

Studies of Opportunity Recognition Process: Characteristics of Tunisian Entrepreneur Profile

Salim Morched

PhD in Management Sciences, Department of Management, Faculty of Economics and Management, University of Sfax, Sfax, Tunisia

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Anis Jarboui

Professor of Finance, Department of Management, Faculty of Economics and Management, University of Sfax, Tunisia

Additional information at the end of the article

Abstract: Entrepreneurial research has largely raised the question of the resources and profile characteristics of the entrepreneur required throughout the entrepreneurial process: recognition of an entrepreneurial opportunity, creation, and development. Entrepreneurs often find it challenging to obtain the resources they need as soon as they are overwhelmed by the desire to recognize an opportunity to do business independently. On the one hand, our problem emanates from the scarcity of work on the specificities of entrepreneurs in Tunisia, in this case, those of private companies. On the other hand, any influences that their characteristics might have on their competence in identifying opportunity. Therefore, it would be a question of trying to identify the profile of the entrepreneur in Tunisian companies and appreciate the possible impacts that it could have on the characteristics theoretically considered within the upstream entrepreneurial process. In this perspective, we propose to focus our thinking, on the one hand, on the approach supported by entrepreneurs to recognize an entrepreneurial opportunity and, on the other hand, its impact on the recognition of entrepreneurial opportunity mobilized in this approach. This study explored the process of recognizing the opportunities of 80 Tunisian entrepreneurs, who were all recognized as having business opportunities and different characteristics.

Keywords: entrepreneur; recognition; entrepreneurial opportunity; Tunisia

Abstrak: Pertanyaan penelitian kewirausahaan sebagian besar tentang sumber daya dan karakteristik profil wirausaha yang dibutuhkan selama proses kewirausahaan: menangkap peluang, kreasi, dan pengembangan kewirausahaan. Pengusaha sering merasa kesulitan untuk mendapatkan sumber daya yang mereka butuhkan setelah mereka kewalahan dengan keinginan untuk mengenali peluang untuk melakukan bisnis secara mandiri. Di satu sisi, masalah bersumber dari kelangkaan pekerjaan mengenai kekhususan pengusaha di Tunisia, dalam hal ini perusahaan swasta. Di sisi lain, pengaruh apa pun yang mungkin dimiliki karakteristik mereka terhadap kompetensi mereka dalam mengidentifikasi peluang. Oleh karena itu, akan menjadi pertanyaan untuk mencoba mengidentifikasi profil wirausaha di perusahaan Tunisia dan menghargai kemungkinan dampaknya terhadap karakteristik yang secara teoritis dipertimbangkan dalam proses kewirausahaan hulu. Dalam perspektif ini, kami mengusulkan untuk memfokuskan pemikiran kami, di satu sisi, pada pendekatan yang didukung oleh wirausahawan untuk mengenali peluang wirausaha dan, di sisi lain, dampaknya pada pengakuan peluang wirausaha yang dimobilisasi dalam pendekatan ini. Studi ini mengeksplorasi proses mengenali peluang dari 80 wirausahawan Tunisia, yang semuanya diakui memiliki peluang bisnis dan karakteristik yang berbeda.

Kata Kunci: wirausahawan; identifikasi; peluang berwirausaha; Tunisia

INTRODUCTION

Over the past few years, important progress has been made in entrepreneurship (Mullen et al. 2009), giving it the status of a research area. Entrepreneurship has also become essential in economic development policies. Indeed, the renewal of the local economic fabric seems closely linked to the ability of its entrepreneurs to create new activities that will contribute to job creation, innovation

dynamics and productivity, and economic growth (Van Praag & Versloot, 2007). However, at the very heart of this group of interests, concerns about the “quality” of entrepreneurship call into question the merits of entrepreneurship “at all costs” (Shane, 2009). This questioning was, first of all, reflected in the distinction between productive, unproductive, and even destructive entrepreneurship (Baumol, 1990). He has also entered public policies that tend today to favor quality entrepreneurship rather than mass entrepreneurship (Hermans et al., 2013).

Relying on similar research areas such as the study of “gazelles,” hyper-growth firms disproportionately involved in wealth creation (Hanut-Guieu & Guieu, 2011), entrepreneurship researchers have identified the growth ambitions of the entrepreneur as a key factor in predicting, or at least partially understanding, the firm’s subsequent performance (Bosma et al., 2004). The entrepreneur brings a vision to the company, a tool of his will, and gives him more or less ambitious goals. The entrepreneur, the individual who engages in an entrepreneurial project to achieve performance beyond the mere survival of the activity created in a competitive environment (Stam et al., 2012), becomes a subject to explore and understand: the effect of the entrepreneur’s profile on the recognition of entrepreneurial opportunities?

Within this context, the issue of our work is to be framed: Does the profile characteristics of the Tunisian entrepreneur affect the opportunity recognition process? After outlining the theoretical basis of our study, we will then describe the methodology used to finally present the statistical processing of the data before concluding with the contributions and perspectives of the research.

LITERATURE REVIEW

In the framework of this research, we retain the conception developed by Chabaud and Ngijol (2010) on the recognition of an entrepreneurial opportunity. Authors consider it the first phase of the entrepreneurial process, and it is divided into two distinct stages: identification and evaluation. The authors argue that these two steps are not necessarily sequential. Back and forth between the idea and the entrepreneurial project are very conceivable to mature and emerge from the idea a real exploitable opportunity. The successive tests and validations carried out on the idea to model and refined it prove that the aforementioned steps are finely intertwined. However, to facilitate the study, we will assume, like Simon et al. (2000), a demarcation between these two steps that differ logically. The widespread confusion in the literature between “idea” and “opportunity” has sparked our interest in delineating their conceptual boundary.

Moreover, a thorough analysis of the literature specific to entrepreneurship allowed us to conclude that the perception of a project idea is a necessary but not sufficient condition for the entrepreneur to admit that he has recognized an entrepreneurial opportunity. So, the idea is a stepping stone that could lead to an opportunity in a later stage. This research considers that an entrepreneurial opportunity refers to a revealed, feasible, profitable, viable, new, and desirable idea (Kolvereid & Moen, 1997). Furthermore, recognizing an entrepreneurial opportunity is the first phase of the entrepreneurial process, and it is to collect a project idea and its evaluation.

Although the terminologies used to specify the first phase of the entrepreneurial process differ from one author to another (discovery, recognition, identification, training), a thorough analysis of the literature has allowed us to identify two successive stages forming this phase: the perception of a project idea and the evaluation of it (Gasse, 2004). These two stages are well before the creation phase of the new company. That is to say, before the transformation of the opportunity, deemed exploitable, into a viable business. Before exposing the stages of the recognition phase of an entrepreneurial opportunity, it is important to shed light on the notion of an entrepreneurial project. According to Mustafa et al. (2016), the entrepreneurial project is the essential point of departure for any entrepreneurial process. The latter “aims to produce novelty, innovate, carry out actions for goods, services, an event, to create something that has value in the milieu because it responds to a need.” We fall within this definition that a project is considered entrepreneurial if it responds to an economic or social problem, an unsatisfied need, or responds more satisfactorily to the needs taken into account by the competitors (Coster, 2009). According to Tounés (2003), the entrepreneurial project is the junction between two key elements: the project leader and his external environment. He sees it as an evolving artifact that feeds continuously from the exchanges between the entrepreneur and the actors of the socio-economic background. The

design and implementation of an entrepreneurial project is, over time, part of the path of the person pursuing it, and this path could be facilitated or constrained by the actors in the external environment.

Having defined and presented the various variables referring to the entrepreneur's profile and its impact on the recognition of entrepreneurial opportunity, it would be advisable to support this theoretical study by empirical research, more concrete, to estimate and verify the validity of the assumptions and analyzes considered. In this context, remember that our problem comes from the scarcity of work on the specificities of entrepreneurs in Tunisia, in this case, those of private companies, and on the other hand, any influences that their characteristics might have on their competence in identifying opportunity.

Therefore, it would be a question of trying to identify the profile of the entrepreneur in Tunisian companies and appreciate the possible impacts that it could have on the characteristics theoretically considered within the upstream entrepreneurial process.

Blais et al. (1990) describe students' attitudes, norms, and perceptions towards business creation and how each dimension influences their entrepreneurial intent. It is based on the theory of planned behavior of Ajzen (1991). An intention model adapted from the latter is developed and then tested by the multiple regression method. The study results from a sample of 144 students in Master's degree courses in different areas of management show that only the personal attitude and perceived behavioral control explain the entrepreneurial intention of Tunisian students. Social norms are, for their part, not significant. The other major result from this study is the significant effect of perceived behavioral control on a personal attitude. For the structures of support and accompaniment to the company's creation, it is necessary to carry out sensitization actions in favor of the student public well before trying to detect carriers of projects.

An attitude favorable to entrepreneurship is not enough on its own to develop entrepreneurial intent. It is not enough to make business creation desirable but also feasible. The goals of entrepreneurship education must go beyond the attraction of entrepreneurship. It is about providing the skills and abilities needed to set up an entrepreneurship project. In addition, for agencies responsible for promoting entrepreneurship and support structures for business creation, these are the obstacles to starting a business by providing the advice and logistical resources required to make the entrepreneur a reality.

Rotter (1966) presents the concept of locus of control fits into the wider framework of social learning theory. It is not possible to detail here all the theoretical complexity of this conceptualization. Still, it is, however necessary to give some precision to apprehend the nature of the locus of control. For the theory of social learning, the determinants of action are the result of learned experiences. Untrained determinants such as biological needs are not considered in this theory. There are four classes of variables in the social learning theory: behavior, expectations, reinforcements, and psychological situations.

In most classical situations, behavior in a specific psychological situation is a function of expectation (defined in this theoretical framework as a probability) that this behavior can lead to a specific reinforcement in this situation and the value. It is assumed that if the organization perceives two situations as similar, then the expectations for one type of reinforcement or one reinforcement class will be generalized from one situation to another. The expectations in each situation are therefore determined not only by situational experiences but also, to a certain extent, by experience in other situations that the individual perceives as similar.

For Rotter (1966), the locus of control, therefore, refers to the belief that a response will or will not influence the possibility of achieving performance. It is, therefore, possible to say in this sense that the locus of control falls into the category of generalized expectations. Rotter nevertheless distinguishes two types of generalized expectations. On the one hand, the expectation that the behavior can lead to some reinforcement or expectation of reinforcement. On the other hand, the generalized expectation of problem-solving centered on the instrumentality of conduct to achieve a given goal. The locus of control is one of the determinants of this second form of expectation. The locus of control will therefore affect the expectation of achieving or not a given goal.

We formulate the general hypothesis according to which work-related the process of recognizing the opportunities of Tunisian entrepreneurs, who were all recognized as having business opportunities. Thus, we formulate the following nine hypotheses to be tested:

H1: Entrepreneurial education has no significant effect on the recognition of entrepreneurial opportunity

H2: Work experience has a significant and positive effect on opportunity recognition.

H3: The need for achievement has a significant and positive effect on the recognition of entrepreneurial opportunities.

H4: The locus of control does not have an effect on the recognition of entrepreneurial opportunities.

H5: The need for autonomy has a significant and positive effect on the recognition of entrepreneurial opportunities.

H6: Creativity does not have an effect on the recognition of entrepreneurial opportunities.

H7: The perception of money does not have an effect on the recognition of entrepreneurial opportunities.

H8: The perception of space has no significant effect on the recognition of entrepreneurial opportunity.

H9: The perception of time has no significant effect on the recognition of entrepreneurial opportunity.

Table 1. Variables and ITEMS for Operationalization of Variables

Variables	Measurement Indicators	Codes	References
Entrepreneurial education	Becoming a business owner would be difficult for me.	EDUC1 EDUC2 EDUC3 EDUC4 EDUC5	Kolvereid (1997); Tkachev & Kolvereid (1999); Tounes (2003)
	If I wanted, I could easily pursue a career as a business creator.		
	As a business creator, I would have control of the situation.		
	The number of events that would not be under my control that could prevent me from becoming a business owner is high.		
	If I become a business creator, the chances of success of my company will be strong.		
Professional experience	You had responsibilities on men.	EXPER1 EXPER2 EXPER3 EXPER4 EXPER5	Tounés (2003)
	You had responsibilities on a budget.		
	You had responsibilities on material means.		
	You were responsible for leading or participating in a project.		
	You made important decisions alone.		
Need for achievement	I like to achieve greater satisfaction and personal fulfillment.	ACCOMP1 ACCOMP2 ACCOMP3 ACCOMP4 ACCOMP5	Blais & Toulouse (1990)
	I like being innovative and at the cutting edge of technology.		
	I like to continue learning.		
	I like to prove my ability to develop a new idea.		
	I like to prove that I can succeed in a business.		
Locus of control	My success depends on how lucky I am to be in the right place at the right time.	LOCUS1 LOCUS2 LOCUS3 LOCUS4 LOCUS5 LOCUS6 LOCUS7 LOCUS8 LOCUS9	Rotter (1966)
	For me, it is possible to influence one's destiny.		
	To a large extent, my life is controlled by accidental events.		
	When I get what I want, it's usually because I'm lucky.		
	My life is determined by my own actions.		
	When I get what I want, it's usually because I worked hard.		
	To be successful in life depends mainly on my abilities.		
	I feel in control of my life.		
	Business success is mostly about luck.		
Creativity	I am able to imagine how we can do things	CREAT1 CREAT2 CREAT3 CREAT4 CREAT5	Gasse (2004)
	I have difficulty anticipating events, trends		
	I can easily imagine several ways to satisfy a need		
	I am able to see several solutions to a problem		
	I am quite curious, and I am always looking to discover		
Money perception	Money expresses professional success.	AUTONO1 AUTONO2 AUTONO3	Gasse (2004); Tounés (2003); Volery et al. (2013)
	To take advantage of opportunities, you must act quickly.		
	We can succeed with moderate incomes.		

Perception of space	A successful opportunity must cover the international market	SPACE1 SPACE2 SPACE3	Tounes (2003)
	Customers and suppliers of the new project must exist at the local level		
	The entrepreneur must always follow global events (business intelligence).		
Perception of time	Do not postpone until tomorrow what can be done today.	TEMPS1 TEMPS2 TEMPS3	Tounes (2003)
	To take advantage of opportunities, act quickly.		
	The added value of an opportunity can be time-based.		
Opportunity recognition	I see the possibility of creating a new business as a potential opportunity to pursue	RO1 RO2 RO3 RO4 RO5 RO6 RO7 RO8	Simon et al. (2000); Kickul et al. (2008)
	If I do not start my own business, I may miss a great opportunity		
	I see the option of starting a new business as a positive thing		
	Starting a business can affect my personal life in a positive way		
	In the creation of a new business, the opportunities for significant financial benefits are high		
	When starting a new business, the probability of becoming a millionaire is very high		
	Creating my own business can have a positive impact on how my family and friends see me		
	Creating my own business can affect my social life in a positive way		

RESEARCH METHODOLOGY

We have opted to use a quantitative method. This method consists of elaborating a questionnaire on recognizing the opportunities of 80 Tunisian entrepreneurs, who were all recognized as having business opportunities and different characteristics, then collecting data and finally analyzing it.

We have adopted a hypothetical-deductive approach based on quantitative research. This involves testing the hypotheses deduced from the literature on a sample assumed to be representative. This will allow us subsequently to confirm or refute the hypotheses developed.

The variables are measured using 5-point Likert-type scales (from 1 = strongly disagree to 5 = strongly agree). A scale encouraging the entrepreneur to express his degree of approval or disapproval for certain proposals, in order to identify his characteristics as to the subjects dealt with. We opted for the positivist paradigm. A hypothetico-deductive methodological positioning accompanies this paradigm. We must test the hypotheses we have drawn from the literature on a sample of 80 Tunisian companies that have all recognized the opportunity and having different characteristics. The measurement scales of the professional and psychological aspects are extracted from the literature, while the measures relating to the cultural aspect we have elaborated by ourselves. However, for the variable to be explained, we selected items from the literature. We used SPSS software version 20 for statistical processing of all data collected. Linear regression is the explanatory method used. This is the most appropriate for explaining a quantitative variable through 9 quantitative explanatory variables presenting the entrepreneur's profile characteristics.

RESULTS AND DISCUSSION

First, the results of the descriptive analysis carried out on the variables of the research. First, the descriptive analysis of our explanatory variables relating to the aspects of the entrepreneur's personal profile and of our variable to be explained is ensured by a Principal Component Analysis (PCA) and a reliability test of the scales of measurement (Cronbach's Alpha), because they are largely translated into multi-item scales, as noted by Churchill (1979) that it is better to choose the PCA with the largest number of items, which will allow us to respectively, to test the dimensionality and internal consistency of the measurement scales. Also, we appreciate the "validity of the content" to improve the construction of the chosen measurement scales, that is to say to ensure that the items developed in the draft questionnaire to measure the problem studied apprehend its different aspects (Igalens & Roussel, 1998).

Secondly, we apprehend the operations prior to the regression: the examination of the presence of possible outliers in the data collected (extreme observations) and the verification of the conditions of use of the regression. Third, we will analyze, interpret, and reconcile the results obtained with those of the literature.

Descriptive Analysis of Research Variables

It goes without saying that 66.7% of young entrepreneurs have undergone university education or training seminars on entrepreneurship and entrepreneurship, compared to 33.3% of entrepreneurs who have not undergone any training.

Table 2. Testing the Factorization of the Variable

Tests performed		Values of the tests
Entrepreneurial Education: EDUC		
Bartlett test		0
KMO		0.764
MSA _i	0.733	0.733
	0.763	0.763
	0.735	0.735
	0.841	0.841
	0.751	0.751
Professional experience: EXPER		
Bartlett test		0
KMO		0.910
MSA _i	EXPER1	0.880
	EXPER2	0.917
	EXPER3	0.900
	EXPER4	0.918
	EXPER5	0.942
Need for completion: ACCOMP		
Bartlett test		0
KMO		0.791
MSA _i	ACCOMP1	0.764
	ACCOMP2	0.829
	ACCOMP3	0.788
	ACCOMP4	0.757
	ACCOMP5	0.832
Locus of Control: LOCUS		
Bartlett test		0
KMO		0.879
MSA _i	LOCUS1	0.909
	LOCUS2	0.831
	LOCUS3	0.853
	LOCUS4	0.921
	LOCUS5	0.915
	LOCUS6	0.838
	LOCUS7	0.919
	LOCUS8	0.781
	LOCUS9	0.917
Need for Autonomy: AUTONO		
Bartlett test		0
KMO		0.734
	AUTONO1	0.813
	AUTONO2	0.668
	AUTONO3	0.745
Creativity: CREAT		
Bartlett test		0
KMO		0.846
MSA _i	CREAT1	0.816
	CREAT2	0.751
	CREAT3	0.862
	CREAT4	0.809
	CREAT5	0.834
Perception of time: TEMPS		
Bartlett test		0
KMO		0.727

MSA _i	TEMPS1	0.686
	TEMPS2	0.765
	TEMPS3	0.740
Money perception: MONEY		
Bartlett test		0
KMO		0.705
MSA _i	MONEY 1	0.669
	MONEY 2	0.661
	MONEY 3	0.883
Space perception: SPACE		
Bartlett test		0
KMO		0.716
MSA _i	SPACE1	0.695
	SPACE2	0.686
	SPACE3	0.788
Recognition of entrepreneurial opportunities: RO		
Bartlett test		0
KMO		0.891
MSA _i	RO1	0.878
	RO2	0.926
	RO3	0.952
	RO4	0.842
	RO5	0.924
	RO6	0.886
	RO7	0.788
	RO8	0.887

Table 2 shows the test results of the factorization of the variables (EDUC, EXPER, ACCOMP, CREAT, TEMPS, MONEY, SPACE and RO). For the variable “entrepreneurial education: EDUC” is “factorizable,” we observe that the significance of Bartlett is (<0.05); the precision measurement of KMO sampling is ($>$ to 0.5); MSA_i measurements are all (>0.5). In addition, for the variable “professional experience: EXPER” is “factorizable,” we observe that the significance of Bartlett is (<0.05); the precision measurement of KMO sampling is ($>$ to 0.5); MSA_i measurements are all ($>$ 0.5).

Concerning the variable of the “need for autonomy: AUTONO” is “factorizable,” we note that the significance of Bartlett is (<0.05); the precision measurement of the KMO sampling is ($>$ to 0.5) and the measurements of the MSA_i are all ($>$ to 0.5).

In addition, for the variable “Time perception: TIME” is “factorizable,” the significance of Bartlett is (<0.05); the precision measurement of the KMO sampling is ($>$ to 0.5) and the measurements of the MSA_i are all ($>$ to 0.5). Given the criteria of KMO, MSA_i and Bartlett’s test, we can consider that this variable is factorizable. Indeed, the significance of Bartlett is (<0.05); the precision measurement of the KMO sampling ($>$ to 0.5) and the measurements of the MSA_i are all ($>$ to 0.5).

The variable “Perception of space: SPACE” is “factorizable.” We note that the significance of Bartlett is (<0.05); the precision measurement of the KMO sampling is ($>$ to 0.5) and the measurements of the MSA_i are all ($>$ to 0.5). Finally, the results confirm that the dependent variable “recognition of entrepreneurial opportunity” is “factorizable”. Then, the significance of Bartlett is (<0.05); the precision measurement of KMO sampling is ($>$ to 0.5); MSA_i measurements are all ($>$ 0.5).

Factorial Structure of the Variable

The results of the factorial structures of the variables are shown in Table 3 which reveals the following:

■ **Entrepreneurial education (EDUC)** – the five-item PCA confirms the existence of a single factor that accounts for 80.730% ($>$ to 50%) of the total variance of the original data; the factorial contribution (Loadings) for each item is ($>$ to 0.5) thus confirming the unidimensionality of the variable; the eigenvalue is 4,037 ($>$ to 1); the quality of representation for each item is satisfactory ($>$ to 0.4). Finally, the Cronbach Alpha value is 0.936 ($>$ 0.6), thus confirming a high internal consistency of the scale of this variable.

■ **Professional experience (EXPER)** – Most of the surveyed business creators have experience in the chosen fields to create their businesses at 82.5%. This is proof of the importance of domain knowledge

as a reason for choosing a sector. We were able to notice that half of the time represents entrepreneurs 33.3% with experience ranging from 2 to 5 years; 24.6% of entrepreneurs have more than 5 years of experience and 24.6% of entrepreneurs have less than 2 years of experience. The six-item PCA confirms the existence of a single factor that accounts for 86.483% (> to 50%) of the total variance of the original data. The factor contribution (Loadings) for each item is (> to 0.5); which reveals the unidimensionality of the variable. The eigenvalue is, 4.324 (> to 1). The quality of representation for each item is satisfactory (> to 0.4). Finally, the Cronbach's Alpha value is 0.959 from (> to 0.6), which proves a high internal consistency of the scale of this variable. The high levels of training as well as the professional experience of the entrepreneur in the chosen field of creation were considered essential, even essential for the success of their project, by the majority of the respondents respectively representing 66.7% and 82.5%. These characteristics seem to better prepare the individual to make an entrepreneurial decision when the opportunity arises.

■ **Need for achievement (ACCOMP)** – The ACP shows that the variable “need for accomplishment: ACCOMP” is one-dimensional. Indeed, the five-item PCA confirms the existence of a single factor that explains 55.290% (> to 50%) of the total variance of the original data. The factor contribution (Loadings) for each item is (> to 0.5); which reveals the unidimensionality of the variable. The eigenvalue is 2,764 (> to 1) and the quality of representation for each item is satisfactory (> to 0.4). Finally, Cronbach's Alpha is 0.796 (> 0.6). It proves an internal consistency of the scale of measurement of this variable.

■ **Locus of control (LOCUS)** – a single factor has an eigenvalue equal to 5.347 (>1). The selected factor explains 59.407% (> 50%) of the total variance of the nine items. The quality of representation for each item is satisfactory (> to 0.4). However, Cronbach's Alpha is (<0.6). It proves that the internal consistency is weak, which indicates that the sample of items poorly reproduces the construct that we are trying to measure. Similarly, the factorial contribution of the “LOCUS1” items; “LOCUS3,” “LOCUS4,” and “LOCUS9” are (<0.5). So, these items are to be removed from the measurement scale. We note that these 4 items to eliminate concerning the “external control locus.” Although and in our Tunisian context, having an internal locus of control is the belief of a person who can influence his or her environment and is more likely to identify an entrepreneurial opportunity than someone with an external locus of control. The following table presents the new factor structure of the variable “locus of control: LOCUS” after the removal of the “LOCUS1” items; “LOCUS3,” “LOCUS4,” and “LOCUS9.” In addition, we note that a clear improvement in factorial contributions and item representation qualities after the elimination of the following items: “LOCUS1”; “LOCUS3,” “LOCUS4,” and “LOCUS9”. The unique factor has an eigenvalue (> to 1), which confirms that the variable “locus of control: LOCUS” is unidimensional. We observe a marked improvement also in the percentage of the variance explained by the retained factor went from 59.407% to 64.148%. Likewise, for Cronbach's Alpha, it went from a weak internal consistency of (-0.789) to a high internal consistency of 0.859.

■ **Need for autonomy (AUTONO)** – the results reported in the table show that the PCA of the six items confirms the existence of a single factor that accounts for 88.647% (> to 50%) of the total variance original data. The factor contribution (Loadings) for each item is (> to 0.5); which reveals the unidimensionality of the variable. As the eigenvalue is 2.659 (> to 1) and the qualities of representation for each item is in satisfactory absolute value (> to 0.4). Finally, the Cronbach's Alpha is 0.933 (> 0.6). It proves an internal consistency of the scale of measurement of this variable.

■ **Creativity (CREAT)** – For the control sample, the PCA highlights the results indicate that the five-item PCA confirms the existence of a single factor that accounts for 67.870% (> to 50%) of the total variance original data. The factor contribution (Loadings) for each item is (> to 0.5); which reveals the unidimensionality of the variable. The eigenvalue is 5.347 (> to 1). The quality of representation for each item is in satisfactory absolute value (> to 0.4). Finally, the Cronbach Alpha is 0.875 (>0.6). It proves an internal consistency of the scale of measurement of this variable.

■ **Perception of time (TEMPS)** – The result reveals that the three-item PCA confirms the existence of a single factor that explains 78.701% (> to 50%) of the total variance of the original data; the factorial contribution (Loadings) for each item is (> to 0.5) thus confirming the unidimensionality of the variable; the eigenvalue is 2.361 (> to 1); the quality of representation for each item is satisfactory (> to 0.4). Finally, the Cronbach's Alpha value is 0.864 (> 0.6), thus confirming a high internal consistency of the scale of this variable.

Table 3. Factor Structure of the Variables

Variable Items	EDUC		Eigenvalue	% of the explained variance	Cronbach's Alpha
	Factorial contribution	Quality of representation			
EDUC1	0.831	0.691	4.037	80.730	0.936
EDUC2	0.856	0.732			
EDUC3	0.969	0.938			
EDUC4	0.943	0.890			
EDUC5	0.886	0.785			
EXPER					
EXPER1	0.960	0.922	4.324	86.483	0.959
EXPER2	0.945	0.892			
EXPER3	0.938	0.880			
EXPER4	0.944	0.892			
EXPER5	0.859	0.739			
ACCOMP					
ACCOMP1	0.826	0.682	2.764	55.290	0.796
ACCOMP2	0.710	0.504			
ACCOMP3	0.701	0.492			
ACCOMP4	0.713	0.508			
ACCOMP5	0.761	0.579			
LOCUS					
LOCUS1	-0.844	0.712	5.347	59.407	-0.789
LOCUS2	0.845	0.714			
LOCUS3	-0.637	0.406			
LOCUS4	-0.825	0.680			
LOCUS5	0.750	0.563			
LOCUS6	0.712	0.507			
LOCUS7	0.849	0.720			
LOCUS8	0.662	0.438			
LOCUS9	-0.844	0.607			
LOCUS					
LOCUS2	0.896	0.803	3.207	64.148	0.859
LOCUS5	0.755	0.570			
LOCUS6	0.777	0.603			
LOCUS7	0.839	0.705			
LOCUS8	0.725	0.526			
AUTONO					
AUTONO1	0.922	0.851	2.659	88.647	0.933
AUTONO2	0.963	0.928			
AUTONO3	0.938	0.881			
CREAT					
CREAT1	0.823	0.677	3.394	67.870	0.875
CREAT2	0.901	0.813			
CREAT3	0.752	0.565			
CREAT4	0.759	0.577			
CREAT5	0.873	0.762			
TEMPS					
TEMPS1	0.909	0.827	2.361	78.701	0.864
TEMPS2	0.871	0.758			
TEMPS3	0.881	0.776			
MONEY					
MONEY 1	0.825	0.908	2.353	78.446	0.862
MONEY 2	0.835	0.914			
MONEY 3	0.693	0.832			
SPACE					
SPACE1	0.784	0.885	2.283	76.106	0.843
SPACE2	0.794	0.891			
SPACE3	0.705	0.840			

RO			5.902	73.775	0.944
RO1	0.942	0.887			
RO2	0.916	0.839			
RO3	0.905	0.818			
RO4	0.817	0.668			
RO5	0.867	0.751			
RO6	0.869	0.756			
RO7	0.626	0.392			
RO8	0.889	0.790			
RO			5.553	79.335	0.951
RO1	0.953	0.908			
RO2	0.924	0.853			
RO3	0.903	0.815			
RO4	0.798	0.636			
RO5	0.880	0.774			
RO6	0.876	0.767			
RO8	0.895	0.800			

■ **Money perception (MONEY)** – the three-item PCA confirms the existence of a single factor that accounts for 78.446% (> to 50%) of the total variance of the original data; the factorial contribution (Loadings) for each item is (> to 0.5) thus confirming the unidimensionality of the variable; the eigenvalue is 2.353 (> to 1); and the quality of representation for each item is satisfactory (> to 0.4). Finally, Cronbach’s Alpha value is 0.862 (> to 0.6), confirming a high internal consistency of the scale of this variable.

■ **Perception of space (SPACE)** – the three-item PCA confirms the existence of a single factor that accounts for 76.106% (> to 50%) of the total variance of the original data; the factorial contribution (Loadings) for each item is (> to 0.5) thus confirming the unidimensionality of the variable; the eigenvalue is 2.283 (> to 1) and the quality of representation for each item is satisfactory (> to 0.4).

■ **Recognition of entrepreneurial opportunities (RO)** – the result indicates that the eight-item PCA confirms the existence of a single factor that accounts for 73.775% (> 50%) of the total variance of the original data. the factor contribution (Loadings) for each item is (> to 0.5), which reveals the unidimensionality of the variable. The eigenvalue is 5.902 (> to 1) and the representation qualities for each item is satisfactory (> to 0.4) except for the item “RO7”. Indeed, the quality of representation of this item is below the minimum threshold of 0.4. This item is therefore to be eliminated. The elimination of the “RO7” item was unexpected since the measuring instrument used was already tested in a previous search by Simon et al. (2000) and Barbosa et al. (2008). The following table presents the new factor structure of the variable “the recognition of entrepreneurial opportunities: RO” after the withdrawal of the item “RO7.” For the factorial contributions and the qualities of representation of the items after the elimination of the RO7 item. The single factor has an eigenvalue (> to 1), which confirms that the variable “recognition of entrepreneurial opportunities: RO” is one-dimensional. We also observe a significant improvement as the percentage of variance explained by the retained factor went from 73.775% to 79.335%. Finally, the Cronbach’s Alpha value is 0.951 (> to 0.6), which proves a high internal consistency of the scale of this variable. The descriptive analysis of the variables of the research enabled us to verify that they are all “factorizable” and to test the unidimensionality (convergent validity) and the internal coherence (reliability) of their scales of measurement. In what follows, the descriptive analysis will be supplemented by an explanatory analysis using the linear regression method to test the various hypotheses.

The Operations Prior to Regression and Verification of the Conditions of its Use

We recall that our method of explanatory analysis of data is the multiple linear regression method: In order to be able to use the regression method, a certain number of hypotheses must be verified (Evard et al., 2003): explanatory variables must be independent of each other. If this hypothesis is not verified, there is a phenomenon of multicollinearity between the variables. Multicollinearity can be identified through the examination of bivariate correlations.

According to Evard et al. (2003), the risk of multicollinearity can be systematically identified thanks to the Variance Inflation Factor (VIF): this represents the degree of increase of the standard error

due to the degree of correlation X_j with the other predictors. Thus, by examining for each variable the VIF, we consider that there is not really a problem of multicollinearity if the VIF is less than 4.

The independence of the residuals: the autocorrelation of the error terms has the effect of affecting the variance of the correlation coefficients R . The Durbin & Watson statistics make it possible to verify this hypothesis. If the value of Durbin & Watson is below 1 or above 3, there is a risk (Field, 2000). Standardized residues must be of equal variance and distributed randomly without showing any particular trend (Evard et al., 2003). This is the hypothesis of homoscedasticity.

The graphical examination of the standardized residue profile will make it possible to verify if this hypothesis is admissible. Measurement errors must be distributed according to a normal distribution: this is the hypothesis of normality of the distribution of the residuals according to the predicted values: the visualization of the Gaussian PP regression diagram of the standardized residues will allow us to assume if this hypothesis is verified or not. The data that allow to study the phenomenon of multicollinearity and to examine the independence of residues. The following table summarizes the values of VIF and the value of the Durbin and Watson statistic.

Table 4. Examination of Multicollinearity and Independence of Residues of Explanatory Variables

Dependent Variable: Opportunity Recognition (RO)		
	Variance Inflation Factor (VIF)	Durbin & Watson
EDUC	1.327	1.775
EXPER	1.267	
ACCOMPL	1.136	
AUTONO	1.179	
LOCUS	1.132	
CREAT	1.074	
ESPACE	1.124	
MONEY	1.068	
TEMPS	1.096	

We note that the VIF values corresponding to each of the explanatory variables do not exceed the threshold 4. We conclude that there is no problem of multicollinearity. Similarly, the value of the Durbin & Watson statistic is satisfactory for the regression performed. It is well above 1 and below 3.

We can therefore conclude that the residues are independent. Regarding the hypothesis of the normality of the distribution of residues, the Gaussian P-P regression diagram of standardized residues presents no ambiguity as to whether this hypothesis is true. Indeed, by visualizing the shape of the distribution of the residues, we note the existence of a normal distribution of the terms of errors.

Also, the graphical examination of the profile of the standardized residues shows that these are randomly distributed without any particular tendency. Thus, the hypothesis of homoscedasticity is admissible. Once the conditions of the application of multiple regressions are verified, the next step is to empirically test our research model. For this purpose, we treat, in turn, the influence of each independent variable on the recognition of opportunity.

Results and Interpretation of Linear Regression

In what follows, we present and interpret the results obtained by multiple linear regressions: for the variable to be explained “opportunity recognition: RO.” We have in our research model, nine hypotheses that relate to this variable. Thus, Table 5 shows the result of the multiple regression of this variable.

Regression on the Dependent Variable “Recognition of Entrepreneurial Opportunity”

The results of the regression analysis of the variable “entrepreneurial education” show that: the value of t student calculated is in absolute value equal to 1.180. Compared to the theoretical t student value ($t = 1.96$) at the 5% threshold, we find that the calculated t value is (<1.96) and the one-sided significance is well above 0.05. It turns out that standardized β is not significant. Thus, entrepreneurial education has no significant effect on the recognition of entrepreneurial opportunity in our study context: H1 is unverified.

Table 5. Explanatory Analysis of the 9 Variables

Dependent variable Independent Variable	Opportunity recognition	T Student	Unilateral meaning
EDUC (β standardized)	-0.165	-1.180	0.244 ^{ns}
EXPER EDUC (β standardized)	0.322	2.353	0.023 ^{ns}
ACCOMP (β standardized)	0.398	3.075	0.004 ^{ns}
LOCUS (β standardized)	0.094	-0.726	0.471 ^{ns}
AUTONO (β standardized)	0.366	2.776	0.008 ^{ns}
CREAT (β standardized)	-0.117	-0.926	0.359 ^{ns}
MONEY (β standardized)	0.361	0.922	0.116 ^{ns}
ESPACE (β standardized)	0.056	0.434	0.666 ^{ns}
TEMPS (β standardized)	-0.165	-1.180	0.244 ^{ns}

In our study context, we found that entrepreneurial education does not favor the recognition of business opportunities. Unlike the proven results from past studies (Davidsson & Honig, 2003; Arenius & De Clercq (2005), this hypothesis is not verified in this research. This result can be explained by the lack of awareness on the part of the state and the public authorities to assist young students, by training them in the creation of enterprises, and this through the support structures. Thus, the Tunisian culture is quite favorable to the creation of company.

The face-to-face administration of the questionnaire with certain entrepreneurs allowed us to conclude, a priori, that they have a lack of awareness about entrepreneurship. Indeed, the majority of the entrepreneurs we contacted stated that during their formal education, they did not use either specific entrepreneurship education, or participation in a course or activity related to entrepreneurship. or starting a business. It is a matter of fact that the training offer must still evolve to be more readable, motivating to cover all the demand.

For the second variable “work experience” the regression analysis of the variable show that the calculated student t-value is (> 1.96) and the one-sided significance is significantly less than 0.05. It turns out that standardized β is significant. Thus, work experience has a significant and positive effect (standardized $\beta = 0.023 > 0$) on opportunity recognition: H2 is verified.

The significant influence of professional experience on the recognition of business opportunities reinforces the results of many studies such as those of Ucbasaran et al. (2003), Timmons (1999), Minniti and Bygrave (2001), and Shane and Venkataraman (2000), justify the important role of professional experience by individuals in strengthening their cognitive abilities to realize potential activities. Thus, as part of this study, the more entrepreneurs have had past entrepreneurial experiences in a specific area, the more business opportunities will be recognized.

This result supports the findings of Kaish and Gilad (1991) conducting an exploratory study, suggesting that past experiences and knowledge of a field are necessary to distinguish business opportunities that others fail to identify.

The results of the explanatory analysis of the “need for completion” variable show that: the value of t student calculated is equal to $3.075 > 1.96$; the one-sided significance is significantly less than 0.05. We can conclude that standardized β is significant. Thus, the need for achievement has a significant and positive effect (standardized $\beta = 0.398 > 0$) on the recognition of entrepreneurial opportunities: H3 is verified. In accordance with the contributions of the need-to-fulfill theory, this hypothesis is verified in the context of this study. Thus, the assumption that the need for fulfillment will have a positive impact on the recognition of entrepreneurial opportunity is accepted.

The result we have achieved provides entrepreneurs with empirical evidence supporting the idea that people who have the targeted achievement are willing to set future goals learn and therefore recognize more business opportunities. So, to be on standby continues to recognize the opportunities, Tunisian entrepreneurs possess the desire and the will that drives them to accomplish a task or to aim at a goal corresponding to a need. This result corroborates the idea developed by McClelland (1962) that he notes that a business opportunity encourages the act, especially individuals with a certain motivation to succeed. The regression analysis for the variable “locus of control” shows that: the value of t student calculated is < 1.96 ; the unilateral significance is clearly greater than 0.05. As a result, standardized β is insignificant. Thus, the locus of control does not have an effect on the recognition of entrepreneurial opportunities: H4 is unverified.

Contrary to the results proved by Laufer (1975), Cooper, Woo and Dunkelberg (1988), this hypothesis is not verified in the context of this study. A plausible explanation is that the external locus of control is not proven in our Tunisian context, since the majority of Tunisians do not believe that their success is more related to external factors such as luck. On the other hand, they proved that their success in life comes from their own actions, their ability to control and their ability.

The variable “need for autonomy” gave the following results: the value of t student calculated is equal to $2,776 > 1.96$; the one-sided significance is significantly less than 0.05. We can conclude that standardized β is significant. Thus, the need for autonomy has a significant and positive effect (standardized $\beta = 0.366 > 0$) on the recognition of entrepreneurial opportunities: H5 is verified.

Several recent studies of emerging entrepreneurs confirm the importance of psychosociological dynamics in the creation of new firms (Gasse et al., 2003). They seek autonomy and independence, want to become their own boss and take initiatives in this direction. The result we have achieved is in line with previous research that has demonstrated the beneficial effect of the need for autonomy on the recognition of business opportunities (Davidsson, 1995; Engle et al., 1997; Burke et al., 2000; Sweeney, 1982). Thus, being one’s own boss, being autonomous and working according to one’s own desire positively acts on the recognition of opportunity.

In summary, the Tunisian entrepreneur has a strong need for personal fulfillment; he has confidence in him; he likes moderate risks; and he is full of energy and motivation. It is clear that not all of these features are high for a particular contractor. Even if these dimensions combine to produce a common effect and they seem to complement each other, it is a fact that each human being remains a complex being whose personality is unique. It is not imperative to success to possess all these features. However, it is desirable to encourage the emergence and development of potential entrepreneurs (if we consider that they have been identified among entrepreneurs who have been successful).

The regression analysis relating to the variable “creativity” shows that the value of t student calculated is in absolute value $< \text{at t theoretical student } (t = 1.96)$; the unilateral significance is clearly greater than 0.05. It follows that standardized β is not significant. Thus, creativity does not have an effect on the recognition of entrepreneurial opportunities. The risk of rejection of hypothesis 4 is very high ($p = 0.359 > 0.05$): H6 is unverified in our study context.

Contrary to proven results in the work of Hills et al. (1997), this hypothesis is not verified in the context of this study. These authors come to consider that the process of identifying opportunities is a form of creative process. They found that 90% of their sample thinks that creativity is very important for identifying opportunities. Similarly, Tremblay et al. (2006) also found in their study an increase in the number and level of innovation of opportunities identified by students with training in creativity. This can be explained by the fact that in our study context, Tunisian entrepreneurs do not rely on creativity to bring out new ideas or discover new opportunities. The regression analysis for the variable “perception of money” therefore results that β standardized is insignificant. Thus, the perception of money does not have an effect on the recognition of entrepreneurial opportunities: H7 is unverified.

In our study context, the perception of money does not favor access to discover new opportunities. This can be explained by the fact that, in our Tunisian context, the majority of the entrepreneurs we consulted came from a family of entrepreneurs who facilitated the transaction of economic, financial and social values capable of influencing and inciting its members towards the ways of the company.

It appears that our results do not support the object of several empirical studies (Bragard, 1987; Evans & Leighton, 1992; Blanchflower et al., 2001; Evans & Jovanovic, 1989; Holtz-Eakin et al., 1994). For the variable “perception of space,” it turns out that standardized β is not significant. Thus, the perception of space has no significant effect on the recognition of entrepreneurial opportunity: H8 is unverified. Contrary to the contributions of the theory of space perception, this hypothesis is not verified in the context of the present study. This can be judged by the fact that our sample is lacking entrepreneurs who are at the international level or have transactions with other countries.

The results of the regression analysis of the variable “perception of time” show that: the value of t student calculated is in absolute value equal to 1.180. Compared to the theoretical t student value ($t = 1.96$) at the 5% threshold, we find that the calculated t value is (< 1.96); the unilateral significance is clearly greater than 0.05. It turns out that standardized β is not significant. Thus, the perception of time has no significant effect on the recognition of entrepreneurial opportunity in our study context: H9 is unverified.

The results obtained show that the perception of time has no effect on the identification of business opportunities. However, these results do not confuse the results found by Hills (1995) and Hills et al. (1997) in empirical studies which have shown that opportunity recognition is a process that is generally based on exchanges over time between the entrepreneur and his entourage. This can be communicated by the fact that a temporal pressure, i.e., a feeling of having insufficient time to discover and exploit all the opportunities is striking in our contemporary western society.

From all the above, it is clear that in the Tunisian context, perceptions of the availability of resources do not favor the recognition of business opportunities.

The Overall Quality of the Model Explaining the Dependent Variable “Recognition of Entrepreneurial Opportunity”

The interpretation of the results of the regression does not stop at the level of each variable, but it is also necessary to interpret the strength and the significance of the connection between the variable to be explained and the explanatory variables (Evard et al., 2003), that is, to interpret the results of the regression at the global level.

At the global level, the variance percentage of the variable to explain the “recognition of entrepreneurial opportunity” returned by the model is $R^2 = 30.5\%$. The adjusted R^2 is 17.2% and the Fisher coefficient is significant at $p = 0.031 (<0.05)$. This weak explanatory power of the model can be justified by the existence of the variables of “entrepreneurial education”, “locus of control”, “creativity”, “perception of time”, “perception of money” and “perception of space”, whose contribution is not significant. So, these variables are to be eliminated from the model to make it more parsimonious. In addition, the existence of other variables that are not taken into account in our research model. In this respect, it would be interesting to make a qualitative study to look for other explanatory variables that could contribute to the increase of explanatory power of the variable to explain “recognition of entrepreneurial opportunity.”

We first performed a PCA on the scales of the dependent variable and the explanatory variables to verify if the data is factorizable. Following the PCA, five items were deleted: “LOCUS1”; “LOCUS3”; “LOCUS4”; “LOCUS9” and “RO7”. The assessment of the reliability of the scales used is ensured by the coefficient “Alpha of Cronbach”. The values of this coefficient are all greater than 0.7 thus confirming the reliability of these scales.

Finally, the analysis and interpretation of the results of the regression are carried out at two levels: at the level of each explanatory variable to determine its explanatory power in the model (standardized β and student test) and at the global level to judge the robustness overall model (R^2 , R^2 adjusted and Fisher’s F-test).

Three of the nine hypotheses have been validated. It turned out that a personal profile of the Tunisian entrepreneur, manifested by a strong need for personal fulfillment and an intense need for autonomy, is therefore full of energy and motivation, although he has past entrepreneurial experiences in the specific field, which therefore favors recognition of entrepreneurial opportunity. The combined effect of these characteristics may influence not only the recognition of opportunities but also the speed and intensity of entrepreneurial actions.

CONCLUSION

In recent years, the study of the effects of the entrepreneur’s profile has not ceased to stimulate the authors’ investigations. The latter, convinced of the considerable importance of the personal profile in Entrepreneurship, pursue research on the impact of aspects of the entrepreneur’s profile on entrepreneurship awareness (Gasse, 2000; Duan et al., 2020) and the intention to undertake (Tounes, 2003) female entrepreneurship.

This study, while continuing this work, raises a new research question: what is the impact of the entrepreneur’s personal profile on the recognition of entrepreneurial opportunities? To answer this question and starting from the postulate of the centrality of the entrepreneurial resource for the performance of the companies and the statement of a quasi-ignorance of the characteristics of the entrepreneurs of the private companies in Tunisia, we pursued a double objective: the first aims to describe, explain and predict, in the context of entrepreneurship education, a major phase of the upstream entrepreneurial process: the recognition of entrepreneurial opportunities. From a procedural

perspective, it predicts the act of entrepreneurship that can materialize. The second is to study the different sociological, professional, psychological and cultural components of the entrepreneur's profile and thus to understand the impact of these different aspects on the recognition of entrepreneurial opportunities.

Beyond the definition of the terms around which this research takes place (opportunities and personal profile). As part of this work, and by situating the research problem within a very widespread and applied framework in entrepreneurship research, namely the study of aspects of Belaid's entrepreneur profile (2003), Based on a psychosocial theory of behavioral prediction, the theory of the identification and development of entrepreneurial opportunities of Ardichvili et al. (2000), our research confirms that entrepreneurship is at the crossroads of several disciplines.

The recognition of entrepreneurial opportunities is apprehended from a hypothetico-deductive model in which four groups of variables are selected. The first group contains the sociological aspects of informing us about the social situation of the entrepreneur. The second group includes the professional aspects associated with the entrepreneurial skills that are acquired with the specific lessons of business creation and the skills that one acquires with work or internship experiences. The third group consists of the psychological aspects expressed by the need for fulfillment, the search for autonomy, the locus of control and creativity. The last group, finally, contains the cultural aspects, i.e., perceptions of resource availability, i.e., time, space, and money.

In conclusion, we will note that it is now recognized that the promotion of entrepreneurship among young Tunisian entrepreneurs is motivated by many good reasons. Entrepreneurship acts as an extended solution that can cure all the ills of society; it has several possible advantages that can feed the motivations of a young person to become an entrepreneur. An obvious and probably important advantage is the creation of a job for the young person and breaking with unemployment as a degrading constraint. The difficulties in the employment sector facing young people in Tunisia have negative consequences not only for the young people in question, but for society as a whole.

Like all work, our research presents both contributions and limitations. Therefore, and from the results of our present research, we can formulate some recommendations for potential entrepreneurs. This research invites future entrepreneurs to maintain a strong need for accomplishment and the will to establish future objectives, they are called to seek autonomy and independence, to take initiatives in this direction so that they can work for their own accounts. They are better to have experience in the specific field. This work therefore helps to generate the motivation and professional experience that the entrepreneur is called upon to maintain in order to identify business opportunities.

Despite the aforementioned contributions, this research is not free from shortcomings. First, the number of observations affected is reduced (80) so that we can generalize the results and have a more complete view. We, therefore, propose to broaden the scope of this research to a larger sample of companies. The second limitation of this research relates to the lack of items for the sociological aspect, this is said to the absence of measurement scales in the literature concerning this aspect and that it is impossible to put items for this aspect. The third limitation concerns the unavailability of specific information on updated companies newly created by young Tunisian entrepreneurs. This research was limited to studying the role of the personal profile in the phase of the upstream entrepreneurial process (the opportunity recognition phase). Research would be desirable to understand the impact of personal profile on the opportunity paradigm, i.e., on all these phases, in particular the phase of identification, evaluation and exploitation of the opportunity.

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Article correspondence should be sent to:

Salim Morched

Department of Management, Faculty of Economics and Management, University of Sfax, Sfax, Tunisia
(salimmorched.mez@gmail.com)

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