International Journal of Economics & Management Sciences

Affes, Int J Econ Manag Sci 2016, 5:3
DOI: 10.4172/2162-6359.1000343

Research Article Open Access

The Impact of the Extrinsic Innovative Entrepreneurs' Motivation and the Knowledge-Based Competitive Conditions on Technological Innovation

Habib Affes*

Faculty of Economics and Management, Sfax University, Tunisia

Abstract

In this research, we will try to show to what extent the competitive environment in the knowledge era and the extrinsic individual motivation of innovative entrepreneurs could enhance technological innovation in newly-established enterprises. A study on a sample of 105 new Tunisian enterprises deemed innovative in a national and regional innovative economic environment revealed 'the following: The nature of the market demand and the dissemination of knowledge by firms have a positive effect on the improvement of technological innovation, while efforts to adapt to market changes, the entrepreneurs' motivation extrinsic system to innovate, the state of competition and the evolution of that market had no effect on it.

Keywords: Technological innovation; Knowledge based competitive economic environment; Innovative entrepreneurs

Introduction

The innovation and development strategies and processes are increasingly seen as key assets to meet the different economic and strategic challenges. No matter whether they are incremental or disruptive, the related technological strategies, which are nowadays treated on the basis of resources (inimitable, nontransferable and irreplaceable on the market) and on the basis of movements, and on cooperation and strategic intentions, have continued to greatly contribute to the success of the launch of new product and to the strengthening of the businesses' sustainable growth and competitiveness [1].

Theoretical Background

To justify the sources of the outbreak and the development of technological innovation by innovative entrepreneurs, several authors studied the importance of the effect of the organizations' internal environment (Specific human capital, skills in R/D, knowledge management, psychology, social psychology, availability of technological opportunity, information technology and intelligent communication, creativity, innovation and corporate culture) [2].

Others as well supported the latter explanation by evoking the importance of the of the management team's initiative. They used the theory called "upper echelon theory" [3,4], and the participation of engineers belonging to the team called the "techno-structure" suggested by Galbraith [5] with the managers in the framework of by-process or by-project structures.

This brought the most avid authors in research on innovation, sometimes call on human resources management organization and strategic management theory while emphasizing the study of behavioral and cognitive variables [6] to underline the importance of acquiring a competitive advantage based on resources "resource-based view" [7] and sometimes favor the renovated paradigms of entrepreneurship [8,9]. Technological innovation may also succeed under the influence of the external environment. As part of this research which tries to go beyond the old managerial and economic remarks, we will rely on the contributions of the new innovation theory which related the entrepreneurs' creative capacity with the specific economic and environmental business effect. This is about emphasizing the contribution of the commonly baptized territories, the innovative regional districts and the national innovation systems to boost the opportunities of technological innovation in companies since their creation. These are particularly beneficial in the age of the knowledge and know-how economy since they emanate from regional and economic integration that must be governed and networked effectively and efficiently [10,11]. These authors state that this reality has become very sought by the new innovative entrepreneurs because it often leads them to benefit from the corresponding positive externalities and to quickly become competitive, creative and innovative. All this leads us to the question the central question in this research as to what extent external environmental variables, and especially those relating to competition based on knowledge and those of personal innovative entrepreneurs, can boost the improvement of technological innovation and opportunities.

It should be recalled that technological innovation, which raises a problem dealing with competitive issues, may be apprehended through the meso-economic theories which are very relevant in industrial economics and commonly recognized by the theories of industrial organization or intra- and inter-sector competitive analysis [12,13]. Moreover, technological innovation is understood today by the descendants of heterodox economic backgrounds managers looking to delineate the negative externalities in the economies [14]. Obviously, this technological innovation corresponds not only to the emphasis of product innovation resulting from a strong research and development activities or that of the processes or information and technologies or commercial communication, but it also involves organizational innovations (process, project processes, the launch of "Joint venture" or networked-based cooperation, ethical and responsible entrepreneurship, responsible marketing), managerial innovations (activity-based management, balanced- scorecard, coaching, knowledge management, through the values) or even virtual and commercial innovations (virtual communities, E-Business, Cloud Computing etc.). However, for convenience, we will focus on the following four external competitive environmental variables which emphasize the importance of knowledge and know-how as well as learning which could trigger technological innovation on a single internal source, i.e., entrepreneurs'

***Corresponding author:** Habib Affes, Faculty of Economics and Management, Sfax University, Tunisia, Tel: (216)74278879/74279710; E-mail: Habib.affes@yahoo.fr

Received May 04, 2016; **Accepted** May 17, 2016; **Published** May 19, 2016

Citation: Affes H (2016) The Impact of the Extrinsic Innovative Entrepreneurs' Motivation and the Knowledge-Based Competitive Conditions on Technological Innovation. Int J Econ Manag Sci 5: 343. doi:10.4172/2162-6359.1000343

motivation to innovate by focusing on the benefits and incentives which promote innovation from this environment.

It should be recalled technological innovation could also appeal to the studies of the market structures, the behavior of the companies' internal and external stakeholders who are driven by cultural values as well as by organizational standards or by scientific, socio-professional and socio-national, regional and international economic policies. In this way, the problem which this research will focus on could be presented as follows: What are the effects of the personal contingency variable of innovative entrepreneurs and those of the environmental variables that contribute to the development of companies' technological innovation in competitive non-price situations in Tunisia? The objective of this research is thus to predict and explain the impact fate of the contingency variables, which are of a personal nature, of innovative entrepreneurs as well as those relating to the competitive environment which favor knowledge and know-how to the strengthening of the development of technological innovation and its opportunities in the era of an economy where the real and the virtual intermingle.

The conceptual framework

Technological innovation is a creation process and an improvement of products, services, processes and business activities whether justified or not by patents. It is also a state of mind and a desire for individual and collective creative actions that match them and which are represented by new ways of thinking (learn to know, learn to do, learn to be, learn to know), reacting and acting according to the stakeholders' wishes and expectations [15,16]. In Economics, Joseph Schumpeter [17], the most often mentioned heterodox author in entrepreneurial research, showed that innovation can take place just after manufacturing new goods, opening a new outlet, using new raw materials, monitoring new methods of production and setting up a new work organization. However, according to managers, innovation within companies and in the eyes of entrepreneurs still depends on seven factors attributed to the internal and external environment [18]. Internally, this author mentioned the importance of the unexpected, of the contradiction, and of the structural and changing needs. Externally, he evokes the demographic, the perception and the new knowledge changes. For example, Eric von Hippel [19] being distinguished from his predecessors was one of the most ardent authors to support the customers' role in innovation. He explained that innovation comes in particular from the pilot-user who drives innovation. Other researchers complemented this reasoning by showing that all the stakeholders representing the innovation ecosystem are directly or indirectly involved in innovation. Others noticed that the "innovative environment" in the sense of Camagni et al. [20] or the "learning regions" studied by Morgan [21], and Munier and Rondé [22], have a significant impact on the development of innovation. Kaasa and Vadi [23], on their part, showed that there are other more important considerations to be underlined so as to explain the success of technological innovation. For these authors, this is particularly the impact of organizational culture. On the other hand, national culture also has an important impact on all forms of innovation as well as on the capacity of transfer, combination and absorption of all the social actors' knowledge as well as those of the organizations. To sum up the causes of all the innovations, we can bring them to variables that depend on the quality of socio-economic actors, businesses and competitive market conditions that are part of the literature on the new theory of innovation or growth mentioned in economics which stipulates that the producers and users continuously interact to exchange both codified and tacit knowledge in a business environment which is simultaneously, scientifically and technologically integrated and industrially meshed and motivating.

All businesses and economies should therefore benefit from new opportunities of technological innovation to meet the increasing various needs. If these businesses have competitive advantages, this may represent a source of competitive dynamics. On the one hand, in this context, material, technological, organizational and even state basic knowledge of different internal and external managers of knowledge may affect the exploration and exploitation of the innovation technological opportunities by developing the corresponding knowledge [24]. On the other hand, the degree of success of research and development efforts (R/D) as an internal or external intangible asset rewarding for entrepreneurs who meant to be innovative, remains closely linked to the knowledge management, to the social and business culture which prevails as well as to the funding problems that impact them. (Investment in R&D always appears to be full of conflicts because its consequences are still subject to uncertainties and therefore requires a risky financing and difficult governance).

Moreover, the need for innovation does not always require an exclusive planning for a predefined market because contemporary need for better use of production factors and information and communication technologies is essential while evolving and inevitably involving a continuous change of organizational behavior as well as of the processes and innovation processes (often directed to more cooperation and collaboration) and the strategic options which redirect any route, any vision or all the routes of technological innovation. In addition, the new competitive dynamics resulting from the simultaneous existence of both a virtual and real market and offering tangible and intangible property could only play an important role in deciding the fate of technological innovation and may even sometimes weaken the interventionism of the State as a legislature, an instigator or even as a catalyst. Beyond this reality, the most competitive entrepreneurs could often triumph while having a skill-oriented market motivated by the endless concentration on the trades of their businesses to improve the latter value chain from the preparation phase of their "business model" up to the stage of the post-business plan. Such entrepreneurs are nowadays called upon to keep in a waking state of competitive and technological intelligence and develop principles of economic intelligence so that they can quickly and easily turn threats into exploitation or exploration technological opportunities. All this drives us to focus more in this research on this fact while repositioning competition in the competitive market given the virtual competitive environment. On the one hand, as a source of enhancing any technological innovation, the interaction between economic agents, successful experience and single-loop and double-loop or even a triple-loop learning will increase the importance of intangible capital [25,26]. Moreover, the economic and competitive environment at the same time virtual and real is an uncontrollable exogenous regulatory mechanism of innovation and absorption capacities of corresponding knowledge (which are resource-based, tacit knowledge and know how). This makes competitors more puzzled when defining their technological innovation policies, and leads them to review their key budget for research and development. Even if getting a dominant position over their rivals (monopoly) seems to be reassuring, entrepreneurs will not be prevented from continuing innovation. Indeed, in the new era of knowledge and know-how in which we live, cooperation, sharing, creation and involuntary and voluntary knowledge transfers can trigger and bring back network cooperation collective attempts in an open innovation system mode. In fact, the strategies and innovation activities became bound and interdependent. The direction of research and development efforts as experienced by businesses, which became imperatively networked, depends, in particular, on the stage of the economic development, the seriousness of the structural

restraints, the upgrading measures, the socio-cultural and the political context (foreign trade policy, specialization policy, political education and training), the technological context (technopoles), the institutional context (national innovation system: NIS) and the scientific context of each country [27].

On a purely theoretical level, we can say that, since the meso-economic and the holistic order approach, as we have proposed, are not able alone to explain the complex phenomenon technological innovation, we have decided to adopt the environmental contingency theory by rejecting any attempt of 'one best way' [28,29]. Moreover, we adopted the so-called modern theories of innovation of Griffith et al. [30] which are well suited to the empirical studies heading the right way of our concerns in this research.

The research model

Modern innovation theories prefer to improve the integration and unstructured grid impact of the components of the research and development, of education and production in a region, of a nation, a district or an intelligent territory on the level and quality of technological innovation [31].

This impact is not always straightforward. It actually necessarily involves the effect of three integration components out of five intermediate factors, such as the motivation of innovative entrepreneurs, adapting to the market changes, competition in the market, dissemination of knowledge between firms and market demand. Therefore, the contingency variables that we will try to study at this level are either those of competitive or individual order. Regarding the competition variable which is particularly our important concern, it will be expressed by the pressure it can exert through non-price competitive practices since it targets the non-monotonic mutual impact. This makes us show how adaptation to competition in the market is a major source of impetus for technological innovation [32]. Hence, we may issue the first and second hypothesis as follows:

H1: Adaptation to the market changes has an impact on technological innovation.

H2: Competition has an effect on technological innovation.

Regarding the entrepreneurs' will and motivation to start their process or their technological innovation strategies, topics widely discussed by Schumpeter, the third hypothesis is formulated as follows:

H3: The entrepreneurs' motivation to innovate has an impact on technological innovation.

Actually, the impact of the contingency variable "demand" has often attracted the attention of researchers in the economic, immaterial, and the marketing domain. This variable will be studied by combining the effects of the study of the real needs and workable solutions, the particular customer's participation in production at the launch of new products, the coordination with customers and the consideration of the consumer's income. This will lead us to test hypothesis 4:

H4: demand has an effect on technological innovation.

Resuming the statement proposed by Griffith and Arrow [33], we will study the fifth variable which focuses on the dissemination of knowledge between companies. This variable explains the role of the ownership conditions, the absorption capacity, cooperation, sharing and voluntary knowledge transfer. Therefore, our 5th hypothesis will be as follows:

H5: Knowledge dissemination between firms has an impact on technological innovation.

In the light of the quality of the explanatory variables and the objective of our research, we will conduct a logistic regression to test the model that attempts to show to what extent the most interesting variables have a significant effect on predicting technological innovation in an entrepreneurial context. Hence, the model of this research will be as follows:

$Innov=\alpha_0+\alpha_1$ Motiv innov$+\alpha_2$ Adapt evol march$+\alpha_3$ Concurenc$+\alpha_4$ Demand$+\alpha_5$ Diffus connais$+\varepsilon_i$ with:

Innov: Technological innovation: It takes value 1 if it is continuous and 0 otherwise; Motiv Innov: the entrepreneurs' motivation of to innovate; Adapt market evol: Adaptation to market changes Concurenc: The market competition; Diffuse know: Knowledge dissemination between firms. Demand: Demand i (i=1,…,4) constitute the parameters to be estimated. εt : The residual variable.

The Sample

In this study, a self-administered survey is conducted on a convenience sample composed of 145 new industrial contractors considered as well-known innovative project promoters where 24 of whom are in the electronic field, 31 in the software development field, 64 in the textile industry (weaving, spinning and dyeing), 5 in the packaging sector, 16 in the telecommunication field (call centers) and 5 in the biotechnological sector. Our sample is obtained from listings offered to us by the regional leaders of UTICA (Tunisian Union of Industry, Trade and Crafts), the APII (Industrial Promotion Agency and innovation) and APIA (agency of agricultural investment promotion). This representative sample is spread across the industrial areas of five Tunisian regions, namely: Sfax, Sousse, Monastir, Gabes and the Great Tunis. The questionnaire was distributed to 8 companies so as to make it more accessible to entrepreneurs (The phase of the questionnaire testing). After correction and adjustments of questions, 114 gave answers but 9 of which were rejected because they were not appropriate. In the end, only 105 responses were selected to analyze the data. The response rate is therefore 72.41%. Questionnaire data were administered to reputed innovative entrepreneurs due to their sector affiliation, their commercial reputation and their personal realities. Furthermore, the questionnaire data also covered the items of five variables related to the four economic conditions and to the contractor as well as to those which correspond to the variable to be explained. These items were measured using Likert scales from 1-5. To develop our questionnaire, we also applied the available literature on the subject and simply limited ourselves to the items that were validated by previous studies related to the modern theory of innovation and its management. According to the results provided, it appears that most of the designers took an entrepreneurial training at a university (60 people out of 105). Almost a third of entrepreneurs have computer skills (33 of 105). The 69 interviewed entrepreneurs among the 105 in our final sample have a high education level (Tray +2 studying yeans). This emphasizes the importance of the explicit knowledge capital that these entrepreneurs have acquired in the Tunisian universities and which they are supposed to turn it into tacit knowledge for their job innovation. Furthermore, when asked about the relational and personal motives they had during the setting up of their projects, 32.38% indicated that their project was conducted essentially in a participatory manner (34 people out of 105). These results raised some questions about the effectiveness of the types of the networking links (strong, weak, limited, multiple) that develop between the staff members regarding their competitive environment

("open innovation strategy" or not) in connection with a team or project or distant work ("E-Teamwork and E-Learning") for the purpose of boosting technological innovation in products and processes.

The variables measurement

The 5 variables selected for this study carried in the context of entrepreneurship and which consist of the technological innovation, needs to be explained as follows:

a) The entrepreneurs' incentive to innovate is the variable which constitutes the first part of the questionnaire. Its five items namely are: (i) the material conditions, (ii) the dynamics of knowledge accumulation, (iii) the research effort, (iv) the company's size and (v) the results of the activities.

The performed statistical tests show that Cronbach's alpha value in this case is equal to 0.702, which indicates the reliability of the items selected in the matter (Table 1).

b) Competition on the market was made operational by means of three items which appeared to have a Cronbach's alpha value equal to 0.558. These items, which are thought to be reliable, are namely (i) innovation-based competitive pressure, (ii) the pursuit of monopoly power and (iii) the non-monotonic relationship and development.

c) The knowledge dissemination variable between firms. This variable includes three items which reflect the degree of dependence on the company and its competitors. It is reflected in the buyers' low attachment to their product. This pertains in particular to (i) the product homogeneity (ii) the ownership conditions, the absorption capacity as well as 'cooperation and (iii) knowledge voluntary sharing and transfer. These three items mentioned above represent Cronbach's alpha value equal to 0.744, which reflects their reliability to first justify the adequate knowledge appropriation developed by competitors (by benchmarking which is also called the companies' external industrial benchmarking), and second, the effort they made to protect the knowledge they themselves develop.

d) The demand is represented by the combination of four items for which Cronbach's alpha value is equal to 0.658. This obviously concerns (i) taking account of the consumers' income, (ii) the actual need for a feasible solution proven by them, (iii) these consumers' special participation in the design and launch of new products and (v) the actual or virtual coordination with the consumers.

e) However, adaptability to the market development is defined by three items which have a Cronbach's Alpha value equal to 0.611 and a content that fits well (i) the implementation of a strategy to deal with the market evolution, (ii) the enhancement of technical progress and (iii) the meeting of the market needs.

The result analysis

All the variables had a KMO index greater than 0.6. It should be recalled that our purpose here is to identify the nature of the joint and marginal effects (Table 2). Each factor cited on technological innovation. For this reason, a logistic model with the repair function is used. It is written as follows: $F(x)=\exp(x)/1+\exp(x)$ (model I). As for the marginal effects, the βi elasticities of model (I) are determined by the following formula: $dp/dx=\beta_i*p\ (1-p)$. At this stage, the βi estimator parameter is the maximum likelihood (log likelihood). We proceeded to the detection of the quality of the prediction model to assess its capacity to predict the values of the absence or presence of continual technological innovations (1 if yes, 0 otherwise), i.e.; (0=absence of technological innovation; 1=continuous existence of technological innovation). At this stage, we were required to set a generally tolerated statistical threshold with a probability of 0.5, i.e. equal to 50%. Indeed, considering H0: Innovation=1 if the probability of innovation is ≥0.5 and H1: Innovation=0 if the probability of innovation *<0.5. Under H0, the model can be specified with a predicted probability above the threshold and consequently, innovative entrepreneurs will be those who are supposed to carry out a prior satisfactory technological innovation. Our latest results show that the number of entrepreneurs who achieved technological innovation is 79 out of 105 of our final sample. This was predicted at a rate equal to 85.9% (correct predictions). Regarding the entrepreneurs who did not innovate, their number is 8 out of 105, which has been predicted at a rate equal to 61.5%. Indeed, the model prediction rate is equal to: 79 8/105=82.8%. This is a relatively a consistent model. Hence, the choice of the logit model appears to be justified in this case.

Classification	The predicting rates
Percentage of correct predictions for innovative entrepreneurs (Innovation=1)	0.85
Percentage of correct predictions for non innovative entrepreneurs (Innovation=1)	0.61

Table 1: Predictability and model prediction, quality diagnosis of the logit model for the probability of making a technological innovation.

The minimum conditions	Joint effects		Marginal effects
	Coefficient	z-stat	Innovation predit=0.809
Motive to innovate		2.28	0.124
Adaptability to the market development	0.191**0.213***	3.72	0.574
Competition	0.079***	3.17	0.245
Knowledge dissemination	0.104ns	0.72	-0.022
Demand	0.024ns	0.87	0.013
Chi-square	187.3		
p-value	0.0000		
R2	0. 37		

Table 2: The estimation result for the dependant variable-technological innovation.

The elasticity of the marginal likelihood of the umpteenth entrepreneur's action to innovate according to the economic conditions (Xi) can be written down as follows:

$Pi=\exp(X_i\beta)/1+\exp(X_i\beta)$ with X_i denotes the explanatory variables for companies i: Hence, $d(pi)/d(X_i)=d[(\exp(X_i\beta)/1+\exp(X_i\beta)]/dX_i-[(\exp(X_i\beta)/1+\exp(X_i\beta)^2]*\beta$, Henceforth, $d(pi)/d(X_i)=X_i\beta/\exp(X_i\beta)$,

If X_i increases by 1%, then, the probability to innovate increases by $d(pi)/d(X_i)$ %.

The estimation of this joint effect model, which was conducted according to the maximum likelihood (ML), gave the following results: The practice correlation obtained between the five variables is acceptable and has a (R2=0.37). Similarly, the results of the test model show that there are statistically significant and positive relationships with technological innovation and only for the external determinants, namely, the response to competition (at 1% level) and the adaptability to the changing market (at 1% level). Hence H1 and H2 are confirmed. Since this result appears quite weak, we can try to explain it in two ways. First, it is possible that the choice of the items

selected to measure the demand does not effectively reflect the degree of difficulty or ease of the passion for innovation of the well-known innovative entrepreneurs. Other items, apart from those which were selected, might help improve the dissemination of knowledge. In our work, the formulation of the determinants of technological innovation was carried out for a prescriptive purpose. Second, we can try to explain the entrepreneurs' motivation deficiency by the lack of self-efficacy that would be associated with internal determinants, such as, the weakness of the technological innovation culture in the Tunisian companies, the negative perception of the environment, which is often seen as a threat but not as an opportunity, the lack of a virtual or real cooperation and the training of new entrepreneurs who are meant to be innovative.

Conclusion

The change of the market in which businesses operate is largely explained by the non-price or innovation-based competitiveness. Actually, in our case, the statistical results showed that a 10% increase in the effort of being adapted to the changing market conditions leads to an increase of only 6 percentage points of technological innovation. Therefore, it seems that companies would need to adapt their innovation strategies to the degree of their market development. Moreover, the results for the sample of this research confirm the work of Moore, which stresses the argument that technological innovation strategies of the innovative firms would be more compatible with the stage of the market evolution. As a result, the choice to create a new product can be caused by changes in demand. This might emerge as a result of a change in the consumers' purchasing power and their choices. However, the implementation of a new process or a new technologically innovative organization could be the result of competitive pressure (creation of a research and development center or function of a centralized or decentralized method). Nevertheless, should we still believe that the efforts devoted to technological innovation had better be consistent with the stage of development of the market in which the company operates.

Furthermore, technological innovation is still under the influence of the competitive force on the market. This is still sustained by research within the discipline of the industrial organization which confirms that a strong industrial concentration in the market (business combination or cluster formation) plays a relevant role in the companies' choice of solutions and resources which are very useful for innovation.

Moreover, according to Aghion and Griffith, the most competitive firms would be less motivated to devote additional resources if the product does not become competitive. This would partly well explain the -monotonic relationship between competition and innovation in the markets where other producers offer the same good or a perfect substitute (where the product is homogeneous). Actually, companies are often motivated by the reduction of the production costs. The innovation process can thus enable them to choose a more economical technology factors as it could generate productivity gains. In this case, the company could get a better profit margin and therefore could carry on proactive or technologically defensive strategies depending on the nature of the application which identifies the sensitivity of its market share compared to the policies pursued by its rivals and with which it has to implicitly or explicitly share the market share (agreement, outsourcing, consortium, network or partnership or other strategic options).

Regarding the impact of motivation on the well-known innovative entrepreneurs, our results showed a little but a positive promising contribution for this reality (low significance: 5%). Actually, by referring to the work of Dosi [34], we can ascertain that understanding the motivating technological change (tending towards innovation or invention) requires the concurrent analysis of the four following inter-related issues which are behavioral. They are related to the research and opportunity detection facility of innovation (innovative exploration opportunities and creative spirit) as well as to the ease of rapid exploitation of opportunities mainly to the prevalence of the agents' capacity to achieve the appropriate innovation (innovation exploitation opportunity). This may also be related to a very sensitive factor which is the climate or the atmosphere in the environment (information asymmetry problems, opportunism, and political elitism, instability of legal and socio-professional negotiations, country risk, exchange rate risk and weakness of the country's economic growth rate). Moreover, several other actors and external factors are important. Among the latter ones, we can mention competition under regular conditions (competition law, antitrust law), incentives of support agencies, business incubators, and the reliability of the fiscal, educational and industrial regulatory policy, tight management of technology parks, good governance of funds by banks. The level of cooperation between institutions and between the public and private institutions, the type of consumption, the suppliers, the relationships with universities, laboratories, government agencies, consultants, etc.

Nevertheless, knowledge dissemination should be continually strengthened to enhance the capacity the entrepreneurs' capacity to innovate by relying on the improvement of their capacity to absorb new tacit and explicit knowledge, work together and enhance the suitable technological innovation, (the dynamics of knowledge and engineering accumulation, the latest technology, co-integration in networks, business intelligence, physical conditions, innovation and sustainable development culture, efforts of research and development and reward systems) etc.

Similarly, the significance of the "motivation to innovate, "led us to wonder about its fate in the modern world. Actually, there is a discrepancy between our results and those of David and Arthur [35] who supported the importance of modeling, planning and standardizing of innovation activities (consistent with the planned motives of the action theory and the rational choice useful for understanding entrepreneurial intention) so that they can be motivating. In fact, the job standardization through its effect on process simplification makes entrepreneurs adopt a way of entrepreneurial innovation activities both motivating (identification and socio-professional affiliation) and continuously engaging. It should be noticed that this reality was also analyzed by Schwartz [36].

The reasons for the significant role of motivation to innovate in an entrepreneurial perspective, which has not been mentioned above, especially for the case of a turbulent competitive environment both real and virtual, can stem from other factors, such as the effect of financial privileges given by the State for entrepreneurial innovation Markhan [37] and the national or business culture. This can be, in our opinion, a new research topic of the importance of exploration or exploitation innovation for innovative entrepreneurship in a sustainable and lasting way in a highly competitive but learning environment [38-46].

References

1. Kenneth DH, Kadaba NS, Kelly RB, Crawford D (2012) Building a Life Sciences Innovation Ecosystem: Science Translational Medicine 4: 157.
2. Baark E, Antonio L, Sharif N (2011) Innovation Sources Capabilities and Competitiveness: Evidence from Hong Kong Firms. Paper presented at the DIME Final Conference Maastricht, Hong Kong.
3. Carpenter MA, Geletkanycz MA, Sanders WKG (2004) Upper echelons research

revisited: antecedents elements and consequences of top management team composition Journal of Management 30: 749-778.

4. Wirtz P (2009) Do high-growth entrepreneurial firms have a specific system of governance? FARGO working paper series.
5. Galbraith JK (1967) The New Industrial State Houghton Mifflin Company Boston Library of Congress, Princeton university press, London.
6. Chouaibi J, Affes H, Boujelbene Y (2010) Clean structure and technological innovation : An Empirical Study in the conference proceedings published in the Tunisian context. "Crises and new problems Ematiques of Nice Value: France.
7. Gönül KO (2013) Resource Based View Core Competence and Innovation: A Research on Turkish Manufacturing Industry in Scientific Research Journal 1: 9-17.
8. Howard HS, Carlos J (1990) A Paradigm of Entrepreneurship: Entrepreneurial Management in Strategic Management Journal 11: 17-27.
9. Verstraete T, Fayolle A (2005) Paradigms and entrepreneurship Journal of Entrepreneurship 4: 1-20.
10. Bianchi P and Giordani M (1993) Innovation Policy at the Local Level and at the National Level: The Case of Emilia Romagna. European Planning Studies 1: 25-31.
11. Lundvall B (1992) National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning, Pinter Publishers, London p: 317.
12. Porter ME (1981) The Contributions of Industrial Organization to Strategic Management Academy of Management Review 6: 609-620.
13. Jacquemin A (1985) Selection and power of the new Industrial Economics economized Paris.
14. Hoang NL (2008) Where will heterodoxy? Posted in man and society (ed) L'Harmattan pp: 195-218.
15. Lisein O, Dalon G, Desmecht J (2006) Intervene in the conduct of e-subsidized projects croisses Issues and responsibility of stakeholders act symposium intervene in the world of work: the social responsibilities of a social science research center.
16. OECD (2004) Political science and innovation key challenges and opportunitésed OECD France.
17. Schumpeter JA (1942) Capitalism Socialism and Democracy. London: George Allen and Unwin.
18. David P A (1985) Clio and the economics of Qwerty. American Economic Review 75: 332-337.
19. Von HE (1986) Lead Users: A Source of Novel Product Concepts. Management Science 32: 791-806.
20. Camagni R, Maillat D, Matteaccioli A, Perrin JC (1999) The paradigm of the innovative environment in contemporary spatial economics. Regional Economics and Urban Review pp: 425-428.
21. Morgan K (1997) The Learning Region: Institutions Innovation and Regional Renewal. Regional Studies 31: 491-503.
22. Munier F, Rond E P (2001) Scientific density region and expertise to innovate businesses : a perspective of the concept of Learning region. Regional and Urban Economics Review 515-538.
23. Kaasa A, Vadi M (2008) How Does Culture Contribute to Innovation? Evidences from European Countries The University of Tartu Faculty of Economics and Business Administration pp: 4-39.
24. Boualem A, Besbes A, Khemiri H (2013) Organizational learning ability to innovate and Human Resource Practices : What combinatorial Impacts compstitive and performance? International Conference Management Strat Egique Clermont-Ferrand France.
25. Argyris C, Schon DA (1996) Organizational Learning (2ndedn) Addison-Wesley Publishing Company, USA.
26. Aaker DA (1996) Measuring brand equity across products and markets California Management Review.
27. 38: 102-120.
28. Chesbrough HW (2003) Open Innovation: The New Imperative for Creating and profiting from technology" Harvard business school press corporation Chesbrough Boston Massachusetts p: 227.
29. Lawrence PR, Lorsh JW (1967) Organizations and environment Boston: Harvard University Press, UK.
30. Emery, Trist AE (1964) The causal texture of the environment organizations. Sociology of Work pp: 337-350.
31. Griffith R, Huergo E, Mairesse J, Petters B (2006) Innovation and productivity across four European countries. Oxford Review of Economic Policy 22: 483-498.Rahmoun M, Yildizoglu M (2011) Motivations and determinants of technological innovation : An overview of modern theories of open - archive Publications School for Advanced Studies in the Social Sciences Universities of Aix -Marseille II and III Working Paper.
32. Moore J (2006) Business ecosystems and the view of the firm. The Antitrust Bulletin 51: 31-75.
33. Arrow KJ (1962) Economic Welfare and the Allocation of Resources to Invention.
34. Dosi G (1997) Opportunities incentives and the collective patterns of technological change Economic Journal 107: 1530-1547.
35. Arthur BA (1989) Competing technologies increasing returns and lock-in by historical events The Economic Journal 99: 116-131.
36. Schwartz SH (1978) Temporal instability as a moderator of the attitude behavior relationship Journal of Personality and Social Psychology 36: 715-724.
37. Markham JW (1965) Market-structure business conduct and innovation. American Economic Review 55: 323-332.
38. Camagni R (1995) Space and time in the concept of innovative environment. In: Rallet A, Torre A (eds.) Industrial Economy and Space Economy Economica pp: 193-210.
39. Fereidouni HG, Masron TA, Nikbi D, Amiri RE (2010) Consequences of external environment on entrepreneurial motivation in Iran. Asian Academy of Management Journal 15: 175-196.
40. Khan IH Biswas BD and Ahmed N (2009) Extrinsic and intrinsic determinants of entrepreneurial growth of bangladesh: an empirical examination RMUTT Global Business and Economics Review 4: 1-24.
41. Krueger N (1993) The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability Entrepreneurship Theory and Practice 18: 521.
42. Lentic L (2006) In research paper of the IHEC Liege Belgium.
43. Ajzen I (1991) The theory of planned behavior. Organizational Behavior and Human Decision Processes 50: 179-211.
44. Nabi G, Holden R (2008) Graduate entrepreneurship: Intentions éducation and training Education and Training 50: 545-551.
45. Nelson RR (1962) The Rate and Direction of Economic Activity Princeton University Press.
46. Shapero A (1982) Social dimensions of entrepreneurship in CA Kent The Encyclopedia of Entrepreneurship 72-89.