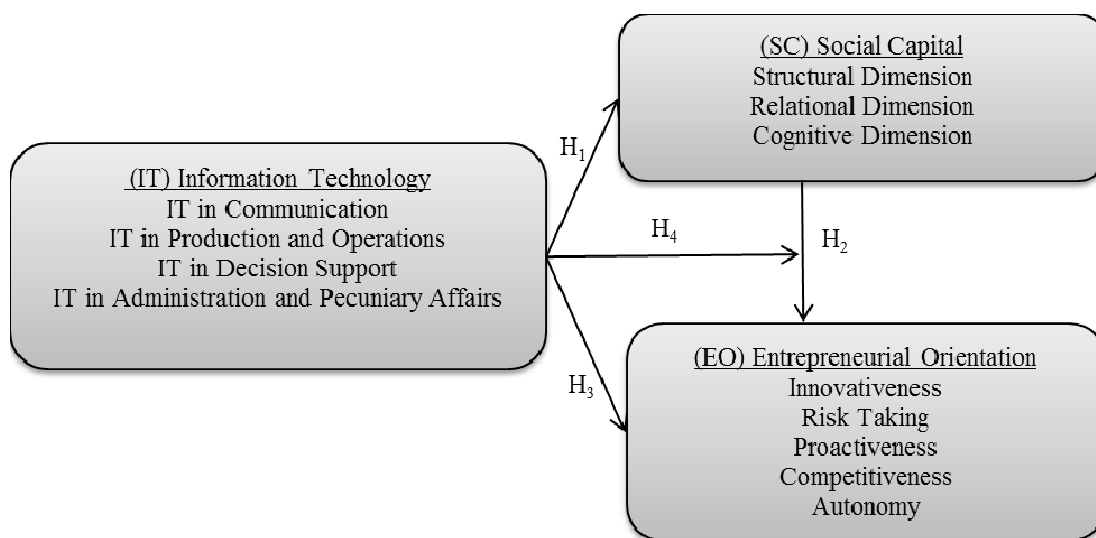


Figure 1: Conceptual model of research

RESEARCH METHOD

Present research is an applied one in terms of the type and a descriptive-survey one of correlational type in terms of data collection. Research statistical population consists of 326 employees¹ of ALBORZ drug co. however, sample volume obtained equal to 177 subjects by using Cochran's formula. Subjects were selected by stratified randomized category method in this way that, at first categories were divided into 4 administrative, sale, production direct and indirect division, next, the sample was selected from them. Martinez-Lorente et al (2004) 27-item questionnaire, Nahapiet and Ghoshal's 7-item questionnaire (1998) and, finally, Li et al (2009) 15-item questionnaire were used as major instruments to collect data in order to measure IT, social capital, and Entrepreneurial Orientation, respectively. Using likert's 5-point scale (1= completely disagree; 5= completely agree), responses were measured and scored. In order to confirm validity of measuring instruments, 3 types of validity evaluation were employed: content validity, converged validity, and diverged validity. Content validity, achieved by surveying some professors, is established by ensuring that measurement indexes are

compatible with available literature. Converged validity is traced back to this principle that indexes of each factor have median correlation with each other. According to Fornell and Larcker (1981), standard of being converged validity is that average variance of exit (AVE) be more than 0.5. Diverged validity was measured by comparing AVE square root to correlations among latent variables (table 2). For each of reflective factors, AVE square root must be more than that factor's correlation with other factor of the model (Choua and Chen, 2009). Also, present research used 2 measures of Cronbach's alpha and combined reliability factor in order to identify questionnaire reliability following Fornell and Larcker's view (1981). In this research, all variables Cronbach's alpha coefficients are more than a minimum value (0.7). Unlike Cronbach's alpha assumes implicitly that indexes have the same weights, combined reliability relies on real factorial loads of each factor, and therefore, it gives a better measure for reliability. Combined reliability must obtain a value more than 0.7 to reflect inner consistency of factors (Fornell and Larcker, 1981). Tables 1 and 2 represent results of reliability and validity of measuring instrument completely.

1- Employees are consists (Bosses, Deputies, Managers and Staff)

Table 1: Convergent validity and reliability of measurement tools

Research variables	coefficient of Average Variance Extracted (AVE)	Loadings factors	Convergent Validity Pc >0.7	Cronbach's Alpha
<u>Information Technology</u>				
IT in Communication	0.71	-	0.79	0.86
IT in Production and Operations	-	0.75	-	-
IT in Decision Support	-	0.73	-	-
IT in Administration and Pecuniary Affairs	-	0.53	-	-
		0.77	-	-
<u>Social Capital</u>	0.66	-	0.77	0.73
Structural Dimension	-	0.65	-	-
Relational Dimension	-	0.86	-	-
Cognitive Dimension	-	0.82	-	-
<u>Entrepreneurial Orientation</u>	0.65	-	0.85	0.77
Innovativeness	-	0.76	-	-
Risk Taking	-	0.74	-	-
Proactiveness	-	0.69	-	-
Competitiveness	-	0.68	-	-
Autonomy	-	0.69	-	-

Table 2: The correlation matrix and divergent validity

Variable	AVE	Social Capital	Entrepreneurial Orientation	Information Technology
Information Technology	0.82			1
Entrepreneurial Orientation	0.80		1	0.77
Social Capital	0.81	1	0.71	0.69

Based on the results of the SMART-PLS software outputs in tables 1 and 2 shows that, Measuring tools have good validity (content, convergent, divergent) and good reliability (factor loading, composite reliability coefficient, Cronbach's alpha coefficient).

RESULTS

This research used least minor squares method, which is a method for solving structural equations. Structural equation modeling is the only tool for analyzing trajectory or causal models. Trajectory models have at least 2 dependent variables, one of which plays an independent variable role for the second one. In present research, variable of Entrepreneurial

Orientation is the variable dependent on IT and social capital, the latter of which plays the role of variable dependent on IT. In fact, this technique is a combination of principal components analysis, which relates indexes to latent variables, and trajectory analysis, which allows for creating a system of latent variables. Estimation of parameters representing indexes and of trajectory equations is done by conventional least squares techniques. Using this technique, researchers need to determine model structure and index equations initially. SMART-PLS software was used in this research. To provide structural equation models, this software employs minor least squares technique. And it is suitable software for testing moderating effects

(Fornell and Larcker, 1981). Esposito Vinizi et al. (2010) stated that PLS trajectory models are estimated through 2 steps. In the first step, scores of any latent variables are estimated; and in the second, moderating roles of latent variables are studied with respect to the state

they have in trajectory models. Given the nature of the second step, many suggestions have been provided that moderating effect of multiple regression be tested by SMART-PLS software. Outputs of software and their analysis are given below (figures 2 and 3).

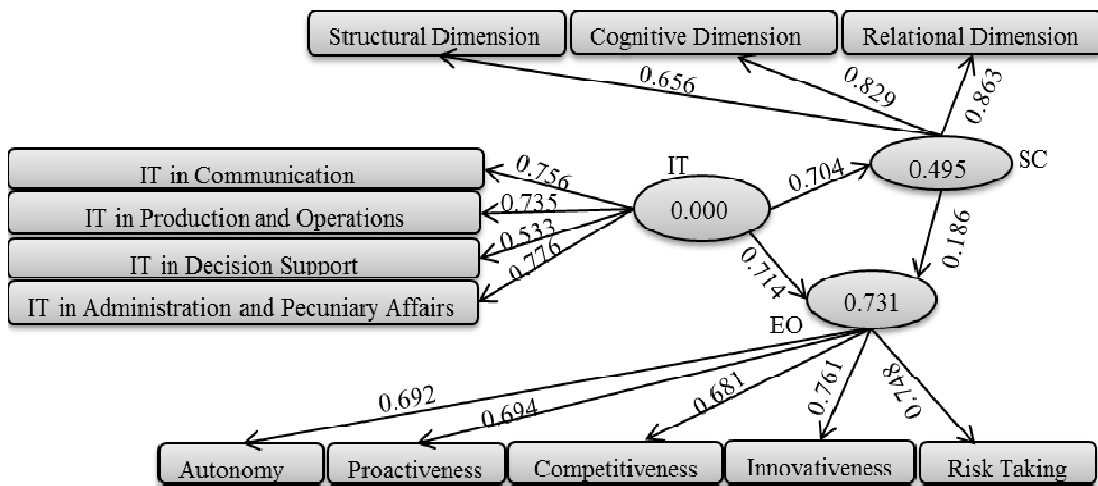


Figure 2: The path coefficients of model

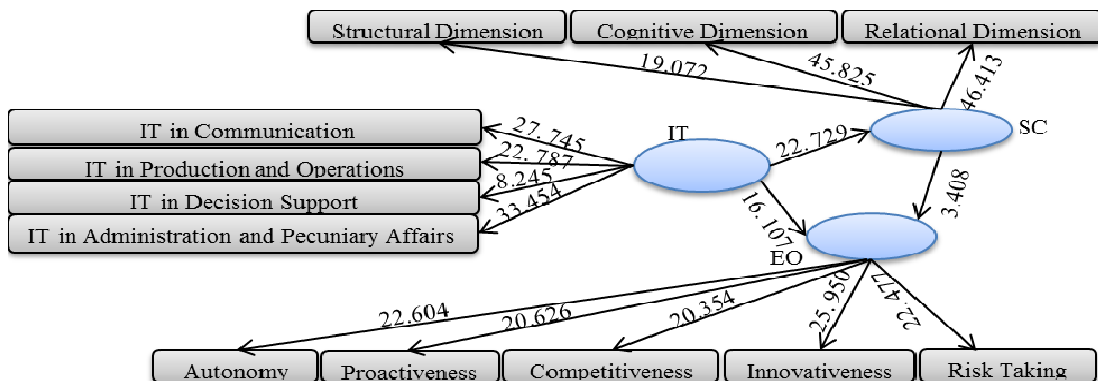


Figure 3: Test results of t

It is noteworthy indicated value of t (T-Value) or significant effect of variables on each other. If the t value is higher than 1.96 it means, there is a positive and significant effect. If be between +1.96 to -1.96 no significant effect and if less than -1.96 means has negative effect, but significant. And also if be path coefficients above 0.6 means that there is a strong connection between the two variables, there is a moderate relationship if between 0.3 to 0.6, and if under 0.3 there is poor correlation (Chin, 2003). Data obtained from field research was conducted in SMART-PLS software, and the above results obtained from figures 4 and 5. And analysis each of relationship is indicates research hypothesis useful and brief form is shown in table 3.

By observing, table 3 that is obtained based on the results of test hypotheses of can be proposed that: The result of the test the first hypothesis, regarding path coefficient 0.704 and the value of t, 22.729, shows that Information Technology is a strong and significant effect on Social Capital. The results of the second hypothesis, regarding path coefficient 0.186 and t value of, 3.408, there is evidence that Social

Capital has a significant and weak effect on Entrepreneurial Orientation. The results of the third hypothesis, regarding path coefficient 0.714 and t value of, 16.107, there is evidence that Information Technology has a significant and strong effect on Entrepreneurial Orientation. To investigate the effects of total, direct and indirect of independent variables on dependent variable is necessary that be provided the total effects, direct and indirect for the inner variables of model (table 4).

As table 4 shows, information technology has direct and significant effect on social capital and also, Social capital has direct and significant effect on entrepreneurial orientation. The result was supported mediation role of social capital in relation to information technology and entrepreneurial orientation, and thus confirmed the fourth hypothesis of this research. In the Fifth hypothesis tests, which was evaluated role of moderating of Information Technology, in the relationship between Social Capital and Entrepreneurial Orientation the results are shown in figures 4 and 5.

Table 3: Summarizes the results of hypotheses tests

Level Impact	Significance Level	Tests Value of t	Path Coefficient	Variables
strong	Significant	22.729	0.704	IT → SC
weak	Significant	3.408	0.186	SC → EO
strong	Significant	16.107	0.714	IT → EO

Table 4: Effects of total, direct and indirect

Total effects	indirect effects	direct effects	Relationships of variables
0.704	----	0.704	IT → SC
0.186	----	0.186	SC → EO
0.844	0.130	0.714	IT → EO

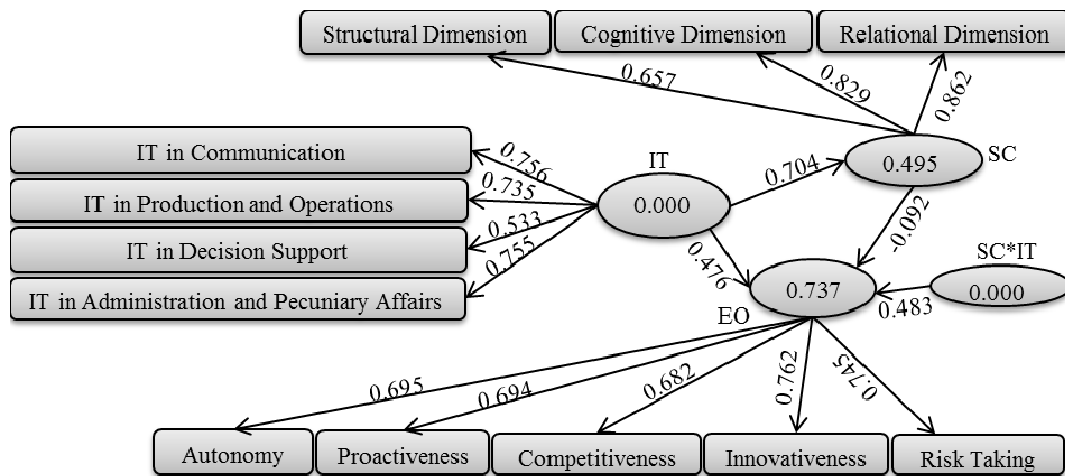
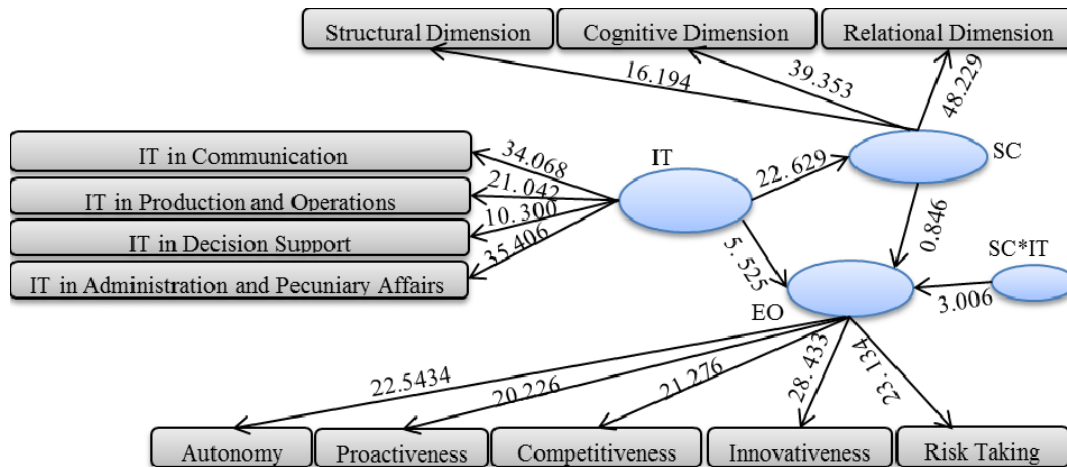


Figure 4: Testing moderator role of information technology, in relationship between Social Capital and Entrepreneurial Orientation (path coefficients)



Figur5. Testing moderator role of information technology, in relationship between Social Capital and Entrepreneurial Orientation (values of t)

According to value of t, 3.006, and path coefficient 0.438, can be expressed as Information Technology has moderator role in the relationship between Social Capital and Entrepreneurial Orientation variables and Fifth

hypotheses are confirmed. Confirming the hypothesis indicating that with the presence of the Information Technology is improved effect of Social Capital on Entrepreneurial Orientation.

Table 5: Model fitting

Variable	Share Average	R ²
Information Technology	0.741	-
Entrepreneurial Orientation	0.565	0.731
Entrepreneurial orientation In the presence of an moderator variable	0.569	0.737
Social Capital	0.524	0.495
Social Capital × Information Technology	0.671	-

Model Fitting

For PLS models, 2 models are tested: outer model, which is equivalent to measurement model, and inner model, which is similar to structural model for other software models (LISREL, EQS and AMOS). To measure outer model fitness, communality average was used. R² was used for structural model fitness determination. Value of community average reflects a percentage of index changes justified by corresponding factors. Researchers considered the value more than 0.5 as an acceptable level of statistical community (Lee et al., 2008). As seen from table 5, statistical communality showing model fitness is more than 0.5 value of R², which shows ability of model to describe factors, is 0.731 and 0.495 for Entrepreneurial Orientation and social capital, respectively. When moderating role of IT is under study, value of R² is 0.737 for Entrepreneurial Orientation. Following results suggest that provided model enjoys good fitness.

DISCUSSION AND CONCLUSION

As mentioned earlier, the aim of present research was to analyze effects of IT and social capital on entrepreneurial orientation within ALBORZ Drug Co.

So results from findings analysis indicate that, given path coefficients of 0.704 and t equal to 22.729, H₁ confirms that IT has a significant strong and direct effect on social capital. IT increases possibility of access to resources, communications, and information beyond their immediate surrounding and, also, improves individuals' skills used to form similar helping groups (Mostaghimi and VaseiZadeh, 2010). Since the number of public-posed formations,

institutions, and organizations is important as an index of social capital in societies, it needs to be said that IT is effective in formation of such institutions. Results obtained from this hypothesis are similar to those obtained from research done by Kameli and Habibzadeh (2010), Taube and Dominique (2001) and Denison et al. (2003).

Testing H₂ with path coefficients of 0.176 and T=3.408 reached this conclusion that social capital has a significant weak and direct effect on Entrepreneurial Orientation. In this regard, it needs to be said that social capital plays role of a lever for entrepreneurship and that it can't be mentioned as creator of entrepreneurship, but it can be one of many environmental factors involving and influencing realization of creativity inside an entrepreneur, which results in entrepreneurship (AmirKhani et al., 2011). Social capital facilitates and / or prevents innovative and risk-taking behaviors, which are integral parts of entrepreneurship. As an aspect of entrepreneurship, innovation in products / services requires certain types of social capital; therefore, ALBORZ Drug Co., needs to be aware of this fact. Results obtained from this hypothesis are similar to those obtained from research done by SadeghZadeh and ValiNataj (2012), Gholipour et al. (2008), Taslimi et al. (2006), ZekiSimsek and Jansen (2012), Huang et al. (2010), Chen et al. (2007), Runyan et al. (2006), and Manev et al. (2005).

Testing H₃ with path coefficients of 0.714 and T=16.107 evidenced that IT has a significant strong effect on Entrepreneurial Orientation. Sadeghi and Nouri (2006) on one hand, IT has created many changes into all social activities including entrepreneurship and has been paid

attention to as the most important tool for modern entrepreneurship. On the other hand, entrepreneurship enjoys a vast arena in IT to be active. Entrepreneurship is a prerequisite for technology development which is, in turn, a bed for entrepreneurship. It is with entrepreneurship that needs are identified and it is with meeting needs that development and progression are achieved. So it is necessary for the company studied in this research to be aware of this fact. Finally, results obtained from this hypothesis are similar to those obtained from research done by AlamBeigi et al. (2009), Nasiri Zang Abad (2005), Thapa and Sein (2010), Sherer et al. (2003), Wolff and Pett (2006).

The fourth hypothesis results showed that social capital has mediator role in relationship between information technology and entrepreneurial orientation. As that being said, Veismoradi et al (2012) social capital is from new concepts that nowadays it is be used widely in sociology, economics and recently in management and organization. Rezvani and Toghraee (2011) The concept of social capital has an important role as a key factor in improving performance level and create competitive advantage, success, creativity and innovation, in This reason is that social capital is considered the foundation of entrepreneurial in organizations level. Baumol (2002) Entrepreneurship as a new phenomenon in the economy has an important role in the economic development and progress of countries. And since, economic growth and development requires is the identification and creation of entrepreneurial opportunities. Organizations should in order to entrepreneurial orientation and entrepreneurial activities of employees, Consider Necessary training through ways efficiently Different, that there are in this through, till they are encouraged and guided for entrepreneurial opportunities. One of these ways is the use of information technology. It has been said technology is Background entrepreneurship And Entrepreneurship is essential for the development of technology. So, should be said that, there is between these two a two-way interact. Therefore, organizations should be develop information and communications networks, because they are entrepreneurial context, and also, provide for everyone, easy access to these networks. In addition,

organizations should expand the use culture of these networks. Employees should be respect to the rules and regulations that provided in this area. So ALBORZ drug co., Should consider in these Notes.

Ultimately, given the value of $t=3.006$ and path coefficients of 0.483, it can be stated that IT has a moderating role in the equations of 2 variables of social capital and Entrepreneurial Orientation. And H_4 is accepted. In this way, effects of social capital on Entrepreneurial Orientation can be enhanced remarkably. Acceptance of this hypothesis indicates that infrastructures and grounds of IT strengthen effects of social capital on Entrepreneurial Orientation. Considering results of H_4 , perhaps it can be said that IT influences values shared by an organization members positively in first step, thereby rises organizational coherence. In the next step, which depends on the first one, quality of relationships, good trust, and mutual communication are improved, and what is clearly observed finally in the organization is revealed and respective organization observes more appropriate patterns of bond among members, more suitable shape and composition of communication network, and organizational suitability in order to achieve a particular objective which here is the very organizational Entrepreneurial Orientation.

At the end of , it needs to be said that increasing the Entrepreneurial Orientation within an organization requires such modus operandis as giving more consideration to R & D unit (Research and development unit), training individuals interested in entrepreneurship, and paying attention to self-governing work-teams and work groups to pursue new ideas, in return, social capital can be promoted by improving horizontal and vertical relationships within organizations, by providing grounds for improvement of trust among members, and by establishing close relationships between managers and employees and not blocking growth of informal networks. In order to facilitate such cases, we can take advantage of ICT since it seems to have a high potential due to reducing physical layer of organizational structure, to giving strength to bottom –up communication flow, and finally, to increasing (organizational) Entrepreneurial Orientation. Manufacturing organizations like ALBORZ

Drug Co., which need to create and exploit new ideas, must give specific consideration to 2 subjects of social capital and ICT. In order to help improve (organizational) Entrepreneurial Orientation within our country's industries, future researchers are advised to study other variables such as intellectual capital, organizational culture, etc. while considering roles of intervening and moderating variables within their relationships, providing organizations and manages with reliable and useful results with twice accuracy.

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