PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

HIGHER SCHOOL OF COMMERCE – KOLEA

THESIS

Submitted in the fulfilment of the requirements for the degree of Doctor of Philosophy in Management Sciences

Major: Entrepreneurship and SMEs Management

Topic

Entrepreneurial Competencies in Business Success: The Case of Algerian MSMEs

By **BOUMEZBEUR Lynda**

Supervised by **Pr. DADDI ADDOUN Nacer**

Name and Surname	Academic Rank	Affiliation	Role in the Committee
Prof. Hamoutane Ali	Full Professor	Higher School of Commerce	Chair
Prof. Daddi Addoun Nacer	Full Professor	Higher School of Commerce	Supervisor and Rapporteur
Prof. Chigara Hadjira	Full Professor	Higher School of Social Security	Discussant Member
Dr. Delmadji Ahlam	Associate Professor 'A'	Higher School of Commerce	Discussant Member
Pr. Mebani Abdelmalek	Full Professor	University of Algiers 3	Discussant Member

2025-2026

To the memory of my dear father,

To the most supportive and loving mother,

To my country, Algeria.

Acknowledgments

Above all, I deeply thank Allah SWT for giving me the will and strength to finish this work.

I want to thank my supervisor, Professor Daddi Addoun Nacer, for his professional and academic guidance and valuable feedback throughout this long journey, which began with my Master's degree.

I am also grateful to all the professionals in various institutions who guided me and assisted with the data collection process, including at the Ministry of Industry, NESDA, CNAC, ANGEM, and CACI. Additionally, I would like to thank the entrepreneurs for their time and contributions to this study.

I sincerely thank the management team of the postgraduate office at the Higher School of Commerce, for consistently addressing my repeated requests and helping with administrative matters.

I would also like to thank all the professors who taught me at the Higher School of Accounting and Finance in Constantine and the Higher School of Commerce in Kolea, especially the teachers of Organizational and Business Management.

I thank my family for encouraging a love of learning and ongoing ambition.

My late father, Mohamed, whose memory inspired me to honor him with this work,

My mother, whom I will never be able to thank enough, no matter how poetic I may sound.

My brother Nacer-Eddine, for the encouragement, advice, and guidance during my entire educational journey.

Abstract

Entrepreneurial competencies are widely recognized as key drivers of success and survival for small and medium-sized enterprises (SMEs), especially in emerging economies where the business environment is often tough. This study examines how entrepreneurial competencies influence the business success of SMEs and microenterprises (MSMEs) in Algeria. Using a post-positivist perspective and a quantitative research approach, the study employs deductive reasoning and relies on established models of entrepreneurial competencies. Data were gathered through a structured questionnaire distributed to a sample of Algerian entrepreneurs, and the results were analyzed with statistical methods to identify meaningful relationships between selected competencies and subjective indicators of business success. The originality of this study lies in analyzing entrepreneurial competencies from a behavioral perspective, rather than focusing only on personality traits, and in including environmental factors as additional variables that affect small business success in the Algerian context. The findings provide valuable behavioral insights for entrepreneurs, training programs, and policymakers aiming to promote entrepreneurial success and sustainability.

Key words: Entrepreneurial competencies, Algerian MSMEs, small business success, competency approach, entrepreneurship, entrepreneurial success.

Résumé

Les compétences entrepreneuriales sont largement reconnues comme des facteurs clés de réussite et de survie des petites et moyennes entreprises (PME), en particulier dans les économies émergentes où l'environnement des affaires est souvent complexe. Cette étude examine l'influence des compétences entrepreneuriales sur le succès des PME en Algérie. Adoptant une perspective post-positiviste et une approche de recherche quantitative, elle s'appuie sur un raisonnement déductif et sur des modèles établis de compétences entrepreneuriales. Les données ont été collectées au moyen d'un questionnaire structuré distribué à un échantillon d'entrepreneurs algériens, puis analysées par des méthodes statistiques afin d'identifier les relations significatives entre certaines compétences et les indicateurs subjectifs de réussite. L'originalité de cette recherche réside dans l'analyse des compétences entrepreneuriales sous un angle comportemental, plutôt que seulement dans les traits de personnalité, ainsi que dans l'intégration des facteurs environnementaux comme variables supplémentaires influençant la réussite des petites entreprises dans le contexte algérien. Les résultats offrent des éclairages utiles pour les entrepreneurs, les programmes de formation et les professionnels cherchant à renforcer le succès entrepreneurial en Algérie.

Mots clés : Compétences Entrepreneuriales, les PME Algériennes, succès des petites entreprises, approche des compétences, entrepreneuriat, succès entrepreneurial.

Table of Contents

List of tables

List of figures

List of Acronyms

Acronym	Full form
AMA	American Management Association
ANDI	Agence Nationale de Développement de l'Investissement (National Agency for Investment Development)
ANGEM	Agence Nationale de Gestion du Microcrédit (National Agency for Micro-Enterprise Management)
AVE	Average Variance Extracted
BTPH	Bâtiments, Travaux Publics et Hydrauliques (Buildings, Public Works, and Hydraulics)
CNAC	Caisse Nationale d'Assurance Chômage (National Unemployment Insurance Fund)
COVID-19	Coronavirus Disease 2019
CR	Composite Reliability
CSR	Corporate Social Responsibility
EU	European Union
EDU	Education
EXP	Experience
FGAR PME	Fonds de Garantie des Crédits aux PME (Credit Guarantee Fund for SMEs)
FL	Factor Loading
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GLOBE	Global Leadership and Organizational Behavior Effectiveness
GoF	Goodness of Fit
HRM	Human Resource Management
IADB	Inter-American Development Bank
IMF	International Monetary Fund
IO	Industrial Organization
MBV	Market-Based View
ME	Micro Enterprise
ME	Medium Enterprise

MENA	Middle East and North Africa
MEPI	Middle East Partnership Initiative
MSME	Micro, Small, and Medium-sized Enterprise
n-Ach	Need for Achievement
NESDA	National Entrepreneurship Support and Development Agency
NIE	New Institutional Economics
OCEAN	Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism
OECD	Organization for Economic Co-operation and Development
PADICA	Programme d'Appui à la Diversification Industrielle et à l'amélioration du Climat des Affaires en Algérie
PLS-SEM	Partial Least Squares Structural Equation Modeling
PTA	Personality Trait Approach
RBV	Resource-Based View
R&D	Research and Development
ROA	Return on Assets
RHO-A	Reliability coefficient
SCP	Structure Conduct Performance
SE	Small Enterprise
Smart PLS	Smart Partial Least Squares
SHS	Humanities and Social Sciences
SME	Small and Medium-sized Enterprise
SPSS	Statistical Package for the Social Sciences
SSH	Social Sciences and Humanities
TEA	Total Early-stage Entrepreneurial Activity
UK	United Kingdom
UNDP	United Nations Development Programme
US	United States
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Inimitable, and non-substitutable
WB	World Bank
WVS	World Values Survey

List of Appendices

Chapter One:

Introduction

1 Chapter One: Introduction

Introduction of the chapter

Entrepreneurship development has become a global priority, as governments are stepping back in favor of the market due to pronounced liberal policies and the rising issue of unemployment. Thus, self-employment has appeared as a solution for creating micro, small, and medium-sized enterprises (MSMEs/SMEs), especially for young project leaders.

In Algeria, this approach has long been adopted by public authorities because, in addition to providing the majority of new jobs and stimulating economic growth, new businesses help improve the competitiveness of industrialized and developing economies, enabling them to better adapt to economic changes and structural shifts.

After independence, Algeria adopted a planned economy with little emphasis on the private sector. The government's primary focus was on the exploitation of hydrocarbons and the development of heavy industries (De Bernis, 1971). However, the 1986 economic crisis, along with the decline of socialism in the late 1980s, prompted Algeria to shift towards a market economy, recognizing the private sector as a key contributor to the country's development[1].

From the mid-1990s onwards, several reforms were introduced under the International Monetary Fund's (IMF) Structural Adjustment Program, affecting all sectors of the economy. As part of these reforms, SMEs began to receive greater recognition and support through new laws, initiatives, the establishment of support funds, and significant budgetary allocations (Mosbah & Debili, 2014, p. 46).

These efforts aimed to position SMEs as an alternative to the hydrocarbon sector, enabling them to play a more active economic role and compete in the global market. This has produced an increase in the number of SMEs and their contribution to GDP, although not at the expected levels, as the oil and gas sectors continue to dominate much of the economic growth.

Currently, SMEs account for almost 99.9% of the total enterprises in Algeria's economy, which numbered approximately 1,359,803 as of the end of 2022. In addition, SMEs are a major job driver, contributing an estimated 3,307,821 jobs, primarily operating in the service,

[1] - Before the 1986 crisis, in a first attempt under the economic national plan, private SMEs were promoted by Law 82-11 of 21 August 1982 on national private economic investment, and by Law 82-12 of 28 August 1982 on the status of craftsmen. For another elements on this subject, see also: Bernard Chantal (1988), En Algérie, une « nouvelle » valeur, l'auto-emploi ? In : Tiers-Monde, tome 29, n°114. pp. 295-318.

construction, and public works sectors. In this respect, the country created 80,531 new SMEs in 2022, reflecting strong entrepreneurial dynamics and a yearly growth rate of 5.71% (Ministry, 2023).

Sustainability, however, is countered by an alarming mortality rate - in the same year, 19,179 SMEs were dissolved. According to Kerzabi & Lachachi (2009, p. 28), the reasons for these failures are numerous, including the incompetence of some managers in business management and the opacity of the market, making it difficult to evaluate supply and demand and assess existing competition. These factors have hindered the growth of these businesses.

Therefore, prioritizing the necessary comprehension of entrepreneurial behavior in the first few years after business creation is essential. Incubators and support structures designed to enhance the effectiveness of government efforts in entrepreneurship development must address the challenges faced by new companies, such as resource shortages, lack of training, and insufficient support.

Thus, fostering international entrepreneurship, business creation, and the development of SMEs has become a key objective of public action, as it is a factor of territorial economic development and a lever for change.

These enterprises face survival issues and growth challenges, characterized by the difficulty of sustaining their existence during succession or transmission processes. In this context, from the early stages of business creation, entrepreneurs face various challenges related to their activities, roles, competencies, and the management of their entire business in a complex and competitive environment.

In fact, SMEs are viewed as sustainable if they can face the encountered challenges and improve their survival ability in the market, either internally or externally. They are headed for new trends of entrepreneurial tasks. Among their benefits, SMEs could share their knowledge and potential, gain trust among companies, benefit from non-negotiable resources, particularly in terms of reputation and visibility, create new market opportunities, intensify innovation, and adopt best practices and behaviors by integrating into their network (Sisira, et al., 2020). It is clear that these elements are products of their entrepreneurial resources.

Considering these factors, our research aims to address and analyze small business success, putting entrepreneurial competencies at the center of our study. We are examining the link between, on the one hand, the competencies of entrepreneurs and, on the other hand, the growth and sustainability of their firms, studying the profile and entrepreneurial competencies specific to Algerian entrepreneurs.

1.1 Entrepreneurship significance

Entrepreneurship plays a highly relevant role in economies worldwide, contributing to economic development, enhancing social conditions, and enabling fairer wealth distribution. The growing interest in this theme is such that, in addition to being reflected in public policies, it is increasingly securing an important place in education and training for disseminating best practices and knowledge essential for achieving the desired results. Furthermore, entrepreneurship is one of those research fields marked by many facets, the human variable in particular. Entrepreneurship enables individuals to apply initiative, imagination, innovativeness, and risk-taking, which at times may foster self-esteem and produce a sense of fulfillment.

The importance of entrepreneurship is evident in its benefits for the social and economic development of most countries, manifesting in various ways. First, entrepreneurs create new businesses, which in turn generate employment, a crucial component for economic stability and growth in both developed and developing nations. Besides creating employment opportunities, entrepreneurship promotes economic development through innovation and increased production, often introducing new products and services that enhance efficiency in market competition (Naudé, 2008, p. 2). Further, entrepreneurs facilitate the structural transformation of economies from low-income, primary-sector-based to high-income, technologically advanced societies, a process that has been imperative for the development of a higher standard of living and human welfare. The agents of technological innovation-engineering new technologies and processes that keep innovations competitive at the global level-are also entrepreneurs.

Beyond its economic impacts, entrepreneurship encourages social innovation by addressing social issues through social enterprises and community-oriented projects, thereby enhancing the quality of life. Additionally, new businesses increase government revenues via taxes, which are reinvested in public services and infrastructure to further expand the economy. A diverse entrepreneurial ecosystem helps stabilize the economy by preventing reliance on a single industry or sector.

In a nutshell, entrepreneurship is and will continue to be the backbone of economic and social development processes, as it generates employment, drives innovation, and contributes to overall national development.

Many countries have taken initiatives to develop entrepreneurial culture and motivation among all categories of the population. Interest in this aspect emerged in the 1980s, a time when large enterprises revealed their weaknesses, while small businesses began to achieve significant performance improvements.

1.2 Entrepreneurship in Algeria

Until the end of the 20th century, Algeria experienced an economic and security crisis, which had a significant influence on the local economy. The country was still trying to adapt to the challenges of globalization. In particular, the job market was unable to absorb the number of university graduates due to the underperforming industrial sector, with thousands graduating from Algerian universities each year. The unemployment problem among young graduates has become more severe due to the state's inability to create decent employment opportunities.

In its response, it saw the birth of many structures to boost youth employment. These programs aimed to motivate young people, particularly recent graduates, to pursue professional training. Several incentives were offered, including funding, support, and tax exemptions for the first year of operation. However, these actions have not yet yielded results that meet the expectations of the institutions responsible for these programs.

According to Ghiat (2015, p. 36), these failures result from deficiencies in the education and training system, including higher education, which has not kept pace with global changes in terms of programs and objectives. The author claims that Algerian universities fail to meet the labor market's demand for preparing students to become entrepreneurs and job creators, thereby generating wealth. However, this requires behavioral aspects related to entrepreneurship and entrepreneurial competencies within the scope of establishing and managing businesses, as well as developing entrepreneurial intentions among young people and students in particular.

Entrepreneurship in Algeria is encouraged by a set of mechanisms and organizations that promote the creation and development of businesses, particularly the youngsters and new ventures, including:

1. **NESDA**: It supports young entrepreneurs with financial means and advisory services and stimulates job opportunities. Hence, it plays a crucial role in supporting young entrepreneurs.
2. **ANDI:** It is an agency established to promote and facilitate investments in Algeria by providing incentives and support to investors. ANDI's mission is to promote investment in Algeria and support investors in their ventures.
3. **CNAC:** Supports jobless individuals in establishing their enterprises by providing financing and professional training.
4. **ANGEM:** Its main role is to provide access to microcredits for all, especially for women, unemployed youth, and rural communities, to stimulate them to create small businesses or micro-enterprises with the ultimate objective of being self-employed, eradicating poverty, and also stimulating entrepreneurship throughout the country.
5. **FGAR**: This fund facilitates access to bank financing for small and medium-sized enterprises through credit guarantees. It aims to complement the guarantees required by banks to secure loans, which is usually the main cause of difficulties for entrepreneurs in obtaining financing.

The Algerian government establishes these mechanisms to encourage the creation of businesses and support entrepreneurs in their projects.

Regarding outcomes in numbers, entrepreneurial support mechanisms and encouragement at the end of 2022 were as follows:

1) **Business Incubators:** They hosted 278 projects, which in turn created 114 SMEs and provided 634 jobs.
2) **SME Investment Credit Guarantee Fund (FGAR):** The SME Investment Credit Guarantee Fund issued 3,639 guarantees until December 31, 2022, totaling 130,786.07 million Algerian Dinars (MAD).
3) **CNAC (National Unemployment Insurance Fund) Program:** Financing 40 projects brings the cumulative total to 160 projects financed until December 31, 2022.
4) **Advisory and Support Centers:** 331 projects were supported, including 18 innovative ones.

In summary, all these entrepreneurship support structures, through various activities and mechanisms, demonstrate a serious commitment to entrepreneurship through diverse forms of assistance and financing. These governmental structures aim to increase SMEs' access to financial and technical support, promote entrepreneurship, and encourage job creation in Algeria.

Guechtouli and Guechtouli (2014) employed the model of Williamson (2000) from New Institutional Economics (NIE) to analyze various aspects that influence entrepreneurship in Algeria at different levels. Their study highlighted the complexity of the Algerian environment, noting that it is shaped at social, institutional, and resource-based levels.

On the social level, the cultural perceptions of entrepreneurship were negative: according to GEM (2009), only 57% of citizens considered entrepreneurship a desirable career choice (Chiquier & Bertolini, 2021). At the institutional level, complex bureaucratic procedures and inefficient government programs, such as ANSEJ, further complicated entrepreneurial activities. Entrepreneurs had to undergo 14 procedures and a lengthy process, which could take as many as 25 days, in addition to high costs and inadequate support, particularly in basic skills such as management and accounting. In addition to the lack of training and follow-up, these challenges made government initiatives look like debt traps, further discouraging entrepreneurial attempts.

After a decade since this study, setting up a business is still unfortunately not that easy in Algeria. The pre-registration phase, for instance, takes over three weeks at the beginning and involves several stages, such as obtaining a certificate confirming the uniqueness of the company name, depositing initial capital with a notary, and publication of an incorporation notice (World Bank Blogs, 2021).

The most significant reforms undertaken by Algeria are aimed at making the business climate conducive for SMEs. The key areas that have seen significant improvements are ease of electricity connections, credit infrastructure upgrades, digitalization of cadastral maps and land titles, and reduced customs inspections. These initiatives are facilitated through programs such as PADICA[2], led by the European Union and the World Bank.

However, while digital platforms are available for construction permits and property registration, many steps still require a physical presence, and a significant portion of the land

---

[2] Programme d'Appui à la Diversification Industrielle et à l'amélioration du Climat des Affaires en Algérie

remains untitled. The reform process is typically incremental, and further digitalization would be advantageous to facilitate other aspects, such as filing and paying taxes. In addition, the COVID-19 pandemic brought a new sense of urgency for this kind of reform, highlighting the need for the digitalization of government services and reducing bureaucratic delays.

1.3 Entrepreneurial Competencies and SME Survival

Entrepreneurs need to perform a set of complex tasks, which necessitate that they possess several competencies that can enhance the organization's success. In other words, entrepreneurs need to equip themselves with specific competencies that will subsequently improve the performance of their businesses.

An entrepreneur needs to acquire knowledge, abilities, and skills, and update those already acquired, in response to the demands imposed by the economic and social environment in which the entrepreneur operates. This enables them to successfully lead their project in a landscape characterized by intense competition, uncertainty, and continuous change.

Entrepreneurial competencies are defined as “a specific group of competencies relevant to the exercise of successful entrepreneurship” (Tittel & Terzidis, 2020). The role of entrepreneurial competencies goes beyond the mere creation of businesses to sustaining and scaling ventures within a dynamic environment. Competencies equip entrepreneurs with the ability to initiate new ventures and adapt to changes in market conditions and consumer demand. In this regard, it is generally observed that entrepreneurs with highly developed competencies are better positioned to innovate, respond to challenges, and capitalize on emerging opportunities, thereby enhancing business success and improving survival rates. Referring to the work of Chandler and Jansen (1992), who assert that entrepreneurial competencies are grouped into three categories: entrepreneurial competencies, managerial competencies, and technical-functional competencies.

Our research aims, therefore, to contribute to a wider analysis of this topic, which encompasses several theoretical aspects: entrepreneurial competencies, performance, and the success of small businesses. It will also involve various actors in the field, including entrepreneurs, researchers, and entrepreneurship support mechanisms.

1.4 Research Background

This research is built upon a theoretical and empirical foundation of previous studies that have delved into the relationship between entrepreneurial competencies and business success. An overview of this foundation is presented in the following section.

1.4.1 Former studies

Entrepreneurial competencies are regarded as major factors in boosting business success, particularly for small and medium-sized enterprises (SMEs) and micro and small enterprises (MSMEs). Over the years, numerous studies have addressed the nature, classification, and impact of these competencies on business performance, providing a suitable foundation for this thesis. The following studies are particularly relevant to the development of the conceptual framework for this study:

- **Chandler & Jansen** (1992)**:** They highlighted the direct relationship between a founder's perceived competence and the venture's performance, providing early empirical evidence on the importance of entrepreneurial competencies in smaller firms.
- **Man** (2001)**:** In his PhD research, Man investigated the entrepreneurial competencies required by SME entrepreneurs in the service sector in Hong Kong. His study identified six key competency areas—opportunity, organization, relationship, strategic, commitment, and conceptual—that were found to significantly influence the performance of SMEs in several subsequent empirical studies.
- **Ahmad** (2007)**:** Building on Man's framework, Ahmad conducted a comparative study of entrepreneurial competencies in Australia and Malaysia. In addition to validating Man’s six competencies, Ahmad introduced six new competencies—technical, personal, learning, ethical, social responsibility, and familism—broadening the understanding of entrepreneurial competencies in different cultural and business environments.
- **Li** (2009)**:** Xiang Li explored entrepreneurial competencies as a distinguishing factor between entrepreneurs and non-entrepreneurs in Singapore. This study supported the relevance of Man’s model and identified two additional competencies—operation competency and human competency—that contribute to entrepreneurial success.
- **Boughatas Zrig** (2011)**:** This PhD research focused on the entrepreneurial competencies of MSME entrepreneurs in France, as well as their evaluation and

development. Her findings expanded the list of essential competencies to include project conception, sales, financial management, personal management, organization, relationship management, and informational competencies.

- **Wani** (2016)**:** In a PhD study conducted in India, Wani validated the relevance of ten competencies from Man's (2001) and Ahmad's (2007) models, reinforcing their applicability in the Indian context and further emphasizing their importance for entrepreneurial success.
- **Abdul** (2019)**:** Abdul examined the effect of entrepreneurial competencies on the survival of SMEs in Kenya. His study identified four competencies—innovation, leadership, networking, and risk-taking—that had a positive effect on the survival of small businesses.

These foundational studies highlight the diversity of entrepreneurial competencies across different contexts and industries. While some competencies consistently appear across studies, others reflect context-specific challenges and opportunities.

Building on these insights, this thesis examines the influence of entrepreneurial competencies on the perceived success of SMEs in Algeria, taking into account unique environmental and demographic factors. By synthesizing elements from these previous models, this research aims to enhance the general understanding of entrepreneurial competencies and their role in SME sustainability in a developing country context.

To contextualize this study within the Algerian economic landscape and illustrate the extent to which entrepreneurial activities contribute to economic development and job opportunities, analyzing statistical data on Algerian SMEs and MSMEs appears critical in understanding the sectorial dynamics in which these enterprises operate.

We opted to examine the case of these small enterprises because they are increasingly dominant in the economy and contribute significantly to employment and economic growth. Their small size makes them ideal for this study, as the influence of their leaders' entrepreneurial competencies is more visible in determining business success. Thus, examining these statistics helps to place them well in the context of the survival and expansion of SMEs and MSMEs in Algeria, as well as the role these competencies play.

1.4.2 Statistical Analysis of SMEs in Algeria

Establishing microenterprises and small to medium-sized enterprises plays an indeniable role in driving economic development. In Algeria, the growth of SMEs is an essential economic necessity and a strategic opportunity. This sector is gaining significant attention, with its statistics reflecting the country's economic vitality and dynamism.

By the end of 2022, there were 1,359,803 SMEs in Algeria, employing 3,307,821 people. Nearly 99.9% of these are private companies, with 56% being legal entities primarily involved in services and construction, while only 8.53% are in industry. Notably, micro-businesses, which make up 98% of all SMEs, are particularly adaptable to changing demands and technologies. Over one year, 80,531 new entities were created, reflecting an annual growth rate of 5.71%. This surge is a direct result of government policies and reforms supporting SME development (Ministry, 2023).

Furthermore, the density of SMEs is around 30 per 1,000 inhabitants, with significant regional disparities: 19 per 1,000 in the North, 13 in the Highlands, and 15 in the South. This situation can be improved by enforcing the provisions of Law No. 18-22 on investment, which offers incentives for investing in the country's Highlands and Southern regions (Ministry, 2023).

1.4.2.1 The distribution of Algerian SMEs

In order to position our study in the Algerian scope of SMEs, the following section provides an overview about the distribution of Algerian SMEs by size, legal nature, region, and density.

1.4.2.1.1 By size

In 2022, the number of MSMEs reached 72,318 entities, representing a rate of 98.47% among the total SMEs, making MSMEs the dominant force in the Algerian economic landscape.

Table 1: Distribution of SMEs by size in Algeria (2022)

Activity Sector	By the end of 2021	1 - 9 employees	10 - 49 employees	50- 250 employees	Total SMEs 1-250 employees	By the end of 2022
Agriculture	8 010	377	17	0	394	8 404
Hydrocarbons, Energy, Mines	3 243	107	17	4	128	3 371

and related services						
BTPH	199 331	4722	365	34	5121	204 452
Manufacturing industries	109 991	5833	143	25	6001	115 992
Services including liberal professions	662 185	40799	440	75	41314	703 499
Craft	303 605	20480			20480	324 085
Total	1 286 365	72 318	982	138	73 438	**1 359 803**
%		**98,47**	**1,34**	**0,19**	**100**	

Source: The SME Statistical Information Bulletin (2023, p. 7).

According to the data in Table 1, it is notable that the most common businesses in Algeria are very small structures (micro-enterprises). More precisely, with 72,318 entities, micro-enterprises — those with a workforce of less than 10 — constitute 98.47% of the total number of SMEs. A large majority of small structures in the Algerian economic fabric are typical of developing countries. In addition, while there are 703,499 SMEs within the services sector, which can demonstrate their adaptability to market changes, this category also includes a large share of micro-enterprises. In addition to SMEs, there are 982 small enterprises with a workforce of more than 10 but fewer than 50 employees, and 138 SMEs have a workforce of more than 50 but fewer than 250 employees.

In conclusion, Table 3 highlights the composition of SMEs in Algeria by size, as determined by the number of employees, with MSMEs being the most prevalent. This reflects both the opportunities and the challenges facing Algerian economic development.

1.4.2.1.2 By legal nature

SMEs in Algeria are primarily categorized into two types: private SMEs and public SMEs. Here is a summary of data provided by the SME statistical bulletin (Ministry of Industry, 2023), with a particular focus on private SMEs, which are included in our case study:

Private SMEs:

- The majority of SMEs in Algeria are private, with **1,359,580 SMEs, representing approximately** 99.9% of all SMEs.

- A significant proportion of these private SMEs are legal entities, which are separate legal entities (corporations, etc.). These SMEs operate mainly in the **services sector**, accounting for 56.45% of all private SMEs.

Table 2: Activity areas of private SMEs in Algeria (2022)

Activity sector	Number	Share percent (%)
Agriculture	8322	0,61
Hydrocarbons, Energy, Mines and related services	3369	0,25
BTPH	204438	15,04
Manufacturing industries	115 921	8,53
Services including liberal professions	703 445	**51,74**
Craft	324085	**23,84**
Grand Total	1 359 580	100,00

Source: The SME Statistical Information Bulletin (Ministry of Industry, 2023, p. 10).

a) **Public SMEs:** Public SMEs, although fewer in number, also play a role in the economy. Among them, 223 organizations represent a smaller share compared to private SMEs.

b) **Individuals:** In addition to legal entities, there are also SMEs owned by individuals, totaling 596,811 SMEs. Of these, 272,726 are liberal professions, and 324,085 are artisanal activities.

The SME structure in Algeria is dominated by private enterprises, particularly legal entities, which are numerous in the services, craft, and construction sectors. The number of private SMEs underscores the significance of this sector to the Algerian economy, particularly in terms of employment and business, thereby contributing to economic growth.

1.4.2.1.3 By region

As of the end of 2022, the distribution of SMEs by region in Algeria reveals that the majority of these businesses are located in the northern part of the country. Here are the key figures:

1) **North:** 945,153 SMEs operate in the country, representing 69.51% of the total number of SMEs in the country.
2) **Highlands:** 22.12% of the total, which includes 300,745 SMEs.

3) **South:** 113905 SMEs, representing 8.38% of the total.

This distribution indicates that the northern regions have a relatively high concentration of SMEs, although their numbers are lower in the Highlands and the South. It is noteworthy that reflecting this imbalance may affect the prospects of economic growth as well as the access to investments in these relatively less populated zones.

1.4.2.1.4 Density

The SME density in Algeria stands at 30 SMEs per 1000 inhabitants at a local scale, including:

1) **North**: 34 SMEs per 1,000 inhabitants, which means that this region is highly saturated with such companies.
2) **Highlands**: 23 SMEs per 1,000 inhabitants, which is less saturated compared to the North.
3) **South**: 26 SMEs per 1,000 inhabitants, which is lower than the national average.

Regarding private SMEs classified as "legal entities," the density is 17 SMEs per 1,000 inhabitants, with regional variations. The total number of sites was 19 in the North region, 13 in the Highlands and 15 in the South region. This distribution indicates a clear distinction in the proportion of SMEs by size across the Algerian territory.

1.4.2.2 Evolution of SMEs in Algeria

The section on the evolution of SMEs in Algeria from 2021 to 2022, represented in the Statistical Information Bulletin on SMEs (2023), can be summarized as follows:

Total Population: The number of SMEs increased by 5.71%, rising from 1,286,365 to 1,359,803 units, representing a net change of 73,438 SMEs.

Sectors of Activity:

- The sector that recorded the biggest rate of new business creation was services, with a share of 51.74% in newly created SMEs.
- Craft activities: 23.83% and the BTPH (construction) sector accounts for about 15.04%.
- The number of industrial SMEs has decreased slightly, from 115,992 to 109,991 entities, representing a 5.3% decline.

This development trend reflects positive dynamics in business creation, which is supported by the state's policy to create conditions that foster the growth of SMEs in Algeria.

Demography

The SME demographic situation in Algeria (2022) addresses a few important points:

1. **Growth:** The SME population experienced significant growth, adding 80,531 new entities in 2022, representing a 5.71% increase that year alone. These results stem from reforms and incentives that the government has implemented to support SMEs in their development.
2. **Creation:** In 2022, most of the new SMEs created belonged to the services and artisanal sectors. That indicates a positive trend regarding entrepreneurship and innovation in the country.
3. **Reactivation:** Additionally, the reactivations carried out by various SMEs accumulated, reflecting the resurgence of businesses that had temporarily closed their operations. This fact plays a crucial role in the stability and resilience of the economic system.
4. **Dissolution:** While there are creations and reactivations of businesses, on the other hand, there are dissolutions, which mean that SMEs have ceased all activities. Business mortalities represent one of the key indicators when analyzing the overall health of the SME sector.

The latter part of the mortality of the Algerian SMEs highlights the challenges faced by such businesses:

At the end of 2022, 19,179 private SMEs were dissolved. Of these, 4,799 were in a legal entity form, while the remaining 14,380 were individuals. The most affected sector is services, with 3,242 SMEs dissolved, commerce with 1,470 SMEs, and the construction and public works (BTPH) sector with 906 SMEs.

For individual SMEs, the largest dissolutions are in activities labeled as artisanal, comprising 8,175 entities, which account for 56.85% of total dissolutions.

The main reasons for SME mortality, according to the statistical report provided by the Algerian Ministry of Industry, include the project's insufficient maturity at launch and a lack of competitiveness. Therefore, these businesses require more support to overcome the challenges they encounter.

Finally, the mortality rate of SMEs in Algeria is a matter of concern, as higher dissolution rates suggest that measures are needed to enhance business viability and competitiveness accordingly.

In general, the demography of Algerian SMEs reveals growth and creation, accompanied by reactivations on one hand, but also presents obstacles to dissolution on the other.

After analyzing the available data on SMEs in Algeria, it can be concluded that SMEs play a significant role in the Algerian economy, and the state and financial institutions have made equally significant efforts to promote them.

Support mechanisms, including the Small and Medium Enterprise Credit Guarantee Fund and business incubators, have also been crucial for financing newly established businesses, which could create employment opportunities. The fact that guaranteed loans are concentrated in industry, services, and construction underscores a focused approach to strengthening areas considered strategic for economic growth.

Nevertheless, it remains at the level of regional disparities in terms of equal access to financing and investment opportunities. There is, therefore, a greater need for an inclusive policy regarding the development of SMEs in all parts of the country, especially the South and West.

Finally, while the prevalence of MSMEs in the Algerian entrepreneurial landscape testifies to great potential for growth, it also means that specialized support for such structures is quite necessary. In brief, although some significant advances have been made in the business creation rate, certain obstacles must be addressed to further enhance the impact of SMEs on the national economy and promote balanced and sustainable development.

1.5 Statement of the problem

Given the crucial role of MSMEs and SMEs in Algeria, the Algerian government has established several support structures to encourage youth and motivate potential entrepreneurs to establish their businesses. However, a large number of these businesses face high rates of mortality. Statistics have explained this by referring to the lack of maturity of the firms at the beginning of their activity and their poor competitiveness. Research, on the other hand, suggests that entrepreneurs, particularly at the beginning of their activity, are required to develop specific entrepreneurial competencies to succeed and prosper. However, this aspect of research, which relates competencies to entrepreneurship and small business success, has not been discussed in context-based studies in Algeria.

Therefore, the present study aims to fill this research gap by establishing a link between the conceptual framework of competencies related to human resource management (HRM) and the field of entrepreneurship, emphasizing the specific and context-based competencies required by entrepreneurs to lead their small firms to success.

By studying key theoretical concepts and the available empirical work, we will examine the required competencies of Algerian entrepreneurs and their influence on the performance and success of their businesses.

Our research field focuses on companies that have been in operation for more than three years, aiming to better understand the factors related to the entrepreneur that contribute to the success and continuity of these businesses.

The primary objective is to contribute to local entrepreneurship by highlighting the importance of cognitive and behavioral factors in the survival of businesses in the face of competitiveness within the Algerian environment. Achieving long-term sustainability and growth for these businesses would ultimately contribute to the goals outlined by the Algerian government, which include promoting and enhancing entrepreneurial activities at the national level.

Thus, this study will involve several key economic actors linked to our research topic, including entrepreneurs of MSMEs and SMEs, as well as the supporting structures established by the Algerian government.

The title of our research is **“Entrepreneurial Competencies in Business Success: The Case of Algerian MSMEs.”**

To develop this topic, we have opted to explore the following main research question:

"To what extent do entrepreneurial competencies affect the business success of Algerian MSMEs considering environmental constraints? »

The primary objective of this research is to determine the extent to which entrepreneurs' competencies influence the success and survival rates of newly established small businesses in Algeria. Despite the significant role that MSMEs play in the economy, many companies face difficulties in surviving, raising questions about the competencies required for sustainable success.

We, therefore, suggest studying the central issue of entrepreneurial competencies in the context of Algerian businesses.

1.6 Research Objectives

This section highlights our research objectives, both general and specific, that guide the direction of the study.

1.6.1 General objectives

- **Theoretical Aspect:** Our work will provide a deeper understanding of the importance and necessity of entrepreneurial competencies in the performance of small businesses. It will also determine which specific competencies are required on a cross-cultural level and which context-based competencies are needed in the Algerian context.
- **Practical Aspect:** The primary empirical objective is to quantitatively assess the influence of entrepreneurial competencies on business success, while also qualitatively identifying the challenges faced by Algerian entrepreneurs and the factors contributing to their success in the Algerian business environment. We also aim to provide valuable recommendations to future Algerian entrepreneurs and offer suggestions that may assist governmental structures in their ongoing efforts to foster entrepreneurship in Algeria.

The overall objective is to contribute, through the competency framework, to reducing the mortality rate of Algerian MSMEs and SMEs, and to fostering the growth and development of entrepreneurship.

Thus, we will study the entrepreneurial competencies necessary for entrepreneurs, as well as the success factors linked to their competencies, defining what entrepreneurs do to meet the demands of their environment and to ensure the performance and sustainability of their businesses.

1.6.2 Specific objectives

- Identify the key entrepreneurial competencies that contribute to the success of MSMEs/SMEs in Algeria, including those empirically verified in various countries and context-based competencies necessary within the Algerian business landscape.
- Determine and analyze the impact of each of these competencies on the performance and sustainability of businesses.
- Offer suggestions for entrepreneurs to enhance their skills and better navigate the challenges of the Algerian business environment.

1.7 Research questions

1- Do entrepreneurial competencies influence the success of small businesses in Algeria?

2- Which entrepreneurial competencies have the strongest influence on the sustainability of SMEs in Algeria?

3- Does environmental adaptation contribute to the survival of SMEs?

4- How does the entrepreneur's background (education, work experience, and training) relate to the development of entrepreneurial competencies?

1.8 Hypotheses

Taking into consideration the former results of the literature and existing models of entrepreneurial competencies, this research proposes four major hypotheses to investigate the relationship between entrepreneurial competencies and the business success of MSMEs and SMEs in the Algerian business environment.

The present research tests the validity of the following preliminary hypotheses:

- **H1:** Entrepreneurial competencies based on existing models of literature directly influence business success in Algeria.
- **H2:** Adaptability competencies have a positive influence on business success in the Algerian context.
- **H3:** Antecedents such as education, work experience, and training of Algerian entrepreneurs have a moderating effect on their business success.

1.9 Plan

This thesis comprises five chapters that address the logical sequence of our study, with each chapter highlighting a crucial piece of the puzzle.

I. **Introduction:** The first chapter is dedicated to introducing our research study, which helps us understand the background of the research problem and provides insights into the current state of SMEs in Algeria. This chapter presents a roadmap for the structure of our thesis, introducing the research problem, its significance, background, objectives, and hypothesis.

II. **Review of the literature:** The chapter offers a theoretical understanding of the relationship between the competency approach and business performance, with a focus on entrepreneurial competencies and an explanation of the origins and foundations of the competency approach in entrepreneurship. It also discusses existing models and determines which entrepreneurial competencies are likely to be significant in the Algerian business context.

III. **Theoretical Model and Methodology:** The third chapter develops the conceptual model of this thesis, based on the results derived from our primary study, which builds upon existing theoretical and empirical research. Additionally, understanding the research philosophy is crucial, as it outlines the methodological choices of this study, including the research design, sampling frame, data collection instrument, data analysis, ethical considerations, and the limitations of our empirical study.

IV. **Results and Discussion:** The fourth chapter presents the findings of the quantitative study, either supporting or challenging the proposed hypotheses. The results are analyzed and compared with existing literature. It also identifies the key entrepreneurial c needed for the success of small businesses in Algeria.

V. **Conclusion and recommendations:** The final chapter summarizes the main findings, discusses the obtained theoretical and empirical results, and provides recommendations for entrepreneurs, future entrepreneurs, policymakers, legislators, and researchers. It also presents the study's limitations and offers alternative research paths for future researchers to explore.

Conclusion of chapter

In summary, our study focuses on small business success in Algeria, aiming to explore the relationship between the competency approach and entrepreneurship, as well as the factors contributing to entrepreneurial success. It links several concepts, including entrepreneurial competencies, business environment, demographic profile, small business performance, and entrepreneurial success. Our research aims to fill gaps at both theoretical and empirical levels in the Algerian context, providing practical insights into the performance, sustainability, and growth of MSMEs. Additionally, it clarifies which entrepreneurial competencies are particularly effective in the Algerian business environment. It discusses the existing challenges entrepreneurs face and how they can handle them to reach their personal goals and avoid dissolution and desperation. Therefore, we aim to contribute to the development and improvement of entrepreneurship in Algeria through this research, providing researchers, policymakers, and entrepreneurs with a clear understanding of what Algerian entrepreneurs need to do to achieve their personal goals.

The following chapters provide more detailed information and explain aspects related to our topic, beginning with a review of theoretical and empirical research studies in Chapter two.

Chapter Two:

Review of the literature

2 Chapter Two: Review of the Literature

Introduction of chapter

The current chapter lays the theoretical groundwork for our study. It provides a comprehensive review of existing theoretical and empirical research on entrepreneurial competencies and their relationship to small business success and sustainability. The literature review enhances our understanding of the topic by highlighting models, empirical results, and guidance for the empirical part of the research.

This chapter outlines the key concepts relevant to our research problem. The concept of entrepreneurial competencies is connected to several paradigms, including organizational competencies, small business performance, and various approaches to entrepreneurship. It explores each concept and aims to identify links with the Algerian context.

Furthermore, this chapter reviews empirical studies and previously developed models across different contexts and environments. Lastly, it highlights the research gaps in the Algerian context, where few studies have explored the concept of entrepreneurial competencies and their influence on the survival of MSMEs and SMEs.

2.1 Small and Medium-Sized Enterprises (SMEs)

The relevance of small and medium-sized enterprises is increasingly acknowledged within both developed and developing economies, where the positive outcomes SMEs may bring to economic development and the employment creation in all nations are universally acknowledged. Raynard and Forstater (2002) point out that the official recognition of this role was a result of the G-8 group meeting that took place in Denver (1997), where they appreciated the significant contribution of SMEs in the economic dynamism of most developed countries and claimed that SMEs would lead to economic development once adopted in developing economies.

As SMEs witnessed expansion in developed and industrialized nations through incentives and eased labor regulations, their progress in transition countries came from the division of large firms and the privatization of state-owned businesses (Caner, 2013). According to data from the World Bank (Faye & Goldblum, 2022), SMEs represent 90% of businesses and over 50% of employment worldwide. In developing countries, they accounted for more than 40% of the GDP in 2017. Governments around the world are growing interested in SMEs, and there are efforts to reinforce their success.

In Algeria, the concept of SMEs has considerably evolved with changes in economic policy and global market fluctuations. The Algerian authorities are increasingly aware of the importance of SMEs in diversifying the economy and reducing dependence on hydrocarbons, along with the path toward sustainable development. Thus, several initiatives and reforms have been implemented to strengthen the growth and sustainability of Algerian SMEs and reflect their positive contribution to the national economy.

Examining SMEs' historical development, current state of affairs, and challenges Algerian SMEs face is important to understanding their potential and contribution to the national economy. This discussion would, therefore, be enlightening if it examined the particular opportunities and threats that shape Algeria's SME sector for insights into the broader relevance of SMEs at both national and global levels.

2.1.1 Definition of SMEs

It is commonly known that there is no unique and universal definition for SMEs. Different individuals and organizations have varied perspectives, leading to diverse classifications. A small or medium-sized enterprise in one country might have an additional category in another. The indicators used for the SME classification include total assets, number of employees, annual turnover, and capital investments (Baenol, 1994) in (Bouazza, Ardjouman, & Abada, 2015, p. 102). Furthermore, officials within multilateral development institutions lack a unified definition of SMEs because each institution operates within the context of its official definition (Gibson et al., 2008) in (Bouazza A. B., 2015, p. 3). The following table shows:

Table 3: SMEs definitions according to international institutions

Institution (region or country)	Max of employees	Max revenue or turnover	Max assets
EU	10 - 250	40 million Euros	-
WB	300	15,000,000$	15,000,000$
IMF-IADB	100	3,000,000$	-
African Development Bank	50	-	-
Asian Development Bank	No official definition. Uses only definitions of various national governments.		
UNDP	200	-	-
OECD	20 - 500	-	-
Algeria	10 - 250	>20 million Euros	-
China	> 2000 employees	300 million Yuan	400 million Yuan

Source: Bouazza (2015, p. 3)

However, the literature provides several definitions of SMEs, with authors defining them based on staff and turnover. According to Bressy and Konkuyt (2000, p. 78), "SMEs are enterprises with less than 500 employees, including micro-enterprises with under 10 employees, small enterprises with 10 to 49 employees, and medium-sized enterprises with 50 to 499 employees".

According to Julien and Marchesnay (1988, p. 33), "a small enterprise is first and foremost a legally, if not financially independent enterprise, operating in primary, manufacturing or services sectors, and whose responsibilities are most often incumbent on one person, or two, in general, only owners of capital."

Moreover, "small businesses" are characterized by various components, including artisans, managers, complex/straightforward technology usage, and competitive activities that the firm must adapt to, thereby improving its working conditions and other activities.

Another economic concept that discusses the issue of small and medium enterprises is the concept of controllability. As Alice Guilhon (1988, (Torres, 1998)) put it in a simple definition, controllability expresses the ability to be controlled; in other words, the fact that an SME is provided with an organizational system that the manager can control. This allows the manager to analyze the firm's development, which describes the consistency between the goals of the manager and the level of performance attained in both financial and organizational terms (Chelil & Ayad, 2009).

From his perspective, Torres (1998) considers controllability to be the heart of the SME definition. Accordingly, the manager of the SME is always put forward whenever SMEs are brought to the table of discussion. According to the author, SMEs consist of the changes resulting from the interactions between competencies and individuals, the manager's intentions, and the chosen organization methods. This approach is built upon the controllability principle: "The ability of the manager to maintain control over the implementation and development of a set of material and intangible resources" (Torres, 1998, p. 60). In addition to the identity card presented by Guilhom (1995), Torres highlighted several essential elements, mainly controllability, which expresses the link between entrepreneurial competencies and distinct competencies embedded in a structure. It is the result of the evaluation that a manager does of the collective capacity of the SME to develop its activity (Torres, 1998).

Therefore, controllability represents evidence of the importance of the entrepreneurial competencies that the owner-managers would have to acquire to achieve their goals and attain financial and organizational performance, given that the SME is characterized by specific management modes that rely heavily on the role of the entrepreneur who practices this management. Thus, all attributes and characteristics of the entrepreneur impact the outcomes of the firm's activities.

2.1.2 The contribution of SMEs to the economy

Scholars agree that Small and Medium-sized Enterprises (SMEs) are undeniably important in the economy. SMEs are critical in boosting economic development and job creation, and contributing to the GDP and employment in most countries. This section seems interesting because it explains the contribution of SMEs to economic development and discusses the theoretical and empirical studies that have dealt with this issue.

From a theoretical perspective, there has been a discussion about SMEs' contribution to different nations' economic development. On the one hand, the theory of economies of scale[3] suggests that only large firms can enjoy the cost advantages from their economies of scale production, increasing their share and leading to economic progress. Thus, according to this theory, large-scale firms are more performant than smaller firms (Bouazza A. B., 2015). On the other hand, Joseph Schumpeter (1934) in (Croitoru, 2012) emphasizes through the theory of economic development the vital contribution of entrepreneurship and innovation to the advancement of the economy, characterizing an entrepreneur as a person who innovates and defends his position as the leading actor in economic development achieved by the invention. In the context of SMEs, this theory supports their essential role in boosting economic growth through innovation, entrepreneurial roles, and adaptability to constant changes in market demands.

From an empirical perspective, researchers worldwide acknowledge the economic contribution of SMEs. They are the backbone of different economies, boosting economic development and creating jobs. They are essential to achieving more inclusive growth and environmental sustainability. These contributions, however, differ significantly among businesses, nations, and industries (OECD, 2018) (Mechalli & Mahrez, 2020, p. 158).

[3] An economic concept that refers to the reduction in the average cost of production by increasing the scale of production and spreading the fixed costs over a large amount of units.

2.1.2.1 SMEs and economic development

Considerable effort has been put into assessing SMEs' contributions to economic development. According to the data, SMEs are essential to the global economy's health in both high- and low-income countries.

Globally, there are expected to be 332.99 million SMEs in 2021—a marginal increase over the 328.5 million recorded in 2019. Within the given time frame, the most recent year had the highest number of SMEs (Dyvik, 2024).

As Romijn (2001) (Bouazza A. B., 2015) pointed out, SMEs become the primary microeconomic actors in the new framework of the knowledge revolution, which involves moving from an economy centered around physical, tangible resources to an economy dominated by knowledge.[4]

Small, dynamic entities typically exhibit an entrepreneurial spirit, strong interpersonal relationships, notable group cohesion, flexibility, and dynamic organizational qualities.

These attributes indicate a knowledge-based economy and enterprise. As a result, a small business and a knowledge-based economy are significantly linked.

In addition, the fact that SMEs provide the technical innovation used in the economy is another significant factor. Innovation generates many jobs, and new achievements come from new entrepreneurial activities.

2.1.2.2 SMEs and job creation

A significant body of empirical research supports the idea that SMEs play an essential role in both developed and emerging economies' overall employment and job creation, specifically when compared to large enterprises in periods of economic crisis of stagnation accompanied by the release of employees.

[4] - In fact, the emergence of SMEs in the modern economy, since 1974 to be precise, is linked to the conditions of that time. Namely, the crisis of the recession after the thirty glorious years (1945-75), which caused the revival of efforts in technological development of production factors, from which we moved to an economy based more on the knowledge, the ICT and the tertiary sector. This phenomenon is associated with the economic restructuring campaigns, led by the IMF recommended to developing countries in particular, which were emerging from phases of bad experiences. In these countries, SMEs came to spread the informal sector and ensure homogenization activities between large and very small businesses.

Approximately 60–70% of jobs are created by SMEs, which account for over 95% of firms in most OECD nations. This rate can increase to 80% in low-income countries in developing economies (De Kok, Deijl, & Veldhuis-Van Essen, 2013, p. 8).

While big businesses frequently make headlines, data indicates that SMEs are the primary source of net job creation, particularly in recessions when larger businesses are more cautious. For instance, research conducted in the US between 1977 and 2017 revealed that SMEs were responsible for more than 80% of net job creation (Blanchflower & Oswald, 2019).

These studies affirm that SMEs are the primary force behind economic growth and the creation of jobs in rich and emerging nations. Additionally, SMEs have a significant role in creating exports, adopting new technologies, advancing competencies, and promoting innovation. Even these kinds of contributions fluctuate between nations and areas.

Moreover, SMEs are attracting much attention in developing nations, which two main factors can explain. One is that SME development could work as a successful anti-poverty initiative. The second is the idea that one of the foundations of innovation and long-term growth is SME development. Naturally, there is a connection between these two factors since most global research indicates that growth and poverty reduction are correlated. The development of SMEs is likely to contribute to economic growth and, consequently, decrease poverty (Warner, 2001, p. 61) in (Keskġn, Senturk, Sungur, & Kiris, 2010, p. 188).

2.1.3 SMEs in Algeria

Algeria is a country in North Africa, known for its Mediterranean coastline and the vast Sahara Desert. In 2024, the population was estimated to be 45 million people across 58 provinces. It is the tenth largest country in the world by area and the largest country in the Arab world, Africa, and the Mediterranean region, covering over 2.38 million square kilometers. The Algerian economy relies heavily on the exportation of oil and gas.

Upon gaining independence in 1962, Algeria adopted a socialist economic model, prioritizing large-scale industries like oil, gas, and heavy manufacturing (De Bernis, 1971). This approach marginalized small businesses.

Realizing this limitation and the risks of dependency on hydrocarbon sources, in 1988, the country made a bold shift toward an open market. This shift recognized the private sector as a major driver of economic diversification and reduced dependence on unstable international resource markets. Since then, governments have made a more significant effort to improve the financial standing of SMEs, boost their competitiveness, and foster a favorable environment that would allow them to grow.

Mirroring a global trend, Algerian authorities prioritize developing SMEs through intensifying efforts to promote entrepreneurship and innovation. This shift acknowledges the crucial role of SMEs in driving economic growth (Merzouk, 2009; Hanafi, 2010; Datoussaid, 2011) in (Mosbah & Debili, 2014, p. 38).

2.1.3.1 Definition of SMEs in Algeria

Before 2017, Algerian SMEs were defined as those with between 10 and 250 employees, an annual budget under 500 million dinars, and annual revenue below two billion dinars (Ministry of Industry, 2001). Later, the Algerian legislation came with the New Guiding Law for SME Development, namely Law No. 17-02 from 2017, which changed these requirements to 1-250 employees, 4 billion dinars in turnover, and one billion dinars in budget, having noticed that there was a need to revise them. This evidence shows that one of the concerns of the government rests on this sector and the needs in the economy that have been changing (SMEX Algeria, s.d.).

The new law aims to enhance SMEs' competitiveness and exports, encouraging the development of new ventures. This statute assigns the National Agency for the Development of SMEs the responsibility to implement the country's development strategy and to foster growth and modernization within the SME sector. It also establishes a coordination council composed of representatives and specific organizations involved with SMEs in Algeria.

2.1.3.2 The evolution of SMEs in Algeria

Before the arrival of Islam over two millennia ago, entrepreneurship flourished throughout Algeria and the Southern Mediterranean region. However, this prosperity decreased under the Ottoman Empire and the Spanish and French colonial eras (MEPI, 2009) in (Mosbah & Debili, 2014, p. 39). After the country's independence, it can be noted that SMEs in Algeria were born in the late 1980s with a mere secondary role in the local economy. SMEs in Algeria evolved through three periods, starting from independence.

<u>1962-1982</u>

Algeria's SMEs were originally owned by settlers before independence but were incorporated into domestic companies in 1967. The first Investment Code in 1963 had little effect on the sector's growth, resulting in a publicly dominated economy and industrialization.

The new Investment Code No. 66/284 aimed to enable the private sector to contribute to economic development. However, complex approval procedures led to the dissolution of the National Investment Commission in 1981. Heavy taxes, strict labor laws, and trade restrictions hampered the development of private SMEs (Merzouk, 2009, p. 280).

<u>1982-1988</u>

The System of Managed Economy initiated significant reforms for the private sector, including two five-year plans (1980/1984) and (1985/1989). A new legislative framework on private investment (Law of 2110811-982) favored SMEs with measures like transfer rights for equipment acquisition and access to global import authorizations. However, obstacles such as bank financing not exceeding 30% of the investment, investment limits of DA 30 million for limited liability companies, DA 10 million for individual or collective enterprises, and the prohibition of multiple ownership were present.

<u>From 1988</u>

Algeria established ties with international organizations like the International Monetary Fund and the World Bank to solve the problem of its foreign debt crisis. Thus, Algeria initiated its transition toward a market economy in 1988.

This resulted in the privatization of public enterprises and the development of small and medium-sized enterprises in the metal processing, mechanical, and electronic industries. The state introduced a new legislative framework and reforms related to economic recovery programs, investment development, and promoting small and medium-sized enterprises (Mosbah & Debili, 2014, p. 40). Since 2001, the government has adopted primary texts to encourage private, national, and foreign investment, including the Ordinance on 01/03 and Law Guidance on the Promotion of SMEs (No. 01/18). These include administrative measures, a Guarantee Fund for loans, and the National Council of Investments. In 2010, a 5-year plan was announced (2010-2014), aiming to create 200,000 new SMEs and generate 1.5 million jobs.

2.1.3.3 Characteristics of SMEs in Algeria

Algerian SMEs have distinctive features, setting them apart from large firms. The following are the main features of Algerian SMEs, according to Bouaza (2015, pp. 8-9):

1. **Private Enterprise Dominance:** 99.92% of SMEs were in the private sector in Algeria during 2012, which indicates the critical contribution of private enterprise to job creation and wealth generation in this group.

2. **Prevalence of Micro-Enterprise:** As many as 97.84% of SMEs fall under the microenterprise category, with a limit of up to nine employees. This reflects a wide network of small players in the economy and the absorption of unemployment.

3. **Northern Regional Concentration:** SMEs are more concentrated in northern Algeria, followed by the highlands at a lower rate, and lastly, the south, which indicates a spatial disparity in their distribution.

4. **Sectorial Focus on Service and Construction:** Almost half of all SMEs operate in the service sector (including transport), followed by the building, construction, and hydraulic sectors. Manufacturing holds a smaller share, while agriculture and energy represent minimal portions.

Khalil (2006) highlighted other characteristics of SMEs in Algeria as follows:

- A significant portion of micro-enterprises operate in the informal sector;
- The lack of opening capital and shares to external investors from outside the family.
- The underutilization of the various resources is due to an unsupportive business environment.
- Growth methods like mergers, acquisitions, licensing, and franchising are rarely employed;
- Concentration in areas neglected by the public sector enables them to operate in a less competitive environment, while creating jobs and generating profits.

More recently, the statistics of the yearly report on Algerian SMEs (2023) reveal similar features; thus, the following lines stand for an overview of the main characteristics of Algerian SMEs.

1. **The preponderance of SMEs**: As of 2022, SMEs accounted for 99.9% of Algeria's total number of companies, 1,359,803.
2. **Employment:** These companies employ 3,307,821 individuals, indicating that SMEs significantly contribute to employment growth.
3. **Business Types:** Most SMEs have a legal structure, as 98% of MSMEs are legally constituted, which provides them with more flexibility in adapting to changes in demand or technological advancements.

4. **Sectors of Activity**: SMEs are predominantly in the service sector, with 56.45%, followed by construction and public works, with 26.80%. Only 8.53% are located in the industrial sector.
5. **Creation Rate:** In 2022, the number of newly created SMEs was 80,531, with an annual growth rate of 5.71%.
6. **Mortality Rate:** Despite the good trend in the creation rate, the mortality rate is pretty alarming because 19,179 SMEs were dissolved in 2022.
7. **Role of Support Structures:** Support structures are vital in helping SMEs access finance more efficiently and giving advice on business sustainability.

These features signal the important contribution of SMEs to the Algerian economy while underlining the need for adequate support in overcoming the coming development stages and external obstacles and challenges.

2.1.3.4 Obstacles and challenges

Scholars in Algeria have widely studied the constraints that impede the growth of SMEs. Empirical results show a variety of obstacles and challenges that small firms face, including financing difficulties, bureaucracy, lack of management training, and complexity in land acquisition procedures (Mosbah & Debili, 2014, p. 46). Other scholars underlined other obstacles related to regulations, informality, weak human resources competencies, insufficient marketing strategies, and lack of technological capacities and R&D. Regarding management, it had been noted that the main challenges of SME development are poor managerial competencies and lack of competent managers (Bouazza A. B., 2015, p. 13).

A more recent study by Dris et al. (2022) investigated business environment challenges in Algeria. Their paper reveals that the high failure rate of newly created enterprises in Algeria is attributed to several obstacles, including complex administrative procedures, difficult access to financing, slow banking procedures, and an unfavorable taxation system.

2.1.4 SME growth and success

Despite all the variables of challenges, these SMEs have been thriving, growing, and succeeding by adapting to never-ending changes, as well as the challenging environment in which they operate. However, to do so, SMEs need to understand the factors influencing their growth and challenge them. This can be nourished more appropriately by the governments, the policymakers, and the entrepreneurs to create an appropriate environment for these firms to achieve their success. Our research aims to add to such a process, providing scientific insight into the growth of SMEs, in addition to giving a better understanding of the factors affecting this phenomenon with an emphasis on entrepreneurial competencies.

Theorists such as Penrose (1959) analyzed the factors that influence the growth of firms, including SMEs. She opined that a firm is a sum of internal and external resources towards the growth and competitive advantage of the firm. She argued that the growth process is not restricted by firm size but by adequate managerial resources and innovative practices in the organization. She emphasizes the value of top managerial and technical competencies as business growth drivers. She argues that firms can grow and gain a competitive edge by efficiently using their internal resources (Korl, Mahoney, & Siemsen, 2016). Penrose also argues that failure and a loss of competitive advantages may result from a failure to comprehend and use these resources. This indicated how necessary internal resources are in the growth of firms, mainly managerial and technical competencies that result from the level of competency of the entrepreneur or owner-manager.

The idea of the independence of growth from the size of firms is not new; it goes back to former theories such as the law of proportionate effect developed by Gibrat (1931) in (Samuels, 1965). This theoretical model states that smaller firms have the same chance of growing as larger enterprises because a firm's growth rate is independent of its size. This argument challenges the idea that larger organizations naturally have an advantage regarding growth prospects by implying that a small firm's growth trajectory is not predicted by its initial size.

Research suggests that the growth of SMEs depends on different factors, which include two groups: external factors beyond the control of the subject SME and internal ones within the organization itself.

2.1.4.1 External Factors:

1. **Legal and regulatory framework:** The business climate, consisting of rules and regulations, taxation, and competition, depletes or grows SMEs. Unfair competition, heavy taxation, and complicated procedures restrain the development of SMEs.
2. **Access to Finance:** The inability to access external finance is one of the major hurdles in the development of SMEs. Due to a lack of finance, most small enterprises have a limited scope for innovation, investment, and growth.

2.1.4.2 Internal Factors:

1. **Entrepreneur Characteristics**: The characteristics of entrepreneurs have been widely studied, and it has been proven in many empirical studies that entrepreneurs acquire some characteristics that have a positive correlation with the growth of their small firms, which will be explained in detail in our research. Given that entrepreneurial characteristics are undoubtedly in favor of small firms' performance and growth, the issue that arises in academic research is the multitude of research perspectives and variables scholars choose to investigate the relationship between characteristics and business growth. Some researchers consider personality traits and the mindset of entrepreneurs; others conducted their studies from the perspective of education and family background, while others examined different aspects such as motivation, experience, education, innovation, and risk-taking. This is where we chose to dive and investigate which entrepreneurial characteristics influence the success of small businesses. In the following parts, we will go through theoretical and empirical studies in relation to this issue to develop the appropriate attributes that need to be investigated for small business success and growth.

2. **Management Capabilities:** Effective management techniques and strong leadership are greatly intertwined with the road to growth for SMEs. Strong management capabilities can lead to strategic planning, operational effectiveness, and innovation, precursors of long-term growth.

3. **Human Resources Capabilities:** A well-trained and educated labor force is in high demand for the development of SMEs. Human resources capabilities will support the long-term viability, productivity, and efficiency of SMEs.

4. **Marketing Skills:** SMEs need to possess marketing competencies to expand their customer base, increase revenue, and establish brands. Innovative marketing techniques can heighten the competitiveness and growth of a company.

5. **Firm technical Capabilities**: The degree of technical sophistication of SMEs may impact their capacity for growth. Increasing technological capabilities and making investments in technology can boost productivity and competitiveness.

In Algeria, Bouazza et al. (2015) investigated the challenges Algerian SMEs face in the business environment. To conduct this study, they compared data from the World Bank Enterprise Survey for Algeria with that of other MENA and OECD surveyed firms. Their study highlights Algerian SMEs' difficulties, including a lack of funding, insufficient human resource capacities, inadequate management, legal and regulatory restrictions, and technology limitations. Regarding management and entrepreneurial characteristics, the study reveals that more than 95 percent of SMEs in Algeria are microenterprises, where the dominant role of the entrepreneur is more impactful in the development of small firms.

Despite the importance and the need for entrepreneurs to receive management training, the study argues that there is still a competencies shortage in the SME sector in Algeria, even with the large number of institutions offering training and advising services. This is because some people are comfortable and do not perceive the need to enhance their abilities, while others cannot afford the high cost of training and consultancy services (Bouazza, Ardjouman, & Abada, 2015, p. 108).

Overall, the Results affirmed that Algerian SMEs face challenges due to external and internal factors. Unfair competition due to informal activities, bureaucratic procedures, inefficient tax systems, lack of access to industrial data, external financing, and a lack of human resources capacities are key business environmental factors. Internal factors such as entrepreneurial characteristics, low managerial capacities, lack of marketing competencies, and low technological capacities contribute to the unstable and limited growth of SMEs in Algeria. This study shows that entrepreneurial characteristics and training are among the internal factors that influence the growth of SMEs and MSMEs worldwide, particularly in Algeria.

2.1.4.3 Micro enterprises

In Algeria, most small and medium-sized enterprises (SMEs) were found to be micro-enterprises in 2019, with over one million businesses employing less than ten employees each (Statista, 2022). According to the Ministry, in 2023, approximately 98% of Algerian SMEs are micro-enterprises (Service, s.d.), which makes them a dominant force in the national economy. Small enterprises, on the other hand, represented 2.15%, and medium enterprises made up 0.27% of Algerian SMEs (Ministry, 2023). Therefore, data indicate that the Algerian economy depends essentially on micro-enterprises (MEs) that contribute effectively to job creation and economic growth. Nevertheless, it also highlights the importance of supporting these small firms and helping them to grow and sustain while they have to handle several obstacles in the process of their prosperity.

In addition, MSMEs' performance is considered vital to the economic growth and development of any country, which many research studies have supported (Onifade, Aset, & Cevik, 2022, p. 159). For example, Tambunan (2008) recognized that besides contributing to

GDP, MSMEs significantly contribute to job creation and drive economic development and growth due to their strong competitiveness, which affects both developing and developed countries (Ontorael, Suhadak, & Mawardi, 2017, p. 47). Despite their size, their potential impact on achieving many sustainable development goals is fundamental (Endris & Kassegn, 2022, p. 2).

On a local scale, developing Micro, Small, and Medium Enterprises (MSMEs) in Algeria is a top priority for national economic growth. MSMEs are essential to the economic system, helping bridge the gaps between income groups and business actors, alleviating poverty, and creating jobs. Furthermore, their growth strengthens the economic foundation, significantly boosting both regional economies and national economic resilience.

In this regard, some researchers see that entrepreneurship has the potential to solve Africa's issues, including unemployment, inequality, low productivity, and disconnection from global value chains (Devine & Kiggundu, 2016) in (Endris & Kassegn, 2022, p. 5).

The definitions of micro, small, and medium-sized enterprises (MSMEs) vary globally. The categories of businesses themselves differ across countries and regions. In Europe (EU-Commission, 2003), a medium-sized enterprise is defined as "a company with fewer than 250 employees, annual revenues of up to 50 million euros, and an annual payroll of up to 43 million euros". Also, it is "a small enterprise employing fewer than 50 people with annual revenues or payroll of up to 10 million euros". "A micro-enterprise employs fewer than 10 people with revenues or payroll of up to 2 million euros" (Gomes de Carvalho, De Resende, Pontes, Gomes de Carvalho, & Mendes Betim, 2021, p. 1).

Promoting micro enterprises has been a primary focus of intervention in recent years due to significant employment challenges. Consequently, the proportion of self-employed individuals in low-income countries is nearly five times higher (54%) than in high-income countries (11%). The employment share of micro-enterprises (2–9 employees) is also substantially higher in low-income countries (Endris & Kassegn, 2022, p. 2).

While MSMEs are often vital to economic activities and livelihoods, empirical studies show mixed results regarding their ability to boost the economy and reduce poverty. A survey of 45 countries found a positive relationship between MSMEs and economic growth, but no causal link to poverty reduction. Cravo et al. (2012) suggested that human capital within MSMEs may be more relevant to growth than their size, noting a negative relationship between the size of MSMEs and economic growth in some states (Onifade, Aset, & Cevik, 2022, p. 159).

According to Ontorael et al. (2017, p. 48), MSMEs must be prepared to seize and fully develop every opportunity. To achieve this, strong company performance must support their business opportunities. Its profitability and sales growth can measure a small business's performance.

The study highlights the important role played by entrepreneurial competencies in Indonesian MSMEs. Even though external factors such as legal framework and funding are crucial, the study highlights that business performance is significantly impacted by internal factors, particularly the entrepreneur's competencies and managerial capabilities.

Mainly, this investigation suggests that strong entrepreneurial competencies empower MSMEs to thrive. The study suggests that both government policies (more straightforward access to training, funding, etc.) and the entrepreneur's focus on developing their competencies (management, marketing, technology) are crucial for success (Ontorael, Suhadak, & Mawardi, 2017, p. 55). By building these competencies, MSMEs would become better equipped to face competition and handle any business environment.

Also, studies consistently reveal that a competent workforce is a major driver of business productivity (Welch, 1970; Mincer, 1989; Lucas, 1993; Bartel, 1994) in (Ayadi & De Groen, Micro-, small- and medium-sized enterprises with high-growth potential in the Southern Mediterranean: identifying obstacles and policy responses, 2014, p. 3). This suggests that MSMEs with access to competent employees and opportunities for training are likely to be more productive and innovative.

Correspondingly, other research studies focused on internal factors, specifically, individual factors that drive someone's interest in becoming an entrepreneur, most notably:

Tolerance to risk is defined as the extent of ability and creativity of someone in anticipating the amount of the taken risk to gain the expected income (Pratiwi, 2013) in (Jatmiko, Udin, Raharti, Laras, & Ardhi, 2021, p. 508). Abilities are shown to be extremely important in the individual features of an entrepreneur; the authors consider that the higher personal abilities, the higher the personal belief in achieving desired results, and the greater the conviction of trying what others consider as risks.

The second factor is self-success, which refers to achievements; an individual achieves anticipated goals, encompassing job satisfaction and comfort. Other internal factors, such as freedom of work and family environment, were also discussed in the literature (Jatmiko, Udin, Raharti, Laras, & Ardhi, 2021, p. 508).

MSMEs in the southern Mediterranean face various challenges that hinder their growth. In Algeria, MSMEs struggle with infrastructure availability, informality, corruption, and complex administrative, legal, and tax regulations (Ayadi & De Groen, 2014, p. 5).

The success of Algeria's Micro, Small, and Medium-Sized Enterprises (MSMEs) revolves around solving many problems, including competencies among entrepreneurs and subordinates. Ayadi & De Greon's (2014) study reveals several critical competency gaps, including leadership, critical thinking, and problem-solving. These deficiencies highlight the need to investigate how entrepreneurial competencies and capabilities can fuel MSME growth. The study results indicate that leadership is referred to as the key to MSME development.

An effective leader can instill an approach that is business-oriented, innovative, and able to meet the demanding business environment. This improves competitiveness and consolidates long-term sustainability.

Research suggests that increasing productivity requires a reliable and predictable business environment, particularly in developing countries, which is the case in Algeria. This includes having access to crucial infrastructures like electricity and telecommunications. Escribano et al. (2010) further strengthen this point in their study of 26 African nations, including Algeria. However, their research also identifies excessive regulations and corruption as specific challenges hindering productivity in Algeria (Ayadi & De Groen, 2014, p. 2).

In summary, empirical research proves that many factors can influence the development of MSMEs. The results of these studies suggest that a favorable business environment for investment is a key element for their success. Even though MSMEs have many limitations compared to larger firms, their existence is necessary because they boost essential competition, often stimulating the required growth in an entrepreneurial economy.

The next section explains how entrepreneurial competencies are crucial for the performance of MSMEs and for achieving the economic benefits of their growth.

2.2 The concept of performance in SMEs and the need for entrepreneurial competencies

In this part, it is necessary to explain the relationship between entrepreneurial competencies and business performance with an emphasis on the context of small businesses, where the owner/manager's behavior is crucial in terms of competencies that allow decision-making and leading the firm to success in a highly competitive business environment.

2.2.1 Performance in SMEs

Performance is an "umbrella term" encompassing various concepts and issues. In scientific research, performance is often the dependent variable, explained by multiple other independent variables that represent a direct or mediating effect on performance, which is both the outcome and the objective of different investigations. In the context of small firms and SMEs, the entrepreneur is the show's star who decides the success or failure of his business through task performance. Therefore, this part highlights how the entrepreneur's competencies are essential for performance.

2.2.1.1 Explaining the term performance

First, the concept of performance was initially used in English; the Anglo-Saxons used it to describe a show. According to Bell (2008, p. 15), the term "performance" includes many terms under its definition umbrella, such as "theatre," "ritual," "parade," and "a protest," where these terms borrow from and build on one another, even though they lose features.

In the French-speaking world, performance defines success in a profession; it is linked to accomplishment and success. As Turner stated (1982, p. 91, in (Bell, 2008, p. 16)), it is derived from the old French "parfournir," a portmanteau word that means—"par" "thoroughly" plus "fournis" "to furnish"—accordingly, "performance" contains the processual meaning of "bringing to action" or "accomplishing." Thus, performing means completing a process rather than solely doing one act.

In the business world, there is a consensus on the multidimensionality of performance. With a blurry concept, performance is defined in too many ways that it is only significant when used in a clear context of a given domain. In other words, the definition of performance is contingent upon the context and the situation of the firm; what is performing for one organization is not necessarily performing for another. The choice of the analysis level has to be made. In the case of the present study, business performance is investigated through the competency approach, which highlights the importance of entrepreneurial competencies as a major factor of performance in small firms and SMEs.

2.2.1.2 Performance measurement in a global framework

Performance is a widely discussed topic in all branches of management. It attracts attention from both academic researchers and managers in practice. While the significance of performance is generally acknowledged for organizational effectiveness and efficiency (Gilbert, 1980), its examination and measurement in research are challenging for scholars. A growing body of literature on this subject continues to grow, making it difficult to establish a consensus on basic definitions.

From a strategic traditional perspective, many studies consider that a firm is performing if it is able to generate financial value. Liao & Wu (2009) affirm that organizational performance is commonly related to financial performance, which encompasses several factors that impact the overall success of an organization, including budgeting, assets, operations, products, services, markets, and human resources. Nevertheless, in terms of global performance, the notion of value raises two essential points related to management and corporate governance (Salgado, 2013, p. 1):

1- **Sources of value creation**: Here, we identify key success factors according to three theories: industrial organization theory, resource-based theory (RBV), and the complementary theory of "organizational capability." In the next section, we will highlight the RBV theory, which is most relevant to our subject and offers another way of identifying the company's value-creation sources.

2- **The distribution of the value created by the firm:** These are the mediations according to which a company distributes the value created (ex-post) or the value to be created (ex-ante) between its stakeholders. This point highlights the impact of decision-making under the pressure of conflict of interest and information asymmetry resulting from the agency relationship between the agent who creates value and the principal who distributes it.

From a multi-disciplinary point of view, it is worth discussing a number of key systems, mainly based on the existing relationship between the company and its stakeholders.

2.2.2 Corporate governance towards a broader conception of performance

In a shareholder governance model, the company is concerned with more than just financial and economic aspects. Governance concepts are based on agency theory (Jensen & Meckling, 1976), which focuses on the conflicts of interest between the owner, who wants to ensure the company's performance, and the manager and other actors. The mechanisms provided by governance in this classic model aim to eliminate this type of conflict, which generates costs for the company and consequently undermines value creation.

Then, in the late 1970s, from a broader perspective, governance witnessed the arrival of the partnership model (Daddi Addoun, 2007). In stakeholder theory, the company is viewed as a network of contracts between the manager and stakeholders. Each individual involved in the value-creation process receives a share of the residual claim. This approach considers that human capital is a primary stakeholder and that employee requirements are as evident as the interests of other stakeholders, such as customers and suppliers. The partnership model thus paves the way for consensus and shared responsibility towards the elements that contribute to value creation and corporate performance (Aggoun & Daddi-Addoun, 2020).

However, these two governance movements (shareholder and partnership) show limitations when highlighting or valorizing the role of human capital competencies and knowledge in corporate performance.

Finally, another model has emerged to complement the two previous approaches by introducing a more dynamic view of governance: the cognitive model (Boumezbeur & Daddi Addoun, 2024, p. 367). This model approaches knowledge differently from the other models and emphasizes the importance of human competencies in creating value, generating new investment opportunities, building competitive advantage, and fostering innovation.

With its multiple facets, governance has enabled the concept of performance to move from a one-dimensional to a multidimensional or global framework. The three approaches are, therefore, complementary, and none can be overlooked for effective corporate governance.

In conclusion, business performance assessment involves financial and non-financial measures. The shareholder theory has demonstrated that factors beyond the traditional economic and financial aspects influence performance. Non-financial and human factors also play a significant role in evaluating performance. Specifically, in the context of newly established and small firms, non-financial factors are particularly important as they directly impact the business's performance, relying on the owner/manager.

2.2.3 The theoretical framework for explaining SME performance

The conceptual framework of performance has been constantly evolving. This section looks at the theoretical progression of the elements that explain performance in SMEs to the point of considering the competency factor as one of the company's key assets, contributing to both the creation of wealth and the maintenance of competitiveness. The following section presents two main theories that have emerged from the debate on how firms acquire and develop competitive advantage: the positioning school of thought, based on the Industrial Organization theory, and the Resource-Based theory, which is suitable for SMEs.

2.2.3.1 The theory of industrial organization (I/O)

The initial understanding of firm performance was dominated by several perspectives rooted in the traditional economic theory, highlighting market power and industry structure as factors of performance (Caves, 1971; Caves & Porter, 1977; Chandler, 1990; Porter, 1985; Williamson, 1985). In this theory, a firm's success is achieved by aligning its resources, knowledge, and vision in a way that creates a competitive advantage, allowing it to adapt efficiently to external changes in its environment (McGivern & Tvorik, 1997, p. 418).

The Industrial Organization (IO) focuses primarily on analyzing the structure of an industry, including discussions of issues such as oligopoly, concentration, barriers to entry, performance, and market structure. Simultaneously, it incorporates analyzing the theory of the firm, which includes firm strategy, pricing, product differentiation, advertising, auctions, research, and development, among others (Lipczynski, Wilson, and Goddard, 2013) in (Lelissa & Kuhil, 2018, p. 80).

2.2.3.1.1 The Structure Conduct Performance (SCP) paradigm

The main idea of this framework suggests that the identifiable structural attributes of a market influence how firms behave within that market; in turn, the behavior of the firms impacts the quantifiable market performance. According to Huang (2012), the SCP analysis was based on two fundamental principles. First, the industry structure is defined by the characteristics of supply and demand and the nature of competition, and second, the structure influences strategic behavior and impacts company results. The SCP paradigm suggests that the market structure shapes a firm's “conduct,” which determines performance (Bain, 1951, 1956) in (Lelissa & Kuhil, 2018, p. 80). The conception of this theory is based on the combination of ideas from two schools of thought:

- The structuralist school emphasizes the relationship between industry structure and performance, which is indirectly linked through behavior (Mason, 1939; Bain, 1956).

- **The behaviorist school**, refocusing on the behavior-performance relationship, considers that companies adapt their strategic actions according to competitive conditions, thus modifying structures in their favor to build barriers to entry and prevent new competitors from penetrating the market (Marchensay, 1997).

According to its authors, this paradigm focuses on strategic analysis, which is the key to performance. However, such a perspective has been strongly questioned in today's complex and uncertain environment. For Porter (1981), performance is causally linked to market structure and firm strategy. This prompted him to develop a model (Porter's diamond model) defining performance regarding a firm's competitive advantages.

In his book, Porter (1990) suggests that the value chain concept is based on the process perspective of organizations, whether in manufacturing or service sectors, as systems are composed of interconnected subsystems. Each of these subsystems has inputs, transformation processes, and outputs. In addition, Potter's Diamond Model suggests that a nation's competitive advantage in an industry is determined by four key factors: conditions, demand, related and supporting industries, and firm strategy, structure, and rivalry (Fang, Zhou, Wang, Ye, & Guo, 2018, p. 721).

2.2.3.1.2 Porter's five forces: The Positioning School or Market-Based View

Industrial analysis in this model focuses on how a firm can maintain its competitiveness through sustainable competitive advantage. While Porter founded this model on the principles of industrial organization and the SCP paradigm, there has also been a refocusing on the company's role and its internal actions in performance.

In this model, also referred to as "positioning school," Porter proposes a set of elements called "forces" that could affect a firm's positioning in a given market, namely the bargaining power of customers and that of suppliers, the threat of substitute products, the threat of potential entrants, and the threat of existing competitive rivalry.

From this perspective, firms must analyze these forces to better understand their industry's structure and develop the appropriate strategies to cope with them. These proactive strategies can help firms build a competitive advantage, leading to profits and better competitive positioning. In this direction, Porter defines strategy as "building a better defense against the five competitive forces."

In a second contribution, Porter developed three strategic forms that can be the basis of sustainable competitive advantage in the marketplace: the strategy of cost domination, the strategy of differentiation, and the strategy of focus. He identifies the first and second as the two main types. According to his vision, the organization can achieve only one of the two advantages: cost and differentiation.

In this market-based view, the owner/manager is responsible for making the right decisions and choosing the appropriate strategy to manage the five market forces effectively in such a way that enhances the position of his firm, hence achieving high profits (Asad & Adedoyin, 2011, p. 6).

Even if external environmental conditions and industry structure are widely believed to determine the firm’s performance, the classical framework of industrial organization has been criticized, particularly in Porter's version, which has placed too much emphasis on exogenous factors linked to a very complex and uncertain environment.

Several studies have shown that a company's performance has more to do with its endogenous factors than exogenous ones. Following the economic changes of the 1980s, the competition had shifted from static and predictable to dynamic, fierce, and flexible. Adaptation to the environment is no longer enough to achieve performance due to the increasingly high uncertainty. Subsequently, competitive advantages are no longer permanent.

2.2.3.2 The Resource-Based View RBV

The resource-based view theory (RBV) is the second dominant school of thought in strategic management, and scholars have widely used it to investigate organizational performance (Innocent, 2015) in (Ahmed, Khuwaja, Brohi, & Othman, 2018, p. 582). Several authors developed the theoretical framework of this approach in the 1980s. Gradually, RBV continued improving and adapting to the changing reality of the firm, and it was widely adopted and preferred by researchers in their studies on business performance.

In RBV, the firm is viewed as a historical set of assets or resources with a “semi-permanent” association (Wernerfelt, 1984) in (Lockett, Thompson, & Morgenstern, 2009, p. 9). The resource-based theory highlights the importance of internal aspects of the organization, suggesting that the acquirement and development of competitive advantages are achieved by exploiting the organizational capacities rather than external factors. From this perspective, the firm depends on its tangible and intangible resources, which are dynamic and heterogeneous. Intangible resources are more difficult to develop and take more time to acquire at the time of the firm’s current need.

In this direction, Dierickx and Cool (1989) argue that some strategic assets, such as reputation and customer fidelity, can be acquired in the market but would instead be accumulated internally. In other words, if we consider two firms that operate in the same industry and, more importantly, are affected by the same environmental forces, we would find that these two firms do not have the same intangible resources. This allows each business to develop its unique competitive advantage.

In order to create a competitive advantage, Barney (1991) suggests that the firm's internal resources need to have four essential characteristics: Valuable, Rare, Inimitable, and non-substitutable, regrouped in the acronym VRIN.

- **Value**: A resource is valuable if it helps the firm reduce costs, develop its differentiation strategy, or combine both while upgrading the product value for buyers.
- **Rarity:** a unique resource that is unavailable to competitors.
- **Inimitability**: Imitation is supposed to be imperfect or expensive, and an inimitable resource is complex for competitors to establish.
- **Non-substitution** indicates resources that are difficult and costly to replace, making it difficult for other competing companies to find identical resources.

In 1997 (Barney, 1997), added a new element to the VRIN framework: "organization." Organization refers to an organizational process or support mechanism that the company needs to implement to optimize its resources, which is essential for achieving competitive advantage.

These characteristics determine the firm's heterogeneity through strategic objectives and knowledge base. Spender (1993) affirmed that a firm’s competitive advantage comes from its unique knowledge. Moreover, other authors indicated the importance of “distinctive competencies” in competitivity (Hofer & Schendel, 1978; Snow and Hrebiniak, 1980, in (McGivern & Tvorik, 1997, p. 418)). This affirms that competencies are significant in achieving performance through the mediating effect of developing a competitive advantage.

2.2.3.2.1 Entrepreneurial competencies as a performance resource

In the Resource-Based theory, authors consider that the resources of a firm include several elements such as assets, organizational processes, firm attributes, and knowledge; the firm controls these elements and can be used in the development and execution of its strategy (Barney, 1991). Resources that constitute the origin of sustainable competitive advantage have several classifications according to their shared characteristics. Some researchers have grouped resources as tangible and intangible (Hall, 1992), while others have classified them as static and dynamic (Lockett, Thompson, & Morgenstern, 2009). Static resources represent a stock of assets used for a specific period (Barney, 1991; Peteraf, 1993; Rumelt, 1984), and dynamic resources represent capabilities, for example, the capacity of an organization for learning (Collis, 1994) in (Teece, Pisano, & Shuen, 1997).

The present study considers entrepreneurial competencies as intangible firm resources that can create a competitive advantage and affect business success, performance, and survival. We are taking into consideration the main classification adopted by Barney (1991) and Hamel (1992), which regroups firm resources into two main categories (tangible and intangible) and seven subcategories, as represented in the table below:

Table 4: Tangible and intangible resources classification

Tangible Resources	Examples
Financial	Capacity to generate internal funds Ability to increase external capital
Physical	Location of factories, machinery, offices, and their geographic positions Availability of raw materials and access to distribution channels
Technological	Ownership of patents, trademarks, copyrights, and proprietary knowledge
Organizational	Formal planning, command, and control systems Integrated management information systems
Intangible Resources	**Examples**
Human	Managerial talents Organizational culture Experience
Innovation	Research and development (R&D) capabilities to innovate new products, processes, and services. Capacities for organizational innovation and change
Reputation	Perceptions of product quality, durability, and reliability among customers Successful product branding and positioning with a satisfied and loyal customer base Reputation as a good employer Reputation as a socially responsible corporate citizen

Source: Barney (1991) and Hall (1992)

Grant (1991), for his part, considers that a distinction must be made between resources and capabilities. He says, "If resources are the sources of a firm's capability, capabilities are the main source of its competitive advantage."

In this view, capabilities refer to the organizational processes that enable the effective management of resources. These capabilities will enable the firm to differentiate itself from its competitors. In Hall's words, "It is the intangible resources possessed by firms that give them a differential capacity over their competitors" (Hall, 1992).

Competencies are intangible resources linked to several categories of resources (human, technological, and organizational). They are at the origin of constructing functional and cultural differential capabilities within a company.

The Competency-Based View approach identifies competencies as the basis on which the firm builds sustainable competitive advantages in a highly turbulent environment. Moreover, the fundamental concept of the CBV theory suggests that a firm can attain a competitive advantage and maintain performance if it can manage resources, capabilities, and competencies that respect the VRIN characteristics, as long as it has the appropriate competencies for execution. This implies that the accessibility of these resources relies heavily on entrepreneurial competencies (Aidara, et al., 2021, p. 3).

Drawing on the preceding points, entrepreneurial competencies can be considered resources to create a sustainable competitive advantage. A competent entrepreneur is not only an owner/manager with entrepreneurial characteristics but also must have unique competencies that allow them to be innovative, a risk taker, a good planner, and a problem solver who can make the right decisions and perform well. Since the RBV identifies the resources of competitive advantages as valuable, rare, inimitable, and non-substitutable entrepreneurial competencies, such as identifying and exploiting opportunities and managing the business well, it refers to intangible resources that respect Barney’s VRIN model.

As stated by Aidara (2021, p. 4), empirical findings have demonstrated that the RBV recommends exploiting entrepreneurial competencies as specific resources that can maximize sustainable competitive advantage and enhance the performance of small businesses. Fahy and Smithee (1999, p. 1) have also concluded that the RBV focuses on strategic choices, placing the responsibility of executing tasks such as identifying, developing, and using key resources to maximize outcomes on the entrepreneur.

2.2.3.2.2 Resource Based View (RBV) Vs Market Based View (MBV)

Regarding the previous discussion of the market-based and resource-based views, the two models have several similarities and differences. However, both perspectives examine the firm's managers, indicating that the managers are rational and responsible for making critical decisions that lead the firm to achieve sustainable competitive advantage and, therefore, performance.

The following table represents the key differences between RBV and MBV based on the comparative study done by Asad & Adedoyin (2011).

Table 5: Differences between RBV and MBV

	Market-Based View	Resource-Based View
The strategy	• The strategy involves selecting the appropriate industry and positioning it according to the five forces.	• The strategy is focused on exploiting resources and capabilities to derive various products for various markets.
Model	• Outside-Inside model	• Inside-outside model
Unit of analysis	• Considers the industry as a unit of analysis.	• Considers the firm or the individual as a unit of analysis.
The manager	• Make the right decisions and select the appropriate strategy for the five forces.	• Possesses cognitive abilities to make informed decisions and is creative in utilizing available raw materials. • It is responsible for exploiting resources to earn high profits.
How to sustain a competitive advantage?	• When it provides superior outcomes in the long term.	• When the imitative actions of competitors come to an end.

Source: Asad & Adedoyin (2011)

Based on the comparative table above, the firm's manager has a crucial role in making the appropriate strategic decisions to achieve performance. In the context of small businesses and SMEs, the role of the owner/manager is even more critical. In order to avoid failure and disappearance in the early stages of the firm’s activity, the entrepreneur must have the knowledge and the creativity to decide the appropriate strategy that allows them to achieve competitiveness and maintain the sustainability of the firm's competitive advantage. Therefore, achieving superior returns in the long term while maintaining the uniqueness of the competitive advantage calls for unique and specific entrepreneurial competencies necessary for achieving business performance.

After linking entrepreneurial competencies to business performance, the next section explains the genesis of the competency approach in the field of entrepreneurship.

2.3 Entrepreneurship: Paradigms and main approaches

Large businesses dominated the economy from the end of the Second World War until the late 1970s. Big size was seen as desirable, even inevitable, where business growth was crucial to achieving economies of scale. Thus, small and SME sizes have been perceived simply as a phase in a firm's life cycle. During this period, the number of businesses per capita has declined in Europe and the United States. The economic climate was more suitable for studying larger firms and multinational companies; therefore, researchers were less interested in entrepreneurship (Janssen, 2016, p. 31).

The 1970s recession witnessed high inflation and stagnant economic growth, which led to the emergence of various challenges for businesses, and the number of larger companies dropped. Subsequently, scholars became aware of the economic significance of new ventures. Even though entrepreneurship has already been the subject of isolated research and its historical evolution dates back to the 18^{th} century, academic studies on entrepreneurship experienced a significant emergence in the 1980s. Afterward, the academic field responded rapidly to the virality of entrepreneurship in the 1990s through scientific reviews, conferences, and the creation of entrepreneurship courses and programs in universities and prestigious business schools.

In his thesis, Bruyat (1993) considered two main phases of the evolution of the entrepreneurship field. In the first place, entrepreneurship was developed alongside the economic crisis of the mid-1970s. The second phase is the early 1980s, when entrepreneurship started to prosper in terms of research in psychology and management. Buryat (1993) argued that the evolution of the entrepreneurship field took place along with the economic crisis of the 1970s, where enterprises were created, and both economic and political partners were motivated to put measures of help and encouragement in place. According to the author, even though the crisis led to the stabilization or even the decrease of business creation in the following years, it affected individuals' behaviors and managerial modes, which made business creation at that time a significant social and economic challenge.

Filion (1997) considers the entrepreneurship field very diversified, and its multiple components are studied by economists, sociologists, historians, psychologists, and specialists in behavioral and management sciences (Filion, 1997, p. 36). Despite the recognition of entrepreneurship as an independent field of science (Saporta, 2003), scholars agree that research in this field is still fragmented and flaring up; it is practically still impossible to obtain a consensual definition or build a general theory (Danjou, 2000; Fayolle, 2007).

According to Filion (1997), the confusion associated with the definition of the entrepreneur is due to the differences in how people from this field identify the entrepreneur. He sees that each tends to identify the entrepreneur following their discipline's assumptions. For example, economists relate the entrepreneur to innovation, while behaviorists write about creative characteristics and intuition assigned to the entrepreneur.

For several decades, many scientific efforts have been made to attain a general definition of entrepreneurship, but still, there is none. More importantly, there is an explicit agreement on its upsides for economic evolution through wealth creation, which has led many points of view to rise to underlying factors likely to improve entrepreneurial activity.

Corresponding to the disciplines they belong to, researchers observed, studied, and analyzed the phenomenon of entrepreneurship and the entrepreneur and his/her actions and mindset, which led to many paradigms and schools of thought trying to explain entrepreneurial activity.

2.3.1 Paradigms of entrepreneurship

The French School of Entrepreneurship is well-known in the academic field for the four paradigms presented by Fayolle and Verstraete (2005), who consider entrepreneurship too complex and heterogeneous to be limited to one definition. The authors suggest classifying the different definitions that the pioneers of entrepreneurship have presented into four movements of thought or paradigms.

1- Business Opportunity

This perspective defines entrepreneurship as “the study of opportunity sources, the process of discovering, evaluating, and exploiting opportunities, and the people who do these activities” (Shane & Venkataraman, 2000, p. 218). It has also been linked to other issues, such as the ability to gather resources to create an organization to pursue a perceived opportunity (Bygrave & Hofer, 1992).

Loue and Laviolette (2006) argue that the opportunity is originally “new information” that can be useful to an individual with two conditions:

- Having prior knowledge that complements the information facilitates its recognition.
- Possessing cognitive properties to evaluate it.

This means that knowledge and the cognitive state of the entrepreneur are important for discovering, evaluating, and exploiting opportunities. In other words, knowledge is the starting point for an entrepreneur to achieve their goals.

2- The creation of an organization

This movement of thoughts defines entrepreneurship as creating an organization by one or numerous people. William Gartner (1989) (1992) (1993) is a well-known author who is only interested in focusing on the creation of an organization. Gartner distinguishes between the creation of an organization and other organizational phenomena.

Thierry Verstraete (2001) argues that establishing a business cannot be confused with the entrepreneurial act, as entrepreneurship requires the impulse of organizational dynamics. He believes a company leader cannot be considered an entrepreneur until he/she impel an organization. In his thesis, Verstraete considers entrepreneurship as a phenomenon leading to the creation of an organization driven by one or many people who the occasion. Authors also premise that entrepreneurship is not required but may include “the creation of a new organization” (Shane & Venkataraman, 2000).

3- Value creation

This paradigm focuses on value creation in terms of incremental wealth, created by people who take significant risks regarding equity, time, and/or career commitment to providing a product or service with a given value. Ronstad (1984, p. 28) explains this by considering that the value does not mean the product or service is unique or new; it should reflect the entrepreneur's ability to secure and allocate the essential competencies and resources.

Value creation was empirically identified as a crucial topic at the center of entrepreneurship by Gartner (1990). In French-speaking studies, Bruyat (1993, p. 56) emphasized the importance of the dialogic of the individual and value creation; he asserts: “The scientific object studied in the field of entrepreneurship is dialogic of individual/value creation.” He used the concept suggested by Morin (1989), who argues that double logic is related to a single unit in a complementary way. This dialogue is a mutual impact that takes part in a changing dynamic.

Where: “The individual is a necessary condition for value creation; they determine the modalities of production and its extent. They are the main actor in this process. The support for value creation, for example, a company, is the 'thing' of the individual.”

Individual → Value creation

Also, Value creation, through its support, invests in the individual. It occupies a significant part of their life (activities, goals, means, social status, etc.) and can potentially modify their characteristics (competencies, values, attitudes, etc.).

Value creation → Individual

An individual in this logic refers to a startup's manager/founder/or owner. Bruyat (Bruyat, 1993, p. 57) clarified in his thesis that this mutual exchange only appears when the manager is independent and has a strategic will to lead his business. In other words, in the cases of an agency relationship between the owner and his successor, intrapreneurship, or the takeback of a business, where the manager does more animation than management, and he/she is supervised by the superior, this logic gets limited as Bruyat described it as “a blurry zone.”

4- Innovation

For some authors, innovation distinguishes entrepreneurs from managers (Carland, Hoy, Boulton, 1984). Drucker (1985), one of the proponents of this perspective, considers that: “Innovation is the specific instrument of entrepreneurship.” Julien and Marchesnay (1996) join Drucker and affirm that: “innovation is the foundation of entrepreneurship.” The authors point out that innovation is either technological or organizational.

In his historical and socio-economic view of capitalism's development, Schumpeter (1935) considers the firm as a dynamic process of new combinations, where these combinations take form in what he calls “exploitations,” such as the introduction of new products and services, adopting new production methods, opening new markets, developing new sources of supply, and establishing new industry structures (Schumpeter, 1999).

The Schumpeterian perspective on innovation can be summarized in three main ideas. First, executing these combinations is the act of the entrepreneur, who is not necessarily the owner-manager of the firm. Second, the concept of risk is relative, considering that, according to Schumpeter, the entrepreneur only takes risks if he involves his own money. Third, the innovative entrepreneur prints a dynamic movement of evolution by destroying the old existing by introducing something new, the process of “creative destruction.”

In her work of examining the literature on entrepreneurship, Danjou (2000, p. 121) distinguished three angles of dominant approaches adopted by pioneers of different schools of thought in the field, namely, the context: conditions or effects of entrepreneurial action; the actor: the entrepreneur; and the action: management or the entrepreneurial process. Thus, the evolution of entrepreneurship research can be resumed with three main questions: “What?”

"Who &Why?" and "How?" correspond respectively to the main approaches of the research field in entrepreneurship: the functional approach of economists (what), the contextual approach of psychologists and sociologists (who and why), and the process approach of managers (how). These approaches are discussed in the next part.

2.3.2 Dominant Approaches in Entrepreneurship

In this part of the literature review, we aim to highlight the dominant approaches that have shaped the evolution of entrepreneurship throughout history. This will help us better explain one of our main concepts, entrepreneurship, and identify the school of thought most related to our research—the personality traits approach.

2.3.2.1 Economists

Historically, entrepreneurship is attributed to the economic sciences, as the concept first appeared in economic literature through the writings of Richard Cantillon (1755) (Fayolle, 2002, p. 2). Although Filion (Filion, 1997, p. 132) argues that the origin of entrepreneurship should not be solely attributed to economics, because the careful study of the two main pioneers—Richard Cantillon (1755) and Jean-Baptiste Say (1803, 1815, 1816, 1939)—shows that they were equally interested in economies, businesses, their creation, development, and management. Even though the term enterprise existed before Cantillon, scholars agree that Richard Cantillon is considered the first to present a "clear conception" of the entrepreneur's role and its importance in economic development (Fayolle, 2002; Filion, 1997; Schumpeter, 1999). As Cantillon described, "the entrepreneur takes risks using his own money insofar as pledges are uncertain" (Bruyat, 1993, p. 25).

Jean-Baptiste Say is the second author who was vastly interested in the entrepreneur's activities (Filion, 1997, p. 133). For him, the entrepreneur is associated with innovation; he is an agent of change. "The entrepreneur is a risk taker who invests his own money and coordinates resources to produce goods; he creates and develops economic activities for his account" (Fayolle, 2002, p. 2). Bruyat (1993) observed that Say draws a surprisingly modern portrait of the entrepreneur and emphasizes its decisive role in economic development, the source of the power of nations (Bruyat, 1993, p. 25).

Unlike the French school, the English economic school of the 18th and 19th centuries, which laid the foundations for classical and neoclassical economic schools of thought, does not consider the entrepreneur's contribution to economic growth. In this vein of thought, Janssen (2016, p. 6) mentioned the example of Adam Smith (1723-179) and John Stuart Mill (1808-

1873), who equated the function of the entrepreneur with that of the capitalist. Also, Alfred Marshall (1842-1924), the father of the neoclassical theory, was interested in innovation. He distinguished innovative business people from others mainly because the classical economic models cover the equilibrium concept with perfect competition and zero profits. In contrast, entrepreneurship assumes the exploitation of opportunities for profits and market imbalance (Dobryagina, 2021, p. 51).

Afterward, Joseph Schumpeter (1883-1950) gave foundations to entrepreneurship by publishing the theory of economic evolution in 1935 (Fayolle, 2002, p. 2). As for Filion (1997, p. 134), Schumpeter is qualified to be the father of the entrepreneurship field. Bechard (1996) is the first author to present a diligent system of thought where the entrepreneur is at the heart of economic activity (Danjou, 2000, p. 10).

The Schumpeterian entrepreneur is, above all, an innovator and a creator. He states that "the essence of entrepreneurship lies in the perception and exploitation of new opportunities in the business field [...] it always has to do with the contribution of a different use of national resources which are subtracted from their natural use and subject to new combinations" (Schumpeter, 1928) in (Filion, 1997, p. 134). Schumpeter's contribution to laying the groundwork for entrepreneurship's conceptualization is crucial and essential to understanding the entrepreneur's position in the market. However, other economic movements of thought brought different and complementary aspects afterward.

What economists seek is, above all, to understand of the role played by the entrepreneur in the economic system (Filion, 1997, p. 134); in this context, economists see the entrepreneur from various points of view, each one according to their discipline and the variables they have chosen to study. Some see the entrepreneur as a business opportunity detector (Higgins, 1959; Penrose, 1959; Kirzner, 1976) and a business creator (Ely & Hess, 1893; Oxenfeldt, 1943; Schloss, 1968), and others as a risk taker (Leibenstein, 1968; Kihlstrom et Laffont, 1979; Buchanan et Di Pierro, 1980).

Knight (1921) indicated that the entrepreneur assumes a risk because of his uncertain state and is consequently remunerated based on the profit he obtains from the activity he initiated. Casson (1982) insisted on the aspect of resource coordination and decision-making. Leibenstein (1979) established a model that measured the degree of efficiency and inefficiency in entrepreneurs' utilization of resources (Filion, 1997, p. 134).

In the history of economic thought, the entrepreneur is seen as a role or function. According to Baumol's proposal (1993), these perspectives can be grouped into two types: the entrepreneur as a business organizer and the entrepreneur as an innovator. Additionally, Landstrom (1998) identifies four key roles of the entrepreneur (Fayolle, 2004). These include being a risk-taker or risk manager (Cantillon, Say, Knight), an innovator (Schumpeter), a vigilant seeker of opportunities (Hayek, Mises, Kirzner), or ultimately, a coordinator of limited resources (Casson).

However, since the late 1970s, the economic school of thought has faced criticism and declined, primarily because it has struggled to advance the field of economic sciences and to establish a science of economic behavior for entrepreneurs (Filion, 1997). Moreover, Leibenstein (1968) argues that developing an economic development model for entrepreneurship is impossible and contends that competition theory implies there is no necessity for one.

This led the world of entrepreneurship to turn to behaviorists for a better understanding of entrepreneurs' behavior and to distinguish entrepreneurs more effectively from other economic operators.

2.3.2.2 Behaviorists

The term « behaviorists » includes a wide range of scholars and practitioners such as psychologists, psychoanalysts, sociologists, and other specialists in human behavior. Max Weber (1930) is considered one of the first authors to have been interested in entrepreneurship (Filion, 1997) by introducing the value system as a fundamental means of explaining the entrepreneur's behavior. However, David C. McClelland (1961) was the one who pushed forward behavioral sciences related to entrepreneurs. Based on a solid study, he investigated why certain societies were so creative at certain times in history. He found that the "need to achieve" was the answer. He linked the concept of achievement motivation to entrepreneurship and economic development, but not all repeated studies showed similar significant effects (Frey, 1894) in (Frese & Rauch, 2008, p. 45). Achievement motivation is evident in entrepreneurship, where entrepreneurs must respond effectively to challenging tasks. Several meta-analyses reveal that entrepreneurs score on higher levels of n-ach than non-entrepreneurs (Frese & Rauch, 2008, p. 7).

Therefore, entrepreneurs are individuals with a high need for achievement (n-Ach), high self-confidence, the capacity to resolve problems independently, and are self-oriented towards situations characterized by moderate risks and a fast outcome of their actions (Fayolle, 2002, p. 4). However, McClelland (1971) has studied chiefly managers of large organizations. Even though his writings are strongly associated with the field of entrepreneurship, they do not seem to bring out any relation between the need for achievement and the fact of launching, possessing, or even managing a business (Brockhaus, 1982, p. 41) in (Filion, 1997, p. 136).

Furthermore, McClelland has also identified the need for power, which led many researchers to describe his theory as simple and unproven. The fact of trying to explain the development and prosperity of businesses by only two factors (the need for achievement and the need for power) is not quite enough. Kennedy (1991), Rosenberg and Birdzell (1986), as well as Toynbee (1994), have indicated the multiplicity of factors that explain the development of societies and civilizations (Filion, 1997, p. 137).

Following McClelland's studies, behaviorists continued dominating the discipline of entrepreneurship for 20 years until the early 1980s, within a movement of thought called the "trait approach," which postulates that the entrepreneur stands out from other citizens by specific character traits that can be identified and used as indicators of an individual's entrepreneurial potential (Danjou, 2000, p. 112).

Because the present research revolves around entrepreneurial competencies, it is essential to discuss one of the main approaches representing the roots of the competency approach in entrepreneurship, "the personality trait approach." In the subsequent section, we present the major concepts of the personality trait approach, its criticisms, and how it led scholars to prefer the competency approach in studying entrepreneurial behavior, including business creation, success, and survival.

2.3.2.3 Personality Trait Approach (PTA)

The personality approach has been recognized since the early emergence of the entrepreneurship phenomenon in the 1960s, when the entrepreneur was viewed as unique; therefore, many researchers have attempted to investigate their qualities. Alongside organizational and environmental factors, the personality trait approach has been studied as a cause of new business success. However, unlike the other factors, the traits research faced heavy criticism in the 1990s regarding its results, which have been described as weak, unreliable, and controversial due to numerous conceptual and empirical challenges, such as small sample sizes and heterogeneity in the studied populations.

After the 1990s, research continued. An increasing number of psychology-focused researchers have revived the idea that an entrepreneur's traits can predict venture success by examining factors like competencies, motivation, and behavior. As a result, more advanced and sophisticated research tools have been employed to explore concepts that are more likely to influence business performance, survival, and success.

Behavioral approaches in entrepreneurship study activities involve "the doing" of creating an organization. Therefore, an entrepreneur is studied through what they do, unlike the trait approaches, where an entrepreneur is seen as a set of personality traits that make them a unique being and drive their will to be successful.

We recommend reviewing the conceptual framework of the trait approach in the next section. Despite critiques, it remains one of the most common and important methods for answering the question, "What makes one entrepreneur succeed while others fail?" Additionally, we cannot overlook that weak results led to the shift toward behavioral approaches such as competencies.

Guided by our curiosity about whether the trait approach is worth all the firing and wiring in research, we would like to review the main research findings regarding both broad and specific traits to determine what makes it appear to be a detangled web in entrepreneurship.

Personality traits can be identified through an individual's thoughts, feelings, and behavioral patterns. Psychologically speaking, this approach considers that people are simply different. Three criteria mark personality traits: they must be consistent, stable, and vary from one another (Worthy, Lavigne, & Romero, 2022, p. 241). Based on this definition, traits can be seen as relatively permanent characteristics that cause individuals to behave in specific ways stably.

The concept of personality characteristics is as old as entrepreneurship, which is already included in classical economic theories, such as innovativeness and dominance (Schumpeter, 1935), risk-taking under uncertainty (Knight, 1921), and knowledge and entrepreneurial discovery as driving forces of economic development (Hayek, 1941). Then, as mentioned earlier, McClelland (1961) used these economic ideas to explain economic wealth in nations due to achievement motivation (n-Ach). Accordingly, setting up a theoretical framework to study the correlation between personality traits and entrepreneurship is important.

Brandstätter (2011, p. 223) describes constructs of personality and personality traits as vague in both research and everyday understanding. He notes that personality traits include:

- Abilities such as intelligence in its various forms: general, specific, and emotional.
- Motives like the need for achievement, power, or affiliation.
- Attitudes (including values).
- Characteristics that influence a person's temperament and shape their experiences and behaviors, including "openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism", collectively known as the OCEAN model and famously referred to as the Big Five.

Based on that, an entrepreneur in this approach is seen as a person with recognizable traits believed to impact his/her entrepreneurial process.

2.3.2.3.1 Personality trait approach regarding entrepreneurs

The trait approach assumes that the entrepreneur is a specific personality type, a fixed state of being, or an explainable species whose picture can be found in the field guide (Gartner W. B., 1989, p. 48). Besides, it has been proven that business success is correlated to the traits of its founder; as Brandstätter (1997) stated, "the link between entrepreneurial characteristics and business success began with the personality trait approach".

In the trait approach, entrepreneurs are believed to have a particular personality type, with different traits and motivations that distinguish entrepreneurs from others, distinguish successful entrepreneurs from unsuccessful ones, and predict their actions.

Inspired by other basic studies about the trait approach, Filion (1997, p. 138) attempted to gather the main characteristics often assigned to entrepreneurs by behavioral specialists, and he came up with twenty-four characteristics. Rauch identified traits studied in articles until 2007 and came up with fifty-one traits. These attributes seem to vary from one study to another, depending on the study's time, place, and circumstances, the authors' field of interest, and the discipline they come from.

Based on literature reviews made on entrepreneurial characteristics, one of the most famous general taxonomies is the Big Five; this model covers personality attributes used in previous studies and categorizes them into five factors: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, assembled in the acronym OCEAN. However, Frese and Rauch (2007, p. 49) argue that these factors are overbroad to be used in entrepreneurship research, so they came up with "specific" personality traits, assuming that they are more suitable for studies where samples are composed of entrepreneurs and not employees, which are: the need for achievement, risk-taking, innovativeness, autonomy, locus of control, and self-efficacy.

2.3.2.3.1.1 Big Five model

The big-five model is a result of many research studies over the decades. It aims to define a personality by measuring five broad dimensions. Since the 1980s, this model has been considered a robust indicator of someone’s personality (Ciavarella, Buchholtz, Gatewood, & Stokes, 2004, p. 468) . The Big Five traits have also been found to impact career choice and work performance since the positive correlation between performance has been proven at organizational and managerial levels[5] (Leutner, Gorkan, Reece, & Tomas, 2014, p. 58). These five broad traits include a wide range of characteristics, as indicated in John et al. (1990) in (Antoncic, Bratkovic Kregar, Singh, & Denoble, 2015):

- **Openness to experience**: This trait describes a person's openness to new events and experiences. It is also referred to as interpersonal orientation, originality, and open-mindedness. People who score high on openness seem liberal and use innovative methods to solve problems (Driessen & Zwart, 2006).
- **Conscientiousness**: Describes a person’s disposition to act conforming to rules, regulations, and conscience, also referred to as control and constraint; people who score high on conscientiousness are likely to be reliable and hardworking (Ciavarella, Buchholtz, Gatewood, & Stokes, 2004, p. 469).
- **Extraversion**: This term describes an individual’s energy, attention, outward orientation, and enthusiasm. People with high extroversion are outgoing, sociable, assertive, and active (Wang, Chang, Yao, & Liang, 2016, p. 3).
- **Agreeableness**: Describes someone’s orientation toward others with altruism and affection; agreeable people are liked, easy to get along with, and eager to help others (Llewellyn & Wilson, 2003, p. 342).
- **Neuroticism, also referred to as “emotional stability,”** indicates an individual’s ability to resist stress and anxiety; people with high neuroticism are exposed to irrationality and impulsive behavior and show weakness in coping with difficult situations (Llewellyn & Wilson, 2003).

[5] Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Hurtz & Donovan, 2000.

The Big Five approach has led to a reappearance of interest in personality traits and their impacts on human behavior and performance at work. Nevertheless, many studies were conducted on the Big Five's impacts on entrepreneurs and managers between 1960 and 2000.

Brandstätter (1997) worked in his article on figuring out personality differences among entrepreneurs who took over family businesses, became self-employed, and those interested in starting companies to determine the impact of personality structure on starting new businesses. Creators were more stable, independent, imaginative, and open to experiences than heirs. Individuals considering starting a new business were similar to creators in personality structure.

On the other hand, Wooton and Timmerman (1999) found that openness to experience and business startup were negatively related. Another study by Ciaverella et al. (2004) showed a negative correlation between openness to new experiences and survival and a positive relation between conscientiousness and survival.

Further investigations are going in the same direction, and most of the studies cited are meta-analyses conducted by Zhao and Seibert (2006) in (Leutner, Gorkan, Reece, & Tomas, 2014, p. 59). First, to address the link between the Big Five traits and the company ownership, results indicate that entrepreneurs s significantly higher on Conscientiousness and Openness and lower on Neuroticism and Agreeableness than managers, while Extraversion showed no difference. Second, when it comes to entrepreneurial intentions, their meta-analyses reveal a specific personality profile correlated to an individual's will or intention to start their own business, which is more Conscientiousness, Openness, Extraversion, and less Neuroticism (Leutner, Gorkan, Reece, & Tomas, 2014).

Therefore, Zhao and Seibert (2006, 2010) propose that the most remarkable trait distinguishing entrepreneurs from managers is higher Conscientiousness (C+), which refers to discipline, persistence, self-control, hard work, and motivation to accomplish goals and perform tasks.

Considering these findings, it seems necessary to distinguish entrepreneurial facets, such as owning a business versus being willing to start a business or inheriting one, and being in an occupational status versus undertaking a set of behaviors to create value and maintain activity. Besides, the multiplicity of results regarding the Big Five has shown that this model includes broad traits that cannot be used alone to explain entrepreneurial outcomes.

Further research explored these broad traits across various types of entrepreneurs at multiple levels of intention. Antoncic et al· (2015) conducted a broad survey of 501 questionnaires and 62 interviews in educational institutions in Slovenia. The study concerns four categories of entrepreneurs: practicing entrepreneurs (who already have a firm), potential entrepreneurs (those intending to start a business in the next three years), maybe entrepreneurs (those having the intention to start their own business in the future), and also non-entrepreneurs (who do not have any intention to start their own business). Results show variations in broad traits: practicing entrepreneurs scored high on openness to experience, which aligns with previous findings, while potential entrepreneurs, maybe-entrepreneurs, and non-entrepreneurs scored lower proportions of openness, respectively. Regarding other traits, the questioned entrepreneurs are likely more extroverted and less agreeable. However, Conscientiousness and Neuroticism were not precisely determined in the meta-analysis study (in brief, O+, C, E+, A-, N).

Even though the findings of Big5 surveys overlap, the latter study validates the uncertainty and variations across studies regarding broad traits and entrepreneurial success. Reviews of the trait literature affirm that the main critique of the Big Five framework is the general nature of these broad traits of personality, where they cannot precisely predict specific entrepreneurial behaviors; moreover, understanding someone's personality through the Big Five does not necessarily mean understanding their directed actions toward specific purposes.

2.3.2.3.1.2 Specific traits

Research verifying the correlation between personality approaches and entrepreneurship shows that most do not analyze the Big Five traits but instead focus on more specific aspects of personality and behavior.

Many authors[6] praise the importance of specific traits, affirming their direct relation to entrepreneurial behavior. The fact that specific traits rely on precise descriptions linked to time, place, and roles maximizes criterion-related variance. Therefore, numerous studies support the predictive validity of specific traits in relation to entrepreneurial behavior.

Specific traits related to particular entrepreneurial behaviors have indicated higher correlations with creating businesses and leading them to success than the Big Five traits model. Rauch & Frese (2007) described the Big Five as "distal and aggregated constructs" that might anticipate broad categories of behavior, such as work performance and overall classifications of employees, but are incapable of predicting specific behaviors. According to them,

[6] Rauch and Frese, 2006; Barrick and Mount, 2005, Paunonen and Aston, 2001.

entrepreneurship research often uses more specific performance measurements, such as financial growth and accounting-based criteria, which means that using the Big Five for predictive purposes should be lower in entrepreneurship studies than research on employees and organizations.

In their meta-analysis, they used narrow traits based on relevant entrepreneurship knowledge, competencies, and abilities; results indicated that all narrow traits and both business creation and business success were highly correlated r=.25, while broad traits such as Conscientiousness, Optimism, Extraversion, rigidity, and conformity, produced an r=.03 with business success, and an r=.12 with business creation. The reliability of specific traits on task-related descriptions explains the strong correlation between specific traits and entrepreneurial success. These were the specific traits studied by Rauch & Frese (2007): Need for achievement, risk-taking, innovativeness, autonomy, locus of control, and self-efficacy.

However, Rauch and Frese’s study did not include all Big Five traits; they only used Conscientiousness, Extraversion, and other broad traits, so they did not directly test the predictive validity of the Big Five compared to specific traits.

Considering research gaps in the literature regarding personality and entrepreneurship, and as an extension of previous studies, Leutner et al. (2014) present another investigation aiming for a better comparison regarding the predictive validity of both the Big Five and specific traits. Results reveal that personality predicts many entrepreneurial outcomes, which means that an entrepreneur’s personality does influence his/her success. Also, findings indicate that specific traits have a superior predictive validity regarding entrepreneurship tasks than the Big Five, which aligns with Rauch and Frese’s findings. Previous research studies lead us to support Rauch & Frese's (2007) proposition that traits in the domain of entrepreneurship need to be more specific, where they might include other broad traits such as the big five and motivation. However, they also made it clear that traits are, above all, dispositions rather than determinations of behavior; they can be used to explain entrepreneurial behavior in a given context, but should not be used to define an entrepreneur. Traits cannot predict a specific behavior; they are somewhat predictive of various behaviors.

Unfortunately, this variety of trait studies indicated contradictory evidence and a lack of theoretical consensus in the relevant literature about essential entrepreneurial characteristics. Therefore, it was impossible to develop a “typical profile” of an entrepreneur. Even though the personality trait approach was highly regarded in the research field, it was also massively criticized by many authors, including those who dedicated many studies to investigating its validity.

2.3.2.3.2 Criticism of the personality trait approach

In entrepreneurship, researchers in the personality trait approach face many conceptual and empirical challenges. Therefore, the literature in this field remains weak and limited. Many scientific reviewers[7] reported the inconsistency and conflicting outcomes of empirical methods regarding the relationship between entrepreneurial behavior and personality traits. As a consequence, the trait approach was widely criticized in the 1990s. The most notable thing about this approach is the multitude of traits associated with entrepreneurs that have been classified into many categories, and their correlation to business success and entrepreneurship, in general, is still fuzzy and unclear.

Rauch and Frese, two of many authors who dedicated a lot of time and effort to investigating the relationship between traits and entrepreneurship through many research papers, admit that the role of personality traits in starting a business and keeping it successful is controversially discussed in entrepreneurship research. Aldrich and Ruef (2006) also consider that research on personality traits has reached an empirical dead end, as correlations between entrepreneurial behavior and individual traits seem too small and unimportant.

Despite the importance of individual characteristics in the theoretical development of entrepreneurship, the literature quickly reveals skepticism about the strength of empirical evidence showing their impact on business success. In contrast, no precise results exist about how these traits may affect business performance (Man W. Y., 2001).

William Gartner (1989) believes that trying to figure out “Who is an entrepreneur?” using the personality characteristics of entrepreneurs will not lead to a definition of an entrepreneur nor help in any way to understand the phenomenon of entrepreneurship. According to him, research on entrepreneurs should focus on what they do rather than what they are.

For Gartner, the vast number of traits and characteristics that an entrepreneur should have in order to succeed is one of the main reasons this approach is rejected. As he argues: “A startling number of traits and characteristics have been associated to the entrepreneur and the “psychological profile” of the entrepreneur according to these studies would define someone

[7] Authors including: Brockhaus et Horwitz, 1985; Chell, Haworth, et Brearley, 1991; Gartner, 1989

broader than life, who is full of contradictions and, conversely, someone so full of traits that he/she would have a generic “Everyman”.

Consequently, the personality trait approach in entrepreneurship is characterized by its controversial and confusing discussion; empirical challenges, such as small samples and heterogeneous individuals, made the studies look mixed and ambiguous. So, authors seem to go the wrong way of thinking by looking for other “right” traits instead of understanding that they have an indirect effect and work through other mediators like specific competencies and situationally specific motivation (Baum, Locke, & Smith, A multidimensional model of venture growth, 2001) (Baum & Locke, 2004). In this case, personality traits are considered supplemental variables in entrepreneurial success, not crucial ones.

Considering all the above, we may not judge one view or another to be right or wrong; we also cannot neglect the personality trait approach in entrepreneurship because even if many researchers unkindly criticized it, others have refused those critiques by other studies showing how entrepreneurship research can learn from personality studies and contribute to them.

The weak and uncertain evidence has pushed researchers to look beyond traits to find reliable entrepreneurial characteristics correlated to entrepreneurial success. In consequence, more recent approaches in entrepreneurship have moved towards behavioral dispositions such as entrepreneurial competencies, including skills, knowledge, and abilities required to work well as an entrepreneur, in addition to personal and organizational learning methods required for better alignment to the evolution of the activities related to the “doing” of entrepreneurship (Filion, 1997, p. 141).

That leads us to the next most important chapter of this literature review, the competency approach in entrepreneurship, in which we will discover the relationship between competencies and entrepreneurial success.

2.4 The Competency Approach

The competency approach in entrepreneurship originally came from management and professional training. In the 1980s, management sciences recognized an increasing recognition of the need to shift from the classical concept of qualification at work, which focused primarily on hierarchical classifications, to a more practical approach that emphasized the acquisition of competencies, mainly after the research work done by Boyatzis (1982) on competencies at the managerial level.

In entrepreneurship, the competence approach gained momentum in the 1990s due to the inconsistency and weak results of the personality trait approach. When research shifted towards behavioral approaches, policymakers and decision-makers recognized the importance of entrepreneurial competencies in business success, growth, and survival. For example, the European Union's Lisbon Strategy 2006 emphasized the need to promote entrepreneurship and acquire entrepreneurial competencies.

David McClelland (1973) was one of the pioneers who initiated research on competencies in entrepreneurship. He believes that competencies are exhibited through superior performance. McClelland's work on identifying entrepreneurial competencies influenced other researchers, such as Chris Argyris, Edgar Schein, and Bill Bygrave, to further study the topic.

Since the 2000s, many research studies have identified the competencies likely to lead to successful entrepreneurship. One of the most popular guides is the entrepreneurial competencies framework, developed in 2016 by the European Commission. It includes several key competencies, such as creativity, risk-taking, networking, and self-awareness, that entrepreneurs are supposed to own.

Competencies are broadly recognized as a key approach to entrepreneurship education and training. It has been admitted that acquiring and developing entrepreneurial competencies is more necessary than providing the firm with more resources and a positive environment (Man, Lau, & Chan, 2002). Therefore, many professional training providers and universities worldwide, including Algeria, offer today's courses and specialty programs that focus specifically on promoting and developing entrepreneurial competencies, and there is a growing body of research studying this topic.

In this chapter, we aim to clarify our conceptual framework and direct it directly to our research goals. Analyzing the main concepts of the competency approach would answer the questions that emerged along with the literature review and help us identify our empirical study path.

2.4.1 Relation with the personality trait approach

Starting with the closest approach to the competency approach, the personality trait approach and the competency approach are two different perspectives used to understand and anticipate the entrepreneur’s behavior, success, and survival. Both standpoints overlap in aiming to identify factors that contribute to entrepreneurial success; however, they are different in focus and methodology.

As stated by Kydnt and Baert (2015), the main focus of the personality approach is the fixed traits and the inherent dispositions of individuals, while the competency approach emphasizes entrepreneurship aspects that can be developed and changed.

By definition, traits are often seen as stable characteristics that last over time and are considered inherent to an individual, while competencies are attributes that include specific competencies and can be learned and improved over time through training and practice.

As we have seen previously, the personality trait approach points out broad and specific traits or characteristics associated with the entrepreneur. Authors who privilege this approach suggest that traits such as risk-taking propensity, need for achievement, locus of control, and innovativeness, among others, give an entrepreneur more potential to be successful than others.

Nevertheless, the competency approach highlights the role of specific skills, knowledge, and abilities in business success. Competencies are measurable and learnable, and researchers in this topic intend to develop a model framework to identify and develop competencies required for business survival and success.

Overall, even if both approaches seem different, and the first one's limitations led to the evolution of the second, they are also complementary, and both belong to the psychological approach to entrepreneurship.

Arriving at this point in the literature discussion, the term "competency" captured our interest and time. To support the centralization of competencies in our research and shed more light on their importance in business success, it is essential to better comprehend the concept of "competency," where it comes from, and what it means. In this part, we find it suitable to discuss the development of the competency concept through time in different fields until it was adopted in studies on entrepreneurship.

2.4.2 History of competencies

The popularity of the term competency and its rapid ascent to being used in business jargon is credited to Richard Boyatzis's (1982) work on managerial competencies. However, David McClelland first observed a human trait that he named "competence."

In 1973, the industrial psychology domain was moved by a landmark study written by David McClelland entitled "Testing for Competence Rather Than Intelligence." This study argues that even though traditional academic aptitude and knowledge content tests were reliable academic performance measures, they rarely predicted performance in practical work performance (Chouhan & Srivastava, 2014, p. 14). The primary issue in McClelland's work is that he made the reliability of "intelligence tests as predictors of job performance" questionable; it revealed that the most accurate predictors of exceptional job performance were underlying, long-lasting individual qualities, which he referred to as "competencies."

Moreover, Mitchelmore and Rowley (2010, p. 94) state that competencies were developed initially in the USA in the 1970s, particularly as part of an initiative of the AMA (American Management Association) to detect which characteristics distinguish superior from average management performances.

Afterward, Richard Boyatzis (1982) built on McClelland's (1973) work to develop his managerial competency model. He examined a sample of more than two thousand managers and identified over 100 potential managerial competencies. Boyatzis' investigation is significant in that he introduced three levels of competencies: motives and traits, social role and self-concept, and role transitions (Mitchelmore & Rowley, 2010, p. 94).

Boyatzis (1982) introduced competencies as "underlying characteristics that have a causal connection to practical and/or high job performance. Subsequently, there has been a remarkable increase in the number of studies on competencies, allowing their extension to various managerial issues (Li, 2009, p. 1).

Because entrepreneurs and managers share related roles and responsibilities, it is understandable that researchers in entrepreneurship borrow the competency model from the management field and adopt the competency approach to investigate and predict business performance. Therefore, since the late 1990s and the early 2000s, the competency approach has become widespread among scholars in entrepreneurship (Chandler & Jansen, 1992) (Baum, Locke, & Smith, 2001) (Man, Lau, & Chan, 2002) (Ahmad Hazlina, Ramyah, Wilson, & Kummerow, 2010). Simultaneously, several meanings and labels have been attributed to "competencies." Therefore, "competence" and "competency" were repeatedly used in discussions about entrepreneurs as pivotal actors and owners/managers of their businesses.

2.4.3 Understanding the terms "competence" and "competency"

The literature reviews show that "competency" has numerous connotations, leading to considerable perplexity regarding what it exactly means. The main argument goes to the literature's differentiation between "competence" and "competency," whereas other scholars consider them synonyms and use them interchangeably.

The notion of “Competency” is derived from the Latin term “competent,” which includes the meaning “being authorized to make judgments” and also “having the privilege to speak” (Caupin et al., 2006) in (Chouhan & Srivastava, 2014, p. 15).

Similarly, the notion of “Competence” is not recent. Its origins date back to the 13th century and were borrowed from the legal Latin term “Competent” in the 15th century (Toutain & Fayolle, 2008, p. 33).

The French thinker Paul Foulquié stated that: “The word “Competence” comes from the Latin term “Competens,” the present participle of “cumpeter”: go (peter), with (cum), which means: goes with, to be adapted to…” (Terraneo & Avvanzino, 2006, p. 18).

Rowe (1995, p. 12) suggests that it is helpful to distinguish between the two terms “competence” and “competency,” where to talk about skill and the standard of performance, “competence” should be used, and to talk about the behavior by which it is accomplished, “competency” should be used. In other words, the first refers to what people can do, while the other emphasizes how they do it.

Based on their literature review on the development of competency and competence, Mitchelmore and Rowley (2010, p. 95) conclude that the terms "competency" and "competence" are related but different. Competence refers to the performance evaluation in a given activity domain, while competency is a set of things used to describe individuals and their behavior. Additionally, it is believed that what makes competencies unique is that they are interactional constructs, meaning that competencies differ from knowledge, skills, and abilities because they depend on the situation and the social context.

In summary, Competence is a concept that includes knowledge, skills, and attitudes. Researchers have given it considerable attention, attempting to define it in terms of the various tasks individuals require under different circumstances.

The next section will link the concept of competencies to entrepreneurship and explain the concept of entrepreneurial competencies.

2.4.4 Entrepreneurial competencies

Starting a business requires obtaining various resources, whether financial or behavioral. The entrepreneur may find all the different resources, including finance and social capital, in his or her environment. Therefore, other internal factors contribute to the success of the launching process. Competency explains how these internal factors function.

According to Klemp (1980), “Job competency is an underlying characteristic of a person that results in practical and/or superior performance in a job.” Boyatzis (1982, p. 21) considers these underlying characteristics generic and may appear in different forms of behavior and results. Based on that, entrepreneurial competencies are defined as “underlying characteristics such as generic and specific knowledge, motives, traits, self-image, social roles, and skills that result in venture birth, survival, and/or growth” (Bird, 1995). In other words, whatever an entrepreneur needs to acquire as knowledge or be able to do to succeed is considered an entrepreneurial competency.

The most commonly used definitions of entrepreneurial competencies in the literature appear in the most notable studies on the subject. As Tittel and Terzidis (2020) highlighted in their review of 33 articles, these definitions are employed in over 10 articles each.

Table 6: The most commonly used definitions of entrepreneurial competencies

Authors	**The main parts of their definition**
Man et al. (2002, p. 124)	EC are “higher-level characteristics, including traits, skills, and knowledge, manifesting as the entrepreneur's ability to perform a job role successfully”.
Bird (Bird, 1995, p. 51)	EC are “the underlying characteristics, such as generic and specific knowledge, motive, traits, self-images, social roles, and skills that result in venture birth, survival, and/or growth”.
Mitchelmore and Rowley (2010, p. 93)	EC is “a specific group of competencies relevant to successful entrepreneurship”.

Source: (Tittel & Terzidis, 2020, p. 10)

The present study defines entrepreneurial competencies as **combined and integrated components of knowledge, skills, and attitudes**. Competencies are changeable, learnable, and attainable through experience, training, or coaching (Man, Lau, & Chan, 2002) (Kyndt & Baert, 2015, p. 4).

Before discussing entrepreneurial competencies and their classifications, we will trace the logical development of the concept in the literature. We will examine how studies have evolved from focusing on competencies in the workplace to those specifically related to entrepreneurship.

Muzychenko and Saee. (2004) consider two types of competencies: natural and artificial or learned competencies. Natural competencies such as personality traits, attitudes, self-image, and social roles are fixed in an entrepreneur. In contrast, artificial or learned competencies include skill, knowledge, and experience and occur when a task is done through practical and theoretical learning. This indicates that natural competency is seen as an "internalized element" while unnatural competency is seen as an "externalized element" (Ismail, 2012, p. 47).

Unlike personality traits, the simple fact that a person possesses competencies does not necessarily make him/her competent; instead, they can only be manifested via behaviors and actions (Man W. Y., 2001).

In other words, competency is an individual's characteristic-based activities that can be observed in behavior and learned. This main option of learnability is what makes competencies unique. Like a teacher who shows pedagogy competencies through teaching and a football player who gains physical abilities while doing his job, an entrepreneur displays capabilities in the entrepreneurial process.

Because the relationship between competencies and performance has been "tardily" introduced in entrepreneurship compared to the management domain (Laviolette & Loue, 2006, p. 6), there might be confusion in determining relationships between motivation, traits, skills, knowledge, and self-concept. As Mitchelmore and Rowly (2010) stated, the boundaries between these terms are expectedly "ill-defined." It is then interesting for us to thoroughly study the concept of competencies in entrepreneurship, which is the topic of interest here.

Two of the credible authors who have been often cited in the literature on this topic are Spencer and Spencer; in their popular book "competence at work," they define competency as "an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation.", they explain that "underlying characteristic signifies that competency is a deep and enduring part of a person's personality and can predict behavior in a wide variety of situations and job tasks." (Spencer & Spencer, 1993).

These authors restructured the research methodology of studying different dimensions that interact in establishing a competence profile. Spencer and Spencer (1993) introduce three groups of elements in their profiles:

1) The characteristics of an individual that are part of his/her personality, which can predict their behavior in different situations;
2) The causal relationship is characterized by a skill that predicts the individual's behavior and performance at work (intention to act that leads to action and then to results);
3) The criterion reference represents measurement criteria that distinguish superior performers from average performers.

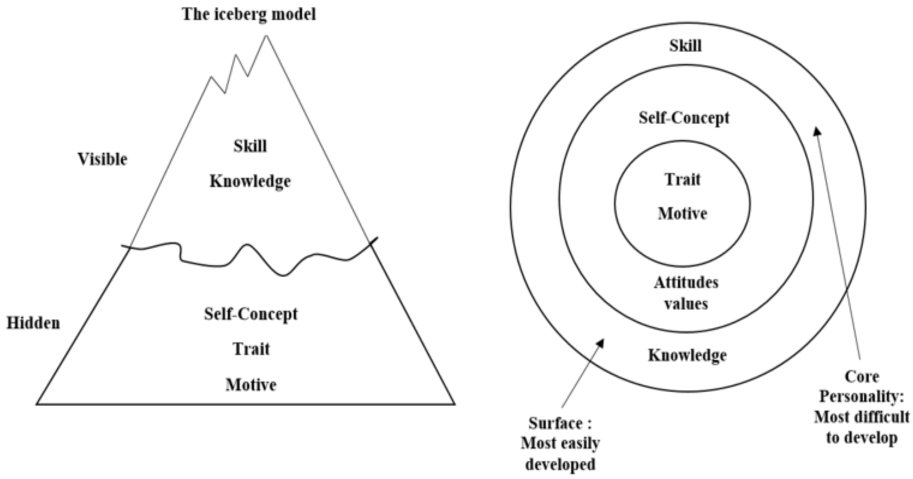
In their study, Spencer and Spencer developed a model that recommends a research strategy based on comparing people with a certain level of success at work and others with less success who have the basic competencies needed to be “minimally effective.”

The model of Spencer and Spencer (1993) that has been made to measure individual competencies is represented as an iceberg, where five characteristics are classified within visible and hidden and/or within surface and core personality.

These five competency characteristics are:

1. **Motives** represent things someone always thinks about or wants that cause action or goals (for example, someone with achievement motivation is always setting goals, is accountable for achieving them, and reaches out to do better).
2. **Traits** are physical characteristics and persistent reactions to different situations and information (for example, good eyesight is a physical trait competency of a pilot).
3. **Self-concept**, which represents someone’s attitudes, values, or self-image (for example, self-confidence).
4. **Knowledge** represents the information a person requires in specific content areas (for example, a surgeon’s knowledge about nerves and human muscles).
5. **Skill** is seen as the ability to perform a specific physical or mental task (for example, a dentist has the skill of filling a tooth without damaging the nerve).

Figure 1: Central and Surface Competencies



Source: (Spencer & Spencer, 1993) (Rosman, Rosli, Razlan, & Mohd Shukry, 2022, p. 410)

As the figure illustrates, the superior part of the iceberg contains knowledge and skill competencies that are visible and readily apparent on the surface; they are considered easy to require and develop. According to the authors, it is important to identify what an individual knows and how he/she uses his/her knowledge in the process or action. In the inferior part of the iceberg, we can find core motive and trait competencies in the hidden area, which means that they are more challenging to assess and develop. While self-concept competencies lie somewhere in between, they can be changed through training, psychotherapy, and positive developmental experiences, although that may cost the employer time and money.

The last three competencies are judged to be difficult to develop because they are related to one person's personality and culture. Therefore, Spencer and Spencer (1993) support the idea of recruiting people who already have these competencies rather than working on developing them for business costs, as they quoted a human resource professional who said once: "You can teach a turkey to climb a tree, but it is easier to hire a squirrel." (Spencer & Spencer, 1993).

Given that we are interested in entrepreneurship, we can consider the hierarchy of competencies in the Spencer and Spencer model and the possibility of adapting this model to the type and level of the job and its environmental requirements (sector, life cycle, survival, success…). Thus, as the literature stipulates, the higher the job requirements, the more competencies are important, which is the case of an entrepreneur.

Studying competencies in entrepreneurship focuses on the individual(s) involved in launching, sustaining, and growing a new venture. Because there is often no clear distinction between the owner and manager of a small business, the entrepreneur typically assumes multiple roles. In a notable study of 134 firms, Chandler and Jansen (1992) built on earlier research that identified entrepreneurial roles (recognizing and seizing opportunities through effort), managerial roles (understanding commercial interests, inspiring others inside and outside the company, and establishing proper connections), and technical-functional roles (applying industry-specific tools and techniques) as the three key competencies needed for entrepreneurial success. The findings indicated that managerial experience and business education enhance these three competencies.

This study was taken up and developed by Lorrain, Belley, and Dussault (1998) to elaborate a questionnaire as an instrument to measure entrepreneurial competencies, which includes twelve abilities: opportunity identification, strategic vision, business network management, time management, work management, financial management, marketing management, operations management, personnel management, management of laws and regulations, business negotiation and decision making.

According to scholars, typologies in the field of entrepreneurship research refer to the orientation or "entrepreneurial competencies" of the firm (Ndzie Ndzie, 2019). Authors have formulated a typology of seven competencies (abilities) of the entrepreneur. This typology includs being able to design products or services, evaluate the different business functions, understand the sector of activity and its trends, motivate his/her staff, create influential relationships in his/her business network, to plan and administer the activities of the company and to implement opportunities (Herron and Robinson, 1993) in (Laviolette & Loue, 2006). Winterton (2002) suggested that cognitive, functional, and personal competencies are the main competencies an entrepreneur should acquire to succeed in the SME context.

More recently, Tijn Hoge Bavel (2019) examined the impact of entrepreneurial competencies on the degree of social entrepreneurship among entrepreneurs in the Netherlands. Bavel emphasized that promoting social entrepreneurship depends heavily on the growth of entrepreneurial competencies. The study identified nine key entrepreneurial competencies: risk-taking, perseverance, motivation, market insights, opportunity identification, creativity, business planning, vision, networking, and learning. The study results suggest that support organizations and policymakers should put more effort into developing these competencies to promote more social entrepreneurship in the nation.

In a nutshell, entrepreneurs must perform multiple roles during their entrepreneurial process, and each role requires a specific competency for them to perform well. This indicates the existence of numerous and varied types of competencies needed by a successful entrepreneur for each role and step of the entrepreneurial process. In this direction, Bird (1995, p. 52) recommended that there should be a separation between the competencies needed in the launching phase (baseline, threshold, minimum standard) and the competencies that contribute to excellence in performance (success competencies).

The next part explains the different classifications of entrepreneurial competencies according to different authors in various contexts.

2.4.5 Areas of entrepreneurial competencies (Clusters)

Entrepreneurs play an important role as managers, owners, and in other professional roles within a firm; this is a sufficient reason to consider that the competencies an entrepreneur requires have a more extensive scope than those required by a manager (Man, Lau, & Snape, 2008, p. 61). In the early stages of entrepreneurship, and in some cases all along the activity, the entrepreneur, as the only decision maker within his organization, should be able to set strategies, be a leader, and motivate his personnel; at the same time, he is seizing opportunities, adapting his business to environmental changes, and taking the risk. Therefore, managerial competencies are needed in parallel with entrepreneurial competencies for an entrepreneur. Thus, the competencies required in a launched start-up, growth, and survival also differ in different stages of a business life cycle.

In literature, many authors came up with lists of entrepreneurial competencies with different components regrouped in clusters, which include specific behaviors according to the results of their research work; we intend to come across relevant and most cited lists and then choose to detail the most comprehensive categorization of competencies.

As we have seen earlier, an entrepreneur's most relevant roles are entrepreneurial, managerial, and technical/functional (Chandler & Jansen, 1992). Accordingly, performing each role necessitates both the possession and application of a group of skills, knowledge, and abilities on behalf of entrepreneurs. This means that entrepreneurs are called to equip themselves with specific competency components that enable them to be compelling performers in their entrepreneurial roles, ultimately resulting in business success.

Lau (2004) has distinctively expressed entrepreneurial competencies in six areas: opportunity, relationship, conceptual, organizing, strategic, and commitment (Ng & Kee, 2013,

p. 2459). In Singapore, Sim (2005) employed both qualitative and quantitative approaches to identify the entrepreneurial competencies of Chinese entrepreneurs. He came up with three main clusters of competencies: Managerial, social/decision-making, and persuasion/influencing, from which arise ten key competencies: Opportunity recognition, people handling internal, marketing, people handling external leadership competencies, networking, communication, decision making, judgment competencies, persuasion, and influence competencies (Hallyyew, 2019, p. 25). Sony and Iman (2005) identified four areas of entrepreneurial competencies: management, industry, opportunity, and technical competencies (Li, 2009, p. 8).

Moreover, Chouhan and Srivastava (2014) classified competencies into four clusters: Technical, managerial, human, conceptual, and core competencies (Hallyyew, 2019, p. 23). Lee et al. (2016) categorized 141 different components into five entrepreneurial competency clusters: Opportunity, administrative, relationship, personal, and commitment competencies.

Despite the multitude of competency classifications and components identified by different authors as mentioned above, there is one study by Thomas Wing Yan Man (2001) that was mentioned in almost all research work on this topic, including the most recent reviews. Man (2001) summarized previous studies that identified different entrepreneurial and managerial competencies in the literature and classified them into pertinent behaviors in the context of SMEs. Consequently, six competency areas were identified: **Opportunity, organizing, strategic, relationship, commitment, and conceptual competencies.** These competencies were considered comprehensive and contained all key entrepreneurial and managerial competencies entrepreneurs require.

Farhangmehr et al. (2016) investigated the relationship between entrepreneurial education and entrepreneurial competencies and the motivation of university students to become entrepreneurs in the Portuguese context. The results of this survey revealed no evidence that knowledge influences entrepreneurship motivation. On the other hand, entrepreneurial competencies positively affect entrepreneurship motivation. Bearing in mind that the items constituting the entrepreneurial competencies were derived from the works of Man (2002, 2005, 2008) in (Farhangmehr, Harry Matlay, Gonçalves, & Sarmento, 2016, p. 16), including areas like **relationships, concepts, organizing ability, strategy, and commitment.** The authors explained that intentions are influenced by exogenous factors such as traits and other variables related to the situation in which potential entrepreneurs live (Farhangmehr, Harry Matlay, Gonçalves, & Sarmento, 2016, p. 20).

Given that the authors claim to be the first to investigate the interdependencies of entrepreneurial competencies, their study revealed synergistic functioning between entrepreneurial competencies, where each competency does not operate in isolation; instead, they enhance each other's effectiveness. In addition, the authors highlighted that even if several entrepreneurial competencies are widely recognized across countries, their interdependencies may vary according to cultural and contextual factors, where they develop and are applied in different manners.

These results suggest that pedagogy should focus on developing students' psychological and social competencies, which may serve entrepreneurship, by covering emotional and critical thinking rather than only rational aspects and textbook knowledge (Farhangmehr, Harry Matlay, Gonçalves, & Sarmento, 2016, p. 24).

In her Ph.D. thesis, Noor Hazlina Ahmad (2007) took Man's findings as a starting point. He developed 12 competency areas through qualitative research and confirmed them by quantitative and cross-cultural analysis to compare entrepreneurs in Australia and Malaysia. These twelve clusters of competencies are **Strategic, commitment, opportunity, conceptual, organizing and leading, relationship, technical, personal, learning, ethical, social responsibility, and familism.** She has added that this leads to organizing and extending areas to include technical competencies, referring to Chandler and Jansen (1992). Also, the last three competency areas, ethical, social responsibility, and familism, made Ahmad's research enjoyable because she took into account contextual aspects such as culture, and these three competencies do not appear in Man's or any other study.

Tittel and Terzidis (2020) analyzed 32 research papers to create a consolidated list of entrepreneurial competencies. By reviewing previous research and eliminating personal traits, they based their classification on the work of four key authors in the field: Man et al. (2002), Chandler and Jansen (1992), and Mitchelmore and Rowley (2010). Starting with 126 items, Tittel and Terzidis refined the list to 32 competencies, categorized into three areas: **domain competencies, personal competencies, and social competencies.**

Even though the listed entrepreneurial competencies suggested by Tittel and Terzidis (2020) are the most recent based on a strong theoretical foundation, it is important to admit that this framework remains purely theoretical and lacks empirical validation through studies across different countries. Based on our review of various studies on entrepreneurial competencies and the lists proposed by different authors, it seems prudent to utilize one list to investigate the competencies required for business success within the Algerian context. Therefore, it becomes necessary to compare the lists provided by Ahmad (2007) and Tittel and Terzidis (2020) to determine which one is more comprehensive and suitable for cross-country empirical research.

To compare the two lists of entrepreneurial competencies, we examined both final models, including domain competencies encompassing clusters of competencies. The following table presents the results of our comparison.

Table 7: Comparison between two models of entrepreneurial competencies

	Ahmad's (2007)	Tittel and Terzidis (2020)
N° of domains	12	3
N° of clusters	52	58
N° of exemplar behaviors	196	Included in clusters (no separation)
Empirical Validation	Extensively validated	Not yet extensively validated
Flexibility	Adaptable to different cultural and economic environments	Potentially more relevant to modern entrepreneurial environments

Source: Elaborated by the author.

Several differences are apparent when comparing the two lists of entrepreneurial competencies proposed by Ahmad (2007) and Tittel and Terzidis (2020). Firstly, Tittel and Terzidis' model encompasses fewer domains than Ahmad's. This is because many domains in Ahmad's model, such as commitment, conceptual, learning, social responsibility, and ethical competencies, are all grouped under personal competencies in Tittel and Terzidis' model. Additionally, technical and familism competencies are not mentioned in Tittel and Terzidis' list, which reduces their domains to three compared to Ahmad's twelve.

Tittel and Terzidis' list appears larger in terms of the number of clusters because it includes some entrepreneurial behaviors within the clusters. In contrast, Ahmad's model separates cluster from the behaviors contained within them.

Ahmad's model is widely recognized and empirically validated in different entrepreneurial contexts. It was initially developed in a comparative study conducted in Australia and Malaysia, revealing the positive impact of entrepreneurial competencies on business success in both countries, demonstrating its flexibility and adaptability across different cultures. On the other hand, Tittel and Terzidis' model is more recent. Thus, it has no extensive empirical validation in academic research.

Given that Tittel and Terzidis' model is implicitly included within Ahmad's more comprehensive framework, we conclude that Ahmad's model is more suitable for testing in the Algerian context.

In the present study, we rely on the competency areas identified by Ahmad (2007) and validated primarily due to their comprehensiveness, as they encompass all the competency areas identified by other researchers. Second, since 2007, no other research has developed an additional competency that is not part of Ahmad's competency model. Third, it was validated in two countries with very different cultures and has been supported by subsequent empirical studies.

In the next section, we will present theoretical and empirical findings on the relationship between entrepreneurial competencies and small business performance, which will enable us to address our research questions.

2.5 Entrepreneurial Competencies in Small Business Performance

Along with globalization, SMEs encounter more intensely competitive business environments, which makes it challenging to maintain or improve their performance. Human capital has always been considered a crucial element that influences the performance of businesses, considering three forms of performance: survival, profit, and employment creation.

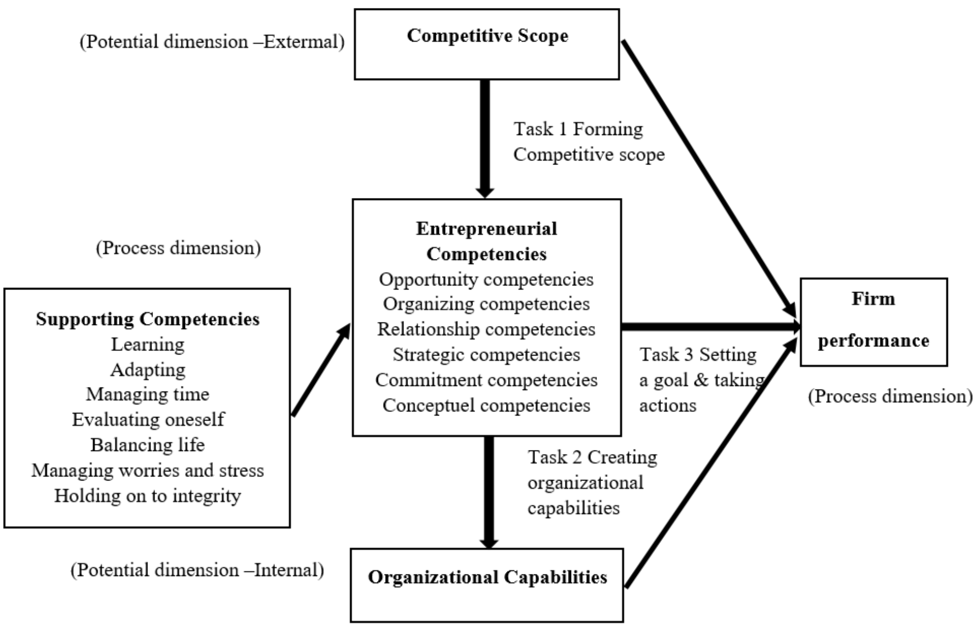
Regardless of industry type and size, a company's physical asset is its human capital, which significantly impacts its performance. Competencies generate a company's human capital, representing the owner's and his/her employees' knowledge, abilities, traits, and attitudes (Barazandeh, Parvizian, Alizadeh, & Khosravi, 2015, p. 3).

The relationship between competencies and business performance was first discussed in the management field through the resource-based view (RBV), which considers human capital competencies as intangible resources of an enterprise that affect its performance. RBV suggests that a business could attain a higher level of performance than competitors by developing unique competencies (Hart, 1995; Barney, 1991; Grant, 1996; Wernerfelt, 1984). Markman and Baron (Markman & Baron, 2003, p. 287) argued that even economists imply that human variability, rather than just exogenous factors like product differentiation, barriers to entry, or economies of scale, determines business performance and personal achievement by a significant amount.

Similarly, in entrepreneurship, there has been a long-standing debate on whether entrepreneurial characteristics are positively related to firm performance. Applying the personality trait approach to studying entrepreneurial characteristics gave mixed and inconsistent findings (Man, Chan, & Lau, 2012, p. 258). Cooper (1993) explained this by the limitation caused by the instability of firm performance (Man, Chan, & Lau, 2012), which gives the insight that personality's fixed traits and characteristics cannot predict business performance because they cannot change and cope with the environmental changes of an organization.

In response to these limitations, Man, Lau, and Chan (2002) applied the competency approach to entrepreneurship to study the competitiveness of small and medium enterprises and came up with a theoretical conceptualization (Figure 2) suggesting that entrepreneurial competencies play an important role in determining the performance and competitiveness of firms which are small in size and dominated by the entrepreneur. In 2008, Man, Lau, and Snape used this framework in conducting an empirical survey to explore the relationship between entrepreneurial competencies and SME performance. Results support the evidence of direct and indirect effects of competencies on a firm's long-term performance (Man, Lau, & Snape, 2008). Even though the competitive scope and organizational capabilities are important determinants of firm performance, shaped by the environment and the firm's resources, they cannot be developed without entrepreneurial competencies, including relationship, innovation, opportunity, and human capital. This indicates that the RBV approach is also applicable when studying the relationship between competencies acquired by entrepreneurs and the performance and competitiveness of their firms.

Figure 2: A modified theoretical model of SME competitiveness

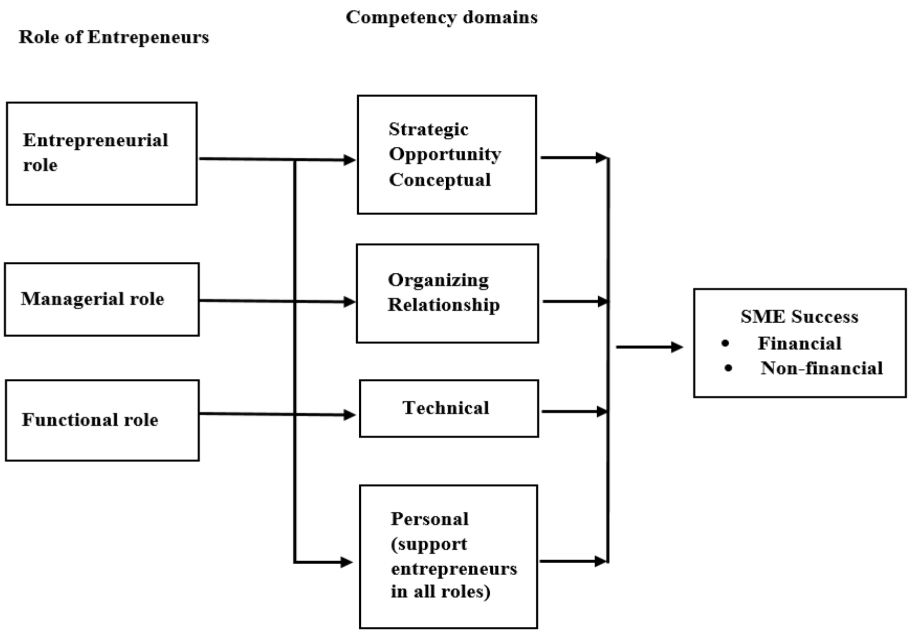


Source: (Man, Lau, & Chan, 2002)

Entrepreneurial competencies are "underlying characteristics, generic and specific knowledge, motives, traits, self-images, social roles, and competencies that result in venture birth, survival, and/or growth" (Boyatzis, 1982; Bird, 1995). They are believed to lead to superior and effective job performance, which is significant for sustainable entrepreneurship (Lans et al., 2014; Oliveira et al., 2018) in (Fazal, Al Mamun, Ahmad, & Al-Shami, 2022, p. 2).

Ahmad et al. (2010) proposed the existence of a direct relationship between entrepreneurial competency and business success in Malaysian SMEs. By taking into account the entrepreneurial, managerial, and functional roles of the entrepreneur as identified by Chandler and Jansen (1992), they classified the essential competency components identified by Man (2001) according to the three roles. They devised a model describing the direct impact of entrepreneurial competencies on business success as shown in Figure 3.

Figure 3: Entrepreneurial competencies in the SME success model



Source: (Ahmad Hazlina, Ramyah, Wilson, & Kummerow, 2010)

Nkakleu (Nkakleu, 2013) studied the relationship between support structures, entrepreneurial competencies, and SME performance among 391 entrepreneurs from Cameroon and 101 entrepreneurs from Senegal. Using Chandler and Jansen's (1992) perspective of combining entrepreneurial, managerial, and technical/functional competencies, the study results confirm the significant influence of competencies among early-stage entrepreneurs on the performance of SMEs in both countries.

Morris et al. (2013) worked on identifying the entrepreneurial competencies needed for business success; using a Delphi Methodology, they investigated the validity of thirteen competencies' learning improvement among students, namely: Opportunity recognition, opportunity assessment, risk management, conveying a compelling vision, tenacity, and perseverance, creative problem solving and imaginativeness, resource leveraging, guerrilla competencies, value creation, maintaining focus and adapting, resilience, self-efficacy, building and using networks. Results have shown that competencies are learnable and can be developed through teaching; thus, developing entrepreneurial competencies can help form competitive scope and organizational capability, as it has already been proven by Man (2001), which allows us to understand that entrepreneurial competencies are directly related to business competitiveness and performance.

Esubalew (2020) investigated the role of entrepreneurial competencies in enhancing the influence of bank finance and the performance of MSMEs; the analysis used data from 411 questionnaires gathered from MSMEs in Ethiopia. Findings show that competencies acquired by entrepreneurs mediate the positive impact of bank finance on MSMEs' performance. Results revealed that contrary to the majority of the current literature, the impact of entrepreneurs' competence on the performance of MSMEs was minor. Results suggest that future research should incorporate moderating variables and examine the impact of entrepreneurs' competency on MSME performance, considering the influence of moderating variables such as culture and economic status.

Consequently, this study indicates that causality relationships between entrepreneurial competencies and other variables, such as firm performance, are not always assured in the same propensity everywhere. Results may vary according to contextual situations, such as the economic environment and culture installed inside and outside the firm.

Recently, Fazal et al. (2022) surveyed 300 entrepreneurs in Malaysia to examine the relationship between entrepreneurial competencies based on the findings of Man (2001) and the sustainability of these microenterprises. Results indicate a positive correlation between entrepreneurial competencies (commitment, organizing, conceptual, relationship, opportunity recognition, and strategic competency) and microenterprise sustainability. Therefore, the significant contribution of this study is that the authors gave empirical evidence that the RBV scope may be extended and applicable to entrepreneurship success and sustainability.

Barazandeh et al. (2015) conducted an interesting study on the relationship between entrepreneurial competencies and business performance among early-stage entrepreneurs, using information from the 2010 Global Entrepreneurship Monitor (GEM) survey. Results obtained from this survey confirm the positive correlation between the two variables already indicated in previous studies. Plus, they emphasize that "skill," which is an acquisitive component, is the main competency that positively impacts business performance. In contrast, the entrepreneur's personality (role model and less fear of failure) does not impact the entrepreneurial competencies related to the firm's performance. Additionally, it was revealed that social norms, distinguished factors of a given country, do positively influence entrepreneurial competencies by influencing the entrepreneur's tendency toward acquiring competencies.

Accordingly, we can conclude from Barazandeh's survey the following points:

- ✓ Entrepreneurial competencies have a positive impact on business performance.
- ✓ competencies are acquisitive, and they significantly impact the acquisition of entrepreneurial competencies.
- ✓ Personality traits and characteristics are not considered entrepreneurial competencies.
- ✓ Entrepreneurial competencies are learnable and changeable.
- ✓ Social norms influence the entrepreneur to learn competencies and obtain more competencies. Thus, they do not have a direct impact on business performance.
- ✓ The cultural environment where entrepreneurs grow up is important in directing individuals' viewpoints about entrepreneurship and indirectly influencing the acquisition of entrepreneurial competencies.

Empirical studies show that the way entrepreneurial success impacts a firm's success and performance is not the same in every situation; the acquisition of the "right" and required competencies is based on human behavior, which is influenced in the first place by contextual factors such as business environment and culture. Since a large body of literature highlights the influence of contextual factors in the determination of entrepreneurial success, the present study also considers these factors to thoroughly study the entrepreneur's behavior and mindset in acquiring the competencies needed for business success.

2.5.1 Measuring entrepreneurial success/ success of SMEs

Entrepreneurial success in SMEs has been widely discussed in the literature on entrepreneurship. Like performance, the concept of entrepreneurial and business success in SMEs is multi-dimensional and depends on many factors. Mainly, the life cycle of a business firm includes birth, survival, and growth. Because small businesses are known for the risk of failure and vanishing within the initial three to five years, business success was widely defined as the ability to survive in the first few years. Brockhaus (1980) assumes that the longer a firm can survive and avoid obligatory exit, the more successful it is. This means that the level of success of small businesses increases with their ability to prevent ending their activity in the first few years of their existence. Because of this intimidating reality of SMEs facing the risk of disappearing in their early years, it is necessary to understand which factors allow us to consider that a certain business is successful.

Research on the appropriate choice of factors that determine business success reveals continuous contradictions. Some authors support the reliance on financial indicators, while others defend the relevance of non-financial indicators to define entrepreneurial success (Tehseen & Ramayah, 2015, p. 54) (Ahmad, 2007, p. 50). The primary concern when it comes to performance in the case of small businesses is not its conceptualization but its measurement. Regarding the first group, existing research on the operationalization of business success reveals that SMEs are evaluated mainly using financial performance metrics usually employed by larger businesses. Including return on investment (ROI), return on equity (ROE), return on capital employed (ROCE), and related indicators (Arshad, 2016)

The supporters of this category consider that successful organizations are those that can generate income and increase profit and then demonstrate some level of "growth," which is reflected by long-term achievement, while short-term achievement reflects profitability (Perren, 2000; Hall & Fulshaw, 1993; in (Ahmad, 2007, p. 50)). Be that as it may, not all small businesses aspire for growth; Beaver (2002) argues that for some entrepreneurs, success may solely involve survival or maintaining their businesses; this group also asserts that even if growth is not a primary goal, financial viability is still necessary for a business to survive. This aligns with the idea that "businesses can be considered viable only if they maintain financial solvency". Therefore, this group emphasizes the importance of non-financial metrics for business success.

Since there is no separation between the owner and the manager in small businesses, the entrepreneur's goals are the same as the goals and objectives of the organization. Murphy et al. (1996) stated: “Effectiveness is measured by relating performance to organizational goals.” (Arshad, 2016) in SMEs, goals are the same as the entrepreneur’s objectives. Hence, in the case of an individual firm, it is necessary to include the entrepreneur’s objectives in the performance assessment. In this context, Jenning and Beaver (Jennings & Beaver, 1997) explain that: “In opposition to many economic theories and general beliefs, money and achieving personal financial fortune are not as important as the aim for personal involvement, responsibility, and the independent lifestyle that many small business owner-managers seek to attain. As a result, accomplishing these objectives becomes one of the main factors for success, as defined by the entrepreneurs”.

The latter statement explicitly indicates that the best way to measure success in small firms is to measure the satisfaction of the entrepreneurs towards the achievement of their personal objectives including their level of personal involvement, autonomy, and harmonious work-life balance rather than focusing only on financial outcomes. This is the crucial idea supported by the second group. Furthermore, each entrepreneur has a personal set of goals distinctively related to his/her unique situation, which means that performance is measured according to those individual goals.

Defining business success is a very complex task in all kinds of firms, more importantly in the context of SMEs and, more precisely, in new ventures (Perez & Canino, 2009). The debate on using either financial (objective) or non-financial (subjective) indicators of success persists to this date. On the one hand, there is a preference for objective indicators because of their simplicity of use; at the same time, they are challenging to obtain. On the other hand, the subjective (non-financial) indicators are personally determined by the entrepreneur and, hence, are hard to quantify.

Murphy et al. (1996) reviewed 52 empirical studies measuring SMEs' performance. They devised eight performance dimensions: Efficiency, growth, profit, size, liquidity, success/failure, market share, and leverage. They observed that the most commonly used performance dimensions are efficiency, growth, and profit, and sixty percent of the reviewed studies only took one or two dimensions into account. The authors also highlighted that the definition of performance and business success in small firms is a challenging task, and the selection of the appropriate measures to assess organizational performance has no consensus in entrepreneurship due to the variety of perspectives and approaches used in entrepreneurial empirical studies. They also indicated the lack of construct validity of what is called "performance" and even suggested discontinuing the use of the term in entrepreneurship research. This means that the continuing debate on performance measurement reveals that the difficulty of the task and the multidimensional nature of performance make its measurement barely impossible.

2.5.1.1 The validity of subjective performance measures

Subjective measures are seen as more comprehensive and representative of business success, especially in small firms, since they reflect the owner's financial performance perspective. In a similar vein of thought, Wang and Ang (2004) pointed out the significance of subjective measures rather than objective ones, offering three justifications: First, a majority of small businesses lack the ability or the will to share objective information. Second, interpreting accounting data from these firms can be challenging. Lastly, if the sample includes firms from diverse industries, it could impact the accounting data.

That being the case, it has been suggested that subjective measures be considered when assessing performance in the case of small businesses. Mainly because owners/managers refuse to share financial data with researchers. Many authors have talked about this problem in various contexts. Even when objective evidence is available, it usually does not represent the actual financial situation of the firm, nor does it reflect its performance (Sapienza et al., 1988; Garg et al., 2003) in (Wani, 2016). Whatever the reason why entrepreneurs do not reveal their detailed accounting data, the reported performance outcomes are manipulated and hence will provide research with biased results. This supports the idea of using objective measures regarding their validity and avoiding biases.

In their article entitled "Measuring Organizational Performance in the Absence of objective measures," Dess and Robinson (1984) examined the use of subjective measures as a way to confirm two widely used economic indicators of organizational performance (Return on assets and growth in sale) over five years, they revealed that variables are positively correlated with each other. Even if the authors clarified that their work does not assume that subjective measures are preferable or substitutable to objective ones, they clarified the significance of subjective performance indicators obtained from entrepreneurs and the validity of using "self-reported" objective measures of ROA and growth in sales.

The validity of subjective performance indicators was examined using various types of tests. Wall et al. (2004) employed three tests to assess the validity of using subjective indicators to measure performance: convergent, discriminant, and construct validity. The results of these tests reveal the existence of significant validity of subjective performance indicators as an alternative to objective performance indicators in business performance.

Table 8: Results of testing the validity of subjective performance measures using different validity types

The Test	Results
Convergent	✓ Subjective indicators are correlated with objective indicators to measure performance.
Discriminant	✓ The association between subjective and objective measures is stronger for equivalent periods than for different periods.
Construct	✓ The associations between subjective and objective performance measures concerning various independent variables are equal. ✓ There is a statistically significant correlation ($p < .01$) between subjective and objective performance measurements. ✓ Subjective measurement demonstrates a 95% rate of success when compared to objective measurement.

Source: (Wall, et al., 2004, p. 104)

The findings of Wall et al. (2004) come from three different studies and reveal three main implications. First, we may put confidence in the results of studies based on subjective performance indicators. Additionally, there is no evidence that the subjective method yields biased results. Second, both objective and subjective measures need to be improved. Third, when investigators can use objective measures, using both methods in their studies is preferable. This study supports the reliability and importance of subjective performance measures and puts them in an equivalent position to objective ones.

Furthermore, subjective indicators were successfully used to measure performance in CRANET in the international investigation of human recourses management practices. This was the starting point of many publications afterward, mainly exploring the impacts of various human resources management practices and the measures of business performance (Tregaskis, Mahoney and Atterbury, 2004) in (Antoncic, Bratkovic Kregar, Singh, & Denoble, 2015, p. 216) because human resources depend heavily on human behavior at work and have an important impact on the firm’s performance.

Similarly, in entrepreneurship, Real et al. (2014) surveyed the correlation between entrepreneurial orientation and performance by applying a 10-item scale of subjective indicators; the authors argue that this scale is an appropriate substitute for objective measures while assessing business performance (Antoncic, Bratkovic Kregar, Singh, & Denoble, 2015, p. 217).

In sum, objective measures of performance are highly significant in empirical surveys. However, owners/managers of private businesses, especially smaller ones, tend not to reveal their financial data, and for different reasons, they provide researchers with false or manipulated information. Therefore, scholars choose to use subjective measures as an alternative, including self-reported evaluation of the business performance, to avoid biases of mistaken and manipulated data, where entrepreneurs show more openness regarding their perception of their business success. Non-financial indicators represent an appropriate alternative and lead to less biased conclusions. Scholars also highlight the relevance of combining both methods, when possible, since there is evidence of their complementarity; however, the unavailability of exact financial data makes it a difficult task to do so.

Therefore, our study concerns the relationship between entrepreneurial behavior, more precisely, entrepreneurial competencies and business success. The present research will use self-reported evaluations for performance measurement. As Venkataraman and Ramanujam (1987) stated "Managerially reported performance data can be used as acceptable criteria for performance measurement." (Antoncic, Bratkovic Kregar, Singh, & Denoble, 2015, p. 217). Hence, we are using the owners' evaluation of their satisfaction level with their goal accomplishment as entrepreneurs because, in the context of SMEs, reaching the entrepreneur's objectives is a form of business success (Murphy, 1996). And most importantly, the survival of the business. Also, we are combining this measurement tool with the fact that all of the small businesses included in our study have survived for more than three years, given that newly created businesses often face the highest failure rates within the first three years.

In the next part of this review, we are looking into the relationship between the business environment and entrepreneurial competencies.

2.5.2 Business environment

This section outlines the business environment as an external factor in relation to entrepreneurial competencies, it also delves into the characteristics of the Algerian business environment and how it shapes the entrepreneurs' behaviors.

2.5.2.1 External environment and entrepreneurial competencies

Research studies on business success and SME performance can be grouped into two main categories. The First category contains theories highlighting the influence of external factors in leading the business to success. In contrast, the second category is led by theories that glorify the importance of internal factors of SMEs, such as the organizational variables and competencies of the entrepreneur, in attaining performance.

On one hand, the focus on external factors and business context, specifically the role of the government as a significant factor that creates a suitable environment in which small business may succeed, has been argued to be neglecting the important role of the business owner as the decision maker that takes control of business outcomes (Baum & Locke, 2004, p. 183). Despite the relevance of the external influences in SME performance, they are insufficient to explain why SMEs succeed or fail. For example, the nature of intense competition in the US market is considered an external barrier to SME success. However, the study of Gaskill et al. (1993) argues that internal factors, such as the managerial and planning competencies of the entrepreneur, are more relevant to enabling business success. In the same vein as this statement, other authors consider that predicting business success in SMEs should focus on the business owner as the analysis unit (Chak, 1998; Stokes & Blackburn, 2002) in (Ahmad Hazlina, Ramyah, Wilson, & Kummerow, 2010, p. 184).

On the other hand, the second category focuses on the internal factors as predictors of SME success, including individual and organizational variables. Covin and Slevin (1991, p. 15) suggest that internal factors, including monetary resources, competencies, the organizational culture, and the organization’s structure, are the organizational variables that influence a firm’s performance.

In SMEs, organization variables are undeniably important to their performance. Thus, it is imperative to acknowledge that the entrepreneur is the key decision-maker that allows the proper utilization of the organization's internal resources to attain organizational success. Markman (2007) considers that the entrepreneur is the one who has the knowledge, skills, and abilities to be a strategic leader whose actions and behavior influence the firm’s success (Baum, Frese, & Baron, 2007) .

As Ahmad et al. (2009) state, the entrepreneur in SME acts as a “gatekeeper,” and the unique nature of this role requires the examination of knowledge, skills, attitudes, and behaviors of the entrepreneur and their impact on SME performance (Ahmad Hazlina, Ramyah, Wilson,

& Kummerow, 2010, p. 184). This indicates that while studying the influence of entrepreneurial competencies on business performance, we cannot neglect the importance of the external environment in which those competencies are required.

Based on the idea that competent entrepreneurs can manage environmental challenges in their business's favor and that the external environment of SMEs has a moderating influence on business success through entrepreneurial competencies, this research considers the moderating effect of the external environment as another proof that the competencies of the entrepreneur lead business success.

2.5.2.2 External environment as a moderator

In SME management, there is a massive need for the firm to respond effectively and proactively to the ever-changing external environment requirements. Because SMEs lack market power and critical resources, they are more vulnerable to external influences than larger firms (Ahmad, 2007, p. 37). At the same time, due to their flexibility, small businesses respond more rapidly to their environment than larger firms (Rice, 2000). Therefore, smaller firms take good advantage of the offered opportunities and manage to reduce the adverse effects of the challenging environment in which they operate. In order to deal with this challenging environment, the entrepreneur should always expect what is coming. This proactive approach requires specific skills, and this is where entrepreneurial competencies come into action.

The business environment has also been identified as dynamic, complex, and unstable. The performance of organizations, specifically SMEs, depends on the entrepreneurs, who also depend on the patterns of the business environment in which they perform (Ibidunni, Ogundana, & Okonkwo, 2021). The external environment is seen as the set of activities affecting directly or indirectly the decisions, procedures, mechanisms, techniques, and policies made in the firm (Pulka, Ramli, & Mohamad, 2021).

Previous research suggests that SMEs should consider the rapid changes in the external environment while implementing the different strategies of the firm. Porter (1980) suggests in his model a set of external factors (five forces) that determine an organization's competitive advantage, including the degree of rivalry, potential entrants, substitutes, buyers, and suppliers. Organizations need to analyze these forces to understand the structure of their activity sectors fully and develop strategies to face them. Besides, these proactive strategies may help firms build their competitive advantages. The challenge these forces present is pushing the firm to be prepared. In this direction, Porter (1980) defines strategy as "building a better defense versus the five competitive forces." He argues that the firm needs to engage in appropriate strategic activity to deal with these external forces. In the case of small firms and SMEs, the possibility of doing so depends mainly on the competencies of the business owner, who plays a significant role in such organizations.

Studies have proven that owners' and managers' actions and behaviors are affected by the different industrial environments they perceive. Herron and Robinson (1993) argue that there is a causal relationship between the external environment and entrepreneurial actions and behaviors, and consequently, strategic behaviors are also affected.

Also, Ardichvili and Cardozo (2000) suggest that the ability of entrepreneurs to recognize and seize opportunities in the external environment depends heavily on their entrepreneurial awareness, prior knowledge, and the asymmetry of information, creativity, and networking. Thomas Man (2001), who came up with the main entrepreneurial competencies directly related to business competitiveness and business success, also suggests a correlation between entrepreneurial competencies and the industrial environment, where the environment influences the owner/manager's behaviors and actions.

Man and Lau (2008) empirically studied the context of entrepreneurship in Hong Kong by comparing entrepreneurial competencies in two different industrial environments: The wholesale trade sector, which is relatively stable, and the IT services sector, which is very dynamic. Results revealed that entrepreneurs of SMEs in IT services scored higher on innovative, strategic, and learning competencies compared to the wholesale trade environment, and that is due to the rapidly changing and fast-growing competitive nature of the IT services environment. This indicated that business success depends on the ability of the entrepreneur to develop the appropriate competencies needed in the specific business environment in which the firm operates.

This guides us to ask what specific competencies an entrepreneur can require to manage his firm's success in the given external business environment in which he/she operates. In the present research, as indicated earlier, we have considered Ahmad's (2007) model of entrepreneurial competencies, which is an extension of Man's model (Man, 2001), since it is the most comprehensive competency model that exists so far. Luckily, Ahmed et al. (2010) conducted another empirical study to investigate the moderating influence of the business environment on the relationship between entrepreneurial competencies and business success in Malaysian SMEs by considering both Hostile and Dynamic environments. The study included

20 SME founders/owners. Results have shown that entrepreneurs scoring high on entrepreneurial competencies seem to be in a better position than those less competent in facing an uncertain and turbulent business environment. In other words, the possession of the appropriate competencies by entrepreneurs allows them to minimize the negative influences of the external environment. The study also revealed that entrepreneurial competencies determine business success, most notably when the business environment is hostile and dynamic.

The influence of the external environment on the correlation between entrepreneurial competencies and SME performance was also investigated in Nigeria; Pulka et al. (2021) collected data from 470 owners/managers of northeastern Nigerian SMEs. Analysis has shown a positive and significant relationship between entrepreneurial competencies and SME performance. Entrepreneurial competencies are important to achieve performance in an external environment that is dynamic, complex, and hostile. Consequently, these findings support the primer idea provided in RBV (Barney, 1991) (Pulka, Ramli, & Mohamad, 2021, p. 20).

Previous studies have shown that the approach to relating SMEs' performance to the external environment is not separated from the internal factors approach. The external environment's characteristics, whether dynamic or hostile, influence patterns of entrepreneurial competencies related to business success and performance.

In other words, entrepreneurs are affected by the needs of the given environment in which they operate, where they have to acquire and develop specific competencies that allow them to face the turbulence and threats of the external environment and simultaneously recognize and seize the existent opportunities. Therefore, the external environment has a moderating impact on business success through the development of entrepreneurial competencies. This means that entrepreneurs have to equip themselves with appropriate competencies as a war shield against the various influences of the external market, and by doing that, they might act as successful gatekeepers of their firms.

2.5.3 Business environment in Algeria

The Algerian economic environment is shaped by past historical events, socio-economic challenges, and ongoing governmental reforms aiming to shift from a state-driven economy to a more market-based economic system. After Algeria’s independence from French colonization in 1962, the Algerian government opted for a socialist model based on the Soviet Union, whereby the government controlled the industry and attempted to pursue self-sufficiency. This resulted in inefficiencies and limited growth of the private sector.

The economic crisis and social unrest in the late 1980s, especially the riots that occurred in 1988 because of high unemployment, made the government change the focus of its economic policies. With the aid of international organizations such as the International Monetary Fund, which recommended reforms like privatization and encouraged foreign investment, the country gradually started to liberalize its economy.

These reforms have created some opportunities, but the business climate in Algeria remains challenging due to several challenges, such as bureaucratic obstacles, a dominant public sector, and low investor confidence (Mokhtar & Baya, 2012).

The Algerian government is shifting towards a new economic model, moving away from rent-based economics to support emerging businesses, advance development, and enhance local production. Significant efforts are being made to support young entrepreneurs.

The government is emphasizing the role of coaching, innovation, and investment funds in promoting startups. Regulatory reforms, tax exemptions, and establishing business incubators are also part of the strategy to foster startup growth.

In October 2020, a national startup conference was held, attended by the President, Prime Minister, and various stakeholders, including representatives from emerging institutions, incubators, government and financial bodies, economic agents, experts, and associations, as well as universities and research centers. This first-of-its-kind meeting in Algeria marked the official launch of the national startup financing fund to help young entrepreneurs avoid bureaucratic hurdles. Additionally, 18 business incubators have been set up, with 14 located in Algiers (Radio Algerienne, s.d.).

2.5.3.1 Challenges for Small Businesses and Start-ups in Algeria

The information, communication, and technology sector in Arab countries, including Algeria, faces numerous challenges that hinder the advancement of new technologies, science parks, and other technological innovations. Business incubators and start-ups in Algeria encounter several issues that impede their growth:

1. **Legislative and Legal Factors:** There is a lack of legislative and legal frameworks that support innovation, creativity, and the status of researchers.
2. **Organizational and Regulatory Factors:** The weak connection between universities and industrial companies and a shortage of highly qualified scientific and technological expertise pose challenges. Additionally, scientific research results are

not commercialized, and banks, agencies, and companies provide inadequate financial support and assistance for innovation activities.

3. **Financial Factors:** There is insufficient mobilization of public capital and a lack of a dynamic financial environment and tax system to promote research, development, and innovation. Research and development budgets within individual companies are significantly lower than in industrial countries, and the private sector has not actively funded scientific research as in developed countries.

Benachenhou and Kara Mostefa (2022) explored the significance of startups in developing and developed countries, emphasizing the Algerian environment for creating business incubators and startups. Their study offers recommendations to enhance the entrepreneurial environment in Algeria, focusing on media promotion, increasing research and development (R&D) spending, and fostering collaboration between the public and private sectors.

Salaouatchi, et al. (2021) examined the barriers to SMEs’ growth by analyzing the typology of entrepreneurs in Algeria. Results indicate that the dominant type of SME leader is leadership; leaders of this type favor independence indefinitely, which forms a barrier to growth. They also highlighted a link between growth and reinvested earnings, where, typically, SMEs' growth increases when their leaders reinvest more of their earnings. However, Algerian leaders do not reinvest. In addition, the SME leaders who made part of this claim that external barriers influence the performance of their firms more than internal barriers.

Bektache and Bouazzara (2020) studied the economic climate and business competitiveness in Algeria by comparing it to several other Arab countries. They used various indicators as a reference in their analysis, including The Economic Freedom Index, Global Competitiveness Index, Ease of Doing Business Index, and Corruption Perceptions Index.

Their analysis revealed that Algeria faces numerous challenges that hinder its business climate and economy. Although there have been efforts to enhance investment, heavy challenges exist, such as excessive government intervention in the economy and the lack of readiness for international competition. The leading suggestions of this study aim for significant reforms regarding bureaucracy as a major challenge and combating corruption in key sectors.

The latter study, similar to the former ones, highlights bureaucracy as a key challenge to business in Algeria; it includes:

1. The complexity of procedures and documentation required to start a business.

2. Overlapping authorities and multiple agencies involved in investment.
3. The heaviness of taxation and unclear changing regulation.
4. The standard issue of corruption gets in the way of the effective implementation of laws.

Despite governmental efforts, bureaucracy, corruption, and unclear regulations remain the major obstacles in the Algerian business environment that entrepreneurs must face and overcome to succeed.

Overall, Algeria's emergent business environment offers good opportunities and serious challenges for entrepreneurs. Indeed, entrepreneurs have to build strong entrepreneurial competencies to cope with the transition phase to a more diversified and open economy. Competencies encompass the ability to adapt and effectively react to bureaucratic obstacles and available regulatory frameworks, which is necessary to comprehend and handle the way the market operates in Algeria.

While developing their competencies and achieving their personal goals, Algerian entrepreneurs contribute to the diversification of the national economy through sustainable growth and job creation. Eventually, business success will depend on how effectively entrepreneurs overcome challenges, parallel to their ability to navigate market demands.

On the other hand, prior studies also suggest that social and cultural factors influence entrepreneurs. We intend to study the influence of entrepreneurs’ cultural orientations on their behavior, including former theoretical and empirical studies on culture in our discussion of entrepreneurial competencies is interesting.

2.5.4 Culture, entrepreneurship, and entrepreneurial competencies

Previous studies show a consensus among entrepreneur researchers that entrepreneurial competencies alone are not enough to lead SMEs to success; they depend heavily on contextual and environmental aspects. Culture, in terms of entrepreneurs' cultural values and cultural orientations, is also involved in the development of entrepreneurial competencies.

Berger (1991), who adopts this perspective, finds it important to study the cultural dynamics and how they impact entrepreneurial activities and defines entrepreneurship as a special variant created and affected by the culture (Berger 1991) in (Sajilan & Tehseen, 2015). Also, McGrath et al. (1992) proved in their study that entrepreneurs with particular cultural backgrounds were identified with entrepreneurial values that differentiated them from non-entrepreneurs of the same country (McGarth et al. 1992) in (Sajilan & Tehseen, 2015).

Man (2005) believes that social and cultural factors also affect entrepreneurs and the business environment. In the context of Hong Kong in China, Man Observed a consistent pattern of entrepreneurial characteristics held by many generations over a few decades (Man & Lau, 2005, p. 470). Also, it has been proven that Chinese entrepreneurs in the UK have maintained their Chinese cultural values in their practices despite operating in a different country, where a different culture and environment are installed (Siu et al., 2003) in (Man & Lau, 2005, p. 470).

It is also believed that entrepreneurial characteristics and attributes are universal, although some may be culture-specific. Thus, specific entrepreneurial competencies are predicted to relate more to culture than others (Ahmad, 2007).

Because entrepreneurial competencies are manifested through entrepreneurs' behaviors, we find that it is important to highlight factors that affect the creation and development of these behaviors, including cultural values, which seem to be highly correlated to behavior in general and, more precisely, to entrepreneurial behavior.

2.5.4.1 Cultural values/orientations and entrepreneurial competencies

Certain academics have investigated the direct and moderating effects of cultural values on entrepreneurial behavior in the research on cognitive approaches to entrepreneurship.

Values are considered to be the creating element of behaviors. Therefore, values are believed to impact main organizational issues such as strategy and management. Schwart and Bilsky (1990) define values as beliefs or concepts, desirable behaviors or end states, transcending specific situations, evaluating events and behaviors, or guiding selection (Sajilan & Tehseen, 2015).

Consequently, more attention was directed toward culture in management and entrepreneurial fields, where scholars linked culture to different studies, such as ethics in organizations and strategic management (Armstrong, 1996; Hennart & Larimo, 1998) in (Sajilan & Tehseen, 2015).

The GLOBE[8] research program characterizes culture as a set of commonly held experiences that result in shared motives, values, beliefs, identities, and interpretations or meanings of events transmitted across generations within a community (GLOBE 2020, s.d.).

Accordingly, culture was defined in many ways following the various disciplines in which it was involved. Although, there is no consensus on its definition (Tayeb, 1994) in (Sajilan & Tehseen, 2015). One of the most popular authors who became interested in culture is Hofstede (1991), who defines culture as “the collective programming of the mind which distinguished the members of one group or category of people from another.” (Hofstede, 1991, p.5, in (Ahmad, 2007)). Hofstede developed a cultural model comprising four dimensions: power distance, uncertainty avoidance, individualism, and masculinity, as well as a fifth dimension, time orientation, which was added later. Kirkmen, Lowe, and Gibson (2006) evaluated Hofstede’s cultural values framework on research in business and psychology, noting its strengths in providing clarity and appeal to managers, but also critiques such as oversimplification, limited sample diversity, and disregard for cultural differences across countries. Their review indicates that many subsequent studies have validated Hofstede’s findings and adapted his model for analyses at the individual level. The authors' recommendations include investigating cultural values beyond Hofstede’s framework, addressing theoretical and methodological gaps, and reducing fragmentation in the research (Kirkman, Lowe, & Gibson, 2006).

Moreover, other researchers argued that culture might also be studied individually. Culture has been proven to influence an individual’s personality, behaviors, and actions.

According to Smith (1992), Hofstede’s model was considered comprehensive to study national cultures. Hence, many cross-cultural studies in entrepreneurship used Hofstede’s cultural dimensions. While some scholars argued that higher entrepreneurial orientation is linked to cultures with high power distance, individualism, masculinity, and low uncertainty avoidance, others proved that individualism negatively affected entrepreneurship (Calza, Cannavale, & Zohoorian Nadali, 2020). Baum et al. (1993), who support the second perspective, claim that in collectivist societies, people may have a favorable view toward self-employment since it gives them the possibility to fulfill their personal needs that may not be

[8] Global Leadership and Organizational Behavior Effectiveness project is a research program that investigates cross-cultural differences in leadership, organizational behavior, and national culture.

satisfied otherwise, which might be a significant motivation for them to start a business (Baum et al. 1993) in (Calza, Cannavale, & Zohoorian Nadali, 2020).

Over the last decade, academics have increasingly used the GLOBE project as a reference in their cross-cultural studies of entrepreneurship, as it encompasses a broader range of cultural dimensions. Zhao, Li, and Rauch (2012) found that Total Early-Stage Entrepreneurial Activity (TEA) is positively influenced by in-group collectivism, low uncertainty, human orientation, and low gender egalitarianism. Similarly, Rauch et al. (2013) found that in-group collectivism and power distance have a positive impact on female entrepreneurship and TEA. Whereas assertiveness negatively influences female entrepreneurship. However, other studies found opposite results regarding uncertainty avoidance and similar results concerning collectivism (Calza, Cannavale, & Zohoorian Nadali, 2020). Despite numerous studies on the relationship between cultural dimensions and entrepreneurship, the empirical evidence on this topic remains weak and contradictory (Castillo-Palacio, Batista-Canino, & Zúñiga Collazos, 2017).

Ajekwe (2016) identified several cultural factors that can positively or negatively impact entrepreneurship development. These factors include family background, formal education, religion, historical circumstances, dominant cultural attitudes and values, and a preference for community welfare over business investment (Ezinwo, Gogo, & Oriji, 2022, p. 398). This shows that entrepreneurial competencies are also affected by social and cultural factors. Ahmad (2007) investigated in her thesis the impact of two cultural dimensions of Hofstede's model on the development of entrepreneurial competencies (collectivism and individualism on one hand, and uncertainty avoidance and tolerance ambiguity on another). Nevertheless, this research proves that entrepreneurial competencies are affected by cultural values and orientations.

2.5.4.1.1 The cultural values in Algeria

Although Hofstede (1980, 1991) developed his model of cultural dimensions through a survey study on national cultures in over 70 countries worldwide, the Algerian national culture is not referenced in Hofstede's work or in the studies that have tested his model. The only study available on cultural dimensions in Algeria is the study of Mercure et al. (1997), which indicated the following results (Yahia-Berrouiguet, 2015, p. 6):

- Power distance scored 5.36/10 (medium);
- Collectivism scored 7.12/10 (high);
- Uncertainty avoidance 8.6/10 (high).

Moreover, it is important to indicate that Hofstede's model started from a survey he conducted at IBM between 1967 and 1975. To improve employee performance at IBM, Hofstede distributed over 100,000 questionnaires. Consequently, he developed the popular dimensions that helped him diagnose and explain the apparent differences among all offices that work for IBM. Afterward, he could classify numerous countries according to the cultural dimensions that helped explain the cultural differences between countries. Every IBM office around the globe was influenced by the culture of the country in which it operates (Hofstede, 1984, 1991).

This is based on the idea that every organizational cultural model is heavily affected by the national culture to which each organization belongs. Fellag, Kherchi, and Heddou (2015) worked on measuring and identifying the organizational culture in an Algerian company that produces cement and its derivatives in Chlef, Algeria. Results indicated a similarity to Hofstede's classification of Arabic management, including analysis he got from IBM's workers in Arabic countries (Egypt, Lebanon, Kuwait, Iraq, Saudi Arabia, and the United Emirates). Employees of the Algerian cement firm scored:

- <u>High power distance:</u> Strong hierarchy and vast distance between managers and workers. Plus, the relevance of authority and power in different positions within the company.
- <u>High uncertainty avoidance:</u> Algerian employees tend to avoid uncertainty.
- <u>High on collectivism vs. individualism</u>: Algerian employees tend to work in groups rather than alone, preferring teamwork that requires social relations and team spirit.
- <u>High on masculinity vs. femininity:</u> The Algerian cement company's employees are characterized by rigor and rigidity rather than softness. The business prioritizes male workers for key leadership and decision-making roles, granting them greater influence and control than their female counterparts.
- <u>Very low long-term orientation:</u> Employees have no perspective for the future.

This study is also one of the few research works on cultural dimensions in Algeria on the organizational level and goes with the results found on the national level Mercure et al. (1997) regarding power distance, uncertainty avoidance, and collectivism. This proves that the cultural dimensions' influence employees' behaviors at work in the country where they belong. Also, results found in Algeria at both organizational and national levels are similar to the patterns of the Arabic culture (Yahia-Berrouiguet, 2015, p. 6).

In the World Values Survey's cross-national data, Algeria is one of the countries surveyed in Africa. Also, the results of this survey bear a resemblance to Hofstede's cultural chart. According to Tausch (2018), the WVS has become the most common time series investigation tool of human beliefs and values and the largest non-commercial, cross-national model ever, which makes Africa much better represented today.

Also, the fact that the economics profession put more light on the relationship between religion and economic growth has massively contributed to the rise of the methodological approach employed in WVS (McCleary and Barro, 2006 in Tausch, (2018, p. 17)).

The comparative analyses between African countries based on WVS data (Tausch, 2018) included 39 variables and identified 13 national values in all African countries. Algeria, one of the countries investigated in this survey, showed the following results:

Table 9: The overall development of the Algerian civil society on global scale-factor scores

	Overall Civil Society Index	**The non-violent and law-abiding society**	**Democracy movement**	**Climate of personal non-violence**	**Trust in institutions**	**Happiness, good health**	**No redistributive religious fundamentalism**
Algeria	-4,422	-2,077	-0,133	-0,866	-0,705	-0,202	-0,413
Degree compared to other African countries	The lowest after South Africa	The lowest after South Africa	Below Average	Low	Very Low	Below Average	Low

	Accepting the market economy	**Feminism**	**Involvement in politics**	**Optimism and engagement**	**No welfare mentality, acceptance of the Calvinist work ethics**
Algeria	0,261	-0,691	-0,139	0,069	0,474
Degree compared to other African countries	Average	Extremely Low	Low	Average	Average

Source: Elaborated by the author based on the WVS findings (Tausch, 2018)

The tables indicate Algeria's scores in 13 factors of the analytical scale of the WVS; each factor is accompanied by a comment comparing Algeria to other countries worldwide, including African countries. Each factor is explained with variables among 39 variables that explain high or low factors.

According to the WVS data analysis (2018), Algeria's overall society civil index is (-4,422), with a global rank of 53 and percentile performance of 89,831, which indicates a pessimistic tendency according to the study. Also, Algeria seems to be among the global bottom-league performers in terms of non-violent and law-abiding society factors.

It is important to note that the WVS data date back to 2018, before many political and economic transformations in Algeria, including the change of the presidency of the country in 2019 and social and political reforms made since then. Moreover, health and economic circumstances have undergone significant changes since the COVID-19 pandemic, with far-reaching consequences affecting countries worldwide across various social, health, educational, political, and economic dimensions. Therefore, this study is not any more helpful in comparing Algeria's civil society on a global scale.

Consequently, we are taking into account the cultural/social variables that explain the low and average factors of Algerian civil society and seeing if they are compatible with the findings of studies that used Hofstede's model. Hopefully, we will identify the cultural values that impact entrepreneurial competencies and behaviors in Algeria to empirically study their relevance in the Algerian context.

Table 10: Variables explaining Algeria's high and low degrees of analytical scale factors

The analytical scale factor of WVS in Algeria (2018)	The variables with high correlation
Extremely low non-violent and law-abiding society	• Claiming government benefits • Stealing property • Violence against other people • Avoiding fares on public transport • Someone accepting a bribe
Below-average democracy movement	• People choose their leaders in free elections. • Civil rights protect people's liberty against oppression. • Women have the same rights as men.
The low climate of personal non-violence	• Stealing property • Parents beating children • Violence against other people • Someone accepting a bribe • For a man to beat his wife
Very low Trust in institutions	• No confidence in the press, the police, the government, or the United Nations.
Below average Happiness, good health	• Feeling of happiness • State of health (subjective)
Low No redistributive religious fundamentalism	• Important in life: **Religion**
Average Accepting the market economy	• Good competition • Hard work brings success
Extremely low Feminism	• Accept: Men make better political leaders than women do • University is more important for a boy than for a girl
Low Involvement in Politics	• No interest in politics

	• Not important in life: Politics
Average Optimism and engagement	• Important in life: Friends • Important in life: Leisure time
Average no welfare mentality, acceptance of the Calvinist work ethic	• Important in life: Work • Important in life: **Religion**

Source: Elaborated by the author based on the findings of WVS (Tausch, 2018, pp. 30-33)

The table contains the WVS explanations of very high and very low analytical scale factors of the civil societies in all countries in 2018. We attributed to each factor the degree of factor scores in Algeria only. For example, happiness and good health are correlated; in Algeria, below-average happiness and good health are due to below-average feelings of happiness and good health. Also, trust in institutions is correlated to having confidence in the press, government, or the police; in the case of Algeria, very low trust in institutions is therefore due to very low confidence in the press, police, and government, and so on.

In connection with cultural values in Algeria, we can associate very low trust in institutions and low involvement in politics with the high degree of power distance, which is in line with previous studies (Mercure, 1997; Fellague, 2015). Similarly, the WVS data analysis reveals low feminism in Algeria, which also matches previous findings. It appears that Algerians consider work and friends to be important in life, which is related to the collectivism value that also scored high in former studies.

As a result, the WVS findings validate Hofstede's cultural dimensions' model. In Algeria, few scholars have examined national cultural values, and existing studies are insufficient to determine fixed cultural traits. Therefore, we focus on the main cultural values identified in the studies discussed above, namely: high power distance, low femininity versus high masculinity, high uncertainty avoidance, high collectivism versus individualism, and low long-term orientation.

Furthermore, the results of the WVS data on religion and ethics in Algeria show that Algerian culture and society highly value religion and ethics in both work and daily life. This is evident in variables linked to low or no religious fundamentalism that rejects redistribution, as well as in variables associated with an average, no-welfare mindset, characterized by an acceptance of the Calvinist work ethic (Table 10).

Since Algeria is a predominantly Muslim nation, individuals draw their ethical values from Islam and incorporate Islamic teachings into their personal, family, and professional lives, which significantly impacts their behavior at work. Accordingly, we are taking into account the concepts of "ethical competency," "social responsibility," and "familism" as labeled in

Ahmad's (2007) comparative study of Malaysia and Australia, which are included in our theoretical discussion and empirical investigation as three entrepreneurial competencies.

Conclusion of chapter

This chapter aimed to cover the major concepts in relation to the topic of entrepreneurship and entrepreneurial competencies in the context of micro, small, and medium enterprises (MSMEs) and small to medium-sized businesses (SMEs). The literature provided valuable insights for our study and future research.

First, small business success depends on both internal and external factors. Due to the small size of these firms, the entrepreneur must acquire these competencies to perform various entrepreneurial tasks and ensure business sustainability. Therefore, the concept of Entrepreneurial competencies originates from the competency approach in entrepreneurship. The development of this approach emerged as a way to improve the quality of empirical findings, emphasizing that entrepreneurs need to exhibit behaviors that can be learned and developed over time, rather than traits that are mostly rooted in individual personality.

Additionally, the categorization of entrepreneurial competencies has evolved from just a few roles to comprehensive models, with each model proposed in a specific context and validated in another. Each category includes several behaviors, which increases the number of required competencies. Because the main downside of the trait approach is the endless number of traits needed for a successful entrepreneur, we consider grouping these areas into general sets of entrepreneurial competencies based on the roles they enable. Contextual factors should also be considered, as a business exists within an environment and is influenced by society, culture, and personal beliefs.

The earlier insights allowed us to develop a theoretical framework for our study, which is explained in the next chapter, along with the research methodology used in this work.

Chapter Three:

Theoretical framework and research methodology

3 Chapter Three: Theoretical framework and research methodology

This chapter is composed of two main parts. First, it presents the theoretical model of this study and second it provides the methodological pathways we followed in order to test those hypotheses and find answers to our research problem and questions.

3.1 Theoretical framework

The following theoretical framework explains the connection between the variables of this study and the approach taken to address the research problem. Different theoretical models and empirical studies have been presented to examine competencies and their link to business performance. First of all, business strategy researchers have been particularly interested in competencies in the past, seeing this as an internal resource of competitive advantage through the theory of 'core competencies' in the Resource Based View (RBV) framework, especially in larger firms (Penrose, 1959; Van de Ven, 1986; Hamel & Prahalad, 1990; Barney, 1991). Not long after, the significance of competencies was acknowledged in small businesses, and theoreticians argued that competencies in small businesses differ from those in large businesses, necessitating a distinction between the two (Chandler & Jansen, 1992). This study adopts the position that entrepreneurial competencies are equivalent to those of the owner-manager of small businesses. These competencies encompass skills and qualities that enable entrepreneurs to develop effective strategies for navigating and thriving in the business environment.

This chapter is based on existing models, such as those of Man (2001) and Ahmad (Ahmad, 2007), which used the findings of Chandler and Jansen (1992) as a starting point and identified entrepreneurial competencies as important determinants of the success of small and medium-sized enterprises (SMEs) in various environments. The study also incorporates the implications of subsequent research to extend these models to apply to the Algerian business environment for SMEs and MSMEs.

This framework is designed to develop a new model of entrepreneurial competencies to examine their impact on business performance and continuity concerning Algerian MSMEs and SMEs. Since research on entrepreneurial competencies, like entrepreneurship research, is context-specific and environmentally determined, we also seek to add to the international research on entrepreneurial competencies, which is characterized by the scarcity of empirical studies across different contexts. Generally, the study aims to investigate how these variables impact the non-financial performance of SMEs in Algeria.

We used the comprehensive model developed by Ahmad (2007) to build on this, which we adopted from previous empirical studies conducted in diverse contexts. Chandler and Jansen's (1992) foundational research is based on and integrated with all clusters of entrepreneurial competencies identified in the literature, as is Man's (2001) pioneering work. Man's model is widely regarded as a seminal and universal framework. Numerous studies have demonstrated the positive impact of each competency on business success across different countries (Ahmad, 2007; Li, 2009). However, Ahmad’s model distinguishes itself through its cross-cultural approach because it compares entrepreneurial competencies between Australia and Malaysia. However, it was found that Ahmad's model was validated through subsequent research, which successfully addressed the challenges of accessing entrepreneurs in two distinct cultural contexts (Ahmad Hazlina, Ramyah, Wilson, & Kummerow, 2010; Wani, 2016).

The Algerian business environment presents opportunities and challenges that uniquely shape the entrepreneurial landscape. Bureaucratic complexities, difficulties in accessing finance, and an evolving legal framework are significant challenges that entrepreneurs must overcome, hindering business growth. These challenges require the development of context-based, specialized competencies that enable entrepreneurs to adapt and thrive despite external barriers (Bektache & Bouazzara, 2020; Salaouatchi, et al., 2021).

In this section, we examine the theoretical foundations of entrepreneurial competencies and their relationship with the performance of small and medium-sized enterprises (SMEs). Then, we describe the variables relevant to this study and present our preliminary theoretical framework. Finally, we formulate the research hypothesis based on our qualitative study of existing research to explain the anticipated correlations.

Through this framework, the study aims to validate a more comprehensive model tailored to the Algerian SME context and provide additional information about the competencies required for entrepreneurial success in Algeria, as well as how environmental and demographic factors influence these competencies.

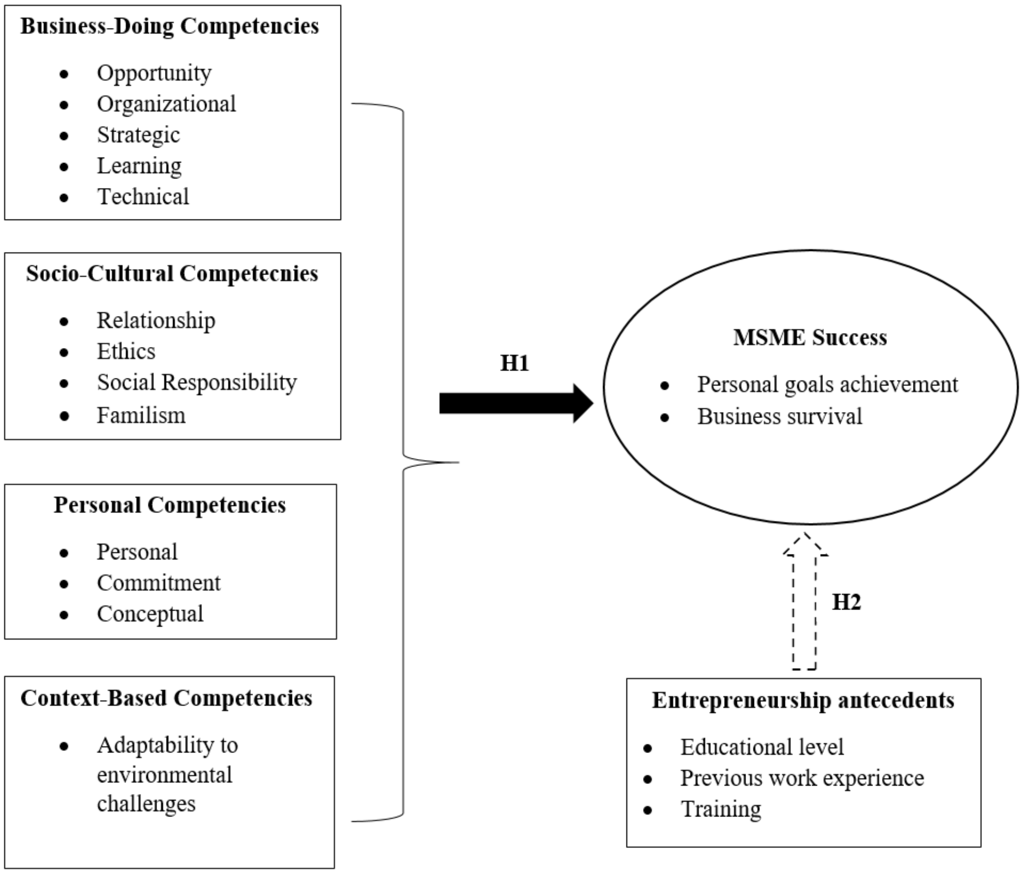
Building on the literature review, this part of our study provides the theoretical underpinning of this research and identifies the study variables. These constructs encompass entrepreneurial competency domains, their associated behaviors, business success, the business environment, and individual cultural orientations. A theoretical framework is also developed to integrate these constructs and generate testing hypotheses. In particular, the study examines the direct effect of entrepreneurial competencies on business success as proposed in literature; the direct effect of context-related competencies on business success. Additionally, the empirical study verifies the potential antecedents of developing entrepreneurial competencies, including educational level, work experience, and training

3.1.1 Formulating a Preliminary Theoretical Framework

Our suggested theoretical framework considers the various entrepreneurial competencies as independent variables. It divides them into two groups: the competencies validated in the previous studies (based on Ahmad's model) and the context-specific entrepreneurial competencies derived from the Algerian business environment. The dependent variable is the self-reported business success, which describes the entrepreneur's satisfaction with achieving their business objectives and the firm's survival, given that the firm has been active for over three years.

In addition, this study examines the moderating effect of challenges and obstacles defined by the surrounding business environment since existing studies suggest that entrepreneurs' handling of these difficulties significantly influences their businesses' performance. The study also examines the effect of individual characteristics (gender, educational level, and working experience) on the behaviors central to entrepreneurial competencies.

Figure 4: Suggested theoretical framework formulated for this study



Note: Filled arrows indicate direct effect, while the dashed arrow indicates a moderating effect.

3.1.2 Developing Research Hypotheses

The present section suggests the hypotheses that need to be empirically tested, including main and secondary hypothesis.

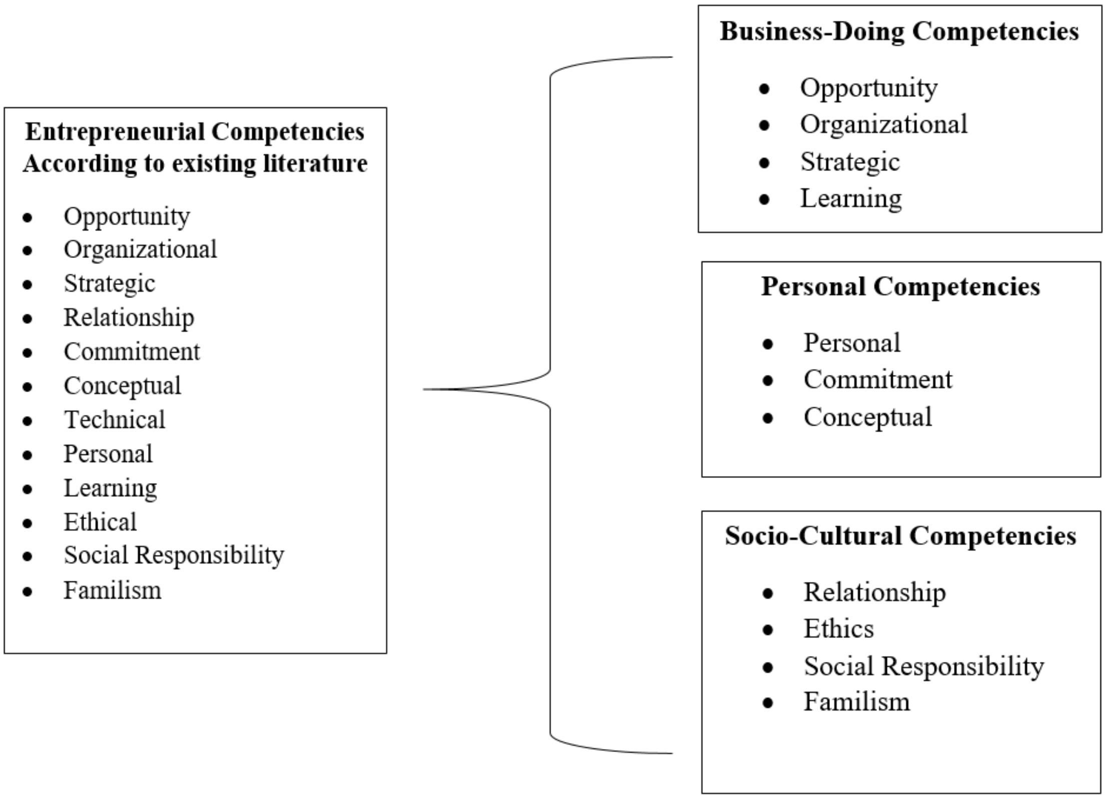
3.1.2.1 The direct effect of entrepreneurial competencies on small business success

Existing models identify the literature as strongly supporting the hypothesis that entrepreneurial competencies directly influence business success. The resource-based view encompasses human capital competencies as unique, intangible resources that contribute to a competitive advantage and firm performance, as first proposed by Barney (1991) and Hart (1995). Studies in entrepreneurship have extended this to show that entrepreneurial competencies significantly contribute to firm performance, particularly in small firms where the owner-manager is the dominant figure (Chandler & Jansen, 1992; Man, Lau, & Snape, 2008). These competencies constitute the foundation for developing a competitive scope and organizational capabilities that lead to long-term success.

Empirical investigations also support the positive relationship between entrepreneurial competencies and firm performance. Ahmad et al. (2007; 2010) first applied their competency model to Malaysian small and medium-sized enterprises (SMEs), finding a direct relationship between these competencies and business success. This positive correlation was also affirmed by other research studies in various countries, including Cameroon and Senegal (Nkakleu, 2013), Ethiopia (Esubalew, 2020), and Malaysia (Fazal, Al Mamun, Ahmad, & Al-Shami, 2022). These studies have also demonstrated that entrepreneurial competencies are learnable and applicable in diverse situations, and that entrepreneurs can effectively overcome various challenges. Thus, relying on Ahmad's model for this study offers a proper methodology to investigate how entrepreneurial competencies affect business success in the Algerian environment.

Because Man's (2001) and Ahmad's (2007) models encompass all the existing entrepreneurial competencies in the literature, we considered the twelve final competencies and regrouped them into three main categories based on their similarities, as shown in the following figure, which explains the first hypothesis of this research.

Figure 5: Domains of entrepreneurial competencies in this study



Following the empirical results of former studies on the topic and the application of entrepreneurial competencies in different environments, the present study presents the first Hypothesis, which is composed of several sub-hypotheses as follows:

- **Hypothesis 1 (H1):** A positive relationship exists between entrepreneurial competencies and small business success in Algeria.
  - **H1.1:** The business doing competencies positively influence business success.
  - **H1.2:** Personal competencies positively influence business success.
  - **H1.3:** The socio-cultural competencies positively influence business success.

3.1.2.2 The direct effect of context-based entrepreneurial competencies on small business success and the moderating role of the Algerian business environment on business success

Based on the literature in the Algerian context, it is argued that entrepreneurs face numerous challenges that require context-specific competencies to enable them to effectively operate within and prevail in a challenging business environment, especially when new to the entrepreneurial ecosystem. The most critical challenges are bureaucracy, access to finance, and the complexity of the legal framework, which are significant constraints on entrepreneurial activity. Bureaucratic inefficiencies, including slow procedures, multiple authorities, and frequent regulation changes, are characteristics of Algeria and are detrimental to business performance and growth (Bektache & Bouazzara, 2020). In addition, corruption and a lack of transparency are problems that plague the system, making it difficult for entrepreneurs to interact with government institutions (Benachenhou & Kara Mostefa, 2022).

Another issue of concern is access to finance. Despite some advancements in financial inclusion, entrepreneurs still face difficulties in obtaining the proper funding and, more significantly, securing support from banks and other financial institutions (Salaouatchi, et al., 2021). The lack of a proper financial market and an inadequate, unstable tax environment exacerbate these conditions, leaving many business owners without the necessary funds to run and develop their businesses. These challenges, along with legal and regulatory limitations, create a high-risk environment that requires developing the capacity to overcome various challenges.

To achieve success, it is necessary for Algerian entrepreneurs to acquire some context-based competencies that will help them survive in their environment, namely:

1. **Navigating Bureaucracy:** Working with governmental structures requires handling administrative processes and demands.
2. **Handling Financial Access:** To meet their financial needs, entrepreneurs must learn to gather funds from various resources, including public and private institutions.
3. **Adapting to Legal Frameworks:** Entrepreneurial practices require acknowledging the available legal frameworks and their modifications, as well as learning how to handle situations that are not entirely or explicitly framed by the law.
4. **Competing in informal markets:** The Algerian business environment features businesses that operate informally while remaining highly competitive. Therefore, entrepreneurs must adapt to this reality and consider this type of market characteristic.

The research indicates that entrepreneurial success in Algeria is largely determined by overcoming existing business challenges (Bektache & Bouazzara, 2020). Developing these abilities would allow entrepreneurs to overcome external barriers and achieve success.

Therefore, this study suggests the following hypothesis based on the above arguments.

- **H1.4:** Adaptability is a context-based entrepreneurial competency that positively influences business success in Algeria.

3.1.2.3 The moderating effect of entrepreneurship antecedents on the development of entrepreneurial competencies

According to Bird (1995), entrepreneurial competencies can be influenced by several characteristics, including education, prior industrial work experience, and previous entrepreneurial experience. These individual factors are key to developing entrepreneurial competencies and achieving business success. Since our sample primarily includes entrepreneurs registered with public institutions such as ANGEM, CNAC, and NESDA, we believe that respondents likely did not have prior entrepreneurial experience, as government agencies typically do not fund such* initiatives. For instance, project holders at ANGEM and CNAC need to be unemployed or have a minimal salary to qualify for financing. However, these institutions require passing mandatory training before starting the entrepreneurial process. Therefore, we consider training as an essential step in developing entrepreneurial competencies in this study.

Education is first identified as providing the foundation of knowledge and analysis that enables entrepreneurs to spot opportunities, manage resources, and adjust to environmental changes. A positive relationship exists between an individual's education level and their critical thinking and strategic thinking, which are vital for entrepreneurship.

Work experience is a practical form of learning that complements formal education, providing exposure to the real world. This experience helps develop technical, relational, and problem-solving competencies vital for organizations, identifying opportunities, and innovation. Experience is gained through work, and it prepares entrepreneurs to deal with the complex and dynamic business environment.

Training is also a form of education that emphasizes practical insights and relies more on experiential learning. It has been widely shown that training is essential for developing competencies in the HRM field. In entrepreneurship, scholars consistently prioritize customized training programs in their recommendations and suggest conducting pre- and post-training sessions for entrepreneurs to promote entrepreneurship development. That is why universities, incubators, and entrepreneurship-related institutions devote significant attention to training business project holders and potential entrepreneurs.

- **Hypothesis 2 (H2):** Antecedents of entrepreneurship (educational level, work experience, and training) significantly influence the development of entrepreneurial competencies in the Algerian context.
  - **H2.1:** Entrepreneurs with higher education will score high on possessing higher competencies.
  - **H2.2:** Entrepreneurs with previous work experience will score high on possessing higher competencies.
  - **H2.3:** Entrepreneurs who had training will score high on possessing higher competencies.

This research aims to contribute to the field of entrepreneurship by expanding the literature on entrepreneurial competencies and empirically examining the relationship between these competencies and business success in Algerian MSMEs and SMEs. The research also examines the impact of other covariates, including the business environment and the demographic profile of the entrepreneurs. The proposed research design employs a mixed-methods approach to achieve the study's objectives. The study primarily employs a quantitative methodology to identify the key entrepreneurial competencies of Algerian entrepreneurs and to test a model developed from previous literature within the Algerian context. Additionally, we aim to identify the environmental challenges that entrepreneurs encounter in Algeria and the competencies they need to develop. The following chapter provides a detailed explanation of the research methodology.

3.2 Research methodology

The following section on research methodology explains how the research methods are used to study the relationship between entrepreneurial competencies and business success in Algerian SMEs and MSMEs. Specifically, this study examines the extent to which specific entrepreneurial competencies effect the survival and success of micro, small and medium-sized enterprises (MSMEs) in the Algerian business environment, where businesses face several inhibiting factors, including bureaucratic obstacles and limited access to finance.

In this direction, a quantitative research design was implemented using a structured questionnaire to collect data from SME entrepreneurs based on specific criteria. The identified entrepreneurial competencies were selected from a critical review of the literature, including key models such as those by Man (2001) , Ahmad (2007), and Tittel & Terzidis (2020). These competencies are tailored to the business environment of Algeria, where entrepreneurs' ability to successfully navigate external challenges is crucial for business success.

This chapter outlines the philosophy that supports the study, justifying the quantitative approach while incorporating insights from other research paradigms. It also discusses the research design, target population, and sampling methods. The chapter elaborates on the data collection process, including the development and distribution of the questionnaire, as well as the statistical methods used for data analysis. In this connection, the ethical considerations and possible limitations of this research are discussed to ensure a transparent methodological framework.

This design methodology aims to establish a structured process for evaluating the influence of entrepreneurial competencies on a business's success and survival, and to make worthy contributions to existing literature, both in academia and in practical entrepreneurship in Algeria.

3.2.1 Research Philosophy

Throughout history, the natural sciences have consistently been regarded as noble, pure, and certain, while the humanities and social sciences have been subject to the whims of opinions and beliefs. This image is no longer suitable for today’s realities. Although this obsolete idea persists in some traditionalist circles, the prevailing notion that natural (hard) sciences are the only sciences capable of certainties, while social sciences and humanities (SSH) are considered less rigorous, is now outdated. Given that the humanities and social sciences (SHS) are recognized for producing serious knowledge and offering practical solutions to social life, the claim to absolute truth in solely the exact sciences is no longer widely defended.

In the social sciences, researchers select a research methodology depending on philosophical issues related to ontology (the nature of reality) and epistemology (the nature of knowledge). Research methodologies are commonly divided into quantitative and qualitative methods. Quantitative methodology investigates measurable phenomena to generate knowledge, while qualitative methodology enhances comprehension of why things are the way they are and seeks to understand why people act in certain ways within the social world (Al-Ababneh, 2020).

Quantification in sciences has always been a main criterion for judging sciences as to whether "hard" or "soft." According to Guba & Lincoln (1994), the degree of scientific maturity is generally expected to arise as the degree of quantification linked to a given issue increases. In this section, we aim to outline the major aspects of our research philosophy, which justifies our methodological approach, among others.

3.2.1.1 Research paradigms

A paradigm can be defined as a set of fundamental beliefs (or metaphysics) concerning foundational principles. It embodies a worldview that shapes the holder's perception of the world's nature. Paradigms are grounded in ontological, epistemological, and methodological assumptions (Guba & Lincoln, 1994). Philosophical debates generally revolve around arguing why given beliefs are accepted without necessarily justifying their definitive truthfulness, which explains the continuity of these debates and the diversity of research paradigms.

Before delving into different approaches to research, we should first take a necessary look at what research is. This requires the inevitable study of the science of knowledge that is called by specialists "epistemology."

In terminology, "**epistemology**" originates from the Greek word "**epistēmē**," which means knowledge. Epistemology, according to Piaget, is the "study of the construction of valid knowledge". It is the study of how sciences can produce specific "knowledge" that has "scientific" value. In other terms epistemology is the philosophy of knowledge (Velmuradova, 2004).

Epistemology is closely related to ontology and methodology, where ontology deals with the philosophy of reality while epistemology explores how we come to know reality, and methodology outlines specific practices used to acquire that knowledge (Krauss, 2005). Therefore, Epistemology is the basis of the research process, given that it examines the foundations of knowledge. Before delving into the types of research methodologies and justifying our methodological choice, it seems interesting to present an overview of competing paradigms in research philosophy that clarifies what a research process entails.

3.2.1.2 Research process

In research, the underlying philosophy guiding the entire inquiry process plays a pivotal role, from defining research questions to choosing methods of data collection and analysis. The next section examines competing research paradigms to provide a comprehensive overview of the various approaches that can be adopted. These paradigms reflect different epistemological assumptions about the nature of knowledge (epistemology) and the methods by which it can be investigated (methodology).

The following table, adapted from Al-Ababneh's (2020, p. 77) explanation, provides several key distinctions between these paradigms. It serves as a resumed reference that compares their philosophical origins and their implication in the research process.

Figure 6: Research paradigms

	What it deals with	Major Types
Epistemology	Nature (or theory) of knowledge that **informs** the theoretical perspective.	• Objectivism • Constructivism • Subjectivism
Theoretical Perspective	The philosophical stance that **grounds** methodology.	• Positivism • Post-positivism • Interpretivism • Critical Inquiry • Feminism • Postmodernism

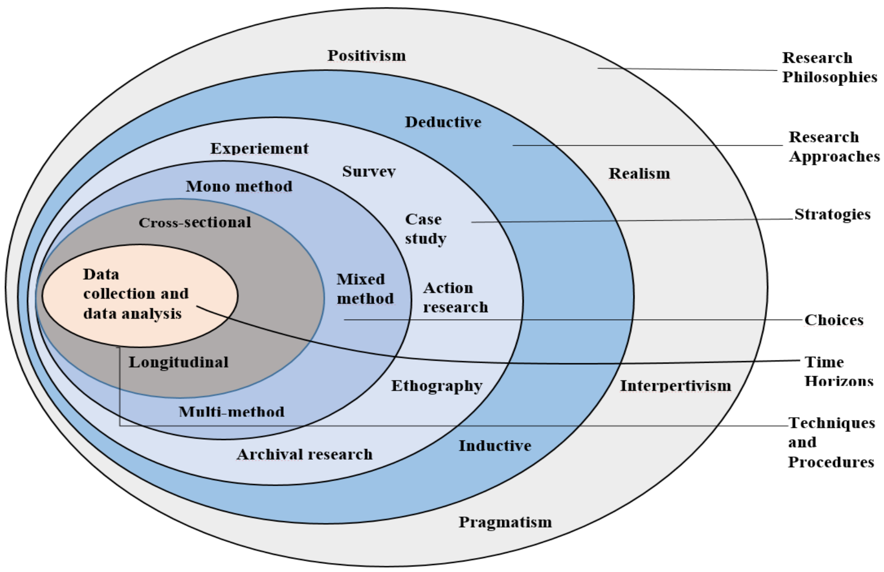
Methodology	A strategy[9] that links why we chose specific methods to attain desired outcomes. It **shapes and governs** the methods.	• Experimental research • Survey research • Ethnography • Phenomenological research • Grounded theory • Heuristic inquiry • Action research • Discourse analysis • Feminist standpoint research
Methods	Techniques or procedures used to **gather and analyze** data related to the research question and/or hypothesis.	• Sampling, measurement & scaling. • Questionnaire. • Observation. • Interview. • Focus group. • Case study. • Life history. • Narrative. • Visual ethnographic methods. • Statistical analysis. • Data reduction. • Theme identification. • Comparative analysis. • Cognitive mapping. • Interpretive methods. • Document analysis. • Content analysis. • Conversation analysis, etc.

Source: Adapted from Al-Ababneh (2020, p. 77).

Conversely, Saunders, Lewis, and Thornhill (2009) in (Al-Ababneh, 2020, p. 78) described the research process as “an onion with multiple significant layers”. Each layer builds upon the next, culminating in the core of the research process, which involves selecting data-gathering methods and data analysis procedures. The following figure of the research onion helps clarify the position of multiple research aspects.

[9] Also: a plan of action, a process, or a design.

Figure 7: The Research Onion



Source: Saundres et al. 2009, p108 in (Al-Ababneh, 2020, p. 78)

As shown in the figure, the research process can be visualized as an onion with multiple layers. The first layer is the **research philosophy**, which encompasses various approaches, including positivism, interpretivism, realism, and pragmatism. The second layer is the **research approach**, which can be either deductive or inductive. The third layer encompasses various research strategies, including experiments, surveys, case studies, action research, grounded theory, ethnography, and archival research. The fourth layer covers the **research methods** for data collection, which can be mono-method, mixed-method, or multi-method. The fifth layer considers the **time aspect**, distinguishing between cross-sectional (one-time data collection) and longitudinal (repeated data collection) studies. At the center of the onion is **the core of the research**, including data collection techniques and analysis procedures (Al-Ababneh, 2020).

Based on the analysis of the preceding table and figure, we have categorized the various terms that are frequently utilized and debated in academic research. Informed by our review of several research papers on research paradigms, we have synthesized the key concepts and insights derived from these sources. This synthesis aims to provide a comprehensive overview of the key concepts related to research paradigms and their practical applications, which will be beneficial for both our readers and ourselves.

Concept	**Approach**	**Key beliefs**

Epistemology	**Objectivism**	• Meaning and meaningful reality exist as a part of consciousness operations (Al-Ababneh, 2020)
	Constructivism	• Meaning exists both within and outside human engagement. • No truth is waiting to be discovered, and there is no meaning without a mind. • Subject and object emerge as partners (Al-Ababneh, 2020). • Provides constructions about which there is relative consensus. • Subject to continuous revision with changes. • Knowledge is constructed relatively by forming more refined and informed constructions. • The provision of case studies is crucial for knowledge transfer from one setting to another (Guba & Lincoln, 1994, pp. 113-114). • Reality is subjective and independent of the person living it. • Reality is the consequence of an action that occurred in a given context and time, influenced by social, cultural, historical, and normative factors (Dawn, 2007).
	Subjectivism	• Meaning is independent of the object. • Individuals are in contact with reality (which is independent of consciousness) through sensory perception (Al-Ababneh, 2020).
Research Philosophy (Theoretical Perspectives)	**Positivism**	• The object of study and the researcher are independent of each other. • Facts and values are separated. • Knowledge is discovered and verified through direct observations or measurements of the phenomenon (Krauss, 2005). • Refers to something that is posited (given). • Applies the scientific method to study human beings (experiment). • Based on direct experience and not speculation. • Positivism is entirely objectivist. • Uses quantitative methodology and objective statistical analysis (Al-Ababneh, 2020).
	Interpretivism	• It contradicts positivism. • Focuses on a subjective and descriptive approach to dealing with complex situations. • Social research requires investigation. • Applies the qualitative approach (Al-Ababneh, 2020).

	Realism **Post positivism** **Neo-post-positivism**	• It is similar to positivism and contradicts idealism. • Reality is independent of the thoughts and beliefs of the human brain. • Types of realism are direct realism (what we see is what we get) and critical realism (seeing the world as sensations) (Al-Ababneh, 2020). • Includes elements of both positivism and constructivism (Krauss, 2005).
	Pragmatism	• Research is both objective and subjective • It relies somewhere between positivism and interpretivism. • Many research philosophies may be adopted • Possibility to work with variations in epistemology (Al-Ababneh, 2020).

Source: Elaborated by the author based on literature (Guba & Lincoln, 1994; Krauss, 2005; Al-Ababneh, 2020).

The previous table provides a clear overview of the key characteristics of each research approach. It is essential to note that various authors and philosophers have proposed other classifications, where different research approaches are considered "views" that fall under the umbrella of "epistemology," aligning with the established classifications of research philosophies in our table. Positivism adheres to an objectivist stance, while interpretivism emphasizes subjectivity. Realism and pragmatism, however, embrace elements of both objectivity and subjectivity. Moreover, certainly, all theoretical perspectives fit the requirements of the reality of knowledge, which is the comprehensive scope of "epistemology."

To summarize the key concepts highlighted in the table, which are essential to our study on entrepreneurial competencies within the realm of management sciences (a subset of humanities and social sciences), we can identify three main paradigms in SHS research. From examining various philosophical approaches, we note that although there are many important paradigms, the most dominant in SHS research are:

1. **Positivism**: Originally associated with the hard sciences, this paradigm was founded by Auguste Comte (1830-1840) and emphasizes scientific methods over theological or metaphysical philosophies. It focuses on using reason and experimentation to study facts as they are observed, not interpretations or beliefs.

2. **Interpretative**: An "interpretative" theory explains visible phenomena (events) by connecting them to hidden processes, making them easier to understand. It offers a way to "read" and make sense of these events.

3. **Constructivism**: This paradigm has emerged as a prominent approach in SHS, extending interpretivism; both paradigms are often discussed together. Alternatively, we sometimes refer to Constructivism in isolation, which encompasses interpretive principles and contrasts with Positivism. This paradigm is the most widely adopted in the social and human sciences (Velmuradova, 2004).

3.2.2 Philosophical foundation of the study

In this research, we adopt a post-positivist philosophical stance, as it aims to measure and test relationships between entrepreneurial competencies and small business success using objective, quantitative data, while acknowledging that objectivity regarding latent variables is challenging. While positivism considers a single, concrete reality that can be interpreted in multiple ways, post-positivism assumes that there is a difference between reality and people's perceptions of reality (Krauss, 2005). Post-positivism acknowledges that social phenomena, such as entrepreneurship, are influenced by contextual and social factors that cannot be measured with certainty (Al-Ababneh, 2020). However, it is possible to approximate our conception of reality through structured questionnaires and statistical analysis, and test the hypotheses that are derived from the existing theoretical models. Including elements of both positivism and constructivism, post-positivism is a balanced stance that considers the potential influence of bias and subjectivity limitations, which makes it suitable for our study.

3.2.3 Research Design

This study uses a quantitative research design to analyze the impact of entrepreneurial competencies on the success of small and medium-sized enterprises (SMEs) and micro and small enterprises (MSMEs) in Algeria. The quantitative approach is suitable because it enables hypothesis testing through numerical data analysis, offering insights into the relationships between variables across a large sample. A cross-sectional design is employed to gather data at a single point in time, enabling the evaluation of competencies in relation to business success within the current business environment.

The research follows deductive reasoning, identifying established models of specific entrepreneurial competencies as independent variables, including opportunity, organization, strategy, relations, commitment, and conceptualization, among others. These will be tested against the dependent variable, business success, which is measured by the entrepreneur's self-reported satisfaction. Contextual variables, such as the ability to face and manage the challenging business environment, will also be considered.

3.2.3.1 Model Specification (PLS-SEM)

This research employs **Partial Least Squares Structural Equation Modeling (PLS-SEM)** to test the formulated hypotheses regarding the relationship between entrepreneurial competencies and small business success in Algeria. The selection of PLS-SEM is based on the exploratory nature of the study, the latent characteristics of the variables, and the complexity of the model, which encompasses both first- and second-order constructs along with moderating variables (Hair et al., 2017). Furthermore, PLS-SEM can handle non-normal data and is suitable for small to medium sample sizes, making it particularly effective for predictive modeling in the social sciences and entrepreneurship research.

3.2.3.1.1 Latent Constructs

The previously formulated conceptual model includes the following key latent variables:

- **Entrepreneurial Competencies (EC)** are modeled as a **second-order reflective construct**, comprised of four first-order dimensions: Business-Doing Competencies, Personal Competencies, Socio-Cultural Competencies.

This structure is grounded in prior empirical studies, which conceptualize entrepreneurial competence (EC) as a multidimensional construct representing the set of knowledge, attitudes, and skills required by entrepreneurs for venture success.

- **Context-Based Competencies (CBC)**: Represent a **first-order reflective construct** introduced to explore additional competencies specific to the Algerian entrepreneurial context. This construct refers to situational relevant entrepreneurial behaviors that are not theorized as common entrepreneurial competencies. However, in this study we consider them complementary and not separated from the original model.
- **MSMEs Success or Perceived Business Success (PBS)**: A **reflective latent variable** that measures the entrepreneur's self-evaluation of business performance and personal satisfaction, measured through subjective financial and non-financial indicators (e.g., satisfaction with business growth, profitability, and achievement of personal goals).

Moderators :

- **The level of education (EDU)** and previous **work experience (EXP)** are included as **moderators** of the relationship between EC and SBS. These moderators are expected to likely enhance the relationship between entrepreneurial competencies on the success of small businesses.

Structural Model Specification

The structural model investigates the following relationships:

- The direct effect of **Entrepreneurial Competencies (EC)** on **Perceived Business Success (PBS).**
- The direct effect of **Context-Based Competencies (CBC)** on **PBS** as part of **EC.**
- The **moderating effect** of **education level** and **work experience** on the relationship between EC and SBS.

This results in the following structural equation:

$$\boldsymbol{PBS = \beta_1 \cdot EC + \beta_2(EC \cdot EDU) + \beta_3(EC \cdot EXP) + \beta_4(EC \cdot TRN) + \zeta}$$

Where:

- **PBS** is the outcome, or the perceived success of small businesses.
- $\boldsymbol{\beta_1}$to $\boldsymbol{\beta_3}$ are the path coefficients;
- **(EC · EDU)**, **(EC · EXP),** and $(\boldsymbol{EC \cdot TRN})$ are the interaction terms representing the moderation effects of education level, work experience, and training;
- $\boldsymbol{\zeta}$ is the structural error term.

Where Interaction terms are calculated using the two-stage approach in SmartPLS, as recommended for models with second-order constructs and continuous moderators.

Second-order EC Construction

$$\boldsymbol{EC = \gamma_1 BDC + \gamma_2 PC + \gamma_3 SCC + \gamma_4 CBC + \xi}$$

Where:

- **BDC:** Business-Doing Competencies
- **PC:** Personal Competencies
- **SCC:** Socio-Cultural Competencies
- **CBC:** Context-Based Competencies
- **ξ:** Error term

Measurement Model Specification

The measurement model includes both **first-order reflective constructs** (PBS, BDC, PC, SCC, CBC) and a **second-order construct (EC)**.

For reflective constructs, the measurement model is expressed as:

$$\boldsymbol{Y_i = \lambda_i \cdot \xi + \epsilon i}$$

Where:

- $\boldsymbol{Y_i}$ is the observed indicator;
- $\boldsymbol{\lambda_i}$ is the indicator loading;
- $\boldsymbol{\xi}$ is the latent construct;
- $\boldsymbol{\epsilon}$**i** is the measurement error.

For the second-order construct (EC), a reflective-reflective modeling approach is employed, where the higher-order construct is represented by the latent variables BRC, PC, SCC, and CBC.

3.2.4 Research Approach

This study employs a deductive approach, beginning with a review of existing literature and theories that inform the formulation of hypotheses based on widely recognized models of entrepreneurial competencies. However, we note that the study is exploratory in nature, as it aims to validate and assess the relevance of entrepreneurial competencies in the context of Algerian MSMEs and SMEs, an environment where foreign models have not been extensively tested. Additionally, this research aims to provide insight into context-based factors that may influence entrepreneurial success.

Data collection is conducted through structured questionnaires distributed to entrepreneurs of SMEs and MSMEs in Algeria. The deductive approach enables hypothesis testing based on previously identified competency models, allowing for a systematic exploration of the relationships between competencies and business success.

3.2.5 Target Population and Sample

The following section defines the target population of this study and defines the sampling process used to select respondents and the specific criterion according to which entrepreneurs were chosen.

3.2.5.1 Target Population

The target population for this research will comprise private small and medium-sized enterprises (SMEs) and micro and small enterprises (MSMEs) in Algeria. According to available estimates, there were approximately 1,359,580 private small and medium-sized enterprises (SMEs) in Algeria by the end of 2022. Distributed across multiple sectors from different regions in Algeria.

The targeted respondents are Algerian entrepreneurs who are actively involved in operating their small businesses. This is necessary for this study, as our primary interest is in how entrepreneurial competencies influence business success.

The inclusion criteria for the participants of this study are as follows:

- Entrepreneurs should be **actively involved** in the daily operations and strategic decisions of their respective businesses.
- It must have been **an operating business for at least three years** to ensure that the entrepreneurs had sufficient time to exercise their competencies and experience challenges in the business arena, thereby preventing common failures that often occur at the beginning of a business's lifecycle.
- It should have **fewer than 250 employees**, hence responding to the definition of SMEs and MSMEs in the Algerian context.
- The business must be a **stand-alone firm**, not a subsidiary or branch of any other establishment, so that the entrepreneur's competencies have a direct impact on the firm's performance.

The relevance of the target population creates an opportunity to research entrepreneurial competencies across various business industries, focusing on businesses that are not so large as to require corporate-level executives, which might dilute the impact of the entrepreneur's competencies.

3.2.5.2 Sampling Frame

With the target population size of over 1,359,580 SMEs, studying the entire amount is not feasible. Therefore, drawing a representative sample becomes necessary to generalize findings to the larger population.

The sampling frame in this study comprises SMEs and MSMEs that meet the inclusion criteria outlined above. Respondents will be selected from the following business networks:

Public Institutions and agencies, such as ANGEM, CNAC, and NESDA, among others, closely involved with Algerian SMEs, will be utilized to establish a network of entrepreneurs.

Business Organizations: Institutions such as the Chamber of Commerce and Industry (CACI), along with other regional business associations, will help identify suitable participants.

Entrepreneurial Networks: The local entrepreneurial networks and the programs supporting startups and small businesses are other sources that will be utilized in reaching the participants.

3.2.5.3 Sampling method

This study used a non-probability purposive sampling method to identify the sample population. This is appropriate, as the study aims to target those entrepreneurs who meet the inclusion criteria of being actively involved in managing their SMEs for at least three years.

The purposeful sampling will ensure that the study includes only entrepreneurs with enough experience who are more likely to possess the competencies under investigation. This approach will provide richer insights into how these competencies influence business success.

3.2.5.3.1 Sample Size

We are considering that the total number of SMEs in Algeria is 1,359,580, which will serve as the population for this study. The following have been considered in determining the sample size:

Confidence Level: A 90% confidence level is adopted to ensure an acceptable degree of reliability in the results.

Margin of Error: The margin of error selected for the basis of this study is 7% to balance the accuracy and feasibility of the study.

Proportion: Because no previous information was found on any pattern of entrepreneurial competencies for Algerian SMEs, a proportion of 50% (0.5) was used to ensure maximum variation and, hence, the largest sample size.

Cochran's formula for the determination of sample size, using the information provided above, is as follows:

$$\boldsymbol{n_0} = \frac{\boldsymbol{Z^2 \cdot p \cdot (1-p)}}{\boldsymbol{e^2}}$$

Where:

n_0 = Required sample size.

Z = Confidence level, which equals 1.64 for 90% confidence.

p = Estimated proportion of the population, which equals 0.5 for maximum variability.

e = Margin of error, which equals 0.07 for 7% in this study.

Since the population is finite at 1,359,580, the sample size was corrected using the finite population correction:

$$\boldsymbol{n} = \frac{\boldsymbol{n_0}}{\boldsymbol{1 + \frac{n_0 - 1}{N}}}$$

Where:

n = Corrected sample size for a finite population.

N = Population size, in our case, 1,359,580 SMEs.

Calculation:

Step One: Compute $\boldsymbol{n_0}$

$$\boldsymbol{n_0} = \frac{(1.645)^2 \cdot (0.5) \cdot (1-0.5)}{(0.07)^2} = \frac{2.706 \ \cdot 0.25}{0.0049} = 138.06$$

Therefore, the sample size for an infinite population is **138**.

Step Two: Applying Finite Population Correction

$$\boldsymbol{n} = \frac{138}{1 + \frac{138-1}{1.359.580}}$$

$$\boldsymbol{n} = \frac{384}{1 + 0.000101} = \frac{138}{1.000101} = 137.99$$

Therefore, the sample size we need for our study is equal to or greater than **138** SMEs.

In this study, we have attempted to reach a larger number of entrepreneurs to question them, thereby making the sample more representative of the main population and allowing us to obtain results that are reliable enough to provide insights into the Algerian case. Our research sample consisted of 146 entrepreneurs from various business sectors nationwide.

3.2.6 Data Collection

This section outlines the used methods in the data collection process and the instrument used to gather the needed information.

3.2.6.1 Instrument

This research employs a structured questionnaire as its primary instrument, designed to collect data on several dimensions related to entrepreneurial competencies and their impact on business performance. The questionnaire is divided into four parts:

1. **Demographic Profile**: This section presents the demographic characteristics of the entrepreneur, including sex, age, educational background, and previous work experience, and examines how these factors influence entrepreneurial success.

2. **Business Profile**: This shall serve as a means to obtain necessary information from the firm itself, such as:

-Years of operation: verifying if the inclusion criteria are met.

- Number of employees, location, and sector of activity.

3. **Entrepreneurial Competencies**: This tool measures entrepreneurial competencies derived from Ahmad's (2007) model. It encompasses twelve key competencies from the latter and three relevant to the Algerian business context derived from past local studies. This tool utilizes a Likert-type scale to rate entrepreneurial proficiency in the following competencies: Strategic, Commitment, Conceptual, Opportunity, Organizing and Leading, Relationship, Learning, Personal, Social Responsibility, Ethical, Technical, and Familism.

Other contextual competencies will assess the entrepreneur's adaptability in the Algerian business environment, specifically their ability to navigate bureaucracy, ensure financial stability, and adapt to the existing legal framework.

4. **Business Environment**: This section includes **open-ended questions** to allow entrepreneurs to describe **the environmental challenges they face** and justify their strategies for overcoming these to succeed. This section provides a qualitative context to highlight the required entrepreneurial competencies in the Algerian context.

- **The determination of item statements**

The questionnaire statements were correlated with the five-point Likert scale, through which respondents express the extent to which they agree (positive attitude and opinion of the respondents) or disagree (negative attitude and opinion of the respondents) with each of the questionnaire statements within five scale as follows:

Table 11: Likert's five-point scale scores

I strongly disagree	Disagree	Neutral	Agree	I strongly agree
1	2	3	4	5

To determine the levels of consent, we used the following statistical tools:

1. The arithmetic mean is order to recognize and compare the average responses of the respondents to the statements of the scale.
2. The standard deviation indicates the dispersion in the responses of the study participants. The closer its value is to zero, the more concentrated the responses are around the arithmetic mean score and less dispersed.
3. Range to determine category length = (highest score (strongly agree) - Lowest score (strongly disagree) / number of levels, which is used to determine their attitude towards each statement.
4. Determine the length of the category using the range where: (5-1)/5=0.8, where we get ranges as follows:

Table 12: Five-Point Likert Scale Ranges

Mean Range	Likert Scale	Level of Agreement
[1 - 1.80]	Strongly Disagree	Very Low Level
]1.81 - 2.60]	Disagree	Low Level
]2.61 - 3.40]	Neutral	Moderate Level
]3.41 - 4.20]	Agree	High Level
]4.21 - 5]	Strongly Agree	Very High Level

3.2.6.2 Data Collection Process

The questionnaires were distributed through public institutions and agencies, namely, ANGEM, CNAC, NESDA, and CACI, which have access to a large network of entrepreneurs. Moreover, support from regional business entrepreneurial networks also helped reach the target sample.

We used an in-person collection and online distribution via email to various institutions to ensure a diverse range of responses.

3.2.6.3 Ethical Considerations

Participants had been assured of confidentiality and anonymity. All participants gave informed consent, and participation was voluntary.

3.2.6.4 Validity

For the instrument and the data collected to be valid, the following steps shall be considered:

- **Content Validity**: This present questionnaire is based on a comprehensive literature review, drawing on the entrepreneurial competence model developed by Ahmad (2007), which has since been cited and tested in various applications. The inclusion of competencies based on business contexts ensures that this instrument is well-suited to the Algerian context.
- **Expert Validation**: For relevance, clarity, and cultural appropriateness in the Algerian context, the questionnaire underwent a panel review comprising expert business researchers and entrepreneurs.
- **Pilot Testing**: Pretesting of the research instrument was conducted on a small sample of 10 entrepreneurs through the CNAC institution agency in Algiers, where professionals suggested further modifications by making the questions simpler and easier to understand for entrepreneurs with a low educational background. This provided valuable feedback that was used to revise and finalize the questionnaire for improved clarity and relevance.
- **Internal consistency validity**

In this study, the internal consistency between items has been approved to be valid through calculating Pearson's R (or item-total correlation); results include:

1- Pearson correlation coefficient (r), which reveals the strength and direction of the relationship, where $\mathbf{r \geq 0}$ reflects a positive relationship.

2- Significance value (Sig. or p-value), to verify whether the relationship is statistically significant, with $\mathbf{p < 0.05}$ for validity.

3.2.6.5 Reliability

In this regard, the section on entrepreneurial competencies, measured using a Likert-type scale, will be assessed for its reliability using Cronbach's Alpha. The latter will ensure that the items in each cluster of competencies exhibit internal consistency. A Cronbach's Alpha value of at least 0.6 is commonly considered acceptable, indicating that the items suitably correlate with each other and, therefore, consistently measure each entrepreneurial competency.

3.2.7 Data Analysis

This part explains the procedures taken to analyze our collected data, and the statistical methods used.

3.2.7.1 Data Analysis Procedure

Following the data collection process, the quantitative data were analyzed using SmartPLS 4.0 to model the structural equation, and IBM SPSS Statistics for descriptive statistics and preliminary screening. The selection of SmartPLS software is based on its wide application in social sciences research, including latent constructs analysis. This allows us to examine the relationship between specific entrepreneurial competencies and the perceived success of SMEs and MSMEs in Algeria.

Initially, we received 157 answered questionnaires, and the data had been cleaned and organized. Missing data were deleted using listwise deletion, where respondents who had less than three years of business activity, were not satisfied, or were even neutral towards their goal achievement satisfaction, and questionnaires that lacked an answer on one of the questions were deleted. Outliers were not visually identified, so the remaining questionnaires were retained for further analysis. Consequently, we ended up with 146 questionnaires ready for analysis.

To simplify analysis, variables were coded according to their measures; for example, Likert-scale answers were coded as ordinal variables ranging from 1 (strongly disagree) to 5 (Strongly Agree). Gender was coded as a nominal variable, with values of 1 for male and 2 for female.

3.2.7.2 Statistical methods used in the study

This study employed a set of statistical methods to analyze the data and verify the validity of the hypotheses and the conceptual model formulated. Descriptive statistics were analyzed using IBM SPSS V27, which included calculating arithmetic means, standard deviations, percentages, and frequencies to describe the characteristics of the study sample and analyze their responses to the various dimensions of the questionnaire.

A structural equation model was employed in SmartPLS 4 to assess causal relationships between latent variables and test the general and specific hypotheses. Additionally, discriminant validity was verified using the Fornell-Larcker criterion, which allows for checking the independence of the dimensions from one another by comparing the square root of the autocorrelation coefficient with the intercorrelations.

The coefficient of determination, R^2, was also used to measure the extent to which the independent variables can explain the variance in the dependent variable, reflecting the predictive power of the model. In addition, the effect size coefficient F^2 was calculated to measure the extent to which each exogenous latent variable affects the endogenous latent variables, thereby determining the importance of each dimension within the model. Furthermore, a statistical t-test was used to analyze the significance of the paths between the variables in the structural model. IBM SPSS V27 was also used to analyze the impact of demographic characteristics, such as educational level and professional experience, on the increase in entrepreneurial competencies through statistical difference tests. Finally, graphical analysis, using illustrations and tables, was employed to interpret the distribution of the sample according to several variables, including the number of employees, professional activity, and years of experience, thereby clarifying the general statistical features of the study.

3.2.8 Limitations

After approaching the Higher School of Commerce in Kolea to obtain facilitation letters for the empirical study, we visited public institutions with direct connections to Algerian entrepreneurs, namely ANGEM, CNAC, NESDA, and CACI, where professionals assisted with distributing the questionnaire to the entrepreneurs. We faced several limitations that hindered our primary expectations of the data gathering and analysis. These Limitations include:

Sample size: Ideally, the sample size of this study is 387 individuals, with a 95% confidence level and a 5% margin of error. However, the difficulties faced in the institutions on the one hand, and the access to entrepreneurs on the other hand, made us choose to reduce the confidence level to 90% and elevate the margin of error to 7% to finally obtain 138 sample size, which we found more feasible regarding the encountered challenges. Thus, we managed to collect 146 cleaned responses.

Geographical limits: The questionnaire was distributed either manually or via email to the entrepreneurs from different provinces in Algeria. The study sample is primarily composed of small business owners located in multiple areas of Algeria, particularly in Algiers, where the study was conducted. However, not all provinces were included, which may introduce biases and hinder the generalizability of the obtained results.

Limited Access to Data: Due to the confidentiality policy of Algerian institutions, particularly Law No. 18-07 of 25 Ramadan 1439, corresponding to June 10, 2018, relating to the protection of individuals in the processing of personal data. Where institutions such as FGAR PME and CACI refused to deliver databases of entrepreneurs they deal with, including information such as the business locations, phone numbers, and emails.

Additionally, the questionnaires were accepted for distribution under the condition that they did not include questions on financial performance data, making it impossible to use financial measures to evaluate business performance.

In summary, this chapter presents the research methodology employed to investigate the relationship between entrepreneurial competencies derived from a qualitative study of previous research and the perceived success of Algerian SMEs and MSMEs. Due to the limitations of the empirical study and the lack of access to entrepreneurs, we adopted a quantitative approach, utilizing a structured questionnaire as a research tool. The questionnaire was distributed through multiple channels, including direct hand-to-hand delivery with the assistance of ANGEM and CNAC's general management, as well as digital dissemination with the support of NESDA professionals. Additionally, it was disseminated through CACI’s online platform, where the questionnaire was sent via email. To ensure a wide range of entrepreneurs, the sample included diverse sectors from different Algerian regions.

By targeting entrepreneurs in a non-random way, the study ensures the collection of data from actively engaged entrepreneurs who are the owners and managers of their businesses, with more than three years of business activity. By combining purposive data collection through various modes of distribution, the study aimed to analyze reliable, context-based insights on the extent to which entrepreneurial competencies effect business survival and success.

After discussing the methodological choices and the process that took place in the research field, the following chapter will represent the analysis of the gathered data. It will reveal the key identified relationships and discuss the obtained results, and more importantly, it will offer valuable insights and contribute to the field of entrepreneurship, as well as the survival of small businesses in emerging economies, such as Algeria.

Chapter Four:

Results and Discussion

4 Chapter Four: Results and Discussion

Introduction of chapter

In this chapter, we are presenting the results of our empirical investigation into the relationship between entrepreneurial competencies and the survival and success of small businesses in Algeria. Building on the previously developed research model and following the methodological framework outlined in the last chapter, the analysis of the collected data offers justified and validated insights into how entrepreneurial competencies influence the survival and achievement of goals by SMEs and MSMEs in Algeria.

This chapter presents the main descriptive statistics along with hypothesis testing using PLS-SEM, based on data collected from a structured questionnaire distributed through public institutions in contact with Algerian entrepreneurs. Next, a detailed discussion of the results is provided, where we interpret the findings, compare them to existing international research, and refine them in light of our research objectives.

By bridging empirical evidence with theoretical perspectives, we aim to provide a better comprehension of the factors contributing to the success of SMEs and MSMEs in Algeria. The following findings reveal the profile of the successful Algerian entrepreneur and serve as the basis for broader conclusions and future studies in the Algerian context.

4.1 Presentation of Results

The following section presents the results of the data analysis from our study sample. The results are presented in three main parts. First, we evaluate the reliability and validity of the questionnaire items. Next, we present descriptive statistics on the demographic characteristics of the sample participants and provide details about their small business profiles. Finally, we present the results of applying Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the research hypotheses, evaluate the measurement model, and examine the structural relationships between the latent variables.

4.1.1 Calculating the reliability and stability of the questionnaire:

Internal consistency reliability, measured by the Pearson correlation coefficient, is a vital indicator of the study tool's validity. It demonstrates how effectively the tool's objectives are achieved and reflects the correlation between the dimension statements and their corresponding overall scores.

In the following tables, (*) indicates a correlation at $p < 0.05$, and (**) indicates a correlation at $p < 0.01$.

4.1.1.1 The validity of the perceived business success dimension

Table 13: Internal consistency validity of the perceived business success

Items	Pearson's Correlation Coefficient
01	0.543**
02	0.698**
03	0.675**
04	0.683**
05	0.702**
06	0.617**
07	0.427*
08	0.749**
09	0.698**
10	0.802**
11	0.626**

Source: Based on the outputs of SPSS

Table 13 indicates that the R values of the first axis ranged between 0.427 and 0.802. This suggests that Pearson correlation coefficients between each questionnaire statement and the total score of the overall dimension are statistically significant, as the SIG values (significance level) are less than 0.05. Therefore, the statements on the perceived business success axis are considered to accurately measure what they were intended to.

4.1.1.2 The Validity of the Entrepreneurial Competencies Constructs

In this section, we are verifying the validity of each entrepreneurial competency category, ensuring that the statements used in the questionnaire are internally consistent."

Table 14: The internal consistency validity of the Business-Doing competencies dimension

Item	Pearson's correlation coefficient
01	0.761**
02	0.523**
03	0.500**
04	0.761**
05	0.636**
06	0.411*
07	0.769**

Source: Based on the outputs of SPSS

The Pearson correlation coefficients between each statement of the questionnaire and the total score of the total dimension statements range from 0.411 to 0.769, indicating they are statistically significant since the SIG values (level of significance) are less than 0.05. This shows that the statements in the entrepreneurial competencies dimension are considered valid for what they were designed to measure (Table 14).

Table 15: The internal consistency reliability of the personal competencies dimension

Items	Pearson's correlation coefficient
01	0.787**
02	0.764**
03	0.629**
04	0.603**
05	0.720**
06	0.696**
07	0.646**

Source: Based on the outputs of SPSS

The table indicates that the Pearson correlation coefficients between each questionnaire statement and the total score of their respective dimension statements range from 0.603 to 0.787 and are statistically significant, as the p-value (significance level) is less than 0.05. Therefore, the statements related to the personal competencies dimension are considered accurate in reflecting what they were designed to measure (Table 15).

Table 16: Internal consistency reliability of the socio-cultural competencies

Items	Pearson's correlation coefficient
01	0.704**
02	0.532**
03	0.720**
04	0.705**
05	0.785**
06	0.627**
07	0.624**

Source: Based on the outputs of SPSS

Table 16 indicates that the R values range between 0.532 and 0.785. This indicates that the Pearson correlation coefficients between each statement of the questionnaire and the total score of the dimension are statistically significant, as the SIG value (level of significance) is less than 0.05, meaning that the statements regarding sociocultural competencies are considered valid in measuring what they are intended to assess.

Table 17: The internal consistency reliability of the Context-Based Competencies

Items	Pearson's correlation coefficient
01	0.537**
02	0.511**
03	0.585**
04	0.419*
05	0.525**
06	0.492**
07	0.738**

Source: Based on the outputs of SPSS

The Pearson Correlation coefficients between each statement of the questionnaire and the total score of the total dimension statements range between 0.419 and 0.738. This indicates that they are statistically significant, as the SIG value (level of significance) is less than the 0.05 significance level, so the statements of the context-based competencies dimension are considered to be true to what they were designed to measure (Table 17).

4.1.1.3 The Questionnaire Reliability

The consistency of a questionnaire refers to its ability to provide the same results when given to the same group under identical conditions. In other words, if the measurement of the same individual is repeated, it should demonstrate a consistent level; that is, the results should not vary significantly upon repetition. The concept of stability indicates that the test is reliable for the same group of individuals over time. Various formulas and statistical methods are available for calculating the stability of a questionnaire.

In our study, we verified the reliability of the questionnaire axes using the Cronbach's alpha coefficient method.

Cronbach's alpha coefficient: This is one of the most commonly used measures of reliability among researchers, as it assesses the consistency of questionnaire statements. Specifically, it indicates the likelihood of obtaining identical results or conclusions when the same instrument is administered again under similar conditions.

Table 18: Ranges of Cronbach's Alpha

Significance (Alpha)	Value (Alpha)
insufficient	Alpha<0.6
Weak	0.6<Alpha< 0.65
Somewhat acceptable	0.65<Alpha< 0.70
Good	0.70< Alpha< 0.85
Very good	0.85< Alpha< 0.90
Excellent	0.90 < Alpha

Source: (Carricano & Poujol, 2009)

In this study, we found the following results:

Table 19: Cronbach's Alpha coefficient value of the questionnaire

Axes of the questionnaire	Items number	Cronbach's Alpha Coefficient
Perceived business success	11	**0,852**
Business-Doing Competencies	7	**0,689**
Personal Competencies	7	**0,802**
Socio-Cultural Competencies	7	**0,738**
Context-based Competencies	**7**	**0,810**

Source: Based on the outputs of the SPSS program.

The previous table shows that the Cronbach's alpha coefficient is high across all questionnaire axes, exceeding the minimum threshold of 0.70, which indicates the stability of the study tool. It is worth noting that the Cronbach's alpha values range from acceptable to good, indicating high stability. Therefore, after applying it to a survey sample, the results demonstrate that the questionnaire is highly reliable and stable, justifying its use in the main study sample.

4.1.2 Presenting the descriptive statistics of the study sample

In this section, we present the descriptive statistics of the study sample, aiming to identify the profile of the respondents by gender and determine the predominant age of the individuals in the sample. Additionally, we seek to gain insights into their business type, educational background, and work experience.

4.1.2.1 Section one: The demographic profile of the sample

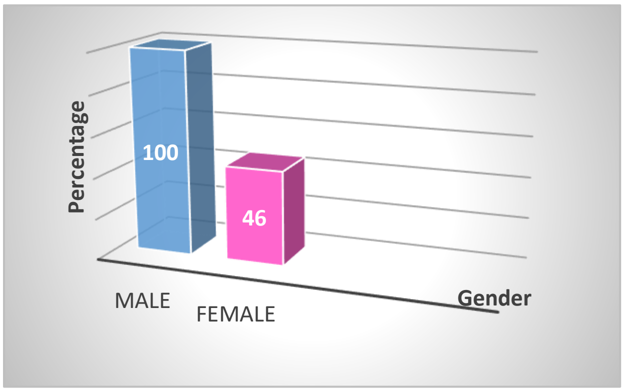
A. Gender

Table 20: Gender distribution of the sample

Gender	Repetition	Percentage %
Male	100	68.5
female	46	31.5
Total	**146**	**100.0**

Based on SPSS results

Figure 8: Gender distribution of the sample



The table and figure above indicate that the study sample consisted of 146 individuals, distributed by gender as follows: 68.5% males (100 individuals) versus 31.5% females (46 individuals).

The presence of female entrepreneurs, who represent nearly half the number of male entrepreneurs, is actually significant compared to their percentage among all entrepreneurs in Algeria. This is mainly because women often face cultural and technical obstacles in their entrepreneurial journey that men do not.

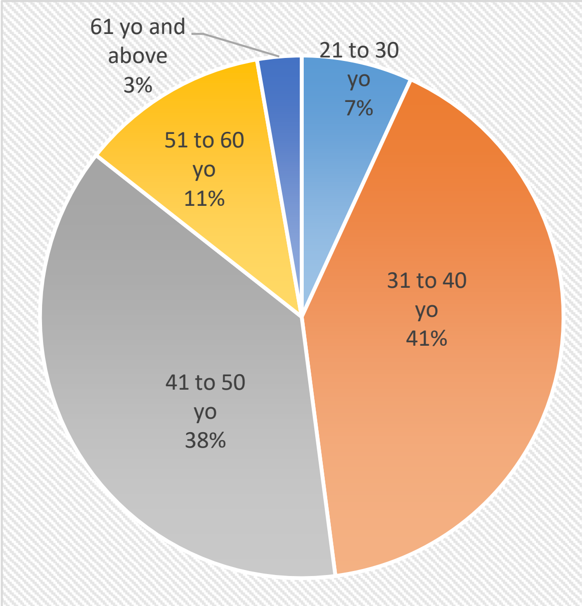
B. Age

Table 21: Age distribution of the sample

Age	Repetition	Percentage %
21 to 30 years old	10	6,8
31 to 40 years old	60	41,1
41 to 50 years old	55	37.7
51 to 60 years old	17	11.6
61 years old and above	4	2.7
Total	**146**	**100**

Based on SPSS results

Figure 9: Age distribution of the sample



The data in the Table 21 indicate that the "31 to 40 years" category was the most represented in the study sample, with 41.1% (60 individuals), followed by the "41 to 50 years" category, which accounted for 37.7% (55 individuals). This indicates that the majority of participants belong to the mature and economically active age group, which is often in advanced stages of professional and social stability, which may contribute positively to the adoption and development of entrepreneurial competencies.

Younger age groups (21 to 30 years old) recorded only 6.8% (10 individuals), which may be attributed to the challenges faced by young people in entering the world of entrepreneurship, such as a lack of practical experience or difficulty in obtaining funding. Older age groups were also underrepresented, with "51 to 60 years old" at 11.6% and "over 61 years old" at only 2.7%, which may reflect a tendency for entrepreneurial involvement to decline with age.

In general, the table's results show that entrepreneurial activity in the Algerian context is primarily concentrated among middle-aged groups, who combine professional experience with productive energy, thereby enhancing the chances of success in SMEs.

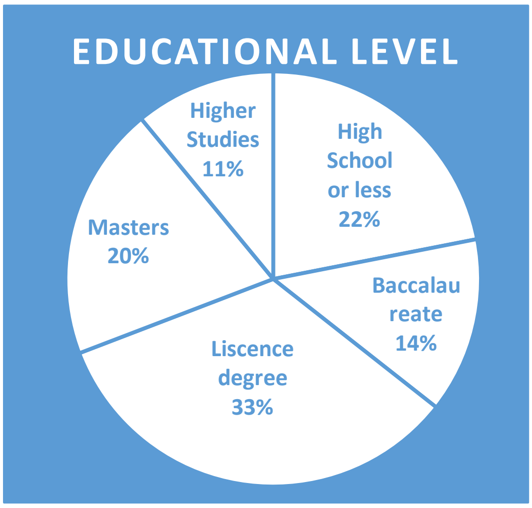
C. Educational level

Table 22: Educational level distribution of the sample

Educational Level	Repetition	Percentage %
High school or less	32	**21.9**
Baccalaureate	20	**13.7**
License Degree	49	**33.6**
Masters	29	**19.9**
Higher Studies	16	**11.0**
Total	**146**	**100**

Based on SPSS outputs

Figure 10: Educational level distribution of the sample



The data in the table and graph show that most of the study sample has a university-level education. This suggests that most members of the study sample are highly educated. Specifically, 33.6% (49 individuals) hold a bachelor's degree, known in Algeria as a "licence degree," followed by 19.9% (29 individuals) with a master's degree, and 11.0% (16 individuals) with a postgraduate degree. Altogether, nearly 65% of the sample has a university education or higher. These findings underscore the importance of higher education as a vital factor in developing entrepreneurial competencies and supporting small businesses. University education often provides individuals with the theoretical knowledge needed through programs that include an "entrepreneurship module," allowing them to put their entrepreneurial ideas into action with the needed knowledge.

On the other hand, 21.9% (32 individuals) have a high school education or less, which is a significant percentage. This suggests that in Algeria, entrepreneurship is not limited to those with higher education, but also encompasses individuals who rely more on field experience and practical knowledge. With 13.7% (20 individuals) holding only a baccalaureate degree, this reinforces the hypothesis that entrepreneurship remains an open field for individuals across different educational levels, although the chances of success and expansion are often linked to the competencies acquired through education and training.

We note that this element was already highlighted by the manager of one of the public institutions related to Algerian SMEs, namely FGAR PME, who stated that the majority of owner-managers of Algerian SMEs hold a modest educational level and have acquired business practices through experience.

In general, these findings indicate that entrepreneurship in the Algerian context attracts a diverse range of educational groups, with a notable concentration among academics. This suggests the need for the development of entrepreneurial support and training programs tailored to different educational backgrounds, to ensure wider inclusion and enhance the effectiveness of entrepreneurial performance.

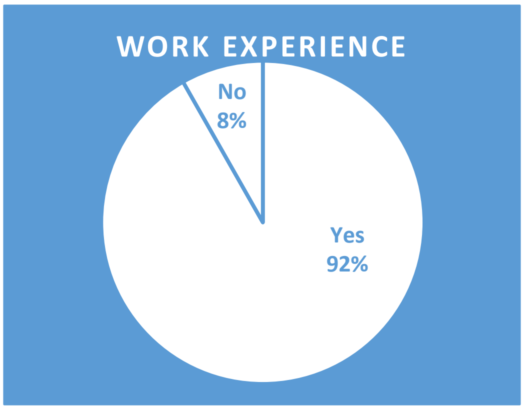
D. Work experience

Table 23: Work experience distribution of the sample

Work Experience	Repetition	Percentage%
Yes	134	91.8%
No	12	8.2%
Total	146	100.0

Based on SPSS results

Figure 11: Work experience distribution of the sample



The results of the table and figure indicate that the vast majority of the sample members, 91.8%, equivalent to 134 individuals, had previous professional experience before launching their own business, while the percentage of those with no previous experience did not exceed 8.2%, or only 12 individuals. This suggests that engaging in entrepreneurship or small enterprises is often based on previously acquired knowledge and professional balance, as prior experiences help develop practical competencies, understand market requirements, and address organizational and environmental challenges.

On the other hand, the low percentage of individuals with no prior experience may suggest that they face challenges in entering the entrepreneurial field due to a limited background, or that the business environment in Algeria still requires a minimum level of experience to ensure continuity and success in new small businesses. This could also influence the development of entrepreneurial competencies, where successful entrepreneurs need the ability to make informed decisions, manage resources effectively, and build professional relationships that promote success.

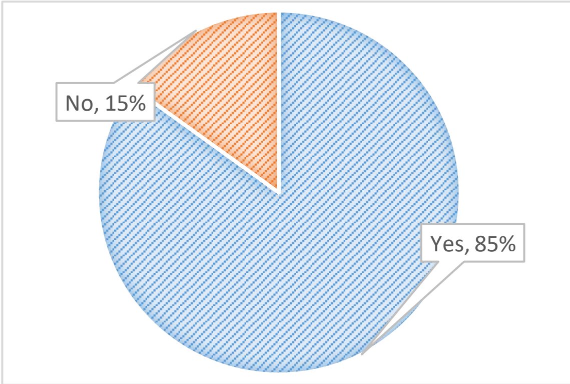
E. Training

Table 24: Training distribution of the sample

Training	Repetition	Percentage%
Yes	124	84.93%
No	22	15.07%
Total	146	100.0

Based on SPSS results

Figure 12: Training distribution of the sample



The results of the table and figure indicate that the vast majority of sample members, 84.93%, equivalent to 124 individuals, had received previous entrepreneurial training before or during their entrepreneurial journey, while the percentage of those who didn’t have any training didn't exceed 15.07%, with only 22 individuals. This suggests that engaging in entrepreneurship is often based on previously acquired practical knowledge, as trainings help develop practical competencies, understand market requirements, and address organizational and environmental challenges.

This concerns the policies of public institutions such as ANGEM, NESDA, and CNAC that require project holders seeking financial support to complete mandatory training. The other group, which has not undergone training, may include entrepreneurs we contacted through the CACI platform, who either started their businesses without public funding or launched their ventures before the training requirement was added to the entrepreneurial program.

4.1.2.2 Section two: Presenting the business profile of the sample

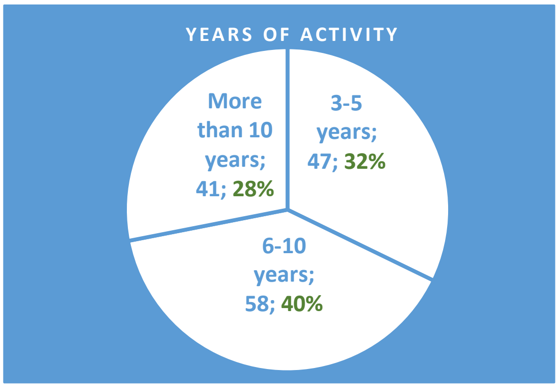
a. Years of business activity

Table 25: Years of business activity of the sample

Years of activity	Repetition	Percentage %
3-5 years	47	32.19
6-10 years	58	39.73
More than 10 years	41	28.08
Total	**146**	**100**

Based on SPSS results

Figure 13: Years of business activity of the sample



The distribution of businesses in this sample based on their years of activity indicates that the majority of the surveyed businesses (39.73%) have been operating for 6 to 10 years, followed by those that have been active for 3 to 5 years (32.19%). A smaller proportion, 28.08%, has more than 10 years of operational experience (Table 25).

This indicates that the sample includes a significant number of small businesses that have survived long enough to be considered successful, with more than two-thirds (67.81%) operating for over five years.

b. Number of employees

Table 26: Number of employees of the businesses in the sample

Number of employees	Repetition	Percentage
Less than 10 employees	76	52.1
10 to 49 employees	57	39.0
50 to 250	13	8.9
Total	146	100

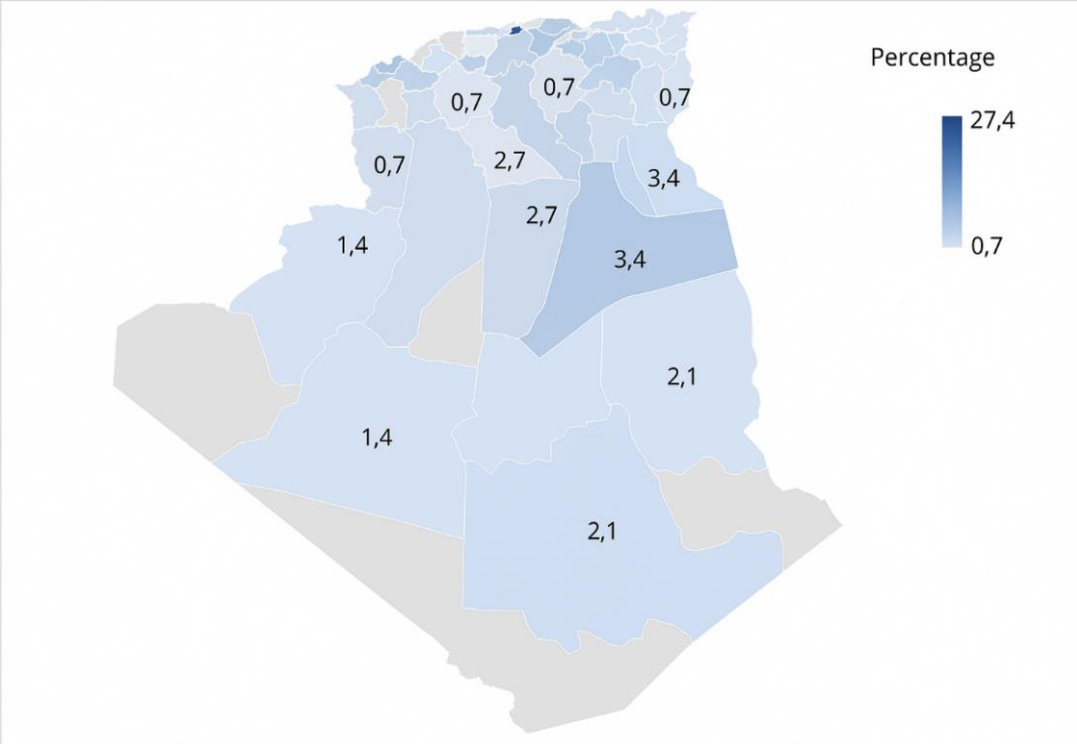
Based on SPSS results

Figure 14: Number of employees of the businesses in the sample

According to the Table, more than half of the sample, 52.1% (76 respondents), work in micro enterprises (MEs) with fewer than 10 employees, while 39.0% (57 respondents) reported between 10 and 49 employees (SEs), while only a small percentage,8.9%(13 respondents), work in organizations with 50 to 250 employees. Noting that respondents who answered with more than 250 had been deleted following the SME definition in the Algerian regulation.

F. Regional distribution

Figure 15: The regional distribution of the sample



Elaborated based on SPSS results

The data in the table, showing how sample members are distributed by state, indicates a concentration in some states compared to others. The state of Algiers led with 27.4% of the total sample, primarily because data collection took place in Algiers, where institutions initially distributed the questionnaire to entrepreneurs before expanding to other states.

In addition, this reflects the economic and administrative status of Algiers as the most densely populated urban center and the most attractive for entrepreneurial activities and small and medium-sized enterprises, while other states, such as Blida, Bouira, Oran, and Tlemcen, recorded significant participation rates. Ranging from 4.8% to 6.2%, indicating a relative prevalence of entrepreneurship in the urban environment close to the capital or in the major coastal states that are characterized by a more developed economic infrastructure.

While many other states recorded modest participation rates that do not exceed 0.7%, such as those of Saida, Elezi, Oum El Bouaghi, Tébessa, Tindouf, Tarf, and others.

This disparity in geographical distribution may be linked to the methods of data collection, where the questionnaire was distributed to many entrepreneurs in Algiers and sent via email to various entrepreneurship support and development agencies. This likely explains why there are fewer responses from other regions compared to the Capital.

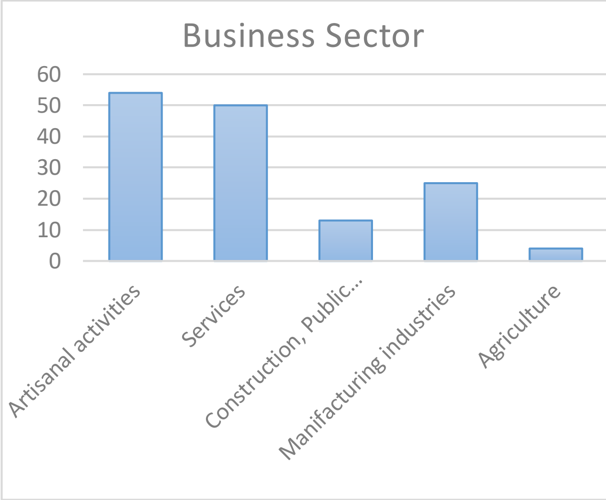
c. Business sectors

Table 27: The business sectors of the sample

Business Sector	Repetition	Percentage %
Artisanal activities	54	37.0
Services	50	34.2
Construction, public works and hydraulics	13	8.9
Manufacturing industries	25	17.1
Agriculture	4	2.7
Total	146	100

Based on SPSS results

Figure 16: The business sectors of the sample



The results from the table on the distribution of sample members by business activity show that most small entrepreneurs focus on craftsmanship and services, accounting for 37.0% and 34.2%, respectively. This indicates a clear trend toward professions that do not require large investments or complex technologies but instead rely on individual technical and practical knowledge. This trend highlights a preference for activities that are flexible and adaptable to market changes, as traditional crafts and services are more accessible compared to sectors that require substantial capital or regulatory approval.

On the other hand, the table's results show that the manufacturing sector recorded a significant percentage of 17.1%, indicating the presence of entrepreneurial initiatives aimed at transforming raw materials or semi-finished goods into marketable products. This is a positive sign of increasing awareness of the importance of diversifying activities and creating local added value. Meanwhile, the construction, public works, and hydraulics sector recorded a relatively low percentage of 8.9%, while the agriculture sector was last with only 2.7%. This raises questions about the weak attractiveness of this vital sector, which is considered one of the key drivers of development in rural and southern regions. This weakness may be caused by several factors, including limited financial resources, difficulties in accessing agricultural land, and inadequate technical support and extension services.

Therefore, it is clear that most small business owners in Algeria still prefer activities with lower risk and limited income, which is suitable for the amount of finances offered by supporting institutions like NESDA, CNAC, and ANGEM.

This calls for a shift in public policies to support sectoral diversification by creating a favorable environment for investment in key sectors such as agriculture and industry, and by improving access to financing and training opportunities to better balance economic activity and boost the overall profitability of entrepreneurial projects.

4.1.3 Section three: Analyzing data regarding the perceived business success

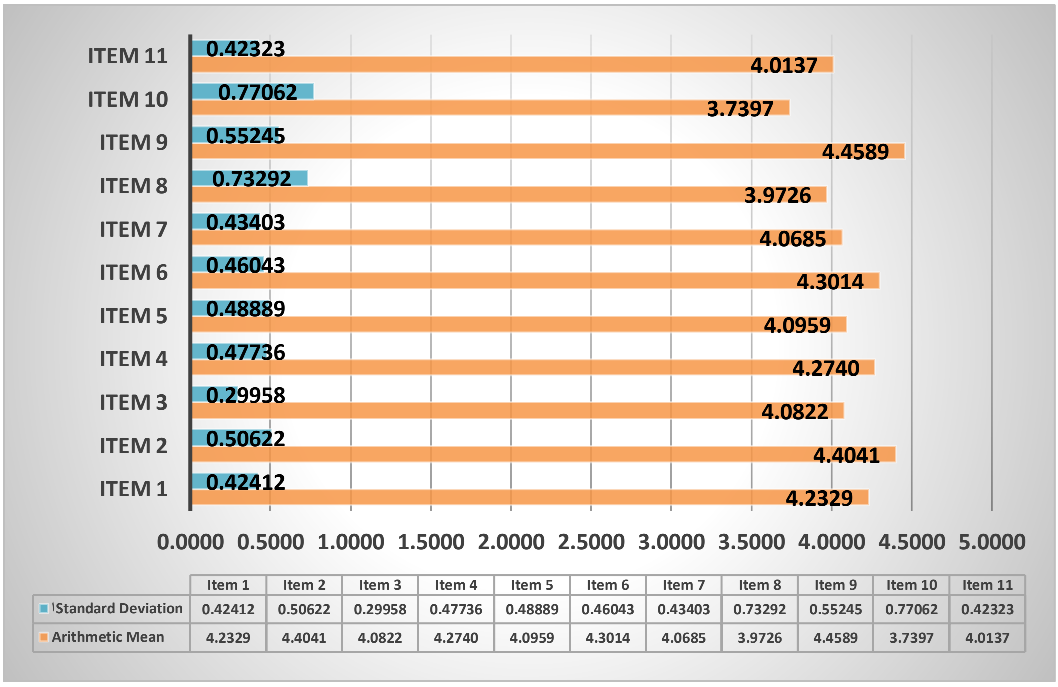
In this part, we are presenting and analyzing how the sample members responded to the statements in the third section of the questionnaire, which concerns Perceived Business Success.

Table 28: Analysis of the sample responses to the items of Perceived Business Success

N°	Items	Arithmetic Mean	Standard Deviation	Evaluation Score
01	I am satisfied with the overall performance of my business	4,2329	0.42412	Very high score
02	My business has grown significantly since its creation.	4,4041	0.50622	High score
03	I am satisfied with the income I receive from my business.	4,0822	0.29958	High score
04	My business has achieved most of the objectives I initially set.	4,2740	0.47736	Very high score
05	I am satisfied with my business's ability to innovate.	4,0959	0.48889	High score
06	My business has a positive impact on the local community and society.	4,3014	0.46043	Very high score
07	My business has enough cash flow to meet its financial obligations on time.	4,0685	0.43403	High score
08	My business successfully launched new products or services in the previous year.	3,9726	0.73292	High score
09	My business receives very few customer complaints.	4,4589	0.55245	Very high score
10	My business uses technology to improve its efficiency and deliver better value to customers.	3,7397	0.77062	High score
11	My business adopts a culture of innovation and encourages employees to suggest ideas.	4,0137	0.42323	High score
	Perceived business success	**4.1495**	**0.30066**	**High score**

Based on SPSS results

Figure 17: Analysis of the sample responses to the items of Perceived business success



	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11
Standard Deviation	0.42412	0.50622	0.29958	0.47736	0.48889	0.46043	0.43403	0.73292	0.55245	0.77062	0.42323
Arithmetic Mean	4.2329	4.4041	4.0822	4.2740	4.0959	4.3014	4.0685	3.9726	4.4589	3.7397	4.0137

Source: Elaborated by the author using Excel

The results of the analysis of the respondents' answers on the "Perceived business success" axis show a high level of perceived success among owners of small, medium, and micro enterprises in Algeria. The overall mean score reached 4.1495, indicating a high evaluation score that reflects a generally positive and satisfied view of their business progress and development.

This overall impression was supported by the high average ratings for all eleven statements within this axis, where none of the values dropped below the high evaluation level, confirming a largely stable and positive perception among these entrepreneurs.

One of the most notable positive indicators is the statement about **receiving few customer complaints**, which achieved the highest average of 4.4589 with a very high evaluation score. This demonstrates the quality of services and products offered, as well as **customer satisfaction**, a key strength for the sustainability of any project and expanding its customer base. The statement "My business has grown significantly since its creation" (4.4041) clearly indicates **actual growth in business activity**, whether in terms of size, revenue, or market share, reflecting the organization's ability to adapt to the economic environment and achieve positive results over time.

Overall **satisfaction with work performance** received a high average (4.2329), suggesting that entrepreneurs are generally pleased with the results of their efforts and how well their personal and professional goals align with their actual achievements.

On the other hand, the results showed that satisfaction with **achieving the initial project objectives** averaged 4.2740, which confirms these firms' ability to translate initial plans and strategies into actual results. This indicates the presence of managerial and planning competencies among project owners.

The impact of the business project on the local community received a high rating (4,3014), which reflects the **involvement of these institutions in their social environment**, whether through creating jobs, providing quality services, or supporting local activities. This involvement enhances their image and strengthens their social legitimacy. Regarding **financial stability**, the statement "My business has enough cash flow to meet its financial obligations on time" received an average rating of 4.0685, a key indicator that shows these organizations' ability to meet their financial obligations, which is essential for ensuring the project's sustainability and stability.

In terms of innovation, several statements were supportive of this dimension, as entrepreneurs expressed their satisfaction with the ability of their projects to **innovate**, with an average of 4.0959. Additionally, the statement "My business adopts a culture of innovation and encourages employees to suggest ideas" scored 4.0137, indicating a growing awareness of the importance of innovation in business development.

However, these results also suggest that there is a need for more investment in this aspect, especially when considering the statement using **different technologies**, which yielded the lowest average (3.7397). That being said, it is still within the high rating. Still, it reflects a certain reluctance or limitation in adopting modern technology, which may pose a challenge in light of the rapid transformations prevalent in the contemporary business environment.

Although it remains within the high rating, it reflects a certain limited adoption of modern technology, which may pose a challenge in light of the rapid transformations prevalent in the contemporary business environment.

The statement regarding **the launch of new products or services** during the past year had an average score of 3.9726, which is close to the upper limit of the average rating. This indicates that product innovation still requires support through funding, training, or access to markets.

Based on the above, it can be concluded that small business success in Algeria is built on strong foundations, including non-financial measures of performance such as overall satisfaction with financial results, growth, achievement of initial goals, financial stability, and community satisfaction, all of which are positive indicators reflecting the effectiveness of entrepreneurship in the local context.

However, other aspects, such as technological innovation and the development of new products and services, require more attention from entrepreneurs and decision-makers alike, especially if these organizations are to play a crucial role in supporting the national economy.

4.1.4 Section four: Analyzing data regarding entrepreneurial competencies

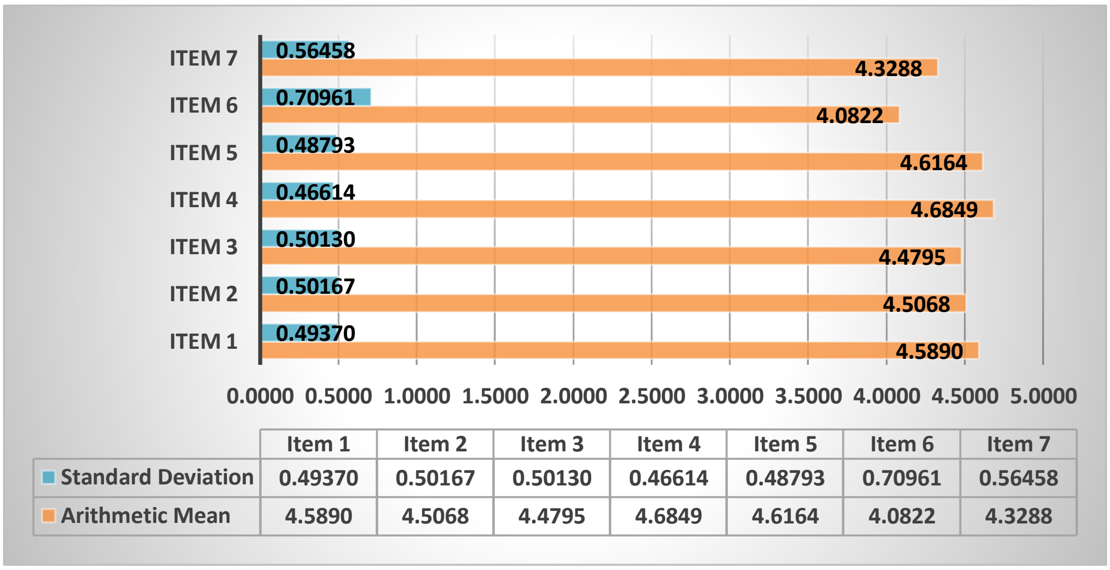
In this section, we present and analyze the responses of the sample members to the statements in the fourth section of the questionnaire, which addressed entrepreneurial competencies.

1) The Business-Doing Competencies dimension

Table 29: Analysis of the sample responses to the items of Business-Doing Competencies

N°	Items	Arithmetic mean	Standard Deviation	Evaluation Score
01	I am quick to act on new opportunities when they arise.	4,5890	0.49370	Very high score
02	I effectively organize resources (people, time, money) to achieve business goals.	4,5068	0.50167	Very high score
03	I develop and implement long-term business strategies.	4,4795	0.50130	Very high score
04	I apply my technical and business knowledge in my everyday business practices.	4,6849	0.46614	Very high score
05	I make sure I gain more knowledge to develop my business.	4,6164	0.48793	Very high score
06	I can motivate my team to achieve common goals.	4,0822	0.70961	High score
07	I ensure that I attend training courses and workshops to continually develop my knowledge and skills.	4,3288	0.56458	Very high score
Entrepreneurial competency level		**4,4695**	**0.37457**	**Very high score**

Figure 18: Analysis of sample responses to the items of Business-Doing



Source: Elaborated by the author using Excel

The analysis of respondents' answers regarding the dimension of **"Business-Doing Competencies"** shows that owners of small, medium, and micro enterprises in Algeria possess a very high level of core competencies essential for the success and sustainability of their projects. The overall mean score for this dimension was 4.4695, with a relatively low standard deviation of 0.37457, indicating consistency in respondents' views about the presence of these competencies. Additionally, all statements under this dimension scored within the "very high" rating category, except for one, which received a "high" rating. This reflects a strong awareness of the importance of mastering various entrepreneurial competencies and a genuine ability among these entrepreneurs to apply these competencies in managing their businesses.

The statement related to **applying technical and commercial knowledge in daily practices** recorded the highest average score in this dimension, with a score of 4.6849, indicating that respondents highly value knowledge and are skilled at turning their expertise into practical actions and real-world tasks at work. This demonstrates ***technical and functional competency*** that is increasingly typical of this group of entrepreneurs. Similarly, the statement about the **willingness to acquire knowledge to grow the business** scored 4.6164, reflecting a strong understanding of the importance of continuous learning and staying current with market changes. This suggests that these business owners do not rely solely on prior knowledge but actively seek to improve themselves through research, training, observation, and experimentation, which indicates the validity of **learning competency** in our study.

The statement regarding **the ability to identify and evaluate new business opportunities** scored a mean of 4.5890, indicating that these entrepreneurs possess a high level of commercial acumen, the ability to recognize and seize opportunities, and adapt to a changing business environment. Meanwhile, the average score for organizing resources efficiently was 4.5068, indicating that ***organizational competencies***, such as managing time, people, and financial resources, are crucial for maintaining business continuity and achieving goals. Respondents also noted that they **develop and implement long-term strategies for their projects**, with a mean score of 4.4795, indicating that their vision extends beyond short-term objectives and includes future planning and long-term goals, which shows in their ***strategic competency***.

On another note, the importance of **organizational competency** is also evident through the statement "I can motivate my team to achieve common goals", which scored 4.0822, indicating that many respondents possess leadership and motivational competencies essential for enhancing team performance and fostering harmony within work teams."

The statement related to **attending training sessions and workshops to develop knowledge**, received a high score with a mean of 4.3288. This suggests some variation among the respondents regarding their commitment to training activities. This may be due to factors such as lack of time, limited available training opportunities, or a weak culture of continuous development among some business owners. Nevertheless, this mean still reflects a **positive level of awareness** about the importance of training and continuous learning, even if its actual implementation is somewhat inconsistent in practice.

Overall, the results reflect a generally positive view of the competencies related to exercising entrepreneurship among the Algerian entrepreneurs included in the study. They show that these entrepreneurs possess a broad range of competencies, including organization, planning, analysis, evaluation, practical application, and a strong dedication to self-growth. All these elements create a solid foundation for tackling market challenges and achieving long-term success.

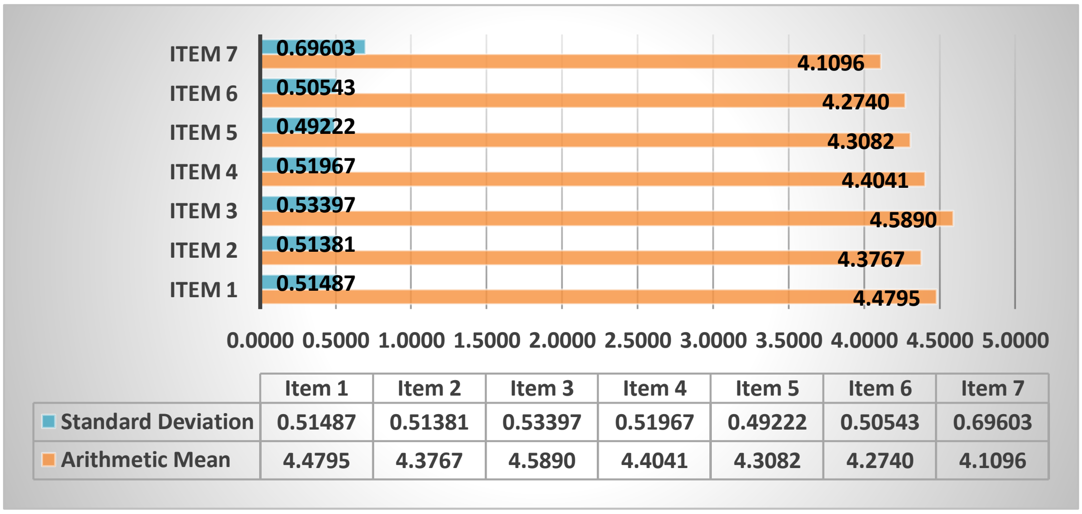
2) Personal Competencies Dimension

Table 30: Analysis of the sample responses to the items of Personal Competencies.

N°	**Items**	**Arithmetic Mean**	**Standard Deviation**	**Agreement Score**
01	My self-confidence has a positive influence on my ability to succeed.	4,4795	0.51487	Very high score
02	I remain calm and handle stress well when running my business.	4,3767	0.51381	Very high score
03	I invest a lot of time and energy into making my business successful.	4,5890	0.53397	Very high score
04	I can restart after failure.	4,4041	0.51967	Very high score
05	I can identify and solve complex business problems.	4,3082	0.49222	Very high score
06	I effectively use technology to improve operations management in my business.	4,2740	0.50543	Very high score
07	I evaluate the potential risks that my business may face and take the necessary measures to limit them.	4,1096	0.69603	High score
	Personal competency level	**4,3634**	**0.39378**	**Very high score**

Based on SPSS results

Figure 19: Analysis of the sample responses to the items of Personal Competencies.



Source: Elaborated by the author using Excel

The analysis of the respondents' answers regarding the **"Personal Competencies"** dimension shows that the entrepreneurs in the study possess a very high level of personal traits and competencies, which are key factors for entrepreneurial success. The overall mean score for this dimension was 4.3634, with a standard deviation of 0.39378, indicating consistency and agreement among the respondents' views on their possession of various personal competencies that enable them to handle challenges in a dynamic business environment. The results in this dimension highlight a strong awareness of the importance of personal traits in entrepreneurial work, such as self-confidence, stress management, responsibility, motivation, and the ability to recover from failure, as well as other qualities that define successful entrepreneurs.

The statement concerning **investing time and energy to ensure the project's success** recorded the highest mean score in this dimension at 4.5890, indicating that most respondents demonstrate a high level of personal commitment and dedication to their work. This is a crucial trait in the success of small and medium enterprises, which often rely heavily on the direct personal efforts of the business owner. The statement "My self-confidence positively affects my ability to succeed" received a mean score of 4.4795, indicating that **self-confidence** is a key pillar of entrepreneurial behavior among these individuals, enabling them to make bold decisions and handle challenges with resilience and realism. The statement "I can restart after failure" had a mean of 4.4041, reflecting a spirit of **perseverance and the ability to learn from past experiences and try again**, which is an essential trait in the uncertain and risky world of entrepreneurship.

Regarding stress management, the statement **"**I remain calm and handle stress well while running my business" scored a mean of 4.3767, indicating that most respondents possess psychological balance and the **ability to manage pressure**, competencies necessary for entrepreneurs who constantly face stress related to planning, financing, and competition. Additionally, the statement related to the **ability to solve complex problems in the workplace** scored 4.3082, reflecting the possession of analytical skills that aid in diagnosing issues and developing suitable solutions, critical for making informed daily decisions.

The results showed that risk assessment and taking preventive measures had a mean score of 4.2740, indicating a high level of **awareness about potential risks** and the ability to analyze and respond to them in ways that reduce the likelihood of future crises. The only statement that received a "high" rating rather than "very high" was related to using technology to improve operations management, with a mean of 4.1096. This may suggest certain technical challenges that still hinder the optimal use of modern technological tools, possibly due to weak digital infrastructure, limited training, or a lack of institutional support.

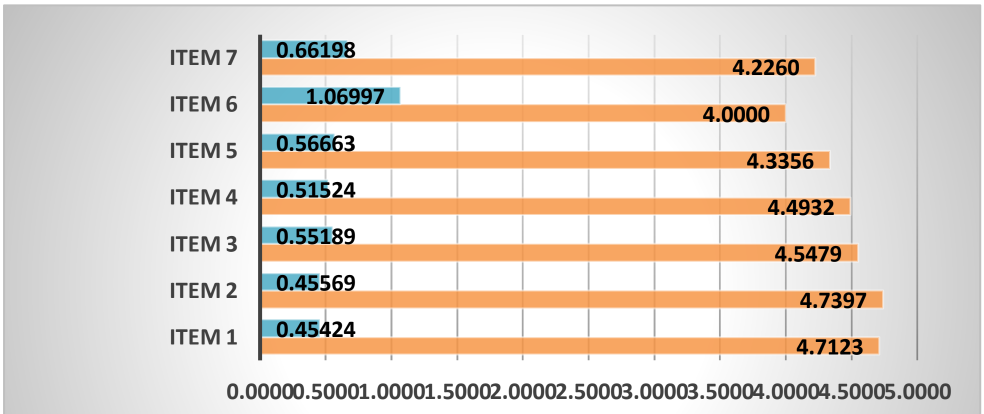
Based on the above, it can be said that the results confirm that the Algerian entrepreneurs in the study sample possess an advanced level of personal competencies, which form a key foundation for entrepreneurial success. These competencies are directly linked to their ability to lead their businesses with **confidence, perseverance, and resilience** traits that reflect not only psychological but mostly behavioral maturity, enhancing their ability to adapt to changes, confront crises, and achieve positive market outcomes. However, promoting a culture of continuous learning and fostering skills development through **regular training programs** remains a requirement to ensure ongoing personal growth and to better prepare these entrepreneurs to face the challenges of growth, expansion, and competition in a rapidly changing business environment.

3) The Socio-Cultural Competencies

Table 31: Analysis of the sample responses to the items of Socio-Cultural Competencies.

N°	Items	Arithmetic Mean	Standard Deviation	Agreement Score
01	I maintain strong relationships with key stakeholders (customers, suppliers, and other businesses).	4,7123	0.45424	Very high score
02	My surrounding network contributes to my business growth.	4,7397	0.45569	Very high score
03	I adopt Islamic values in my business practices.	4,5479	0.55189	Very high score
04	I ensure my business creates job opportunities for the community.	4,4932	0.51524	Very high score
05	I make efforts to ensure staff welfare in my business.	4,3356	0.56663	Very high score
06	I involve family members in key business activities and decisions.	4,0000	1,06997	High score
07	I make sure to attend events and forums related to my field to expand my network.	4,2260	0.66198	Very high score
The level of social and cultural competencies		**4,4367**	**0.41851**	**Very high score**

Figure 20: Analysis of the sample responses to the items of Socio-Cultutal Competencies



	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Standard Deviation	0.45424	0.45569	0.55189	0.51524	0.56663	1.06997	0.66198
Arithmetic Mean	4.7123	4.7397	4.5479	4.4932	4.3356	4.0000	4.2260

Source: Elaborated by the author using Excel

The results of the respondents' answers regarding the dimension of **"socio-cultural competencies"** show that the entrepreneurs involved in the study possess a very high level of social competencies and relationships, along with a strong commitment to cultural and religious values. This is reflected in the overall mean score for this dimension, which was 4.4367, placing it in the category of "very high level," with a standard deviation of 0.41851, indicating relative consistency in the respondents' views about having these competencies.

The results confirmed that entrepreneurs in Algeria acquire not only technical and managerial qualities but also several communication abilities, social relationships, commitment to social responsibility, and cultural practices rooted in ethical and religious values. These factors improve the business reputation in society and strengthen its ties with both internal and external environments.

The statement **"My surrounding network contributes to my business growth"** recorded the highest mean score within this dimension, reaching 4.7397, indicating a strong awareness of the importance of social relationships and their pivotal role in business development. A solid network opens doors to new opportunities for partnerships, expansion, and access to circulating knowledge and information within the social environment.

Similarly, the statement on **maintaining strong relationships with key stakeholders (customers, suppliers, and other companies)** received a high average score of 4.7123, reflecting respondents' strong awareness of the importance of managing relationships with various parties in the business environment. This fosters mutual trust and loyalty, representing a form of social capital that positively influences the business's continuity and success.

On the ethical and cultural level, most respondents expressed their commitment to **applying Islamic values in their business practices**, with a mean score of 4.5479. This indicates a strong integration of ethical and religious principles in commercial dealings, which fosters trust and reduces negative behaviors such as fraud and deception, making the project more acceptable to wider segments of society.

Respondents also showed enthusiasm for their projects to positively impact society by **creating jobs**, with this statement receiving an average score of 4.4932. This reflects a strong sense of social responsibility, a key aspect highlighting the societal role of modern entrepreneurship.

On another note, the results also showed that respondents care about **the well-being of employees** within their businesses, with an average of 4.3356, indicating that internal relationships within businesses are based on appreciation and positive interaction. This likely boosts employee morale and motivation, leading to increased productivity and stability.

The results also indicated that **attending events and business-related forums** is a priority for some entrepreneurs, with an average score of 4.2260, demonstrating their efforts to expand networks, stay informed about sector developments, and share experiences.

However, the only statement that received a "high level" score without reaching a "very high level" was the one concerning **family involvement in key decisions and activities within the business**, which had a mean of 4.0000 and a relatively high standard deviation of 1.06997. This may suggest a significant variation in opinions and practices among respondents. While some prefer to involve family members due to the familial nature of their business, others believe in separating family from work to prevent emotional interference or internal conflicts, or prefer to act independently of their families.

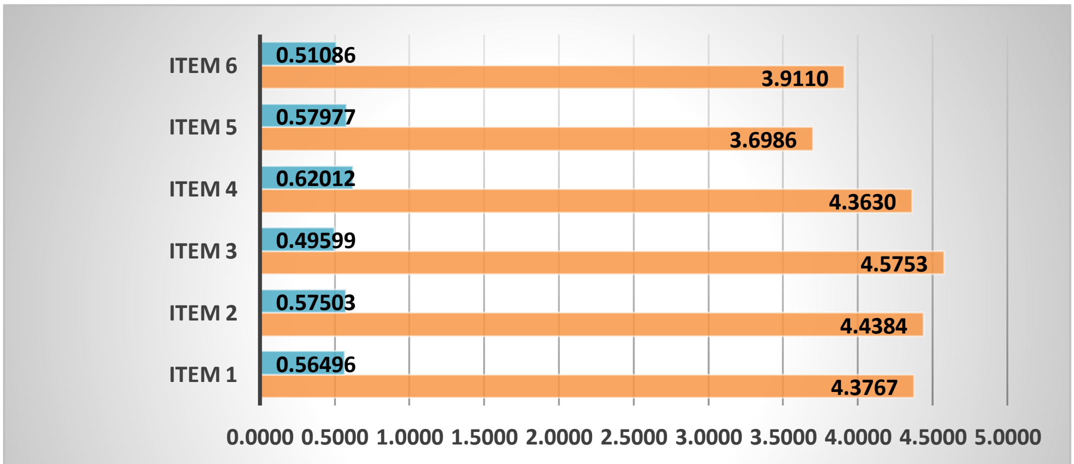
The findings of this dimension confirm that social and cultural competencies are vital to the profile of Algerian entrepreneurs. These competencies allow them to create a balanced work environment centered on trust, cooperation, and ethical and social responsibility. They also demonstrate their openness to the external environment and their efforts to build strong relationships that ensure the longevity of their businesses.

4) Context-Based competencies dimension

Table 32: Analysis of the sample responses on the items of Context-Based Competencies

N°	**Items**	**Arithmetic Mean**	**Standard Deviation**	**Evaluation Score**
01	I am able to adapt to bureaucratic challenges and complex regulations.	4,3767	0.56496	Very High score
02	I am capable of securing the necessary financing for my business, despite challenges.	4,4384	0.57503	Very high score
03	I adapt my business practices to operate successfully within the existing legal framework.	4,5753	0.49599	Very high score
04	I know how to compete in markets where informal businesses operate.	4,3630	0.62012	Very High score
05	I can find innovative solutions to overcome resource constraints.	3,6986	0.57977	High score
06	I can manage limited resources efficiently to achieve the maximum possible benefit.	3,9110	0.51086	High score
	Level of Context-Based Competencies	**4,2277**	**0,40560**	**Very high score**

Figure 21: Analysis of the sample responses on the items of Context-Based Competencies



	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Standard Deviation	0.56496	0.57503	0.49599	0.62012	0.57977	0.51086
Arithmetic Mean	4.3767	4.4384	4.5753	4.3630	3.6986	3.9110

Source: Elaborated by the author using Excel

The analysis of the respondents' answers regarding the dimension of **"Context-Based Competencies"** shows that owners of small, medium, and micro enterprises in Algeria have a high level of ability to handle challenges in the business environment. The overall average score for this dimension was 4.2277, which is categorized as "very high", indicating a strong ability to adapt to and manage the administrative, financial, and legal aspects of the institutional environment in Algeria.

The results for individual statements within this dimension showed similarly high levels of evaluation. The statement **"I adapt my business practices to operate successfully within the existing legal framework"** scored the highest average **at 4.5753,** indicating a clear understanding of legal requirements among project owners and a capacity to comply with regulations governing economic activities, despite the challenges they may present.

The statement on **securing the necessary funding for my business, despite the challenges,** had a mean of 4.4384, indicating that entrepreneurs possess alternatives or networks that enable them to overcome financing obstacles, which are among the most significant challenges faced by this type of enterprise.

The statement related to **adapting to bureaucratic challenges and complex regulations** scored an average of 4.3767, reflecting the ability of business owners to avoid administrative obstacles and organize their operations in the face of sometimes obstructive bureaucracy.

Similarly, the statement "I know how to compete in markets where informal businesses operate" scored 4.3630, indicating that project owners are aware of the **unfair competitive conditions** posed by the informal market and yet possess strategies or tactics that allow them to survive and remain competitive under such market conditions.

Regarding the ability to find innovative solutions to overcome resource constraints, the related statement recorded the lowest mean in this dimension at 3.6986, rated as "high," followed by the statement "I can manage limited resources efficiently to achieve the maximum possible benefit" with a mean of 3.9110. This suggests that some challenges related to resource scarcity continue to pose a significant obstacle for certain entrepreneurs. This may be due to limited training in financial management or inadequate access to modern resource management technologies.

Based on the above, it can be concluded that the Algerian business environment is marked by volatility and complexity. Entrepreneurs, therefore, develop various competencies to overcome the difficult obstacles they might encounter in their entrepreneurial journey, including bureaucracy, legal challenges, financing issues, and unbalanced competition. However, their ability to manage limited resources needs to be improved or strengthened. This requires ongoing institutional support in the form of training programs, flexible financing options, and streamlined administrative processes, all of which enhance individual competencies and help improve the overall performance of small and medium-sized enterprises in the Algerian market.

4.1.5 Testing the Research Hypotheses

In this study, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to test the research hypotheses. This method is also known as partial least squares (PLS) path modeling. While Covariance-based modeling is used to confirm or reject theoretical models, PLS-SEM is mainly utilized for theory development in exploratory research. It emphasizes explaining the variance in the dependent variables during model analysis.

4.1.5.1 Testing the study Model

To ensure the model's validity, we first evaluate the measurement model and then assess the structural model. In our assessment of the measurement model, we rely on the following indicators: Convergent validity, verification of the absence of multicollinearity, and discriminant validity (Hair J. H., Hult, Ringle, & Sarstedt, 2021)**.**

1) **Convergent validity, model reliability, and verification of the absence of multicollinearity**

   a) The dependent variable: Perceived business success

Table 33: Convergent validity, model reliability, and verification of the absence of multicollinearity of the dependent variable.

<table>
<tr><th>Variable</th><th>Items</th><th>Factor Loading (FL)</th><th>Chornbak h's Alpha</th><th>RHO -A</th><th>Composite reliability (CR)</th><th>Average Variance Extracted (AVE)</th><th>Multilineariy (VIF)</th></tr>
<tr><td rowspan="11">Perceived business success</td><td>PBS 1</td><td>0.824</td><td rowspan="11">0.952</td><td rowspan="11">0.959</td><td rowspan="11">0.958</td><td rowspan="11">0.677</td><td>4.224</td></tr>
<tr><td>PBS 2</td><td>0.775</td><td>4.070</td></tr>
<tr><td>PBS 3</td><td>0.850</td><td>2.989</td></tr>
<tr><td>PBS 4</td><td>0.812</td><td>4.666</td></tr>
<tr><td>PBS 5</td><td>0.860</td><td>2.746</td></tr>
<tr><td>PBS 6</td><td>0.841</td><td>4.640</td></tr>
<tr><td>PBS 7</td><td>0.860</td><td>4.368</td></tr>
<tr><td>PBS 8</td><td>0.777</td><td>2.682</td></tr>
<tr><td>PBS 9</td><td>0.855</td><td>3.837</td></tr>
<tr><td>PBS 10</td><td>0.795</td><td>2.919</td></tr>
<tr><td>PBS 11</td><td>0.796</td><td>4.280</td></tr>
</table>

Based on SmartPLS 4 outcomes

Results from the table related to convergent validity, model reliability, and multicollinearity for the variable "Perceived Business Success" indicate strong measurement quality. The factor loadings show clear differentiation among items, with all values exceeding the acceptable threshold of 0.70, demonstrating that each item effectively contributes to explaining the construct.

Internal consistency indicators also show high reliability, with Cronbach's Alpha (α = 0.952), RHO-A (0.959), and Composite Reliability (CR = 0.958), all exceeding the minimum acceptable value of 0.70. This demonstrates a strong internal consistency among the variables' indicators, indicating that the model reliably represents the concept of perceived business success among the study participants.

Regarding the Average Variance Extracted (AVE = 0.677), it also exceeds the minimum required threshold of 0.50, confirming convergent validity. This indicates that the indicators of this construct account for a significant portion of the variance underlying the conceptual dimension to which they belong. This enhances the model's validity in providing accurate and interpretable results.

Furthermore, the Variance Inflation Factor (VIF) values for all items are below the critical threshold of five (5), ranging from 2.682 to 4.666. This shows there is no multicollinearity, meaning the items are not overly redundant or similar in content or influence on the model.

Overall, these indicators confirm that the variable "Perceived Business Success" is both statistically and conceptually well-constructed, enabling its use in hypothesis testing with precision and objectivity. They also show that the research instrument can reliably and validly measure the concept, adding scientific credibility to the study's findings and increasing their potential usefulness in future recommendations and practices, especially in academic and entrepreneurial settings like small and medium-sized enterprises in the Algerian context.

b) The independent variable: Entrepreneurial competencies

Table 34: Convergent Validity, Model Reliability, and Testing for the Absence of Multicollinearity of the Variable "Entrepreneurial Competencies"

Variable	Factors	Items	Factor Loading (FL)	Cronbach's Alpha	RHO-A	Composite Reliability (CR)	Average Variance Extracted (AVE)	Multicollinearity (VIF)
	Business-Doing Competencies	BDC 1	0.805	0.901	0.903	0.922	0.628	2.664
		BDC 2	0.797					4.280
		BDC 3	0.763					4.356
		BDC 4	0.855					3.498
		BDC 5	0.817					3.504
		BDC 6	0.719					2.408

Entrepreneurial Competencies		BDC 7	0.784					2.176
	Personal Competencies	PC 1	0.855	0.914	0.916	0.931	0.660	3.458
		PC 2	0.860					3.674
		PC 3	0.789					2.230
		PC 4	0.765					2.253
		PC 5	0.840					2.884
		PC 6	0.783					2.185
		PC 7	0.787					3.683
	Socio-Cultural Competencies	SCC 1	0.910	0.908	0.913	0.928	0.648	4.042
		SCC 2	0.791					2.474
		SCC 3	0.737					2.261
		SCC 4	0.799					3.224
		SCC 5	0.702					2.984
		SCC 6	0.832					1.994
		SCC 7	0.846					3.287
	Context-Based Competencies	CBC 1	0.885	0.910	0.917	0.930	0.688	3.488
		CBC 2	0.851					3.053
		CBC 3	0.827					2.497
		CBC 4	0.731					1.624
		CBC 5	0.837					4.886
		CBC 6	0.838					4.014

Based on SmartPLS 4 outcoms

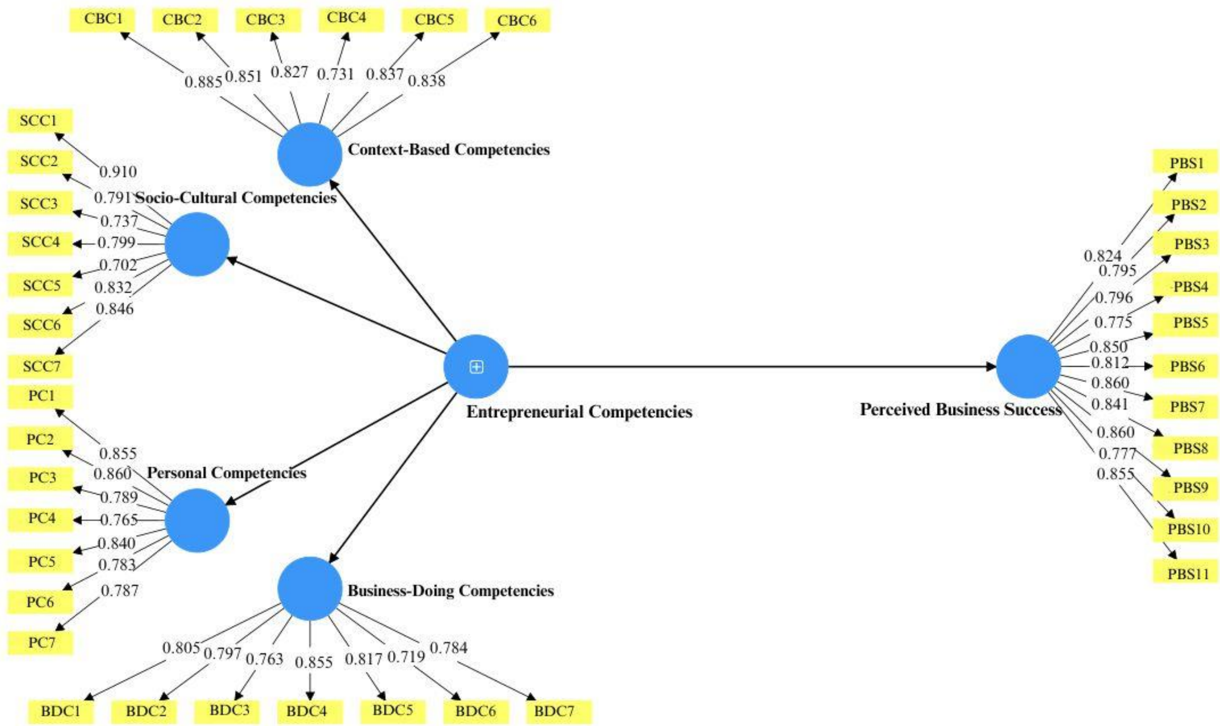
The analysis results of the validity and reliability related to the dimension of “Entrepreneurial Competencies” demonstrate a high level of methodological quality in constructing this variable. The internal consistency coefficients, measured through Cronbach's Alpha, Composite Reliability (CR), and Rho-A, showed high values that exceeded the acceptable threshold of 0.7, reflecting strong consistency among the items within each sub-dimension of the overall variable.

The Average Variance Extracted (AVE) values, ranging from 0.628 to 0.688, further confirm good convergent validity, indicating that the items used explain a substantial portion of the underlying variance in each dimension of entrepreneurial competencies. Moreover, all factor loadings for the indicators surpassed 0.70, confirming their effectiveness in representing the dimensions to which they belong.

Regarding multicollinearity, all Variance Inflation Factor (VIF) values were within acceptable limits, ranging from 1.624 to 4.886, indicating no excessive redundancy or similarity among the model's indicators.

Based on these results, it can be confirmed that the variable “Entrepreneurial Competencies” demonstrates a high level of validity and reliability.

Figure 22: Convergent validity, model adequacy, and verification of the absence of multicollinearity problem.



Based on SmartPLS 4 outcomes

2) **Discriminant Validity:** Here, we evaluate the difference between variables.

According to the Fornell-Larcker criterion, the correlation of a variable with itself must be higher than its correlation with any other variable to confirm that the dimensions are distinct from each other (Hair J. F., Hult, Ringle, & Sarstedt, 2017, p. 148).

Table 35: Discriminant Validity

	Business-Doing Competencies	Context-Based Competencies	Perceived Business Success	Personal Competencies	Socio-Cultural Competencies
Business-Doing Competencies	**0.792**				
Context-Based Competencies	0.444	**0.830**			
Perceived Business Success	0.363	0.425	**0.823**		
Personal Competencies	0.450	0.366	0.335	**0.812**	
Socio-Cultural Competencies	0.472	0.538	0.244	0.469	**0.805**

Based on SmartPLS 4 outcomes

The results of the discriminant validity test for the study variables, using the Fornell-Larcker criterion, reflect a good level of construct distinction between the dimensions of entrepreneurial competencies and perceived business success. This criterion requires that the square root of the Average Variance Extracted (AVE) for each variable be greater than its correlation with any other variable in the model, which was indeed the case in all instances.

The highest square root of AVE among the main variables was 0.830, and the lowest was 0.792, both of which are greater than or equal to the correlation values with other variables in the table. For example, the correlation between Business-Doing Competencies and itself was 0.792, greater than its correlation with Context-Based Competencies at 0.444. Similarly, the correlation between Socio-Cultural Competencies and itself was 0.805, higher than its correlations with all other variables.

This confirms that each dimension of entrepreneurial competencies measures a concept that is largely independent of the others. These findings also strengthen the construct validity of the model, indicating that the items associated with each dimension clearly distinguish it from the others, thereby ensuring accurate interpretation when testing relationships between variables in the structural model.

Therefore, the confirmation of discriminant validity based on the Fornell-Larcker criterion gives the study additional statistical robustness and supports the independence of the dimensions used to measure entrepreneurial competencies and perceived business success.

3) Coefficient of determination (R^2)

The most commonly used metric for evaluating the structural model is the coefficient of determination (R^2 value). It measures the model's predictive ability by calculating the square of the correlation between the actual values of the specified endogenous construct and the predicted values of the dependent variable.

This coefficient reflects the overall influence of external latent variables on the internal latent variable. In simple terms, it indicates how much of the variance in the endogenous constructs is accounted for by all connected exogenous constructs. Since R^2 is the square of the correlation between actual and predicted values, it considers all data used in estimating the model and is therefore used to evaluate the model's predictive ability.

Below is the **coefficient of determination** obtained in this study:

Table 36: Coefficient of determination R^2

Variables	R-square	R-square Adjusted
Perceived Business Success	0.194	0.186

Based on SmartPLS results

The analysis results of the coefficient of determination (R^2) for the endogenous variable *"Perceived Business Success"* indicate that 19.4% of its variance is explained by the external latent variables included in the model, namely the dimensions of entrepreneurial competencies. This level of explanation is considered acceptable in behavioral and social studies, especially when multiple factors influence the phenomenon under investigation and cannot be fully explained by a limited set of variables.

This suggests a moderate to weak explanatory relationship between the independent variables and the dependent variable. The remaining 80.6% of the variance can be attributed to other variables not included in the model or to random factors.

As for the adjusted R^2 value, which was 0.186, it accounts for the number of variables entered into the model and the sample size, providing a more accurate estimate of explanatory quality. Although both R^2 and adjusted R^2 values are not high, they remain meaningful, given the nature of the study and its practical context related to small and medium-sized enterprises—entities that are typically influenced by a wide range of economic, organizational, and contextual factors.

4) Effect Size (F-Square):

In addition to evaluating the R^2 values for all endogenous constructs, the change in R^2 value when a specific exogenous construct is removed from the model can be used to assess whether that construct has a significant effect on the endogenous constructs. This measure is referred to as the effect size (F^2) and is increasingly recommended by journal editors and reviewers.

As a general rule for evaluating effect size:

- A value less than 0.02 indicates a negligible effect of the exogenous latent variable.
- A value between 0.15 and 0.34 indicates a moderate effect.
- A value greater than 0.35 indicates a strong effect.

- A value smaller than 0.02 suggests that the exogenous latent variable has no effect at all.

Table 37: Effect Size Coefficient (F-Square)

Latent Variables	Effect Size (F-square)
Entrepreneurial Competencies =>Perceived Business Success	**0.241**

Based on SPSS results

The effect size (F-square) analysis for the latent variable *"Entrepreneurial Competencies"* on the dependent variable *"Perceived Business Success"* yielded a value of 0.241, which falls within the range classified in statistical literature as a "medium effect". According to the classification by Hair et al. (2020), values between 0.15 and 0.34 indicate a medium effect size.

This result indicates that entrepreneurial competencies play a moderate role in explaining changes in perceived success levels among owners of small, medium, and micro enterprises. It highlights a practically meaningful link between entrepreneurs having a range of competencies—whether personal, organizational, social, or contextual—and their perception of business success.

This finding also verifies the reliability of the structural model used in the study and highlights the importance of entrepreneurial competencies as a key factor that should be prioritized in support and training policies targeting this type of enterprise. However, the moderate effect size also indicates that other variables may influence perceived business success and should be explored in future research, such as the economic climate, regulations, institutional support, market factors, and others.

This highlights the need to expand the model in future research to gain a more comprehensive understanding of the factors that influence the success of these types of projects.

To further ensure the model's quality, the Goodness of Fit (GOF) index was calculated using the following formula (Wetzels, Odekerken-Schröder, & Van Oppen, 2009, p. 177):

$$GOF = \sqrt{\left(\overline{R^2} \times \overline{AVE}\right)}$$

According to GOF standards:

- Less than 0.1 = Poor fit

- Between 0.1 and 0.25 = Small fit
- Between 0.25 and 0.36 = Medium fit
- More than 0.36 = Large fit

In this study, the GoF value reached 0.38, indicating that the model exhibits a large fit.

4.1.5.2 Hypothesis Testing

1) General Hypothesis Testing

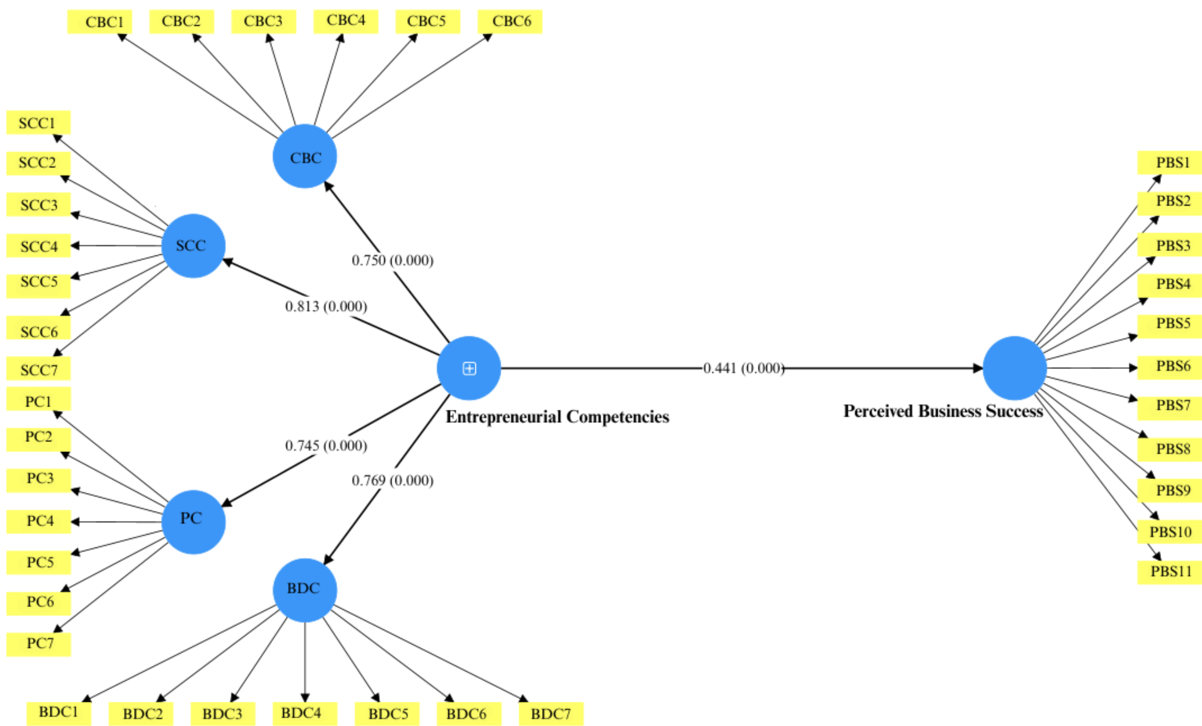
Hypothesis 1 (H1): A positive relationship exists between entrepreneurial competencies and small business success in Algeria.

Table 38: Results of the general hypothesis testing

Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Entrepreneurial Competencies => Business Success	0.441	0.450	0.061	7.248	0.000

Based on the findings of SmartPLS 4

Figure 23: Findings regarding the main hypothesis



Based on SmartPLS 4 outcomes

The results of testing the overall hypothesis of the study show a statistically significant relationship between entrepreneurial competencies and the success of small businesses in

Algeria. The direct effect coefficient (Original Sample) was 0.441, a positive value indicating a moderate positive correlation, meaning that a higher level of entrepreneurial competencies among business owners has a favorable impact on the success of their projects.

The T-value was 7.248, which surpasses the critical threshold of 1.96 at the 0.05 significance level, indicating a strong and reliable statistical relationship between the two variables. This is further supported by the P-value of 0.000, which is much lower than 0.05, signifying that the result is not due to chance but has high statistical significance.

The Sample Mean (0.450) and Standard Deviation (0.061) indicate the consistency of the results across resampling and the uniformity of the sample data.

Based on these results, it can be concluded that entrepreneurial competencies, encompassing professional, personal, social, cultural, and contextual aspects, are crucial for enhancing the success of small businesses in the Algerian context. This finding is consistent with previous research in entrepreneurship on business-related, personal, and socio-cultural competencies that include specific entrepreneurial competencies positively associated with small business success across different countries (Chandler and Jansen, 1992; Man, 2002; Ahmad, 2010).

The study of contextual competencies as a new research area in the Algerian context highlights the importance of policymakers, support organizations, and funding sources in developing these total abilities among entrepreneurs. Achieving this may involve targeted training and capacity-building programs designed to enhance business performance and ensure the sustainability and stability of small enterprises in a challenging economic environment.

2) Testing the sub-hypothesis

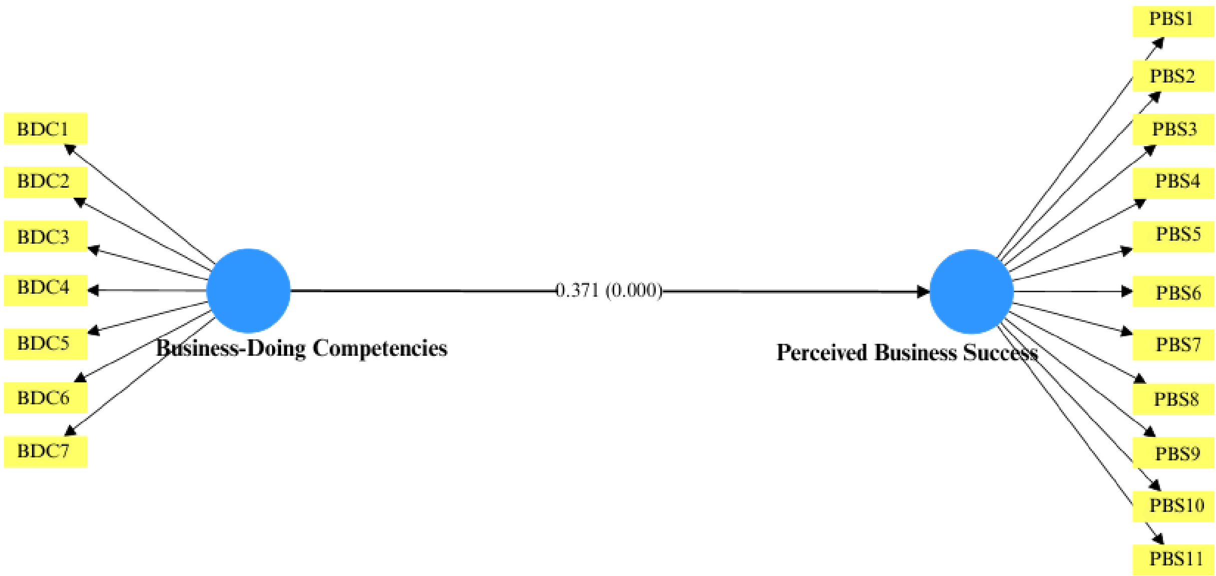
a. H1.1: The Business-Doing Competencies positively influence business success.

Table 39: Results of the first sub-hypothesis

Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Business-Doing Competencies =>Perceived Business Success	0.371	0.393	0.081	4.605	0.000

Based on the fidings of SmartPLS 4

Figure 24: Result of the first sub-hypothesis



Based on SmartPLS 4 outcomes

The results of testing the first sub-hypothesis show a positive and statistically significant effect of Business-Doing Competencies on project success. The direct effect coefficient (Original Sample) was 0.371, indicating a moderate positive relationship, which means that higher levels of business-execution competencies help increase the likelihood of project success.

The T-value of 4.605 surpasses the standard critical value of 1.96 at the 0.05 significance level, which boosts the credibility of the result and confirms that the effect is genuine and not due to chance. Additionally, the P-value of 0.000 is well below 0.05, indicating a statistically significant relationship.

The sample mean (0.393) and standard deviation (0.081) indicate a reasonable level of consistency and stability in the data. These results suggest that competencies such as identifying business opportunities, organizing resources, motivating teams, learning and applying technical knowledge are crucial in helping entrepreneurs manage their projects effectively. This, in turn, increases the likelihood of achieving project goals, fostering growth, and ensuring sustainability.

Therefore, these results indicate that the specific entrepreneurial competencies included in this category—namely, opportunity recognition, organizational, strategic, learning, and technical competencies—have a moderate positive effect on small business success. This aligns with Ahmad's (2007, 2010) findings, which include three core competencies from Man's (2001, 2002) model: opportunity, organization, and strategic competencies. These five competencies are grouped into one category that covers a high level of behaviors directly linked to doing business and practicing entrepreneurship. The competencies underscore the importance of developing Business-Doing Competencies as a vital part of the entrepreneurial journey, especially in the Algerian context, where small and medium-sized enterprises often face organizational, financial, and operational challenges.

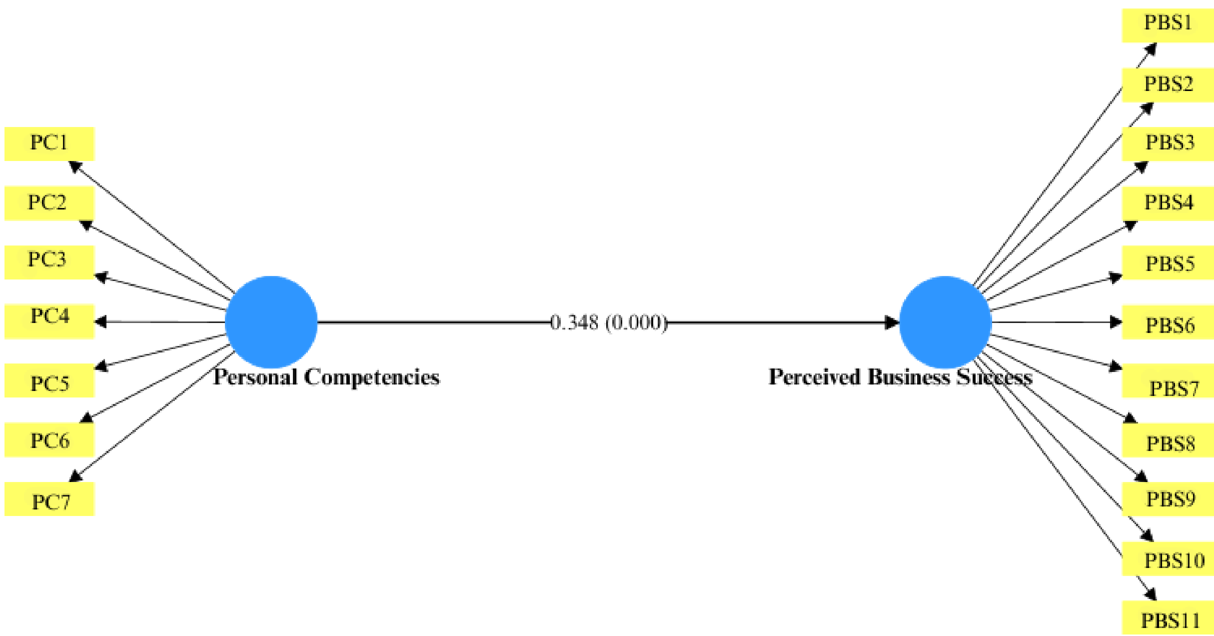
b. H1.2: Personal competencies positively influence business success.

Table 40: Results of the second sub-hypothesis

Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Personal Competencies => Project Success	0.348	0.371	0.074	4.673	0.000

Based on SmartPLS 4 outcomes

Figure 25: Result of the second sub-hypothesis



Based on the findings of SmartPLS 4

The results of testing the second sub-hypothesis indicate a positive and statistically significant effect of Personal Competencies on project success. The direct effect coefficient (Original Sample) was 0.348, a positive value indicating a moderate positive relationship, meaning that a higher level of personal competencies in the entrepreneur contributes to increasing the likelihood of project success.

This conclusion is further supported by a high T-statistic value of 4.673, which exceeds the critical threshold of 1.96 at the 0.05 significance level, indicating that the effect is statistically significant.

Additionally, the P-value of 0.000, which is well below 0.05, confirms that the relationship is not due to chance but is genuine and applicable to the study population. Furthermore, the sample mean of 0.371 and the standard deviation of 0.074 indicate a consistent pattern in the sample results, strengthening the reliability of the estimate.

This effect can be explained by the importance of personal traits in entrepreneurs, such as self-confidence, pressure management, self-motivation, perseverance, and resilience in the face of failure—all of which are crucial for ensuring the continuity and growth of a project, especially in competitive or resource-scarce environments like the Algerian context. The findings are consistent with previous research; these specific competencies include three main ones in Ahmad's model (personal, commitment, and conceptual) and two in Man's model (commitment and conceptual). This indicates that high levels of these traits are essential for success in entrepreneurship across various settings.

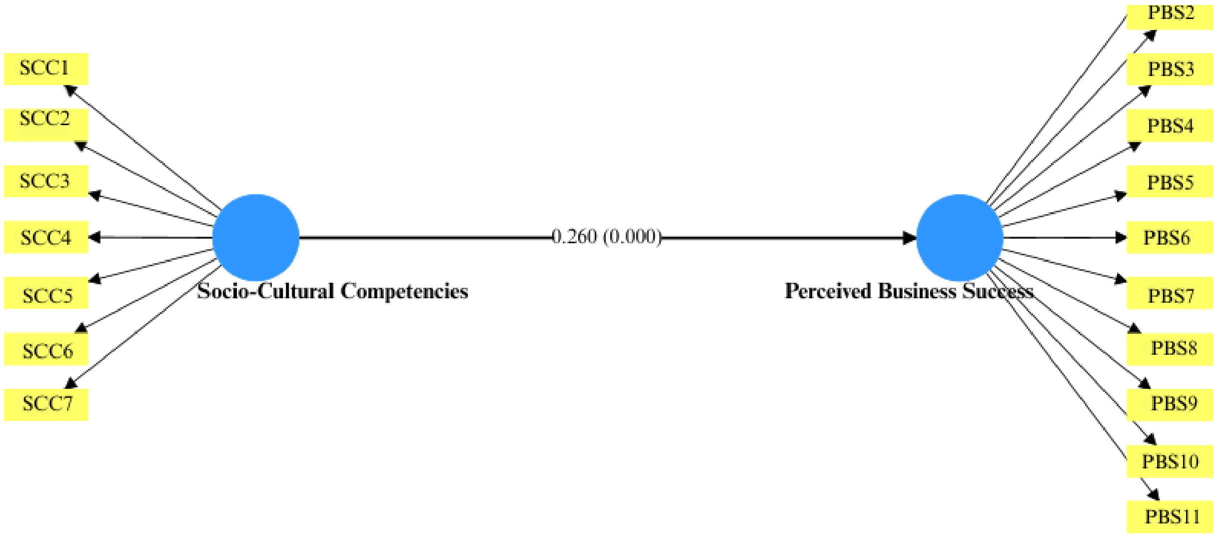
c. H1.3: The socio-cultural competencies positively influence business success.

Table 41: Results of the third sub-hypothesis

Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Socio-Cultural Competencies => Perceived Business Success	0.260	0.292	0.069	3.792	0.000

Based on the findings of SmartPLS 4

Figure 26: Result of the third sub-hypothesis



Based on SmartPLS 4 outcomes

The results of testing the third sub-hypothesis show a statistically moderate positive relationship between sociocultural competencies and project success. The direct effect coefficient (Original Sample) was 0.260, indicating a moderately strong positive link. This suggests that a higher level of sociocultural competencies among entrepreneurs increases the likelihood of project success.

This positive impact is confirmed by a high T-Statistics value of 3.792, which exceeds the critical value (1.96), demonstrating the effect is statistically significant. Additionally, the P-value of 0.000 is below 0.05, further supporting the reliability and validity of the result.

This indicates that stronger abilities in building relationships, maintaining a network of partners and clients, and embracing ethical values relevant to the local context—such as Islamic principles, social responsibility, and family involvement—are crucial for successful project management, expanding its influence, and improving its reputation and stability. This is emphasized in Ahmad’s (2007, 2010) model, which includes competencies in relationships, ethics, social responsibility, and familism.

This result highlights the influence of sociocultural aspects on entrepreneurship, especially in societies with strong social ties, such as Algerian society. In such environments, social bonds and cultural trust strengthen business relationships and support project continuity. Therefore, developing these competencies is crucial for maintaining the sustainability of small and medium-sized enterprises.

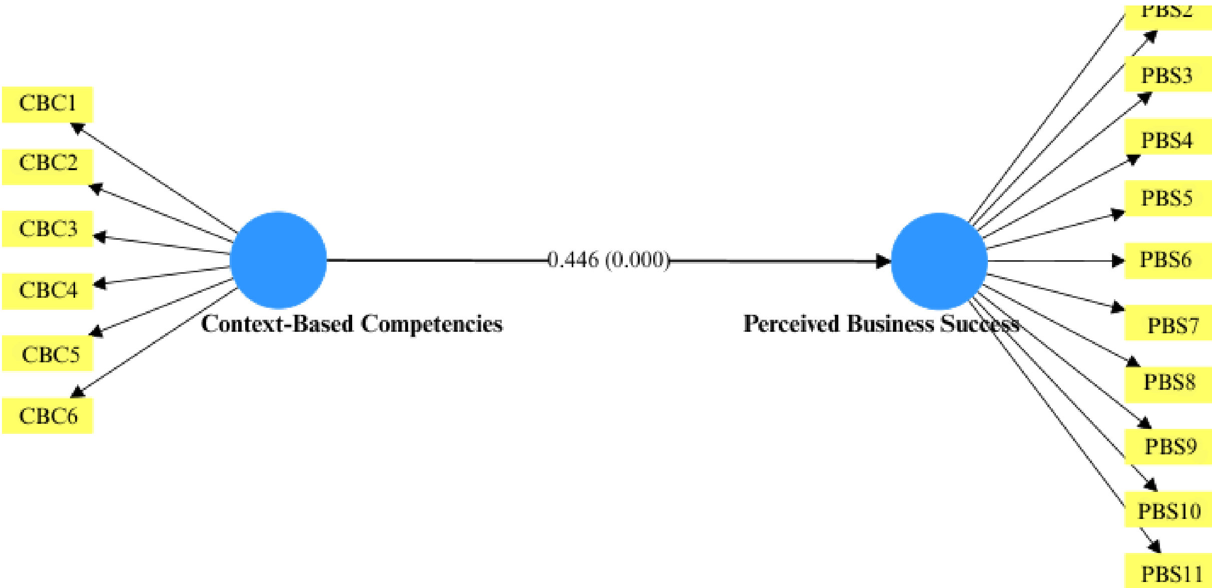
d. H1.4: Adaptability is a context-based entrepreneurial competency that positively influences business success in Algeria.

Table 42: Results of the fourth sub-hypothesis

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (O/STDEV)	P values
Context-Based Competencies	0.446	0.465	0.051	8.671	0.000

Based on SmartPLS outputs

Figure 27: Result of the fourth sub-hypothesis



Based on SmartPLS 4 outcomes

The results of testing the fourth sub-hypothesis show a strong and statistically significant positive effect of work environment-related competencies on project success. The direct effect coefficient reached 0.446, indicating a high level of influence that reflects a robust positive relationship between these competencies and the perceived success of the project. Additionally, the T-statistic value was 8.671, which far exceeds the critical threshold of 1.96, indicating that this effect is statistically significant and not due to chance. Furthermore, the P-value of 0.000 indicates very strong statistical significance.

This means that entrepreneurs' ability to adapt to bureaucratic challenges, their deep understanding of the legal framework, and their capacity to compete even in informal settings, along with effective management of limited resources and handling of financing and supply constraints, are crucial factors in driving the success of small and medium enterprises.

Competence in managing the work environment enables the project to adapt to changes with high flexibility, while also providing stability and the ability to continue growing despite difficulties.

In the Algerian context, where small and medium-sized enterprises face multiple challenges, including a complex regulatory environment, funding difficulties, and conflicting economic policies, these competencies become crucial for the project's survival and success. Therefore, enhancing entrepreneurs' ability to understand the legal environment, develop flexible strategies to respond to the market, and build negotiation and adaptation competencies is vital for achieving the organization's goals and ensuring its sustainability.

3) Results of the second Hypothesis

Hypothesis 2 (H2): Antecedents of entrepreneurship (educational level, work experience, and training) significantly influence the development of entrepreneurial competencies in the Algerian context.

Table 43: Results of the second main hypothesis

Demographic Profile	Test Value	Significance Level	Decision
Educational Level	0.039	0.990	No Effect
Work Experience	0.262	0.792	No Effect
Training	**3,456**	**0.001**	Significant effect

Based on SPSS results

The results of testing the second main hypothesis indicate that there is no statistically significant effect of the demographic profile of entrepreneurs—represented by educational level and professional experience—on the development of entrepreneurial competencies in the Algerian context. The significance value for educational level was P = 0.990, which is very high and well above the accepted threshold of 0.05, clearly indicating no meaningful relationship between educational level and the development of entrepreneurial competencies. Similarly, the significance value for professional experience was P = 0.792, also high and supporting the same conclusion.

However, the training showed positive and different results. As indicated in the table, the results reveal statistically significant differences between entrepreneurs who received training, with a mean of 4.40 and those who did not, with a mean of 4.10. The difference in means was 0.30, which is a positive difference. This indicates that training has a statistically significant impact on developing entrepreneurial competencies.

This suggests that differences in educational background or years of work experience do not lead to major variations in entrepreneurial competencies within the sample, implying that developing these competencies might not be directly tied to traditional demographic factors. Instead, it could be shaped by other factors such as training that provides hands-on experience, experimental learning, and learning from seasoned professionals.

4.2 Discussion of the main findings

In the following section, we are discussing the obtained results in light of the study objectives and existing literature.

4.2.1 The demographic profile of the study sample

The entrepreneurs who participated in our study were mainly men, with 100 men and 46 women. The relatively small number of female entrepreneurs compared to their male counterparts is entirely understandable in the Algerian context. Based on prior research, female entrepreneurship in Algeria lags significantly behind the high levels observed in developed countries. According to statistics from the National Center of the Commercial Register (CNRC), there has been a notable increase each year. However, women are still underrepresented in Algeria, with their participation not exceeding 7.8% in 2019 (CNRC, 2019) (Berrached & Tabet Aouel, 2022, p. 343). Therefore, having female entrepreneurs make up less than half of our sample still reflects a relatively good proportion compared to their overall representation.

The majority of these entrepreneurs were between 30 and 50 years old, representing the young adult and middle-aged groups of the population, which generally refers to financially and professionally stable individuals. With 91.8% having previous work experience, these entrepreneurs have had professional experience before launching their small businesses.

The majority of respondents have a university-level education, with almost 65% holding higher studies degrees, and 35% quitting school after obtaining their baccalaureate or even before. This suggests that entrepreneurial activities in Algeria are accessible to all social and educational backgrounds.

4.2.2 The business profile of the study sample

The findings indicate that more than two-thirds of our study sample have been operating for over six years. Meanwhile, more than 30% have been active for three to five years, which suggests they have surpassed the critical first three years of doing business, a period generally known for being risky and difficult to navigate. This implies that the vast majority have survived long enough to be considered successful and mature.

A significant portion (92%) of respondents have had prior work experience before launching their businesses, indicating a strong professional background among the participants. However, the 8% with no formal work experience demonstrate that entrepreneurship in Algeria is accessible to all social groups and that starting a business can be based on prior knowledge or abilities.

A large percentage of our sample (almost 85%) have benefited from entrepreneurship training, whether before or after launching a business, while the remaining around 15% have not. This suggests that public institutions, where most of our respondents are registered, require mandatory training for entrepreneurs, and entrepreneurs prioritize developing their business-related knowledge, whether through training within or outside these institutions.

More than half of the respondents employ fewer than 10 employees, showing a large number of MSMEs in our sample. While the rest of the sample employs between 10 and 49 people, only a small percentage (8.9%) employs between 50 and 250 people. With 52% of the businesses being MSMEs and 48% being SMEs, it is clear that our sample is well-balanced in terms of business size.

The sample consists of SME owner-managers from various regions in Algeria. Results showed that most of these businesses are based in Algiers, followed by Blida, Oran, Tlemcen, and other areas with smaller proportions. This is mainly because the empirical study was conducted in Algiers, where we focused on public entrepreneurship support institutions that interact directly with entrepreneurs across the country, especially in Algiers, where they maintain closer relationships with entrepreneurs and those responsible for monitoring them.

The main activity sectors in our study sample were artisanal activities and services, with the remaining sectors comprising transformative industries, public construction, and a few agricultural activities. Therefore, this sample accurately reflects the overall population distribution, as most SMEs in Algeria operate in these two fields.

4.2.3 Hypotheses tests

This section presents the results of the hypothesis testing we have conducted to examine the previous suggested relationships.

4.2.3.1 Entrepreneurial competencies and small business success

Hypothesis H1 suggested a significant positive relationship between overall entrepreneurial competencies and small business success in Algeria. The results supported this hypothesis with a path coefficient of $\beta = 0.44$, t-value = 7.248, and $p < 0.001$.

This suggests that as overall entrepreneurial competencies increase, the likelihood of small business success also increases. Therefore, **H1 is accepted.**

This significant relationship aligns with the primary theoretical claim that entrepreneurial competencies are an important determinant of small business growth. Research on entrepreneurship has extended the competency approach originating from the resource-based view (RBV) to modeling a set of entrepreneurial competencies that contribute to business growth, notably in small to medium-sized enterprises where the entrepreneurs are the pioneers of their businesses (Man et al, 2002; Rauch & Frese, 2007; Ahmad et al, 2010). This positive relationship was verified in multiple countries with diverse business environments, including Malaysia and Australia (Ahmad, 2007; Ahmad et al., 2010), Cameroon and Senegal (Nkakleu, 2013), Ethiopia (Esubalew, 2020), and Malaysia (Fazal et al., 2022).

In this study, entrepreneurial competencies are modeled as a higher-order construct comprising four dimensions that reflect behaviors discussed in the literature. These dimensions are: Business-Doing, Personal, Socio-Cultural, and Context-Based competencies.

4.2.3.1.1 Business-Doing competencies and small business success

Among the components of entrepreneurial competencies, business-doing competencies comprise a group of widely recognized competencies directly related to executing the primary entrepreneurial tasks, including opportunity recognition, organization, strategic planning, and learning.

The first sub-hypothesis proposes that business-doing competencies have a positive influence on business success. The results support this hypothesis, with a path coefficient of $\beta = 0.371$, t-value = 4.605, and $p < 0.001$. Therefore, **H1.1 is accepted.**

These results indicate that Algerian small business entrepreneurs need to improve their ability to identify and capitalize on market opportunities, organize resources and motivate teams, plan strategically in an uncertain business environment, apply their knowledge related to their business activities, and be eager to learn more.

The positive influence of these indicators on small business growth and prosperity aligns with previous findings by Man (2002), Ahmad (2007), and Tittel & Terzidis (2020), who highlighted the importance of cognitive and behavioral competencies related to business functions such as: Opportunity, organization, strategy planning, technical, and learning.

Opportunity recognition and seizing are vital concepts in entrepreneurship, considered among the primary paradigms in the field (Shane and Venkataraman, 2000; Bygrave and Hofer, 1991). The ability of an entrepreneur to act on business opportunities is viewed as a skill that enhances overall entrepreneurial competence and promotes business growth (Man, 2002).

Organizational competence was also found to be essential for achieving performance in small businesses. The ability to organize resources (human, financial, material), including building and motivating teams, is a key skill for maintaining success and adapting to changing and turbulent environmental demands (Ahmad, 2007, 2010).

Given the pivotal role of the entrepreneur, **strategic** competency is considered essential to make long-term decisions. As confirmed by Man (2002) and Ahmad et al. (2010), strategic competency facilitates the anticipation of market and industrial challenges. In other words, it allows the entrepreneur to act proactively based on potential events and their impact on the business.

Past studies have confirmed that **learning** competency is essential for developing entrepreneurial competencies and contributes to business success. As stated by Man (2012), experiences, including past mistakes and failures, serve as sources of learning for entrepreneurs who convert them into valuable competencies. It is also regarded as a high-level capability that supports other competencies and enables entrepreneurs to apply what they have learned to perform other entrepreneurial behaviors (Winterton, 2002). This is the case in our study, where learning competency is part of higher-order practical competencies labeled business-doing competency.

Technical competency is one of the primary recognized entrepreneurial competencies in the literature, as identified by Chandel and Jansen (1992), alongside managerial and entrepreneurial roles. The importance of this competency is confirmed by major studies in entrepreneurship (Tittel & Terzidis, 2020).

In the Algerian context, our findings indicate that these competencies collectively form a key set of entrepreneurial competencies that enable entrepreneurs to successfully perform their tasks.

4.2.3.1.2 Personal competencies and small business success

The second category of entrepreneurial competencies comprises personal competencies, which encompass a set of personal competencies and behaviors essential for daily entrepreneurial tasks, including personality traits such as self-confidence and stress management, commitment, and conceptual thinking.

The second sub-hypothesis proposes that personal competencies have a positive influence on business success. The results support this hypothesis, with a path coefficient of $\beta = 0.348$, t-value = 4.673, and $p < 0.001$. Therefore, **H1.2 is accepted.**

These results suggest that Algerian small business entrepreneurs require strong personal qualities that enable them to develop practical and behavioral competencies, ultimately helping them achieve their entrepreneurial goals successfully.

In previous research, successful entrepreneurs have been found to display high levels of commitment, determination, and dedication in executing their tasks. As described by Chandler and Jansen (1992), commitment is the inner drive to achieve success. Conceptual & personal competencies, including the ability to assess risk and innovativeness, were also confirmed in the studies mentioned earlier.

The positive influence of these indicators on small business growth and prosperity aligns with previous research by Man (2002), Ahmad (2007), and Tittel & Terzidis (2020), who have highlighted the importance of interpersonal competencies in business and managing various situations that may arise during the entrepreneurial journey.

4.2.3.1.3 Socio-cultural competencies and small business success

The third construct of entrepreneurial competencies is social and cultural competencies, which encompass a set of behaviors relevant to everyday entrepreneurial relationships, ethical issues, societal concerns, and family inclusion.

This sub-hypothesis proposes that socio-cultural competencies have a positive influence on business success. The results support this hypothesis, with a path coefficient of $\beta = 0.260$, t-value = 3.792, and $p < 0.001$. Therefore, **H1.3 is accepted.**

These results suggest that Algerian small business entrepreneurs need to develop a variety of social competencies and ethical values to handle daily situations effectively. Since businesses function within social and economic environments, entrepreneurs must build strong relationships and manage situations that call for ethical behavior to gain the trust and loyalty of stakeholders, colleagues, employees, and professionals. In the case of MSMEs and SMEs, there is no specific ethical code that governs the behavior of the owner-manager. Therefore, entrepreneurs' ethical values mainly come from their family education and, in the Algerian context, from their religion, where Islamic values embody all the ethical behaviors outlined in various ethical standards, such as honesty, transparency, fairness, and good conflict management.

Additionally, entrepreneurs may involve their family members in decision-making, whether or not they are directly involved in the business. This is due to the increasing number of family businesses in Algeria and the importance of family in Algerian culture. Furthermore, social responsibility encourages entrepreneurs to consider their community and the environment, which can influence their decisions and promote stakeholder satisfaction.

The positive impact of these indicators on small business development aligns with previous findings by Man (2002), Ahmad (2007), and Tittel & Terzidis (2020), who emphasized the importance of societal patterns in managing various situations that may arise during the interaction of entrepreneurs with their social environment and how that affects their decision-making.

4.2.3.1.4 Context-Based competencies and small business success

The fourth construct of entrepreneurial competencies is context-based competencies, which encompass a set of abilities relevant to handling everyday entrepreneurial challenges, such as navigating bureaucracy, accessing finance, coping with the complexity of the legal framework, and competing in informal markets.

This sub-hypothesis suggests that context-based competencies have a positive impact on business success. The results support this, with a path coefficient of $\beta = 0.446$, t-value = 8.671, and $p < 0.001$. Therefore, **H1.4 is accepted.**

These results suggest that small business entrepreneurs need to develop a range of competencies that enable them to navigate the challenges of the business environment in which their businesses operate. And because the Algerian context is characterized by bureaucracy and complexity of legal frameworks (Bektache & Bouazzara, 2020), difficulties in obtaining financing (Salaouatchi, Colot et al., 2021), and market opacity (Benachenhou & Kara Mostefa, 2022), entrepreneurs need to develop higher abilities to cope with these hurdles and figure out ways to overcome environmental difficulties to continue pursuing their entrepreneurial goals.

4.2.3.2 Entrepreneurship antecedents and the development of entrepreneurial competencies

This section verifies the indirect relationship of antecedents of entrepreneurial competencies, such as educational level, prior work experience, and training, on the small business success.

4.2.3.2.1 Educational level as a moderator of small business success

The first secondary hypothesis examines how one of the entrepreneurship antecedents influences the success of small businesses. It suggests that entrepreneurs with higher education will have greater competencies.

To test this hypothesis, a one-way ANOVA was performed to determine if there are statistically significant differences in entrepreneurial competency scores across various educational levels. Results showed no significant variation in scores between the education groups, with $F = 0.156$, which is very low, and a much higher p-value of 0.990.

This suggests that educational levels do not have a significant impact on the development of entrepreneurial competencies in this sample. Therefore, **H2.1 is refuted.**

The findings of this study support prior studies (Shapero, 1980; Ahmad, 2007; Wani, 2019), that have revealed that educational attainment does not significantly affect entrepreneurship.

The minimal influence of educational level on the development of entrepreneurial competencies in our sample can be attributed to the disconnect between formal education and entrepreneurial needs. Typically, there is a gap between theory and practice in formal schooling. For example, university business courses often lack practical learning or real-world problem-solving. Additionally, entrepreneurship programs may not focus on developing essential competencies, such as recognizing opportunities, managing failure, and forming effective relationships. Furthermore, Algerian schools and universities usually offer curricula similar to those in other countries, which may not be suitable for entrepreneurship, a field that relies heavily on local context. As a result, what students learn in school may not match the actual demands of the local business environment and may not adequately prepare potential entrepreneurs for real-world challenges.

4.2.3.2.2 Previous work experience as a moderator of small business success

The second secondary hypothesis examines how prior jobs impact the success of small businesses. It indicates that entrepreneurs with prior work experience will possess greater entrepreneurial competencies.

To test this hypothesis, a t-test was performed to see if there are significant differences in entrepreneurial competency scores based on whether respondents have prior work experience. Results showed no significant difference in entrepreneurial competency between those with and without previous work experience, with a t-value of 0.262, which is very low, and a p-value of 0.792.

This suggests that prior work experience has no significant impact on the development of entrepreneurial competencies in this sample. Therefore, **H2.2 is refuted.**

The nature and specialization of the job can explain the limited impact of past work experience on developing entrepreneurial competencies. Typically, industrial roles (such as accounting or engineering) are focused positions that do not foster competencies in a specific business area. The entrepreneurial, managerial, and functional roles of entrepreneurs (Chandler and Jansen, 1992) may not align with the competencies acquired in previous jobs; therefore, entrepreneurs must develop new functional abilities to succeed in entrepreneurship.

Additionally, there is a significant difference in work experience between corporations and entrepreneurship. In the private or public sectors, the work environment may not encourage the same mindset needed for entrepreneurship, where risk management, innovation, and proactivity are essential.

4.2.3.2.3 Training as a moderator of small business success

The third secondary hypothesis examines how training may impact the development of entrepreneurial competencies and, in turn, indirectly influence business success.

A t-test was performed to see if there are significant differences in entrepreneurial competency scores based on prior training. The results showed a notable difference between respondents with and without previous work experience, with a t-value of 3.456—considered high—and a p-value of 0.001.

This suggests that training has a significant impact on the development of entrepreneurial competencies in this sample. Therefore, **H2.3 is accepted.**

These results support previous studies that examined the importance of training (Man, 2001; Ahmad, 2007; Abdul, 2019), which found that entrepreneurship training effectively develops entrepreneurial competencies, especially in practical and business-related areas such as market operations, competitiveness, and environmental needs. It also helps prepare business owners for the realities of entrepreneurship.

Conclusion of chapter

This chapter presents and discusses the empirical findings of our study on the relationship between entrepreneurial competencies and the success of Algerian MSMEs and SMEs. The statistical data analysis revealed that several sets of complementary entrepreneurial competencies have a positive influence on the small business success, supporting the main hypothesis. Surprisingly, some antecedents of entrepreneurship, such as education and prior work experience, did not show any moderating effect on small business success, indicating their effect may depend on individual experiences.

In addition, the findings highlighted the significant influence of context-based competencies, particularly handling diverse challenges related to the Algerian business environment. This suggests that entrepreneurial success in Algeria is linked to overcoming hurdles and not giving up in the face of the difficulties associated with repetitive procedures and other market-related challenges, which is a new variable in this focused area of entrepreneurship research.

The discussion presented the obtained results and compared them with existing literature and similar studies from the past years. We also contextualized the findings according to the Algerian business environment and culture. While previous findings support the main results, some were different. This suggests that small business success in Algeria is shaped by a combination of individual competencies and influenced by exogenous factors.

Further conclusions of this study will be presented in the next chapter, combining the theoretical and empirical findings. We also aim to suggest recommendations for entrepreneurs and support institutions. Additionally, we will address the limitations of this study and indicate directions for future research.

Chapter Five: Conclusion

5 Chapter Five: Conclusion

Introduction of chapter

Entrepreneurship is the process of turning a business idea into a practical reality. Once the business is established, the process is not over; the entrepreneur must continue to develop the business and lead it toward success, especially during the first critical three years after its launch, to sustain operations and prevent closure. The pursuit of entrepreneurial success is complex because entrepreneurship is a contextual phenomenon; therefore, a successful entrepreneur in one country may not necessarily be successful in another. This is why there is a lack of consensus on most topics in entrepreneurship. However, it is widely acknowledged that entrepreneurship is strongly related to economic development and growth, hence its importance.

The fundamental question of why some entrepreneurs succeed while others fail has always been a concern for scholars in the field. This question has been examined from several perspectives: the environment, the market, and the entrepreneurs themselves. While some believe that entrepreneurial success is linked to having a favorable environment, others focus on the abilities of entrepreneurs to guide their ventures toward prosperity and sustainability.

Historically, entrepreneurship has been associated with two primary schools of thought: economists and behavioral economists. The English economic school of the 18th and 19th centuries focused on understanding the role entrepreneurs play in the economic system. According to economists, an entrepreneur is linked to risk-taking (Cantillon, Say, Knight), innovation (Schumpeter), seeking opportunities (Kirzner), or managing limited resources (Casson). Behaviorists, on the other hand, based on the studies of McClelland (1961), continued to dominate the field until the 1980s within the movement of the “traits approach,” which views entrepreneurs as individuals with specific personality traits that define their ability to become successful entrepreneurs. However, the personality trait approach faced fierce criticism due to the controversial and confusing discussion of empirical results, which led researchers to look beyond traits and consider more behavioral dispositions, such as entrepreneurial competencies related to the “doing” of business (Boyatzis, McClelland, Bird). The competency approach addresses entrepreneurial success from a behavioral perspective, focusing on what the entrepreneurs do rather than who they are.

Given the prevalence of the competency approach in the entrepreneurship field, this study relied on the concept of entrepreneurial competencies and aimed to investigate **the extent**

to which entrepreneurial competencies affect the business success of Algerian MSMEs considering environmental constraints. Given the troubling high mortality rate of Algerian small businesses, this study sought to provide empirical evidence on the role of entrepreneurial competencies in helping entrepreneurs navigate various challenges and achieve business success.

Building on relevant and valid research, this study used the competencies outlined by Man (2001), covering opportunity, organizing, strategic, relationship, commitment, conceptual, personal, and learning. We also took into consideration technical competency (Chandler and Jansen, 1992) and other social domains, such as ethics, social responsibility, and familism (Ahmad, 2007). In order to cover the main competencies in the most valid and comprehensive models in the literature. Additionally, this study examines contextual competencies relevant to the Algerian business environment.

To achieve this, we used a quantitative approach with a structured questionnaire distributed to a sample of entrepreneurs from various economic sectors in Algeria. Based on an extensive literature review and data analysis, the study evaluated the previously mentioned entrepreneurial competencies, grouped into business, personal, socio-cultural, and context-based competencies, which reflect interpersonal, practical, and experiential abilities.

The data collection was conducted in the state of Algiers, and the respondents were successful entrepreneurs from different states in Algeria who governmental institutions, including ANGEM, NESDA, CNAC, and CACI, had contacted directly or via email. The sample consisted of various sectors, primarily artisanal and service-based, with most businesses being microenterprises (MEs) employing fewer than ten employees.

In this final chapter, we present the main findings of the study, summarize the theoretical and empirical contributions, provide suggestions for entrepreneurs and professionals involved in entrepreneurship, and offer guidance for future researchers.

5.1 Entrepreneurial competencies: Clarifications

In terms of competencies, there has always been a general idea, even among entrepreneurs and professionals, that they are solely related to prior studies and the degrees a person has obtained, which are often described as indicators of competence. In this study, entrepreneurial competencies are viewed as experiential and practice-based constructs, in line with the competency approach, which regards competencies as behaviors. They come from learning but not in schools, rather in context, in informal ways, where the entrepreneurs use their experiences as a reference to make future decisions. This perspective supports the idea of cultivating competencies through learning by doing, informative practice, and daily confrontation with business realities, rather than acquiring information solely from theoretical courses or training.

Considering that entrepreneurial competencies are interactional constructs, which means they differ from knowledge, skills, and abilities, they depend on the situation in which they are developed. Therefore, “skills” cannot, in any case, be a substitute for “competency” in the entrepreneurial domain. Professionals often refer to entrepreneurial characteristics as “skills” or “soft skills,” particularly in the Algerian context, where the French word “compétence” is often translated as “skills,” which is incorrect.

Competencies are broader than skills; in fact, skills are part of them. A skill refers to a specific ability to perform a task (know-how), such as the ability to deal with people of different ages and backgrounds. In contrast, competencies are more comprehensive, for example, the competency of organizing resources, where the entrepreneur combines multiple constructs, such as the skills of dealing with people, the attitude of being empathetic towards them, and the knowledge of managing finances and operating machines.

In this study, we investigated the entrepreneurial competencies of a comprehensive model comprising twelve entrepreneurial competencies, along with context-based competencies, using Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach was primarily chosen for its suitability in testing complex relationships between multiple latent constructs, such as competencies. In addition to testing the direct effect of the main model, this study employed ANOVA (Analysis of Variance) and t-tests to examine the moderating effects of educational level and prior work experience on the development of entrepreneurial competencies and the success of small businesses.

5.2 Key Findings

Results revealed that entrepreneurial competencies are essential for the success of SMEs and MSMEs in Algeria. Key competencies, including recognizing opportunities, organizing, strategic and conceptual thinking, commitment, and relationship-building, significantly contribute to business success. Additionally, context-specific competencies — including adapting to bureaucratic challenges, securing financing, and managing environmental constraints — also play a crucial role, highlighting the importance of entrepreneurs’ adaptability within Algeria’s business environment.

The study supported several findings from previous research and also provided new insights specific to the Algerian context. Unlike other studies that underestimate the importance of environmental factors, this research demonstrates that strong abilities, which enable entrepreneurs to overcome institutional and financial barriers, are crucial for their success in the Algerian economy.

Additionally, the results showed no statistical significance in the moderating effect of prior education and work experience on the development of entrepreneurial competencies, which was somewhat surprising, as education is generally believed to develop skills and mental abilities, thereby enhancing the components of competencies. In contrast, items related to learning competency were statistically significant and valid, particularly the dedication of entrepreneurs to learn and gain more knowledge when opportunities are present, as well as learning from experience. This suggests that learning competency is closely related to learning through hands-on experiences rather than theoretical courses. This demonstrates the importance of practicing the entrepreneurial career compared to learning about it.

5.3 Theoretical Contributions

This study adds to the growing body of scholarly knowledge on entrepreneurial competencies by validating and expanding existing competency frameworks within a developing country context. It enhances academic research by incorporating environmental challenges as a key component of entrepreneurial competence, providing a more nuanced understanding of entrepreneurship in Algeria.

This thesis presents a comprehensive review of the literature, encompassing the key concepts relevant to the study's variables. The main theoretical findings aimed to explain how entrepreneurial competencies develop within each paradigm. Specifically, it illustrates how the limitations of the personality trait approach contributed to the emergence of the competency approach. Additionally, we illustrate how performance can be evaluated by measuring the perceived achievement of goals and highlight the importance of non-financial variables in assessing the success of small businesses.

Diving into the literature allowed us to identify the right empirical approach, as we determined that the influence of entrepreneurial competencies on business success is only apparent in MSMEs and SMEs, where the entrepreneur serves as the gatekeeper and handles most, if not all, of the tasks. This guided us in establishing several criteria and selecting a purposive sample of entrepreneurs. The selected individuals had to be owner-managers of their independent businesses and actively operating in them. We also considered other criteria, such as having at least three years of activity and employing fewer than 250 people.

On a broader level, this study highlights the crucial role of an entrepreneur in driving business success. The role of an entrepreneur in a small business is vital and challenging to perform. The large and increasing number of entrepreneurial competencies is clear evidence that integrating skills, attitudes, behaviors, and abilities is a challenging task, which explains the difficulty of guiding a new business toward success. The rising rate of SME failures further indicates the complexities of practicing entrepreneurship from multiple angles. This research demonstrates that combining various complementary competencies to achieve personal goals and gain personal satisfaction is one such aspect.

5.4 Practical Contributions

Given that entrepreneurship and economic growth are closely tied, the development of entrepreneurship leads to increased economic growth; hence, entrepreneurs must develop their competencies to face the challenges and lead their businesses to success. The entrepreneurial competencies highlighted in this study can help educators and policymakers consider new dimensions to develop targeted training or academic guides for future entrepreneurs, as well as those facing difficulties.

Results highlight the importance of integrating various entrepreneurial competencies across key areas. Some competencies are general and adaptable to any business, while others, like technical competencies, are more project-specific and depend on the particular activity of the business. Therefore, training and support should be customized to the specific business activity or sector.

Entrepreneurial competencies can be developed through education, training, and practice. However, some competencies, especially those related to high-level traits like personal competencies, require long-term experience to achieve, unlike business-related competencies that can generally be learned more quickly.

In other words, the length and focus of education or training programs should be customized to the specific competencies needed for development. Additionally, deciding how to introduce entrepreneurship education is crucial because students or learners need to understand the challenges and particularities of the environment in which they might start their businesses.

For practitioners, these findings highlight the importance of targeted training programs that enhance entrepreneurial competencies, enabling entrepreneurs to operate effectively within the complex Algerian market. Public support agencies, such as ANGEM, CNAC, and NESDA, can use this information to develop competency-based support strategies.

5.5 Recommendations

1- Support for entrepreneurship in government institutions should be gender-sensitive, with a stronger emphasis on women, considering the low number of female entrepreneurs in Algeria overall. This assistance can include targeted training or easier access to funding, which would enable women to take action, feel more secure during their initial business phases, and recognize the opportunities and challenges ahead.

2- Educational programs in schools and universities should focus on preparing potential entrepreneurs for the challenges of the Algerian business environment. Educational institutions can collaborate with government agencies to streamline administrative procedures and provide students with effective guidance on securing financing. The legal framework related to doing business should also be covered in school to provide a comprehensive understanding of how business operates in the Algerian context.

3- Training in various entrepreneurial settings, such as universities, institutions, and incubators, should incorporate a learning-by-doing approach through simulations, case studies, or collaboration with successful entrepreneurs who can offer valuable lessons based on their experiences.

4- The distribution of business sectors in Algeria necessitates a shift in public policies to support sectoral diversification by creating a favorable environment for investment in key sectors, such as agriculture and industry. This can be achieved by enhancing access to financing and training opportunities, thereby better balancing economic activity and boosting the overall profitability of entrepreneurial projects.

5- Microenterprises need to expand at some point; entrepreneurs should consider innovation and discovering new marketing methods to improve their sales rates. Generally, people tend to stay within their comfort zones, particularly after facing the risk of failure in the early years of their activity. Entrepreneurs who prioritize stability in business size are not always immune to competitors; instead, they must devise ways to develop and expand in the market to enhance their competitiveness.

6- Policymakers are encouraged to create environments that reduce bureaucracy and improve access to financing, thus providing external support conditions that complement entrepreneurs' competencies.

7- The legal framework can significantly reduce bureaucracy if administrators and coordinators properly respect it. Entrepreneurs highly value regulations and rely on them to complete their daily tasks. Therefore, legislators are strongly encouraged to review and clarify legal texts related to specific situations entrepreneurs may encounter, while also continuing to thoroughly protect their rights.

8- Algerian entrepreneurs often have a strong connection to ethical values influenced by Islamic beliefs; these principles can also prevent them from taking advantage of bank loans that involve usury, or what is commonly called interest, which is considered forbidden in Islam. Therefore, policymakers should consider developing Islamic finance in banks that provide interest-free loans. In line with the efforts of the national banking system, that suggest methods compatible with these values and more encouraging to entrepreneurship. Researchers are also encouraged to explore effective and practical methods to advance the concept of Islamic banking, as it is essential in the Algerian business environment.

9- This study highlighted the importance of socio-cultural competencies, which include building healthy relationships with stakeholders and considering the community's interests. Successful entrepreneurs must recognize the value of establishing a professional network, acting in the best interests of business stakeholders, and avoiding isolation.

5.6 Limitations

- Self-reported data on the two main variables — entrepreneurial competencies and business success — may introduce bias. Human nature tends to make people proud of their personal achievements and their ability to perform well, including possessing the necessary skills, knowledge, and attitudes.
- The cross-sectional design may have limited the ability to draw causal conclusions.
- The dominance of micro enterprises (MEs) may introduce some bias because very small business owners tend to be more satisfied with their small size and find it easier to manage their firms compared to owners of larger firms, due to fewer competitors and lower costs.

- The small sample size, although sufficient for this purpose, could be improved with a larger sample to increase reliability. Therefore, the results cannot be generalized to all Algerian entrepreneurs because of the large number of MSMEs and private businesses overall.
- The nature of latent variables, such as competencies and perceived business success, calls for further complementary explanation through qualitative methods

5.7 Recommendations for Future Research

Future research should consider employing qualitative methods, such as in-depth interviews or case studies, to gain a deeper understanding of how entrepreneurial competencies are developed and utilized. It would also be interesting to explore how factors such as gender, computing competencies, and sector-specific competencies influence entrepreneurial success. Moreover, investigating the effects of public policies and support initiatives on cultivating entrepreneurial competencies offers a promising direction for future studies.

Topics to explore:

- Developing a competency guide adapted for entrepreneurs of micro and small to medium-sized enterprises (MSMEs).
- Entrepreneurship training in the development of entrepreneurial competencies: longitudinal study.
- Comparative study on entrepreneurial competencies between Algerian urban and rural regions.
- Familism competencies in the success of family businesses: case of Algerian SMEs.
- Effective education in developing entrepreneurial competencies among university students.

Conclusion of chapter

In summary, this study demonstrates that entrepreneurial competencies are crucial for the success of MSMEs in Algeria. Entrepreneurs' ability to combine business insight with resilience and adaptability in the face of environmental challenges significantly improves their chances of success. By addressing the competency gaps and environmental barriers faced by Algerian entrepreneurs, stakeholders can promote a more vibrant and sustainable entrepreneurial ecosystem in Algeria.

References

References

Abdul, R. O. (2019). Effect of entrepreneurial competencies on the survival of small and medium enterprises in Kenya. *PhD Thesis*. Kenya.

Aggoun, S., & Daddi-Addoun, N. (2020). Spécificité et utilité de la gouvernance des entreprises familiales: Cas du code algérien de gouvernance d'entreprise. *Revue Réformes Economiques et Intégration en Economie Mondiale*. Récupéré sur https://www.asjp.cerist.dz/en/article/128821.

Ahmad Hazlina, N., Ramyah, T., Wilson, C., & Kummerow, L. (2010). Is entrepreneurial competency and business success relationship contingent upon business environment?: A study of Malaysian SMEs. *International Journal of Entrepreneurial Behavior & Research*, pp. 182-203. doi:10.1108/13552551011042780

Ahmad, N. H. (2007). A Cross Cultural Study of Entrepreneurial Competencies and Entrepreneurial Success in SMEs in Australia and Malaysia. *University of Adelaide*.

Ahmed, A., Khuwaja, F. M., Brohi, N. A., & Othman, I. (2018). Organizational Factors and Organizational Performance: A Resource-Based View and Social Exchange Theory Viewpoint. *International Journal of Academic Research in Business and Social Sciences, 8*(3), pp. 579-599.

Aidara, S., Mamun, A., Nasir, N. A., Mohiudin, M., Nawi, N. C., & Zainol, N. R. (2021). Competitive Advantages of the Relationship between Entrepreneurial Competencies and Economic Sustainability Performance. *Sustainability, 13*(2), p. 864. doi:10.3390/su13020864

Ajekwe, C. (2016). Effect of Culture on Entrepreneurship in Nigeria. *International Journal of Business and Management Invention, 6*(2), pp. 1-6.

Al-Ababneh, M. M. (2020). Linking Ontology, Epistemology And Research Methodology. *Science & Philosophy*. doi:10.23756/sp.v8i1.500

Aldrich, H., & Ruef, M. (2006). Organizations Evolving. doi:10.4135/9781446212509

Antoncic, B., Bratkovic Kregar, T., Singh, G., & Denoble, A. F. (2015). The Big Five Personality–Entrepreneurship Relationship: Evidence from Slovenia. *Journal of Small Business Management, 53*(3), pp. 819-841. doi:10.1111/jsbm.12089

Antonic, B., Bratkovic Kregar, T., Singh, G., & Denoble, A. F. (2015, 07 01). The Big Five Personality–Entrepreneurship Relationship: Evidence from Slovenia. *Journal of Small Business Management, 53*(3), pp. 819-841. doi:10.1111/jsbm.12089

Ardichvili, A., & Cardozo, R. N. (2000). A model of the entrepreneurial opportunity recognition process. *Journal of Enterprising Culture (JEC), 8*(2), pp. 103-119. Récupéré sur https://EconPapers.repec.org/RePEc:wsi:jecxxx:v:08:y:2000:i:02:n:s0218495800000073

Arshad, N. W. (2016). Entrepreneurial Competencies and Business Success: A Study of Entrepreneurs in Jammu and Kashmir.

Asad, M., & Adedoyin, F. (2011). Porter Five Forces vs Resource Based View - A Comparison. *SSRN Electronic Journal.* doi:10.2139

Ayadi, R., & De Groen, W. P. (2014). *Micro-, small- and medium-sized enterprises with high-growth potential in the Southern Mediterranean: identifying obstacles and policy responses.* Brussels: Centre for European Policy Studies.

Ayadi, R., & De Groen, W. P. (2014). Paving the Way for Micro-, Small- and Medium-Sized Enterprises in the Southern Mediterranean. *CEPS Policy Briefs*(314).

Barazandeh, M., Parvizian, K., Alizadeh, M., & Khosravi, S. (2015). Investigating the effect of entrepreneurial competencies on business performance among early stage entrepreneurs Global Entrepreneurship Monitor (GEM 2010 survey data). *Journal of Global Entrepreneurship Research, 5*(1), p. 18. doi:10.1186/s40497-015-0037-4

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 17*(1), pp. 99-120. Récupéré sur https://doi.org/10.1177/014920639101700108

Barney, J. (1997). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 1*, pp. 99-120.

Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of applied psychology, 89*(4).

Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of management journal, 44*(2), pp. 292-303.

Baum, J., Frese, M., & Baron, R. (2007). *The Psychology of Entrepreneurship, Lawrence, Earlbaum Associates Publishers,.* London: Lawrence, Earlbaum Associates Publisher.

Bektache, F., & Bouazzara, A. (2020). Analyzing the development of indicators of environment doing business in Algeria. *Journal of Strategy and Development, مجلة الاستراتيجية والتنمية*, p. 319. doi:10.34276/1822-010-005-016

Bell, E. (2008). *Theories of Performance* (éd. 1e). Florida: SAGE Publications ondon.

Benachenhou, f., & Kara Mostefa, A. (2022). Environment for the creation of business incubators and startups in Algeria: opportunities and obstacles. *Genetics & Biodiversity Journal, 6*(3), pp. 90-99.

Berrached, W. B., & Tabet Aouel, W. (2022). État de l’art sur les obstacles et les freins à l’entrepreneuriat féminin.

Bird, B. (1995). Toward a theory of entrepreneurial competency. *Advances in entrepreneurship, firm emergence, and growth,, 2*, pp. 51-72.

Blanchflower, D. G., & Oswald, A. J. (2019). The fall in the U.S. natural rate and the rise of productivity puzzle. *The American Economic Review, 109*(4), pp. 1201-1249.

Bouazza, A. B. (2015). Small and medium enterprises as an effective sector for economic development and employment creation in Algeria. *International Journal of Economics, Commerce and Management*.

Bouazza, B. A., Ardjouman, D., & Abada, O. (2015). Establishing the Factors Affecting the Growth of Small and Medium-sized Enterprises in Algeria. *American International Journal of Social Science, 4*(2).

Boughatas-Zrig, Y. (2011). Les compétences de l'entrepreneurs: Démarches d'évaluation et facteurs de dévloppement. *Thèse de doctorat*. France: Université de Nancy 2.

Boumezbeur, L., & Daddi Addoun, N. (2024). The competency approach in entrepreneurship: Conceptual framework. *دراسات اقتصادية, 11*(1), 363-381. Récupéré sur https://asjp.cerist.dz/en/article/246415

Boyatzis, R. E. (1982). The competent manager, a model for effective performance, , p21. /340. *Jhon Wiley & sons, University of California*.

Brandstätter, H. (1997). Becoming an entrepreneur: A question of personality structure? . *Journal of Economic Psychology, 18*(2-3), pp. 157–177. Récupéré sur https://doi.org/10.1016/S0167-4870(97)00003-2

Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses,. *Personality and Individual Differences,, 51*(3), pp. 222-230. Récupéré sur https://doi.org/10.1016/j.paid.2010.07.007

Bressy, G., & Konkuyt, C. (2000). *Economie d'entreprise* (éd. 5). Paris: Eyrolles.

Brockhaus, R. H. (1980). Psychological and Environmental Factors Which Distinguish the Successful from the Unsuccessful Entrepreneur: A Longitudinal Study. *Academy of Management Proceedings*, pp. 368–372. doi:10.5465/ambpp.1980.497794310.5465/ambp

Bruyat, C. (1993). CRÉATION D'ENTREPRISE : CONTRIBUTIONS ÉPISTÉMOLOGIQUES ET MODÈLISATION. *Gestion et management*.

Bygrave, W. D., & Hofer, C. W. (1992). Theorizing about Entrepreneurship. *Entrepreneurship Theory and Practice*, pp. 13-22. Récupéré sur https://doi.org/10.1177/104225879201600203

Calza, F., Cannavale, C., & Zohoorian Nadali, I. (2020). How do cultural values influence entrepreneurial behavior of nations? A behavioral reasoning approach. *International Business Review*, p. 101725. doi:10.1016/j.ibusrev.2020.101725

Caner, S. (2013). The Role of Small and Medium Size Enterprises in Economic Development. *Program of support to SMEs: Results of an Experience to be shown.* Moscow: HSE Conference.

Carricano, M., & Poujol, F. (2009). *Analyse dedonnées avec SPSS, 2009.* Edition Person.

Castillo-Palacio, M., Batista-Canino, R. M., & Zúñiga Collazos, A. (2017). The relationship between culture and entrepreneurship: from cultural dimensions of GLOBE project. *Espacios, 38*(34).

Chandler, G. N., & Jansen, E. (1992). The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, pp. 223-236. doi:10.1016/0883-9026(92)90028-P

Chelil, A., & Ayad, S. M. (2009). Pme En Algérie Réalités Et Perspectives. *Revue d'Economie Et De Management, 8*(2), pp. 153-165.

Chiquier, M., & Bertolini, L. (2021). *World Bank Blogs*. Récupéré sur blogs.worldbank.org: https://blogs.worldbank.org/en/arabvoices/reforming-investment-climate-help-algerian-businesses-thrive

Chouhan, V. S., & Srivastava, S. (2014). Understanding Competencies and Competency Modeling — A Literature Survey. *IOSR Journal of Business and Management, 16*(1), pp. 14-22. doi:10.9790/487X-16111422

Chouhan, V. S., & Srivastava, S. (2014). Understanding Competencies and Competency Modeling — A Literature Survey. *IOSR Journal of Business and Management, 16*(1), pp. 14-22. doi:10.9790/487X-16111422

Ciavarella, M. A., Buchholtz, A. K., Gatewood, R. D., & Stokes, G. S. (2004). The Big Five and venture survival: Is there a linkage? *Journal of Business Venturing*, pp. 465-483. doi:10.1016/j.jbusvent.2003.03.001

Covin, J., & Slevin, D. (1991). “A conceptual model of entrepreneurship as firm behaviour”. *Entrepreneurship Theory and Practice, 16*(1), pp. 7-25.

Croitoru, A. (2012). The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle, New Brunswick (U.S.A) and London (U.K.): Transaction Publishers. *Journal of comparative research in anthropology and sociology*, pp. 137-148.

Daddi Addoun, N. (2007). Gestion et relation d’agence dans l’entreprise publique algérienne. *Revue Des Reformes Economique et Intégration Dans l’économie Mondiale*, 45-71.

Danjou, I. (2000). L’entrepreneuriat : un champ fertile à la recherche de son unité. *Cahier de recherche du CDEE, Centre de Développement des Entreprises et de l’Entrepreneuriat*.

Dawn, D.-J. (2007). Making connections: The relationship between epistemology and research methods. *The Australian Community Psychologist.*, pp. 19-27.

De Bernis, G. (1971). Industrializing branches in Algeria: steel industry, mechanics, electromechanics, chemistry and energy. « Les industries industrialisantes et les options algériennes ». *Revue du tiers monde, 12*(47).

De Kok, J., Deijl, C., & Veldhuis-Van Essen, C. (2013). *Is Small Still Beautiful? Literature Review of Recent Empirical Evidence on the Contribution of SMEs to Employment Creation.* Eschborn, Germany: International Labour Organization and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH.

Dess, G. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, pp. 265–273. doi:10.1002/smj.4250050306

Dierickx, I., & Cool, K. (1989, December). Asset Stock Accumulation and Sustainability of Competitive Advantage. *Management Science, 35*(12), pp. 1504-1511.

Dobryagina, N. (2021). Behavioural Economics Contribution to the Entrepreneurship Theory and its Application in Entrepreneurship Policies. *Administrative Consulting*(1), pp. 50-60. doi:10.22394/1726-1139-2021-1-50-60

Driessen, M., & Zwart, P. (2006). The Entrepreneur Scan Measuring Characteristics and Traits of Entrepreneurs.

Dris, Y., Benmouiza, A., & Bennour, R. (2022). SME In Algeria And business environment challenges. *Economic studies Journal, 16*(1), pp. 699-717.

Drucker, P. (1985). *Innovation and Entrepreneurship: Practices and Principles.* New York: Harper & Row.

Dyvik, E. (2024). *statista*. Récupéré sur statista.com: https://www.statista.com/statistics/1261592/global-smes/

Endris, E., & Kassegn, A. (2022). The role of micro, small and medium enterprises (MSMEs) to the sustainable development of sub-Saharan Africa and its challenges: a systematic review of evidence from Ethiopia. *Journal of Innovation and Entrepreneurship, 11*(1), p. 20. doi:10.1186/s13731-022-00221-8

Esubalew, A. a. (2020). The mediating effect of entrepreneurs' competency on the relationship between Bank finance and performance of micro, small, and medium enterprises (MSMEs). *European Research on Management and Business Economics, 26*(2), pp. 87-95. doi:10.1016/j.iedeen.2020.03.001

Ezinwo, I. O., Gogo, I. D., & Oriji, O. A. (2022). Cultural Values and Entrepreneurship Development. *International Journal of Research and Innovation in Social Science (IJRISS), VI*(XI).

Fahy, J., & Smithee, A. (1999). Strategic Marketing and the Resource-Based View of the Firm. *Academy of Marketing Science Review, 1999*(10). Récupéré sur http://www.amsreview.org/articles/fahy10-1999.

Fang, K., Zhou, Y., Wang, S., Ye, R., & Guo, S. (2018). Assessing national renewable energy competitiveness of the G20: A revised Porter's Diamond Model. *Renewable and Sustainable Energy Reviews*, pp. 719–731. doi:10.1016/j.rser.2018.05.011

Farhangmehr, M., Harry Matlay, P., Gonçalves, P., & Sarmento, M. (2016). Predicting entrepreneurial motivation among university students: The role of entrepreneurship education. *Education + Training, 58*(7-8), pp. 861-881. doi:10.1108/ET-01-2016-0019

Faye, I., & Goldblum, D. (2022). *World Bank Blogs*. Récupéré sur blogs.worldbank.org: https://blogs.worldbank.org/en/psd/quest-better-understand-relationship-between-sme-finance-and-job-creation-insights-new-report

Fayolle, A. (2002). Du champ de l'entrepreneuriat à l'étude du processus entrepreneurial : quelques idées et pistes de recherche. *6° Congrès international francophone sur la PME*, pp. 1-22.

Fayolle, A. (2007). Entrepreneurship and New Value Creation: The Dynamic of the Entrepreneurial Process. *Cambridge University Press*. Récupéré sur http://dx.doi.org/10.1017/CBO9780511488689

Fazal, S. A., Al Mamun, A., Ahmad, G. B., & Al-Shami, S. S. (2022). Entrepreneurial Competencies and Microenterprises Sustainability. *Vision: The Journal of Business Perspective, 26*(1), pp. 39-47. doi:10.1177/0972262920983997

Fellag, M., Kherchi, I., & Heddou, S. A. (2015). أبعاد هوفستد الثقافية في واقع المؤسسة الاقتصادية الجزائرية. *دراسات في التنمية والمجتمع, 2*(2), pp. 312-330.

Filion, L. J. (1997). Le champ de l'entrepreneuriat : historique, évolution, tendances. *Revue internationale P.M.E., 10*(2), pp. 129-172. doi:10.7202/1009026ar

Frese, M., & Rauch, A. (2007). Born to be an entrepreneur? Revisiting the personality approach to entrepreneurship. *The psychology of entrepreneurship*, pp. 41–65.

Frese, M., & Rauch, A. (2008). A personality approach to entrepreneurship. (S. Cartwright, & C. L. Cooper, Éds.) *Innovation & Organisation*, pp. 121-136.

Gartner, W. (1990). What are we talking about when we talk about entrepreneurship? . *The Journal of Business Venturing, 5*, pp. 15-25. doi:10.1016/0883-9026(90)90023-M.

Gartner, W. B. (1989, July). "Who Is an Entrepreneur?" Is the Wrong Question. *Entrepreneurship Theory and Practice,, 13*(4), pp. 47-68. doi:10.1177/104225878901300406

Gartner, W. B. (1993). Words lead to deeds: Towards an organizational emergence vocabulary. *Journal of Business Venturing, 8*(3), pp. 231-239. Récupéré sur https://doi.org/10.1016/0883-9026(93)90029-5

Gartner, W. B., Bird, B. J., & Starr, J. A. (1992). Acting as If: Differentiating Entrepreneurial from Organizational Behavior. *Entrepreneurship Theory and Practice, 16*(3), pp. 13-32. Récupéré sur https://doi.org/10.1177/104225879201600302

Ghiat, B. (2015). *Culture de travail et entrepreneuriat en Algérie.* Editions Publibook.

GLOBE 2020. (s.d.). Récupéré sur globeproject.com: https://globeproject.com/study

Gomes de Carvalho, G. D., De Resende, L. M., Pontes, J., Gomes de Carvalho, H., & Mendes Betim, L. (2021, 10). Innovation and Management in MSMEs: A Literature Review of Highly Cited Papers. *Sage Open, 11*(4), pp. 1–22. doi:10.1177/21582440211052555

Grant, R. M. (1991). The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review, 33*(3), pp. 114-135. Récupéré sur https://doi.org/10.2307/41166664

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. Dans N. K. Lincoln, *Handbook of qualitative research* (pp. 105–117). Sage Publications, Inc.

Guechtouli, W., & Guechtouli, M. (2014). L'entrepreneuriat en Algérie : quels enjeux pour quelles réalités ? *IPAG Business School*. Paris, France: Working Paper.

Hair, J. F., Hult, T. T., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM).* USA: SAGE Publication.

Hair, J. H., Hult, J. G., Ringle, C., & Sarstedt, M. (2021). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* SAGE Publications, Inc.

Hall, R. (1992). The Strategic Analysis of Intangible Resources. . *Strategic Management Journal*, pp. 135-144.

Hallyyew, B. (2019). Entrepreneurial competencies as indicatiors of business success: Case from Turkey. *The Institute of social sciences*, p. 76.

Hamel, J. (1992). Introduction: New Theoretical and Methodological Issues. *Current Sociology*, pp. 1-7. Récupéré sur https://doi.org/10.1177/001139292040001002

Herron, L., & Robinson, R. B. (1993). A structural model of the effects of entrepreneurial characteristics on venture performance. *Journal of Business Venturing,, 8*(3), pp. 281-294. Récupéré sur https://doi.org/10.1016/0883-9026(93)90032-Z.

Hoge Bavel, T. (2019). Entrepreneurial competencies: the influence of entrepreneurial competencies on the degree of social entrepreneurship among entrepreneurs in the Netherlands.

Ibidunni, A. S., Ogundana, O. M., & Okonkwo, A. (2021). Entrepreneurial Competencies and the Performance of Informal SMEs: The Contingent Role of Business Environment. pp. 468-490. doi:10.1080/15228916.2021.1874784

Ismail, T. (2012). The development of entrepreneurial social competence and business network to improve competitive advantage and business performance of small medium sized enterprises: a case study of batik industry in Indonesia. . *Procedia-Social and Behavioral Sciences*, pp. 46-51.

Janssen, F. (2016). *Entreprendre : Une Introduction à L'entrepreneuriat.* De Boeck Supérieur. Récupéré sur https://doi.org/10.3917/dbu.janss.2016.01.

Jatmiko, b., Udin, U., Raharti, R., Laras, T., & Ardhi, K. F. (2021, mars 30). Strategies for MSMEs to Achieve Sustainable Competitive Advantage: The SWOT Analysis Method. *The Journal of Asian Finance, Economics and Business, 8*(3), pp. 505-515. doi:10.13106/JAFEB.2021.VOL8.NO3.0505

Jennings, P., & Beaver, G. (1997). The Performance and Competitive Advantage of Small Firms: A Management Perspective. 63–75. Récupéré sur https://doi.org/10.1177/0266242697152004

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics.*, pp. 305–360.

John, O. P. (1990). The "Big Five" factor taxonomy: Dimensions of personality in the natural language and in questionnaires. *Handbook of Personality: Theory and Research*, pp. 66-100.

Julien, P.-A., & Marchesnay, M. (1988). *La petite entreprise.*

Julien, P.-A., & Marchesnay, M. (1996). *L'entrepreneuriat* (éd. 2e).

Kerzabi, A., & Lachachi, W. (2009). L'entreprise familiale en Algérie: de l'indépendance au conservatisme. *11ème Journées Scientifiques du Réseau Entrepreneuriat INRPME, AUF, AIREPME*, 28-29. Trois-Rivières, Canada.

Keskġn, H., Senturk, C., Sungur, O., & Kiris, H. M. (2010). The Importance of SMEs in Developing Economies. *2nd International Symposium on Sustainable Development*.

Kirkman, B. L., Lowe, K. B., & Gibson, C. B. (2006). A quarter century of Culture's Consequences: A review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies, 37*, pp. 285-320.

Klemp, G. (1980). The Assessment of Occupational Competence. Final Report: I. Introduction and Overview. .

Korl, Y. Y., Mahoney, J. T., & Siemsen, E. (2016). Penrose's The Theory of the Growth of the Firm: An Exemplar of Engaged Scholarship. *Production and Operations Management*.

Krauss, S. (2005). Research Paradigms and Meaning Making: A Primer. 10. 758-770. *The Qualitative Report*. doi:10.46743/2160-3715/2005.1831

Kyndt, E., & Baert, H. (2015). Entrepreneurial competencies: Assessment and predictive value for entrepreneurship. *Journal of Vocational Behavior*. doi:10.1016/j.jvb.2015.07.002

Laviolette, E. M., & Loue, C. (2006). Les compétences entrepreneuriales : définition et construction d'un référentiel. *Congrès International Francophone en Entrepreneuriat et PME*, pp. 1-15.

Lee, H., Lee, J., Shim, K., & Lee, H. (2016). ENTREPRENEURIAL CHARACTERISTICS: A SYSTEMATIC LITERATURE REVIEW 81. *PACIS 2016 Proceedings*. Récupéré sur https://aisel.aisnet.org/pacis2016/81

Leibenstein, H. (1968). Entrepreneurship and Development. *American Economic Review, 58*(2), pp. 72-83.

Lelissa, T. B., & Kuhil, A. M. (2018). The Structure Conduct Performance Model and Competing Hypothesis- A Review of Literature. *Journal of Financial Management and Analysis*.

Leutner, F., Gorkan, A., Reece, A., & Tomas, C.-P. (2014). The relationship between the entrepreneurial personality and the big five personality traits. *personality and individual differences*, pp. 58-63. doi:10.1016/j.paid.2014.01.042

Li, X. (2009). Entrepreneurial Competencies as an Entrepreneurial Distinctive: An Examination of the Competency Approach in Defining Entrepreneurs. *Dissertations and Theses Collection (Open Access)*.

Liao, S.-H., & Wu, C.-C. (2009). The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance. *International Journal of Business and Management, 4*(4). doi:10.5539/ijbm.v4n4p64

Llewellyn, D. J., & Wilson, K. M. (2003). The controversial role of personality traits in entrepreneurial psychology. *Education + Training*, pp. 341-345. doi:10.1108/00400910310495996

Lockett, A., Thompson, S., & Morgenstern, U. (2009). The development of the resource-based view of the firm: A critical appraisal. *International Journal of Management Reviews, 11*(1), pp. 9-28. doi:10.1111/j.1468-2370.2008.00252.x

Lorrain, J., Belley, A., & Dussault, L. (1998). Les compétences des entrepreneurs : Élaboration et validation d'un questionnaire (QCE). *4e congrès international francophone sur la PME*.

Man, T. W., Lau, T., & Chan, K. F. (2002). The Competitiveness of Small and Medium Enterprises: A Conceptualization with Focus on Entrepreneurial Competencies. *Journal of Business Venturing,*, pp. 123-142. Récupéré sur https://doi.org/10.1016/S0883-9026(00)00058-6

Man, T. W., Lau, T., & Snape, E. (2008). Entrepreneurial Competencies and the Performance of Small and Medium Enterprises: An Investigation through a Framework of Competitiveness. *Journal of Small Business & Entrepreneurship*, pp. 257–276. Récupéré sur https://doi.org/10.1080/08276331.2008.10593424

Man, T., & Lau, T. (2005). The context of entrepreneurship in Hong Kong: An investigation through the patterns of entrepreneurial competencies in contrasting industrial environments. *Journal of Small Business and Enterprise Development, 12*(4), pp. 464-481. Récupéré sur https://doi.org/10.1108/14626000510628162

Man, W. Y. (2001). Entrepreneurial competencies and the performance of small and medium enterprises in the Hong Kong services sector. *The Hong Kong Polytechnic University*.

Man, W., Chan, K., & Lau, T. (2012). *Entrepreneurial and managerial competencies: small business owner/managers in Hong Kong.* Routledge.

Markman, G. D., & Baron, R. A. (2003). Person–entrepreneurship fit: why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, pp. 281-301. doi:10.1016/S1053-4822(03)00018-4

McGivern, M. H., & Tvorik, S. J. (1997). Detminants of organizational performance. *Management Decision, 25*(6), pp. 417-435. Récupéré sur https//dx.doi.org/10.1108/00251749710173797

Mechalli, B., & Mahrez, S. (2020). The role of Small & Medium Enterprises (SMEs) in economic. *Strategy and Development Review, 10*(1), pp. 156-170.

Mercure, D., Harricane, B., Seghir, S., & Steenhaut, A. (1997). *Culture et gestion en Algérie.* Paris: Harmattan.

Merzouk, F. (2009). Pme Et Compétitivité En Algérie. *Revue d'économie et de management*, pp. 279-296.

Ministry of Industry, a. P. (2023). *Statistical Information Bulletin on SMEs.* General Directorate of Strategic Monitoring, Studies, and Information Systems.

Ministry, I. (2023). Récupéré sur https://www.industrie.gov.dz/wp-content/uploads/documents/bis/BIS-2022-03-40.pdf.pdf#page=7.12

Mitchelmore, S., & Rowley, J. (2010). Entrepreneurial Competencies: A Literature Review and Development Agenda. *International Journal of Entrepreneurial Behavior & Research, 16*, pp. 92-111. Récupéré sur https://doi.org/10.1108/13552551011026995

Mokhtar, K., & Baya, A. (2012). The transition to a market economy: the experience of Algeria. *China-USA Business Review, 11*(3), pp. 298-315.

Morris, M., Webb, J., Fu, J., & Singhal, S. (2013). A Competency-Based Perspective on Entrepreneurship Education: Conceptual and Empirical Insights. *Journal of Small Business Management*, pp. 352-369.

Mosbah, A., & Debili, R. (2014). Development of Algerian SMEs in the age of globalization. *Journal of Business and Social Development*, pp. 37-48.

Murphy, G. B. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, pp. 15–23. doi:10.1016/0148-2963(95)00159-x

Muzychenko, O., & Saee, J. (2004). Cross cultural professional competence in higher education. *Journal of Management Systems, 16*(4), pp. 1-19.

Naudé, W. (2008). Entrepreneurship in economic development . *WIDER Research Paper*.

Ndzie Ndzie, A. (2019). Profils et compétences entrepreneuriales dans la réussite des PME en Afrique Centrale : Cas de Cameroun. *Revue internationale des sciences de gestion*.

Ng, H. S., & Kee, D. (2013). Effect of entrepreneurial competencies on firm performance under the influence of organizational culture. *Life Science Journal.*, pp. 2459-2466.

Nkakleu, R. (2013). COMPETENCES DES ENTREPRENEURS ET PERFORMANCE DES PME EN DEMARRAGE : LA STRUCTURE D'ACCOMPAGNEMENT A-T-ELLE UN IMPACT ? UNE COMPARAISON CAMEROUN- SENEGAL. *XXII Conférence Internationale de Management Stratégique*, p. 25.

Onifade, S. T., Aset, H., & Cevik, S. (2022). Modeling the Impacts of MSMEs' Contributions to GDP and their Constraints on Unemployment: The Case of African's Most Populous Country. *Studies in Business and Economics, 17*(1), pp. 154-170. doi:10.2478/sbe-2022-0011

Ontorael, R., Suhadak, & Mawardi, M. K. (2017). Analysis of the influence of external and internal environmental factors on business performance: A study on micro small and medium enterprises (MSMES) of food and beverage. *Russian Journal of Agricultural and Socio-Economic Sciences, 66*(6), pp. 47-56. doi:10.18551/rjoas.2017-06.05

Porter, M. (1980). Competitive Strategy. *The Free Press*.

Porter, M. (1990). *The competitive advantage of nations. .* New York: The Free Press. A Division of Macmillan Incorporation.

Pulka, B. M., Ramli, A., & Mohamad, A. (2021). Entrepreneurial competencies, entrepreneurial orientation, entrepreneurial network, government business support and SMEs performance. The moderating role of the external environment. *Journal of Small Business and Enterprise Development*, pp. 586-618. doi:10.1108/JSBED-12-2018-0390

Radio Algerienne. (s.d.). Récupéré sur radioalgerie.dz: https://radioalgerie.dz/news/fr/article/20201002/200181.html

Rauch, A., & Frese, M. (2007, December). Let's Put the Person Back into Entrepreneurship Research: A Meta-Analysis on the Relationship Between Business Owners' Personality Traits, Business Creation, and Success. *European Journal of Work and Organizational Psychology, 16*(4), pp. 353 - 385. doi:10.1080/13594320701595438

Rauch, A., M., F., Wang, Z. M., Unger, J., Lozada, M., Kupcha, V., & Spirina, T. (2013). National culture and cultural orientations of owners affecting the innovation–growth relationship in five countries. *Entrepreneurship and Regional Development,, 25*(9-10). doi:10.1080/08985626.2013.862972

Raynard, P., & Forstater, M. (2002). *Corporate Social Responsibility: Implications for Small and Medium Enterprises in Developing Countries.* Vienna: UNIDO.

Rice, R. C. (2000). Factors affecting the competitiveness of small and medium enterprises. Récupéré sur http://www.pegasus.or.id/Reports/19)%20Factors%20Affecting.pdf

Ronstadt, R. (1984). *Entrepreneurship.* Dover: Lord Publishing.

Rosman, M., Rosli, N., Razlan, N., & Mohd Shukry, A. (2022). Modelling Referencing Competency and Individual Performance. *International Journal of Information Science and Management*.

Rowe, C. (1995). Clarifying the use of competence and competency models inrecruitment, assessment and staff development. *Industrial and Commercial Training*, pp. 12-17. doi:10.1108/00197859510100257

Sajilan, S., & Tehseen, S. (2015). Cultural Orientations, Entrepreneurial Competencies and SMEs Business Success: The Contingent Roles of Environmental Turbulence and Network Competence. *Reviewofintegrative business & economics*.

Salaouatchi, H. S., Colot, O., Boudella, Y., Chekirine, M. A., Hamida, A., Habaina, M., & Khamadj, S. (2021). Barriers to the Growth of SMEs: Empirical Evidence from Algeria. *International Journal of Economics and Business Administration*, pp. 260-276. doi:10.35808/ijeba/702

Salgado, M. (2013). La performance : une dimension fondamentale pour l'évaluation des entreprises et des organisations. *Working Papers*. Récupéré sur https://hal.science/hal-00842219v1

Samuels, J. (1965). Size and the growth of firms. *The review of economic studies, 32*(2), pp. 105-112. Récupéré sur https://doi.org/10.2307/2296055

Saporta, B. (2003, 1 1). Préférences théoriques, choix méthodologiques et recherche française en Entrepreneuriat : un bilan provisoire des travaux entrepris depuis dix ans:. *Revue de l'Entrepreneuriat, 2*(1), pp. V-XVII. doi:10.3917/entre.021.0001

Schumpeter, J. (1999). *Théorie de l'évolution économique.* (Dalloz, Éd.) Paris: Bibliothèque Dalloz.

Service, A. P. (s.d.). Récupéré sur https://www.aps.dz/economie

Shane, S., & Venkataraman. (2000). The Promise of Entrepreneurship as a Field of Research. *The Academy of Management Review*(25), pp. 217–226. Récupéré sur https://doi.org/10.2307/259271

Sisira, K. N., EMS, E., GAKNJ, A., RPIR, P., JMSB, J., & PSK, R. (2020). A Review of Global Challenges and Survival Strategies of Small and Medium Enterprises (SMEs). *Economies, 8*(4), 1-24.

SMEX Algeria. (s.d.). Consulté le 2023, sur smexalgeria.dz: https://www.smexalgeria.dz/en/smes-in-algeria/

Spencer, L., & Spencer, S. (1993). Competence at Work: Models for Superior Performance. *John Wiley & Sons*, pp. 1-376.

Statista. (2022). *statista*. Récupéré sur https://fr.statista.com/statistiques/977174/nombre-pme-algerie-par-type/

Tausch, A. (2018). Africa on the Maps of Global Values: Comparative Analyses, Based on Recent World Values Survey Data. *SSRN Electronic Journal*. doi:10.2139/ssrn.3214715

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), pp. 509-533. Récupéré sur https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Tehseen, S., & Ramayah, T. (2015). Entrepreneurial Competencies and SMEs Business Success: The Contingent Role of External Integration. *Mediterranean Journal of Social Sciences,, 6*, pp. 50-61. Récupéré sur https://doi.org/10.5901/mjss.2015.v6n1p50

Terraneo, F., & Avvanzino, N. (2006). Le Concept de Compétence En Regard de L'évolution du Travail : Définitions et Perspectives. *Recherche en soins infirmiers, 87*(4), pp. 16-24. Récupéré sur https://doi.org/10.3917/rsi.087.0016.

Tittel, A., & Terzidis, O. (2020). Entrepreneurial competencies revised: developing a consolidated and categorized list of entrepreneurial competencies. *Entrepreneurship Education, 3*(1), pp. 1-35. doi:10.1007/s41959-019-00021-4

Torres, O. (1998). *PME: De nouvelles approaches* (éd. 1st). Paris: Economica.

Toutain, O., & Fayolle, A. (2008). Compétences entrepreneuriales et pratiques d'accompagnement : approche exploratoire et modélisation:. *Marché et organisations, 6*(1), pp. 31-72. doi:10.3917/maorg.006.0031

Velmuradova, M. (2004). *Épistémologies et Méthodologies de Recherche en Sciences de Gestion. Note de synthèse.* Université Toulon Var, Laboratoir ERMMES, Toulon. doi:10.13140/2.1.2429.2648

Verstraete, T. (2001). Entrepreneuriat : modélisation du phénomène. *Revue de l'Entrepreneuriat.* doi:1. 10.3917/entre.011.0005.

Verstraete, T., & Fayolle, A. (2005). Paradigmes et entrepreneuriat:. *Revue de l'Entrepreneuriat, 4*(1), pp. 33-52. doi:10.3917/entre.041.0033

Wall, T., Michie, J., Patterson, M., Wood, S., Sheehan, M., Clegg, C., . . . West, M. (2004). On the validity of subjective measures of company performance. . . *Personnel Psychology*.

Wang, C., & Ang, B. (2004). Determinants of Venture Performance in Singapore . *Journal of Small Business Management*, pp. 347 - 363.

Wang, J.-H., Chang, C.-C., Yao, S.-N., & Liang, C. (2016). The contribution of self-efficacy to the relationship between personality traits and entrepreneurial intention. *High Educ, 72*(2), pp. 209-224. doi:DOI 10.1007/s10734-015-9946-y

Wani, A. N. (2016). Entrepreneurial Competencies and business success: A study of entrepreneurs in Jammu and Kashmir. *PhD Thesis* . Kashmir.

Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). *Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration.* MIS quarterly.

Winterton, J. (2002). Entrepreneurship: Towards a Competence Framework for Developing SME Managers. *United States Association for Small Business and Entrepreneurship Conference Proceedings*, pp. 1-9.

Worthy, L., Lavigne, T., & Romero, F. (2022). *Culture and Psychology.* Maricopa Community Colleges.

Yahia-Berrouiguet, A. (2015). Algerian national culture and TQM. *Journal of Economics and Business Research, 21*(2), pp. 145-152.

Zhao, X., Li, H., & Rauch, A. (2012). Cross-Country Differences in Entrepreneurial Activity: The Role of Cultural Practice and National Wealth. *Frontiers of Business Research in China, 6*(4). doi:https://doi.org/10.3868/s070-001-012-0021-0

Appendices

Appendices

1. Research Instrument: the questionnaire

As part of our doctoral research study in the Higher School of Commerce, we invite you to participate in this anonymous survey by completing the questionnaire on entrepreneurial competencies and their impact on the success of Algerian MSMEs and SMEs.

• **Instructions:** "Please respond to each statement by selecting the option that best reflects your experience or opinion. All information provided will remain confidential."

1. Section One: Demographic Profile

a. Age:

☐ 20 or under

☐ 21-30

☐ 31-40

☐ 41-50

☐ 51-60

☐ 61 or above

b. Gender:

☐ Male

☐ Female

c. Educational Background:

☐ High School or less
☐ Baccalaureate
☐ License degree
☐ Masters
☐ Higher studies

d. Previous Work Experience:

☐ Yes
☐ No

e. Previous training

☐ Yes
☐ No

2. Section Two: Business Profile

- **Years in Operation**: How many years has your business been in operation?
  - Less than 3 years / 3-5 years / 6-10 years / More than 10 years
- **Number of Employees**: What is your business's total number of employees?
  - Less than 10 / 10-49 / 50-249 / 250 or more
- **Business Location:** Please specify the region in which your business operates. ………………………………………………………………………………………
- **Type of Business**: Please specify the sector in which your business operates.
  - ………………………………………………………………………………

Appendix 1: The questionnaire statements

	3. Section Three: Perceived business success	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
01	I am satisfied with the overall performance of my business.					

02	My business has grown significantly since its creation.					
03	I am satisfied with the income I receive from my business.					
04	My business has achieved most of the objectives I initially set.					
05	I am satisfied with the ability of my business to innovate.					
06	My business has a positive impact on the local community/society.					
07	My business has enough cash flow to meet its financial obligations on time.					
08	My business successfully launched new products or services in the previous year.					
09	My business receives very few customer complaints.					
10	My business uses technology to improve its efficiency and deliver better value to customers.					
11	My business adopts a culture of innovation and encourages employees to suggest ideas.					
	4. Section Four: Entrepreneurial Competencies					
	A. Business-Doing competencies	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
01	I am quick to act on new opportunities when they arise.					
02	I effectively organize resources (people, time, money) to achieve business goals.					

03	I develop and implement long-term strategies for my business.					
04	I apply my technical and business knowledge in my everyday business practices.					
05	I make sure I gain more knowledge to develop my business.					
06	I can restart after failure.					
07	I ensure that I attend training courses and workshops to continually develop my knowledge.					
	B. Personal Competencies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
01	My self-confidence positively influences my ability to succeed.					
02	I remain calm and handle stress well when running my business.					
03	I invest a lot of time and energy into making my business successful.					
04	I effectively use technology to improve operation management in my business					
05	I can identify and solve complex business problems.					
06	I can motivate my team to achieve common goals.					
07	I evaluate the potential risks that my business may face and take the necessary measure to limit them.					
	C. Socio-Cultural Competencies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

01	I maintain strong relationships with key stakeholders (customers, suppliers, and other businesses).					
02	My surrounding network contributes to my business growth.					
03	I adopt Islamic values in my business practices.					
04	I ensure my business creates job opportunities for the community.					
05	I make efforts to ensure staff welfare in my business.					
06	I involve family members in key business activities and decisions.					
07	I make sure to attend events and forums related to my field to expand my network.					
	D. Context-Based Competencies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
01	I am able to adapt to bureaucratic challenges and complex regulations.					
02	I am capable of securing the necessary financing for my business, despite challenges.					
03	I adapt my business practices to operate successfully within the existing legal framework.					
04	I know how to compete in markets where informal businesses operate.					
05	I can find innovative solutions to overcome resource constraints.					
06	I can manage limited resources efficiently to achieve the maximum possible benefit.					

Appendix 2: Summary of the questionnaire

Summary

This questionnaire is part of a doctoral research study conducted at the Higher School of Commerce entitled "Entrepreneurial Competencies in Business Success: The Case of Algerian Micro, Small and Medium Enterprises (MSMEs)." The main objective of this study is to understand how specific entrepreneurial competencies influence the success and sustainability of SMEs as well as very small enterprises in Algeria.

Purpose of the Questionnaire

This questionnaire has been designed to collect information from entrepreneurs who are directly involved in the daily operations of their businesses. It aims to assess a range of entrepreneurial competencies, from identifying new opportunities and organizing resources to building relationships and dealing with environmental challenges such as bureaucracy and access to finance.

Importance of Entrepreneurial Competencies

Although the term entrepreneurial competencies may seem related to academic qualifications or formal business training, this study adopts a broader and more practical approach. In this context, entrepreneurial competencies refer to the behaviors and adaptive abilities demonstrated by entrepreneurs while managing their businesses. The focus is on how entrepreneurs respond to real-world challenges, make decisions, seize opportunities, and navigate the complexities of the business environment in Algeria. These competencies are not acquired solely through education or training programs, but often develop through personal experience and interaction with the market.

Why Your Contribution Matters

By completing this questionnaire, you are contributing to building a research base that can offer practical insights into the factors driving business success in Algeria. It will also support the design of future programs and policies aimed at fostering entrepreneurial growth.

We appreciate your time and contribution, which are essential to the success of this study and significantly enhance the understanding of entrepreneurship in Algeria.

2. Statistical Results: SPSS V27 outputs

Appendix 3: Pearson Correlation of the Perceived Business Success Dimension

Correlations

		Perceived business success	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11
Perceived business success	Pearson Correlation	1	,543**	,698**	,675**	,683**	,702**	,617**	,427*	,749**	,698**	,802**	,626**
	Sig. (2-tailed)		,002	,000	,000	,000	,000	,000	,018	,000	,000	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 1	Pearson Correlation	,543**	1	,698**	,447*	,415*	,464**	,149	,143	,083	,514**	,264	,206
	Sig. (2-tailed)	,002		,000	,013	,023	,010	,432	,451	,663	,004	,158	,274
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 2	Pearson Correlation	,698**	,698**	1	,677**	,377*	,552**	,416*	,249	,384*	,359	,369*	,408*
	Sig. (2-tailed)	,000	,000		,000	,040	,002	,022	,184	,036	,052	,045	,025
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 3	Pearson Correlation	,675**	,447*	,677**	1	,248	,589**	,630**	,319	,371*	,383*	,328	,393*
	Sig. (2-tailed)	,000	,013	,000		,187	,001	,000	,085	,043	,037	,077	,032
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 4	Pearson Correlation	,683**	,415*	,377*	,248	1	,498**	,557**	,059	,552**	,631**	,439*	,314
	Sig. (2-tailed)	,000	,023	,040	,187		,005	,001	,756	,002	,000	,015	,091
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 5	Pearson Correlation	,702**	,464**	,552**	,589**	,498**	1	,589**	,253	,436*	,527**	,396*	,103
	Sig. (2-tailed)	,000	,010	,002	,001	,005		,001	,177	,016	,003	,030	,588
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 6	Pearson Correlation	,617**	,149	,416*	,630**	,557**	,589**	1	,106	,526**	,383*	,197	,393*
	Sig. (2-tailed)	,000	,432	,022	,000	,001	,001		,575	,003	,037	,297	,032
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 7	Pearson Correlation	,427*	,143	,249	,319	,059	,253	,106	1	,386*	,016	,491**	-,049
	Sig. (2-tailed)	,018	,451	,184	,085	,756	,177	,575		,035	,933	,006	,797
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 8	Pearson Correlation	,749**	,083	,384*	,371*	,552**	,436*	,526**	,386*	1	,343	,658**	,400*
	Sig. (2-tailed)	,000	,663	,036	,043	,002	,016	,003	,035		,063	,000	,029
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 9	Pearson Correlation	,698**	,514**	,359	,383*	,631**	,527**	,383*	,016	,343	1	,442*	,437*
	Sig. (2-tailed)	,000	,004	,052	,037	,000	,003	,037	,933	,063		,014	,016
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 10	Pearson Correlation	,802**	,264	,369*	,328	,439*	,396*	,197	,491**	,658**	,442*	1	,635**
	Sig. (2-tailed)	,000	,158	,045	,077	,015	,030	,297	,006	,000	,014		,000
	N	30	30	30	30	30	30	30	30	30	30	30	30
Item 11	Pearson Correlation	,626**	,206	,408*	,393*	,314	,103	,393*	-,049	,400*	,437*	,635**	1
	Sig. (2-tailed)	,000	,274	,025	,032	,091	,588	,032	,797	,029	,016	,000	
	N	30	30	30	30	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 4: Pearson Correlation of the Business-Doing Competencies Dimension

Correlations

		Business-Doing Competencies	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Business-Doing Competencies	Pearson Correlation	1	,761**	,523**	,500**	,761**	,636**	,411*	,769**
	Sig. (2-tailed)		,000	,003	,005	,000	,000	,024	,000
	N	30	30	30	30	30	30	30	30
Item1	Pearson Correlation	,761**	1	,351	,438*	,536**	,536**	,096	,523**
	Sig. (2-tailed)	,000		,057	,015	,002	,002	,612	,003
	N	30	30	30	30	30	30	30	30
Item 2	Pearson Correlation	,523**	,351	1	,802**	,286	,286	,034	,257
	Sig. (2-tailed)	,003	,057		,000	,126	,126	,859	,170
	N	30	30	30	30	30	30	30	30
Item 3	Pearson Correlation	,500**	,438*	,802**	1	,356	,356	-,239	,321
	Sig. (2-tailed)	,005	,015	,000		,053	,053	,203	,084
	N	30	30	30	30	30	30	30	30
Item 4	Pearson Correlation	,761**	,536**	,286	,356	1	,732**	,034	,495**
	Sig. (2-tailed)	,000	,002	,126	,053		,000	,859	,005
	N	30	30	30	30	30	30	30	30
Item 5	Pearson Correlation	,636**	,536**	,286	,356	,732**	1	-,135	,291
	Sig. (2-tailed)	,000	,002	,126	,053	,000		,476	,118
	N	30	30	30	30	30	30	30	30
Item 6	Pearson Correlation	,411*	,096	,034	-,239	,034	-,135	1	,263
	Sig. (2-tailed)	,024	,612	,859	,203	,859	,476		,160
	N	30	30	30	30	30	30	30	30
Item 7	Pearson Correlation	,769**	,523**	,257	,321	,495**	,291	,263	1
	Sig. (2-tailed)	,000	,003	,170	,084	,005	,118	,160	
	N	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 5: Pearson Correlation of the Personal Competencies Dimension

Correlations

		Personal Competencies	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7

Personal Competencies	Pearson Correlation	1	,787**	,764**	,629**	,603**	,720**	,696**	,646**
	Sig. (2-tailed)		,000	,000	,000	,000	,000	,000	,000
	N	30	30	30	30	30	30	30	30
Item1	Pearson Correlation	,787**	1	,825**	,456*	,282	,336	,416*	,434*
	Sig. (2-tailed)	,000		,000	,011	,132	,069	,022	,017
	N	30	30	30	30	30	30	30	30
Item2	Pearson Correlation	,764**	,825**	1	,336	,504**	,425*	,361	,288
	Sig. (2-tailed)	,000	,000		,069	,005	,019	,050	,123
	N	30	30	30	30	30	30	30	30
Item3	Pearson Correlation	,629**	,456*	,336	1	,169	,570**	,648**	,100
	Sig. (2-tailed)	,000	,011	,069		,371	,001	,000	,601
	N	30	30	30	30	30	30	30	30
Item4	Pearson Correlation	,603**	,282	,504**	,169	1	,659**	,099	,290
	Sig. (2-tailed)	,000	,132	,005	,371		,000	,602	,120
	N	30	30	30	30	30	30	30	30
Item5	Pearson Correlation	,720**	,336	,425*	,570**	,659**	1	,513**	,231
	Sig. (2-tailed)	,000	,069	,019	,001	,000		,004	,220
	N	30	30	30	30	30	30	30	30
Item6	Pearson Correlation	,696**	,416*	,361	,648**	,099	,513**	1	,428*
	Sig. (2-tailed)	,000	,022	,050	,000	,602	,004		,018
	N	30	30	30	30	30	30	30	30
Item7	Pearson Correlation	,646**	,434*	,288	,100	,290	,231	,428*	1
	Sig. (2-tailed)	,000	,017	,123	,601	,120	,220	,018	
	N	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 6: Pearson Correlation of the Socio-Cultural Competencies Dimension

Correlations

		Socio-Cultural Competencies	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Socio-Cultural Competencies	Pearson Correlation	1	,704**	,532**	,720**	,705**	,785**	,627**	,624**
	Sig. (2-tailed)		,000	,003	,000	,000	,000	,000	,000
	N	30	30	30	30	30	30	30	30
Item1	Pearson Correlation	,704**	1	,652**	,620**	,697**	,386*	,134	,313
	Sig. (2-tailed)	,000		,000	,000	,000	,035	,480	,092
	N	30	30	30	30	30	30	30	30
Item2	Pearson Correlation	,532**	,652**	1	,441*	,394*	,147	,119	,119
	Sig. (2-tailed)	,003	,000		,015	,031	,438	,530	,531
	N	30	30	30	30	30	30	30	30

Item3	Pearson Correlation	,720**	,620**	,441*	1	,825**	,479**	,050	,499**
	Sig. (2-tailed)	,000	,000	,015		,000	,007	,793	,005
	N	30	30	30	30	30	30	30	30
Item4	Pearson Correlation	,705**	,697**	,394*	,825**	1	,493**	,036	,433*
	Sig. (2-tailed)	,000	,000	,031	,000		,006	,851	,017
	N	30	30	30	30	30	30	30	30
Item5	Pearson Correlation	,785**	,386*	,147	,479**	,493**	1	,635**	,362*
	Sig. (2-tailed)	,000	,035	,438	,007	,006		,000	,049
	N	30	30	30	30	30	30	30	30
Item6	Pearson Correlation	,627**	,134	,119	,050	,036	,635**	1	,212
	Sig. (2-tailed)	,000	,480	,530	,793	,851	,000		,260
	N	30	30	30	30	30	30	30	30
Item7	Pearson Correlation	,624**	,313	,119	,499**	,433*	,362*	,212	1
	Sig. (2-tailed)	,000	,092	,531	,005	,017	,049	,260	
	N	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 7: Pearson Correlation of the Context-Based Competencies Dimension

Correlations

		Context-Based Competencies	Item1	Item2	Item3	Item4	Item5	Item6	Item7
Context-Based Competencies	Pearson Correlation	1	,537**	,511**	,585**	,419*	,525**	,492**	,738**
	Sig. (2-tailed)		,002	,004	,001	,021	,003	,006	,000
	N	30	30	30	30	30	30	30	30
Item1	Pearson Correlation	,537**	1	,615**	,384*	,530**	,392*	,302	,816**
	Sig. (2-tailed)	,002		,000	,036	,003	,032	,104	,000
	N	30	30	30	30	30	30	30	30
Item2	Pearson Correlation	,511**	,615**	1	,380*	,376*	,372*	,426*	,810**
	Sig. (2-tailed)	,004	,000		,038	,041	,043	,019	,000
	N	30	30	30	30	30	30	30	30
Item3	Pearson Correlation	,585**	,384*	,380*	1	,439*	,473**	,176	,654**
	Sig. (2-tailed)	,001	,036	,038		,015	,008	,351	,000
	N	30	30	30	30	30	30	30	30
Item4	Pearson Correlation	,419*	,530**	,376*	,439*	1	,297	-,155	,637**
	Sig. (2-tailed)	,021	,003	,041	,015		,111	,414	,000
	N	30	30	30	30	30	30	30	30
Item5	Pearson Correlation	,525**	,392*	,372*	,473**	,297	1	,372*	,615**
	Sig. (2-tailed)	,003	,032	,043	,008	,111		,043	,000
	N	30	30	30	30	30	30	30	30

Item6	Pearson Correlation	,492**	,302	,426*	,176	-,155	,372*	1	,522**
	Sig. (2-tailed)	,006	,104	,019	,351	,414	,043		,003
	N	30	30	30	30	30	30	30	30
Item7	Pearson Correlation	,738**	,816**	,810**	,654**	,637**	,615**	,522**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,003	
	N	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 8: Reliability statistics of the study variables

PBS

Cronbach's Alpha	N of Items
,852	11

BDC

Cronbach's Alpha	N of Items
,689	7

PC

Cronbach's Alpha	N of Items
,802	7

SCC

Cronbach's Alpha	N of Items
,738	7

CBC

Cronbach's Alpha	N of Items
,810	7

Appendix 9: Frequency table of regional distribution of the sample

Regional Distribution of the sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adrar	2	1,4	1,4	1,4
	Ain Defla	1	,7	,7	2,1
	Alger	40	27,4	27,4	29,5
	Annaba	1	,7	,7	30,1
	Batna	3	2,1	2,1	32,2
	Béchar	2	1,4	1,4	33,6
	Béjaïa	5	3,4	3,4	37,0
	Blida	9	6,2	6,2	43,2
	Bordj Bou Arreridj	3	2,1	2,1	45,2
	Bouira	7	4,8	4,8	50,0
	Boumerdès	5	3,4	3,4	53,4
	Chlef	3	2,1	2,1	55,5
	Constantine	6	4,1	4,1	59,6
	El M'Ghair	1	,7	,7	60,3
	El Oued	1	,7	,7	61,0
	El Taref	1	,7	,7	61,6
	Ghardaia	4	2,7	2,7	64,4
	Illizi	1	,7	,7	65,1
	Laghouat	1	,7	,7	65,8
	M'Sila	1	,7	,7	66,4
	Médéa	5	3,4	3,4	69,9
	Mila	1	,7	,7	70,5
	Naama	1	,7	,7	71,2

		Frequency	Percent	Valid Percent	Cumulative Percent
	Oran	7	4,8	4,8	76,0
	Ouargla	5	3,4	3,4	79,5
	Saïda	1	,7	,7	80,1
	Sétif	5	3,4	3,4	83,6
	Sidi Bel Abbas	1	,7	,7	84,2
	Skikda	1	,7	,7	84,9
	Souk Ahras	4	2,7	2,7	87,7
	Tamanrasset	3	2,1	2,1	89,7
	Tébessa	1	,7	,7	90,4
	Tiaret	1	,7	,7	91,1
	Tipaza	2	1,4	1,4	92,5
	Tizi Ouzou	4	2,7	2,7	95,2
	Tlemcen	7	4,8	4,8	100,0
	Total	146	100,0	100,0	

Appendix 10: Frequency table of the business sectors of the sample

Sectoral Distribution of the sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Artisanal Activities	54	37,0	37,0	37,0
	Construction	13	8,9	8,9	45,9
	Services	50	34,2	34,2	80,1
	Transformative industries	25	17,1	17,1	97,3
	Agriculture	4	2,7	2,7	100,0
	Total	146	100,0	100,0	

Appendix 11: Frequency table of the Age distribution of the sample

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30	10	6,8	6,8	6,8
	31-40	60	41,1	41,1	47,9
	41-50	55	37,7	37,7	85,6
	51-60	17	11,6	11,6	97,3
	61 and above	4	2,7	2,7	100,0
	Total	146	100,0	100,0	

Appendix 12: Frequency table of the gender distribution of the sample

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Masculin	100	68,5	68,5	68,5
	Feminin	46	31,5	31,5	100,0
	Total	146	100,0	100,0	

Appendix 13: Frequency table of business years of activity

Years of Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3-5 years	44	30,1	30,1	30,1
	6-10 years	59	40,4	40,4	70,5
	More than 10 years	43	29,5	29,5	100,0
	Total	146	100,0	100,0	

Appendix 14: Frequency table of the educational level of the sample respondents

Educational level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HighSchool or less	32	21,9	21,9	21,9
	Baccalaureate	20	13,7	13,7	35,6
	Licence	49	33,6	33,6	69,2
	Master	29	19,9	19,9	89,0
	Higher education	16	11,0	11,0	100,0
	Total	146	100,0	100,0	

Appendix 15: Frequency table of work experience of the sample respondents

Previous work experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	134	91,8	91,8	91,8
	No	12	8,2	8,2	100,0
	Total	146	100,0	100,0	

Appendix 16: Frequency table of training of the sample respondents

Previous Training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	124	84,9	84,9	84,9
	No	22	15,1	15,1	100,0
	Total	146	100,0	100,0	

Appendix 17: Frequency table of the employee numbers of the sample businesses

Employee Number

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10	76	52,1	52,1	52,1
	10-49	57	39,0	39,0	91,1
	50-250	13	8,9	8,9	100,0
	Total	146	100,0	100,0	

Appendix 18: Descriptive Statistics of the Perceived Business Success

Descriptive Statistics

	N	Mean	Std. Deviation
Item1	146	4,2329	,42412
Item2	146	4,4041	,50622
Item3	146	4,0822	,29958
Item4	146	4,2740	,47736
Item5	146	4,0959	,48889
Item6	146	4,3014	,46043
Item7	146	4,0685	,43403
Item8	146	3,9726	,73292
Item9	146	4,4589	,55245
Item10	146	3,7397	,77062
Item11	146	4,0137	,42323
Perceived Business Success	146	4,1495	,30066
Valid N (listwise)	146		

Appendix 19: Descriptive Statistics of the Doing-Business Competencies

Descriptive Statistics

	N	Mean	Std. Deviation
Item1	146	4,5890	,49370
Item2	146	4,5068	,50167
Item3	146	4,4795	,50130
Item4	146	4,6849	,46614
Item5	146	4,6164	,48793
Item6	146	4,0822	,70961
Item7	146	4,3288	,56458
Business-Doing Competencies	146	4,4695	,37457
Valid N (listwise)	146		

Appendix 20: Descriptive Statistics of the Personal Competencies

Descriptive Statistics

	N	Mean	Std. Deviation
Item1	146	4,4795	,51487
Item2	146	4,3767	,51381
Item3	146	4,5890	,53397
Item4	146	4,4041	,51967
Item5	146	4,3082	,49222
Item6	146	4,2740	,50543
Item7	146	4,1096	,69603
Personal Competencies	146	4,3634	,39378
Valid N (listwise)	146		

Appendix 21: Descriptive Statistics of the Socio-Cultural Competencies

Descriptive Statistics

	N	Mean	Std. Deviation
Item1	146	4,7123	,45424
Item2	146	4,7397	,45569
Item3	146	4,5479	,55189

	N	Mean	Std. Deviation
Item4	146	4,4932	,51524
Item5	146	4,3356	,56663
Item6	146	4,0000	1,06997
Item7	146	4,2260	,66198
Socio-Cultural Competencies	146	4,4367	,41851
Valid N (listwise)	146		

Appendix 22: Descriptive Statistics of the Context-Based Competencies

Descriptive Statistics

	N	Mean	Std. Deviation
Item1	146	4,3767	,56496
Item2	146	4,4384	,57503
Item3	146	4,5753	,49599
Item4	146	4,3630	,62012
Item5	146	3,6986	,57977
Item6	146	3,9110	,51086
Item7	146	4,2277	,40560
Context-Based Competencies	146	4,3747	,30785
Valid N (listwise)	146		

Appendix 23: Outcomes of the ANOVA test for group differences in entrepreneurial competencies by educational level

ANOVA

Education

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,011	4	,003	**,156**	**,990**
Within Groups	2,483	141	,018		
Total	2,494	145			

Appendix 24: Group statistics for entrepreneurial competencies by work experience

Group Statistics

	Work experience	N	Mean	Std. Deviation	Std. Error Mean
Entrepreneurial Competencies	Yes	134	4,3113	,24351	,04971
	No	12	4,2750	,47408	,19354

Appendix 25: Levene's test of equality of variances for entrepreneurial competencies by work experience

Independent Samples Test

Levene's Test for Equality of Variances	t-test for Equality of Means

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Entrepreneurial Competencies	Equal variances assumed	2,297	,141	**,262**	144	**,792**	,03625	,13605	-,24243	,31493
	Equal variances not assumed			,181	5,676	,862	,03625	,19982	-,45954	,53204

Appendix 26: Group statistics for entrepreneurial competencies by training

Group Statistics

	Training	N	Mean	Std. Deviation	Std. Error Mean
Entrepreneurial Competencies	Yes	124	4,4006	,30513	,02961
	No	22	4,1021	,45001	,09522

Appendix 27: Levene's test of equality of variances for entrepreneurial competencies by training

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Entrepreneurial Competencies	Equal variances assumed	2,105	,150	**3,456**	144	**,001**	,30000	,08682	,12900	,47100
	Equal variances not assumed			2,862	26,435	,008	,30000	,10477	,08590	,51410