

Does Entrepreneurial Risk-Taking Affect the Business Performance of Micro-Enterprises? Evidence from Skikda in Algeria

Ayoub Messikh

Faculty of Economics, Commerce Sciences and Management Sciences, Laboratory of Economic, Finance & Management (ECOFIMA), The Université 20 Août, 1955-Skikda, Algeria
a.messikh@univ-skikda.dz

ARTICLE INFO

Original Scientific Article

Article History:

Received March 2022

Revised May 2022

Accepted May 2022

JEL Classification:

D81

L25

M13

Keywords:

Risk taking

Entrepreneurship

Business performance

Micro enterprises

Skikda

Algeria

UDK: 005.1:005.336.1(65)

DOI: 10.2478/ngoe-2022-0012

Cite this article as: Messikh, A. (2022). Does Entrepreneurial Risk-Taking Affect the Business Performance of Micro-Enterprises? Evidence from Skikda in Algeria. *Naše Gospodarstvo/Our Economy*, 68(2), 65-77. DOI: 10.2478/ngoe-2022-0012.

©2022 The Authors. Published by Sciendoo on behalf of University of Maribor, Faculty of Economics and Business, Slovenia. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Abstract

According to several previous studies, entrepreneurial risk-taking is an important aspect that can lead to prospective business opportunities, hence improving entrepreneurial outcomes such as enterprise performance. The main purpose of this paper is to examine the extent and degree of impact of entrepreneurial risk-taking (ERT) as one of the dimensions of entrepreneurial mindset on the performance of micro enterprises in Skikda, Algeria. Based on a self-administered survey questionnaire, data were collected from a random sample of 142 micro-enterprises in Skikda. The study adopted descriptive, correlation, and regression analyses to estimate the impact of entrepreneurial risk-taking. Collected data were analyzed using the Statistical Package for Social Sciences (SPSS 22) programme. The findings demonstrate that entrepreneurial risk-taking significantly affects the performance of micro enterprises in Skikda. Of the total variance of the performance of micro enterprise's, 9.2% can be explained by the variability of entrepreneurial risk-taking. A small percentage is expected and can partly be explained by the presence of other factors that affect the performance of these enterprises as well as the negative effects of the COVID-19 pandemic on the process of economic activity and available business opportunities worldwide, especially these very small enterprises. However, the presence of this positive impact calls for a focus on raising the risk-taking spirit of existing and potential Algerian entrepreneurs, by holding conferences, forums and entrepreneurial programmes that enhance and support this characteristic of the entrepreneurial mindset.

Introduction

According to business and management research (Messikh, 2021), entrepreneurship has emerged as one of the most important factors in the global economy during the last decade. This phenomenon is one of the most important drivers of economic and social development, in addition to competitiveness, innovation, and growth (Pejić Bach et al., 2016). This enormous importance demonstrates the need to go beyond the rigid framework of business creation to fully comprehend the significance of the entrepreneurial phenomena in our economies and societies (Messikh, 2018).

The majority of modern business experts, including Gilder, believe that the entrepreneur is the owner and organizer of a small or medium-sized

enterprise, while micro-enterprises are a part of it. Micro businesses, like small- and medium-sized enterprises (SMEs), are an important element of national economies across the world (Zabukovšek et al., 2015).

In Algeria, SMEs account for more than 90% of all enterprises. Micro-enterprises represents 97% of the total SMEs in Algeria, and offers greater opportunities to adapt to changes in demand and the evolution of technologies. This offers more leeway for the adoption of new managerial methods. The development of SMEs is thus both a vital economic imperative and a strategic opportunity, which, together with the increase in employment and the evolution of GDP, plays an essential role in the creation of wealth in the country. Without SMEs, Algeria's future growth would be difficult, because these enterprises play a critical role in developing innovative goods, boosting competitiveness, and creating new employment. The Algerian government has placed a strong focus on the growth of entrepreneurship and SMEs throughout the previous ten years, and many entrepreneurial assistance institutions have been established as a result (Messikh, 2017).

As economies become more globalised and organisational settings get more complex, SMEs increasingly rely on human resources to survive and grow. It is employees such as owners or entrepreneurs who have the most impact on a company's business outcomes, progress, and survival through their knowledge, skills, ability, motivation, loyalty and inventiveness in the use and management of material, financial and information resources. This is especially true for HR in SMEs, which must make good use of human resources owing to their size (Klepić, 2021).

Entrepreneurial orientation (EO) has been recognised as a major driver of business performance. EO can help companies perform better because it helps them to seize new opportunities and stay competitive in a rapidly changing market environment. EO is described as a firm's inclination to participate in innovation, risk-taking and proactive opportunity searching (Huang et al., 2022)

Given the many changes and fluctuations in the local and global business environment as a result of crises of all kinds, it has become imperative for governments and decision-makers, in addition to researchers, to study and identify the elements and characteristics that enhance the performance of SMEs and ensure their continuity, because they constitute approximately 90% of the economic fabric of the majority of governments. To this end, this study examines the impact that risk-taking - as one of the dimensions of entrepreneurial orientation- could contribute to the performance of micro- enterprises.

Many researchers argue that risk-taking and the other dimensions of EO may enhance as well as impede business performance because they all entail costs and uncertainties (Huang et al., 2022). This controversy has created two trends. The first foresees that risk-taking positively affects business performance (Tang et al., 2019; Frishammar & Horte, 2007; Dai et al., 2014; Al Mamun, 2018; Egele et al., 2018), while the second foresees the opposite, i.e. the possibility of failure or no significance relation (Alvarez, 2007; Janney & Dess, 2006). Therefore, risk-taking has the potential to both improve and detract from a firm success. To capitalize on possible new market possibilities, SMEs may need to embrace risk-taking (Dai et al., 2014). The principle for this is that 'no new items will ever be manufactured and marketed if no chances are taken' (Frishammar & Horte, 2007, p. 769). As a result, taking risks may help enterprises to succeed by allowing them to remain competitive in the marketplace. Risk-taking, meanwhile, implies the possibility of failure (Alvarez, 2007).

Algeria is currently encouraging and supporting entrepreneurs in establishing SMEs to absorb unemployment and create a general economic climate conducive to business establishment (finance, taxation, regulation) and stimulate business leadership through a set of specific stimulus measures (Arabeche et al, 2022). However, the matter does not stop at the establishment but rather goes beyond it to improving and maintaining performance by taking risks in new innovative projects and searching for new markets, especially in light of the COVID-19 crisis, which has greatly affected the activity of SMEs, especially micro-enterprises that are risk-adverse. The aforementioned purpose can be achieved by enhancing the risk-taking spirit of the entrepreneur.

Given that any legislative changes, economic impacts and global fluctuations have a greater impact on SMEs, operators should always identify and assess the trends of impending opportunities before taking a risk rather than just plunging straight. This will help to address the rate at which risk-taking will influence their performance (Egele et al., 2018).

Entrepreneurial orientation (EO) and entrepreneurial risk-taking (as a dimension of EO) literature discuss the relationship between a company's EO, risk-taking and business performance (Arabeche et al., 2022), however, few studies on EO-performance have been conducted among Algerian SMEs (Rochdi et al., 2017; Arabeche et al., 2021; Arabeche et al., 2022). Thus, the enterprise risk-taking-performance relationship suggests the need for further research from an Algerian perspective. Hence, the scope of this paper offers a deeper assessment of the impact of entrepreneurial risk-taking on the business performance of micro-enterprises in Algeria.

This paper sought to answer the question: To what extent does entrepreneurial risk-taking (ERT) affect performance of micro enterprises (MEP) in Skikda?

Literature Review and Research Framework

Entrepreneurial risk taking (ERT)

Entrepreneurial projects and micro, small, and medium enterprises-sized are exposed to many risks that require entrepreneurs to deal with and manage them scientifically and systematically to overcome them, thus achieving continuity and permanence. In addition, risk-taking is a very important feature in entrepreneurship, where risks arise when the outcomes are unknown, or the possibility of multiple outcomes.

Risk-taking is an important property of entrepreneurship. R. Cantillon, who is credited with coining the term 'entrepreneur', defined it as 'a person who carries the risk of profit or loss'. In terms of new venture creation, entrepreneurship might be regarded as risky due to the high failure rate of new businesses. When starting a new business, entrepreneurs take on psychological, social and financial risks (Antoncic, 2003).

An enterprise's propensity to exploit risky business ideas is reflected in the company's risk-taking tolerance. It shows how supportive organisations are of risk-taking vs. control practices. These habits are ingrained in the culture of the company and have been shown to have an impact on many elements of how enterprises acquire, share, and exploit information (Hock-Doepgen et al., 2021).

Accepting the uncertainties and hazards inherent in innovation, as well as dedicating resources to unknown results, is what risk-taking entails. SMEs (micro-enterprises implicitly) evaluate their resources, capital and other competencies, as well as the viability and affiliated risks of strategies while formulating a strategic plan (Tang et al., 2019).

Financial risk-taking is usually the resultant effect of a financial or monetary phenomenon, such as inflation, or when an enterprise needs to borrow heavily or commit a large portion of its resources to grow. Psychological risk-taking, is a risk associated with an entrepreneur's personality, personal characteristics and skills, such as debtors' inability to fulfill or honor their repayment

obligations, thereby impairing the liquidity position of the enterprise and consequently its performance or the risks that an executive assumes in taking a stand in favour of a strategic course of action. (Olawoye et al., 2016; Sunday & Mary, 2019). The hypotheses for this study were formed this division, in addition to another hypothesis that tried to research the extent to which there are statistical differences in the sample answers about the study due to demographic characteristics.

Micro-Enterprise performance (MEP)

Compared to in the past, when attention was focused solely on big enterprises as the sole generators of wealth and employment, the issue of SMEs has piqued the interest of researchers, specialists and governments alike. However, this view was quickly reversed after the emergence of the growing importance of the sector of SMEs, which is often associated with the name of the entrepreneur. SMEs have long been acknowledged as engines of economic growth and development (Oladimeji et al., 2021).

In Algeria, a very small or micro-enterprise is defined as an enterprise employing from one (1) to nine (9) people, which achieves an annual turnover of less than forty (40) million Algerian dinars, or whose total annual balance sheet does not exceed twenty (20) million Algerian dinars (Algerian Official Journal No.2, 2017).

Many researchers emphasise the need to evaluate the performance of micro and small enterprise in order to assess their success or failure. The most frequent approaches to assessing business performance in terms of growth have been income, employment, competitive advantage and profitability, and numerous studies have emphasised that profitability is difficult to quantify owing to several technical accounting difficulties (Zubair et al., 2021).

Organisational performance is critical to long-term business survival and success. As a result, its assessment is predicted to be crucial for all types of enterprises to evaluate company and management activities (Durst et al., 2019).

Internal organisational competencies and abilities may provide a more secure competitive edge in terms of creating revenues for enterprises (Akeke et al., 2021). One of the most important of these qualities that Algerian entrepreneurs should cultivate to improve their enterprise's chances of success is the entrepreneurial orientation (EO) in all its dimensions.

Table 1*A summary of some previous research studies and current research*

Name of researcher (Year)	Research title	Research variables	Research area	Research subjects	Research results
Pratono, A. (2018)	Does firm performance increase with risk-taking behavior under information technological turbulence	Risk-taking behaviour, performance of SMEs	Indonesia	SME owners -managers	The results only confirm the positive impact of risk-taking behaviour on business performance
Al Mamun et al. (2018)	Effect of entrepreneurial orientation on competency and micro-enterprise performance	Entrepreneurial orientation, Entrepreneurial competency, Micro enterprises performance	Kelantan, Malaysia	Micro-entrepreneurs	Risk-taking propensity does not have a significant indirect effect on micro-enterprise performance
Egele et al. (2018)	Entrepreneurial risk-taking and performance of small and medium scale enterprises	Entrepreneurial risk-taking, performance of SMEs sized enterprises	Kano State, Nigeria	Owners and managers of SMEs	Entrepreneurial risk-taking has a positive impact on the performance of SMEs in Kano State, Nigeria
Tang et al. (2020)	The effect of tourism core competence on entrepreneurial orientation and service innovation performance in tourism SME's	Tourism core competences, EO, innovation performance in tourism SME's	Taiwan	Tourism SME's	Innovation and risk-taking mediate the effects of tourism core competences on service innovation performance
Al Issa (2021)	Advancing entrepreneurial career success: the role of passion, persistence, and risk-taking propensity	Entrepreneurial career success, passion, persistence, and risk-taking propensity	Malaysia	Entrepreneurs	Statistically significant and positive relationships were found in the direct relationship between risk-taking and success
Arabeche et al. (2022)	Entrepreneurial orientation, organizational culture and business performance in SMEs: evidence from emerging economy	Entrepreneurial orientation, organisational culture, Business Performance of SMEs	Algeria	Owners of SMEs	Entrepreneurial orientation has a moderate influence on the business performance of SME's
This study	Does entrepreneurial risk-taking affect business performance of micro-enterprises?	Entrepreneurial risk-taking, micro-enterprise performance	Skikda, Algeria	Micro-enterprises	Statistically significant and positive relationships were found between ERT and MEP

Source: Author's own elaboration

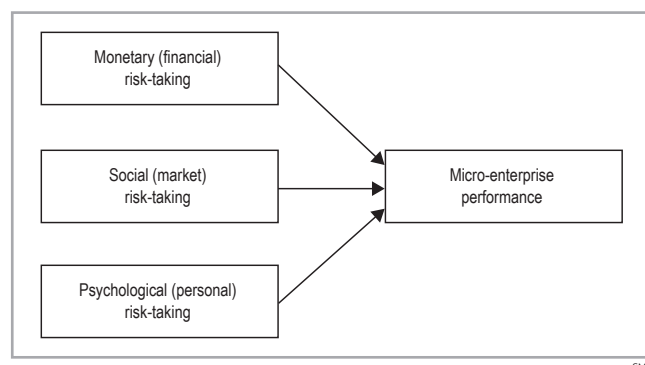
Previous studies

To facilitate the comparison process, the author of this paper decided to provide an overview of previous studies in brief through the following table:

Research framework

Based on previous studies that examined the impact of risk-taking on the performance of small enterprises, the model for this study model is shown in the Figure 1.

Figure 1
Research framework



Source: Author's own research

Research Methodology

To answer the research problem and achieve the goal of the study, a random sample of micro-enterprises in the city of Skikda was studied during the last two months of 2021.

The aim of the study and research questions

The aim of the study is to ascertain the degree of impact that entrepreneurial risk-taking plays on the performance of micro-enterprises in Skikda, Algeria.

To ascertain the impact of the dimensions of entrepreneurial risk-taking (monetary risk-taking, social risk-taking, psychological risk-taking) on the business performance of micro-enterprises (business performance in terms of growth: income, number of employees, competitive advantage) in Skikda, the following specific questions were also addressed based on the main research question to explore the impact of (ERT) dimensions on micro-enterprise performance (MEP):

- To what extent does monetary (financial) risk-taking affect the performance of micro-enterprises in Skikda?
- To what extent does social (market) risk-taking affect the performance of micro-enterprises in Skikda?
- To what extent does psychological (personal) risk-taking affect the performance of micro-enterprises in Skikda?
- Are there statistically significant differences (in average perception) in the answers provided by sample members in relation to the impact of entrepreneurial risk-taking on the performance of micro-enterprises, attributed to demographic variables?

Study tool

The questionnaire was used as a tool for collecting primary data. A special tool was developed based on previous studies in line with the objectives of this study. The questionnaire consisted of the following parts:

- Part one: included the demographic data of the study sample members: gender, age, educational level
- Part two: included eleven paragraphs to identify the level of risk-taking (in its three dimensions) of the studied sample
- Part three: included nine paragraphs to measure the business performance (growth: income, number of employees, competitive advantage) level of the studied micro-enterprises

A five-point Likert scale was used to evaluate the answers provided by the sample members, with a number for each rung of the ladder as follows: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree.

Table 2 explains the description of the items of variables.

Statistical processing methods

Statistical processing of the collected data was carried out using the Statistical Package for Social Sciences (SPSS) programme based on the following methods:

- the arithmetic mean and standard deviation to study the trends of the study sample members in relation to the study variables and their analysis
- Cronbach's alpha coefficient to measure the stability of the study tool
- a correlation coefficient matrix to identify the degree of correlation between the independent variables and the dependent variable
- normal distribution test
- ANOVA to test the validity of the study model
- the coefficient of determination R^2 (simple and multiple regression analysis) measures the extent to which the independent variable contributes to the dependent variable

Population and study sample

The population of this study represents all micro-enterprises in Skikda, which equates to 4,362 micro-enterprises, according to statistics from the Statistics Department of the Directorate of Small and Medium Enterprises of Skikda for the year 2021.

Table 2*Description of variables*

Variable	Description of the items	Sources
Monetary risk-taking	<ul style="list-style-type: none"> • I need to borrow heavily or commit a large portion of my resources to grow • I am willing to invest a large number of resources into opportunities that potentially lead to increased market share regardless of the financial conditions. • I venture into new opportunities even though my enterprise has limited funds, which can be a product of debt or fluctuations in the economy. • I usually expand my projects and reinvest my profits in new ideas, regardless of the prevailing financial and monetary situation, due to my ability to manage this type of risk. 	Olawaye et al. (2016) Sunday & Mary (2019)
Social risk-taking	<ul style="list-style-type: none"> • I venture into unknown environments or sectors without knowing the probability of success. • I take bold aggressive action in my enterprise to maximize the probability of exploiting a new market. • I have the desire to take risks and try unprecedented opportunities and consider the surrounding market and economic fluctuations as opportunities that can be targeted. • I tend to act 'boldly' in any situation related to market problems, because of my ability to analyse and evaluate the surrounding environment. 	Olawaye et al. (2016) Messikh (2017)
Psychological risk-taking	<ul style="list-style-type: none"> • I rely on caution, calculating risk, and adopting a 'wait and see' policy. • I prefer high risk projects since they promote high return on sales • I can take risks when taking positions in favour of the enterprise's strategic course of action. 	Olawaye et al. (2016)
Micro-enterprises performance	<ul style="list-style-type: none"> • My enterprise is usually satisfied with revenue growth. • My enterprise is usually satisfied with the profit margin. • My enterprise is usually satisfied with sales growth. • My firm is usually satisfied with the return on investment. • My enterprise is usually satisfied with market share growth. • My enterprise is usually satisfied with its competitive position strength. • My enterprise usually works on the continuous development of its products • My enterprise is usually satisfied with employee growth. • My enterprise is usually satisfied with the ability to respond to the needs and desires of customers. 	Messikh (2017) Arabeche et al. (2021)

Source: Author's own elaboration

The requests were randomly selected to ensure that each unit in the community had an equal opportunity to be selected as a sample for this study.

A sample size of 353 micro-enterprises was derived using the Krejcie & Morgan formula described below (Krejcie & Morgan, 1970):

$$n = \frac{X^2 N p(1-p)}{e^2(N-1) + X^2 p(1-p)} \quad (1)$$

n: sample size; N: population size; e: acceptable sampling error; X^2 : chi-square of the degree of freedom 1 and confidence 95%.

A questionnaire was distributed to the micro-enterprises. Of the completed questionnaires received, 142 were analysable, which means a response rate of 40.23%. Descriptive statistics, the Pearson correlation coefficient, and regression analysis were used for statistical analysis with the aid of version 22 of the SPSS.

Reliability and internal consistency of the study instrument

A reliability analysis was done using the Cronbach's alpha method to test the stability of the measuring instrument as follows:

Table 3*Reliability statistics (Cronbach's alpha coefficient)*

Axes	Items	Cronbach's alpha coefficient
Monetary (financial) risk-taking	04	0.606
Social (market) risk-taking	04	0.639
Psychological (personal) risk-taking	03	0.604
Micro-enterprises performance	09	0.695
All axes	20	0.645

Source: Author's own calculations based on SPSS output

It is clear from the Table 3 that the value of the Cronbach's alpha coefficient for the various axes exceeded 0.6 (60%), which ranges from 0.604 to 0.695, which is an acceptable value, while the total value of the Cronbach's alpha coefficient is 0.645, which is also an acceptable value. This indicates that the questionnaire has a high degree of stability, thus reassuring the author of its application to all members of the study sample.

Normal distribution test

The Kolmogorov-Smirnov test was used to find out whether the study model was subject to a normal or abnormal distribution, to determine the nature of the tests used in the hypothesis test. The results were as follows:

Table 4

Normality (Kolmogorov-Smirnov) test

Kolmogorov- Smirnov		
Axes	Value Z	Sig*
All the axes of the study	0.094	0.003

Source: Author's own calculations based on SPSS output

It is clear from the Table 5 that the value of the significance level for each section of the test results (axes) is less than 0.05 (Sig < 0.05). This indicates that the data do not follow a normal distribution, therefore nonparametric tests are required to answer the established hypotheses.

Results and Discussion

Descriptive statistics of axes

The results, which show the attitudes of the respondents, are displayed in the following table according to each axis of the study, based on the output of the SPSS programme, which calculated the arithmetic average and standard deviation of the numerous questionnaire statements to examine the respondents' answers (Table 5).

It is clear from the Table 4 that the members of the study sample have a high degree of psychological (personal) risk-taking, where the mean value was 3.8951 and the standard deviation was 0.65053. Micro-enterprises performance came in second place with a mean value of 3.8329 and a standard deviation of 0.65759, which shows how much attention is paid to the good performance of the micro-enterprises. Social risk-taking accounted for the next place in terms of the degree of approval with a mean value of 3.6434 and

a standard deviation of 0.78588. Moreover, financial risk-taking came in last place with a mean value of 3.6270 and a standard deviation of 0.69369, which indicated a high degree of approval by the members of the study sample.

Testing the hypotheses

A simple regression analysis was used to test the hypotheses of this research. The outcome of the analysis is the following:

Hypothesis 1: There is a statistically significant effect at a 0.05 level of significance for monetary (financial) risk-taking on micro-enterprise performance in Skikda.

Table 6 shows the impact of monetary (financial) risk-taking on micro-enterprise performance in Skikda. The correlation coefficient reached 0.232, and the coefficient R^2 was 0.054, which means that 5.4% of the total variance of micro-enterprise performance can be explained by the variability of financial risk-taking. The regression coefficient was 0.250 at a level of significance of 0.005, which reflects the finding that an increase in monetary (financial) risk-taking leads to an increase in the level of micro-enterprise performance. This also reflects, the finding that monetary (financial) risk-taking has a statistically significant and positive effect on micro-enterprise performance, as $p < 0.05$. The above confirms the validity of the first sub-hypothesis (H1): There is a statistically significant effect at a 0.05 level of significance for monetary (financial) risk-taking on micro-enterprise performance in Skikda (this result is consistent with the results of Sunday & Mary, 2019).

Through the collected values, the regression equation can be written in terms of financial risk-taking and improving performance levels in micro enterprises in Skikda as follows:

$$Y = 2.91 + 0.25X$$

Where the variables of the equation are defined as follows:
Y: micro-enterprise performance; X: financial risk-taking

Hypothesis 2: There is a statistically significant effect at a 0.05 level of significance of social (market) risk-taking on the micro enterprise performance in Skikda.

Table 7 shows the effect of social (market) risk-taking on micro-enterprise performance in Skikda. The correlation coefficient reached 0.197, and the coefficient R^2 was 0.039, which means that 3.9% of the total variance of micro-enterprise performance can be explained by the variability of social risk-taking. The regression coefficient was 0.162 at a level of significance of 0.019, which shows that an increase in social risk-taking leads to an increase in the level of micro-enterprise performance.

This also reflects the finding that social risk-taking has a statistically significant and positive effect on micro-enterprise performance, as p is < 0.05 . The above confirms the validity of the second hypothesis: There is a statistically significant effect at a 0.05 level of significance for social risk-taking on micro-enterprise performance in Skikda (this result is consistent with the results of Sunday & Mary, 2019).

Through the collected values, the regression equation can be written in terms of social risk-taking and improving performance levels in micro-enterprise in Skikda as follows:

$$Y = 3.25 + 0.16X$$

Where the variables of the equation are defined as follows: Y: micro-enterprise performance; X: social risk-taking

Hypothesis 3: There is a statistically significant effect at a 0.05 level of significance of psychological (personal) risk-taking on micro-enterprise performance in Skikda.

Table 8 shows the effect of psychological (personal) risk-taking on micro-enterprise performance. The correlation coefficient reached 0.240, and the coefficient R^2 was 0.058, which means that 5.8% of the total variance of micro-enterprise performance can be explained by the variability of psychological risk-taking. The regression coefficient was 0.248 at a significance level of 0.004, which reflects the finding that an increase in psychological (personal) risk-taking leads to an increase in the level of micro-enterprise performance, which also reflects the finding that psychological risk-taking has a statistically significant and positive effect on micro-enterprise performance, as p is < 0.05 . The above confirms the validity of the third hypothesis: There is a statistically significant effect at a 0.05 level of significance of psychological (personal) risk-taking on micro-enterprise performance in Skikda (this result is consistent with the results of Sunday & Mary, 2019).

Through the collected values, the regression equation can be written in terms of psychological risk-taking and improving performance levels in micro-enterprise in Skikda as follows:

$$Y = 2.88 + 0.25X$$

Where the variables of the equation are defined as follows: Y: micro-enterprise performance; X: psychological risk-taking.

Hypothesis 4: There are statistically significant differences (in average perception) at a level of 0.05 in the answers of the sample members in relation to the effect of entrepreneurial risk-taking on micro-enterprise performance due to demographic variables.

To test this hypothesis, the Mann-Whitney and Kruskal-Wallis tests were used (because the data did not follow a normal distribution).

The Mann-Whitney test was used for the variable of gender, while the Kruskal-Wallis test was used for the variables of age, educational level and field of study. This hypothesis is accepted if the significance level is less than or equal to 0.05.

It is clear from Table 9 that there are no statistically significant differences (at the level of $\alpha \leq 0.05$) in the answers of the sample members (the means of the respondents' ranks) in terms of the effect of entrepreneurial risk-taking on micro-enterprise performance due to gender. Therefore, this hypothesis is rejected in relation to the variable of gender.

It is evident from Table 10 that there are no statistically significant differences (at the level of $\alpha \leq 0.05$) in the answers of the sample members (the means of the respondents' ranks) in terms of the effect of entrepreneurial risk-taking on micro-enterprise performance in Skikda due to the variables of age, educational level and the field of study. Therefore, the hypothesis on the variables of age, educational level and the field of study is rejected.

Hypothesis 5 (*Main hypothesis*): There is a statistically significant effect at a 0.05 level of significance for entrepreneurial risk-taking on micro-enterprise performance in Skikda.

Table 11 shows that there is a statistically significant and positive effect of entrepreneurial risk-taking on micro-enterprise performance in Skikda (this result is consistent with the results of Olawoye et al., 2016; Egele et al., 2018; Pratono, 2018; Sunday & Mary, 2019; Al Issa, 2021; Poi, 2021; Arabeche et al., 2021; Arabeche et al., 2022), as the correlation coefficient reached (0.303), which is equivalent to 30.3%. This percentage is a medium degree of correlation degree at significance level of 0.00, while the coefficient R^2 reached (0.092), which means its value (9.2%) of the total variance of micro-enterprise performance can be explained by the variability of entrepreneurial risk-taking. The significance of this effect confirms the value of F (4.670), which is a function at a level less than 0.05. This thus, confirms the validity of the main hypothesis: there is a statistically significant effect at a 0.05 level of significance for entrepreneurial risk-taking on micro-enterprise performance in Skikda.

Through the collected values, the regression equation can be written in terms of the elements of entrepreneurial risk-taking and improving performance levels in micro-enterprise in Skikda as follows:

$$Y = 2.31 + 0.178 X_1 + 0.065 X_2 + 0.160 X_3$$

Table 5*Descriptive statistics of axes*

Axes	Mean	Std. Deviation	Rank	Arrangement
Monetary (financial) risk-taking	3.6270	0.69369	4	high
Social (market) risk-taking	3.6434	0.78588	3	high
Psychological (personal) risk-taking	3.8951	0.65053	1	high
Micro-enterprises performance	3.8329	0.65759	2	high

Source: Author's own calculations based on SPSS output

Table 6*The result of a simple regression analysis to test the effect of financial risk-taking on micro-enterprise performance*

Axis	B value	(Constant)	T value	F value	R	R ²	Sig
Monetary (financial) risk-taking	0.250	2.906	2.838	8.054	0.232	0.054	0.005

Source: Author's own calculations based on SPSS output

Table 7*The result of a simple regression analysis to test the effect of social (market) risk-taking on micro-enterprise performance*

Axis	B value	(Constant)	T value	F value	R	R ²	Sig
Social (market) risk-taking	0.162	3.250	2.382	5.675	0.197	0.039	0.019

Source: Author's own calculations based on SPSS output

Table 8*The result of a simple regression analysis to test the effect of psychological (personal) risk-taking on micro-enterprise performance*

Axis	B value	(Constant)	T value	F value	R	R ²	Sig
Psychological (personal) risk-taking	0.248	2.884	2.938	8.633	0.240	0.058	0.004

Source: Author's own calculations based on SPSS output

Table 9*Mann-Whitney test for the significance of the differences in the answers of the sample members in relation to the effect of entrepreneurial risk-taking on micro-enterprise performance due to gender*

Variable		N	Average rank	Mann-Whitney U	Significance level
Gender	Male	116	70.39	1379.000	0.335
	Female	27	78.93		

Source: Author's own calculations based on SPSS output

Table 10

Kruskal Wallis test for the significance of the differences in the answers of the sample members in relation to the effect of entrepreneurial risk-taking on micro-enterprise performance due to age, educational level, and field of study

Variable	Categories	X ²	df	Sig.
Age	Less than 26	6.838	5	0.233
	26-30			
	31-35			
	36-40			
	41-45			
	over 45			
Educational level	Primary	1.989	4	0.233
	Preparatory			
	Secondary			
	Professional			
	University			
Field of study	Economic and Management sciences	0.324	4	0.988
	Natural sciences			
	Technology sciences			
	Legal and political sciences			
	Human and social sciences			

Source: Author's own calculations based on SPSS output

Table 11

The result of a multiple regression analysis to test the effect of entrepreneurial risk-taking on micro-enterprise performance in Skikda

Axis		B value	Sig	(Constant)	R	R ²	F value
Entrepreneurial risk-taking	Financial risk-taking	0.178	0.049				
	Social risk-taking	0.065	0.389	2.310	0.303	0.092	4.670
	Personal risk-taking	0.160	0.103				

Source: Author's own calculations based on SPSS output

Where the variables of the equation are defined as follows: Y: micro-enterprise performance; X1: financial risk-taking; X2: social risk-taking; X3: psychological risk-taking.

Conclusion

The study examined effect that entrepreneurial risk-taking can add to micro-enterprise performance in Skikda, Algeria, by studying the sub-impact of dimensions (agreed in previous studies) of entrepreneurial risk-taking on the overall performance of the studied sample.

As can be seen in the first hypothesis: there is a statistically significant effect for financial (monetary) risk-taking on micro-enterprise performance in Skikda, whereby 5.4% of the variance of micro-enterprise performance can be explained by the variability of financial risk-taking.

In the second hypothesis, it is evident that there is a statistically significant effect of social (market) risk-taking on micro-enterprise performance in Skikda, whereby 3.9% of the variance of micro-enterprise performance can be explained by the variability of social risk-taking.

The third hypothesis implies that there is a statistically significant effect of personal risk-taking on micro-enterprise performance in Skikda, whereby 5.8% of the variance of micro-enterprise performance can be explained by the variability of psychological risk-taking.

To conclude, empirical results of this study support previous works, which means that there is a statistically significant effect of entrepreneurial risk-taking (ERT) on micro-enterprise performance in Skikda (this result is consistent with the results of Olawoye et al., 2016; Egele et al., 2018; Pratono, 2018; Sunday & Mary, 2019; Al Issa, 2021; Poi, 2021; Arabeche et. al., 2022). Of the total variance of micro-enterprise performance, 9.2% can be explained by the variability of entrepreneurial risk-taking. A small percentage is expected and can be explained by the presence of other factors affecting the performance of these enterprises such as innovativeness, proactiveness and entrepreneurial self-efficacy, as well as the negative effects of the COVID-19 pandemic on the process of economic activity and available

business opportunities worldwide, especially these very small enterprises. However, in the presence of this positive impact, it is necessary to work hard to enhance risk-taking for the owners of these enterprises, especially in light of changes in the business environment.

This research fills this gap, particularly in the Algerian context, by claiming that entrepreneurial risk-taking affects the performance of micro-enterprise in Algeria. Furthermore, the research contributes to an advancement in knowledge in various streams of literature on the phenomena studied, including entrepreneurial orientation, business performance and entrepreneurial risk-taking, suggesting that micro-enterprise can perform well through a strong entrepreneurial risk-taking strategy. It also enhances ERT exposure and awareness, which helps to dispel any misunderstandings.

In this regard, the study recommends the necessity of increasing the risk-taking spirit of individuals and entrepreneurs, as it is one of the most important factors affecting the entrepreneurial mindset on the one hand, and its effectiveness in raising the performance of micro-enterprises on the other. Therefore, the Algerian government must focus its entrepreneurial support policies and strategies on raising this capacity through entrepreneurial awareness programmes, as well as through entrepreneurial training, in addition to actual financial support for projects in a way that inspires confidence among individuals to embark on the entrepreneurial adventure.

Despite the author's efforts, this paper has some limitations. The sample size is the first constraint. To have a deeper grasp of the studied topic, future studies should employ a larger sample size. Second, the applicability and generality of the research findings to different types of enterprises are unknown. Future research might provide more exact explanations on the link between entrepreneurial risk-taking and micro-enterprise performance by using a model that includes certain moderators and mediator factors. Third, this study only looked at entrepreneurial risk-taking as an independent variable, whereas future studies could look into other aspects of entrepreneurial orientation (EO), such as innovativeness and proactiveness, as well as entrepreneurial variables such as market orientation, customer orientation, and overall performance of SMEs.

References

- Akeke, N. I., Adetayo, H. O., Akeke, A. R., & Oyeibanji, M. O. (2021). Strategic Leadership and Performance of Small and Medium Enterprises: The Role of Strategic Interventions. *Modern Management Review*, 26(3), 7-15. DOI: <https://doi.org/10.7862/rz.2021.mmr.13>
- Al Issa, H. E. (2021). Advancing entrepreneurial career success: the role of passion, persistence, and risk-taking propensity. *Entrepreneurial Business and Economics Review*, 9(2), 135-150. DOI: <https://doi.org/10.15678/EBER.2021.090209>
- Al Mamun, A., & Fazal, S. A. (2018). Effect of entrepreneurial orientation on competency and micro-enterprise performance. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12(3), 379-398. DOI: <https://doi.org/10.1108/APJIE-05-2018-0033>
- Algerian Official journal No.2 (2017). Law No 17-02 containing the orientation law on the small and medium enterprise development (SME).
- Alvarez, S. A. (2007). Entrepreneurial rents and the theory of the firm. *Journal of Business Venturing*, 22(3), 427-442. DOI: <https://doi.org/10.1016/j.jbusvent.2006.04.006>
- Antonicic, B. (2003). Risk taking in intrapreneurship: Translating the individual level risk aversion into the organizational risk taking. *Journal of Enterprising Culture*, 11(01), 1-23. DOI: <https://doi.org/10.1142/S0218495803000020>
- Arabeche, Z., Fattouche, S., & Djafar, H. M. (2021). Entrepreneurial Orientation, Organizational Culture and Business Performance in SMEs: Evidence from Emerging Economy. *Sustainability*, 14(9), 5160. DOI: <https://doi.org/10.3390/su14095160>
- Arabeche, Z., Soudani, A., & Abdelli, M. E. A. (2021). Entrepreneurial Orientation and Firm Performance in Algerian Small and Medium Enterprises. *International Journal of Business and Management Invention*, 10(11), 55-65.
- Dai, L., Maksimov, V., Gilbert, B. A., & Fernhaber, S. A. (2014). Entrepreneurial orientation and international scope: The differential roles of innovativeness, proactiveness, and risk-taking. *Journal of Business Venturing*, 29(4), 511-524. DOI: <https://doi.org/10.1016/j.jbusvent.2013.07.004>
- Durst, S., Hinteregger, C., & Zieba, M. (2019). The linkage between knowledge risk management and organizational performance. *Journal of Business Research*, 105, 1-10. DOI: <https://doi.org/10.1016/j.jbusres.2019.08.002>
- Egele, A. C., Muhammad, K., & Mutenyo, J. (2018). Entrepreneurial risk taking and performance of small and medium scale enterprises (SMEs) in Kano State, Nigeria. *KIU Journal of Social Sciences*, 4(3), 213-224. <https://www.ijhumas.com/ojs/index.php/kiujoss/article/view/378>.
- Frishammar, J., & Åke Hörte, S. (2007). The role of market orientation and entrepreneurial orientation for new product development performance in manufacturing firms. *Technology analysis & strategic management*, 19(6), 765-788. DOI: <https://doi.org/10.1080/09537320701711231>
- Hock-Doepgen, M., Clauss, T., Kraus, S., & Cheng, C. F. (2021). Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs. *Journal of Business Research*, 130, 683-697. DOI: <https://doi.org/10.1016/j.jbusres.2019.12.001>
- Huang, S., Huang, Q., & Soetanto, D. (2022). Entrepreneurial orientation dimensions and the performance of high-tech and low-tech firms: A configurational approach. *European Management Journal* (16th March, Article in Press). DOI: <https://doi.org/10.1016/j.emj.2022.03.002>
- Janney, J. J., & Dess, G. G. (2006). The risk concept for entrepreneurs reconsidered: New challenges to the conventional wisdom. *Journal of Business venturing*, 21(3), 385-400. DOI: <https://doi.org/10.1016/j.jbusvent.2005.06.003>
- Klepić, I. (2021). Correlation between Training and Education of Human Resources and Business Performance of Small and Medium Enterprises. *Naše gospodarstvo/Our Economy*, 67(3), 1-16. DOI: <https://doi.org/10.2478/ngoe-2021-0013>
- Messikh, A. (2017). The role of the entrepreneurial spirit in the sustainability of small and medium enterprises: Study of a sample of small and medium enterprises (entrepreneurs) in the state of Skikda. PhD thesis, Université du 20 Août 1955, Algeria. (in Arabic)
- Messikh, A. (2018). Le phénomène entrepreneurial: Un phénomène multidimensionnel. Éditions universitaires européennes.
- Messikh, A. (2021). The Entrepreneurial Intention of Algerian Women (A Sample Study of Skikda University Female Students). *JWEE*, (3-4), 134-150. DOI: <https://doi.org/10.28934/jwee21.34.pp134-150>
- Olawoye, O., Namusonge, G. S., Willy M. (2016). The Role of Risk-taking on Performance of Firms on Nigerian Stock Exchange. *International Journal of Research in Business Studies and Management*, 3(3), 36-44. <http://www.ijrbsm.org/pdf/v3-i3/5.pdf>.

- Pejić Bach, M., Merkač Skok, M., & Suša, D. (2016). Determinants of Entrepreneurial Intentions in ICT Industry: Gender and country of origin perspective. *Naše gospodarstvo/Our Economy*, 62(1), 37-45. DOI: <https://doi.org/10.1515/ngoe-2016-0004>.
- Poi, G. (2021). Entrepreneurial Risk-Taking and Performance of Women Entrepreneurs in Rivers State, Nigeria. <http://www.arcnjournals.org/images/ASA-IAJMMES-8-3-8.pdf>
- Pratono, A. H. (2018). Does firm performance increase with risk-taking behavior under information technological turbulence? Empirical evidence from Indonesian SMEs. *The Journal of Risk Finance*, 19(4), 361-37. DOI: <https://doi.org/10.1108/JRF-10-2017-0170>
- Rochdi, D., Khatijah, O., & Muhammad, A. S. A. H. (2017). Mediating role of the innovation effectiveness on the relationship between entrepreneurial orientation and the SMEs performance in Algeria. *Polish Journal of Management Studies*, 15. DOI: <https://doi.org/10.17512/pjms.2017.15.1.18>
- Sunday, B., Mary N. T. (2019). Risk Taking and the Performance of Small and Medium Enterprises (SMEs) in Nigeria. *International Journal of Research and Innovation in Social Science*, 3(4), 573-579. <https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-3-issue-6/573-579.pdf>
- Tang, T. W., Zhang, P., Lu, Y., Wang, T. C., & Tsai, C. L. (2020). The effect of tourism core competence on entrepreneurial orientation and service innovation performance in tourism small and medium enterprises. *Asia Pacific Journal of Tourism Research*, 25(2), 89-100. DOI: <https://doi.org/10.1080/10941665.2019.1674346>
- Zabukovšek, S. S., Šišovska, I., Mravljak, M., & Bobek, S. (2015). E-business in Micro Companies: Lessons learned. *Naše gospodarstvo/Our economy*, 61(2), 15-23. DOI: <https://doi.org/10.1515/ngoe-2015-0006>
- Zubair, D. S. S., & Khan, M. (2021). Entrepreneurial self-efficacy and small business performance in Pakistan. *Management Science Letters*, 11(6), 1715-1724. DOI: <https://doi.org/10.5267/j.msl.2021.2.011>

Ali prevzemanje podjetniškega tveganja vpliva na poslovno uspešnost mikropodjetij? Dokazi iz alžirskega mesta Skikda

Izvleček

V skladu s številnimi predhodnimi študijami je prevzemanje podjetniškega tveganja pomemben vidik, ki lahko vodi do potencialnih poslovnih priložnosti in s tem izboljša podjetniške rezultate, kot je uspešnost podjetja. Glavni namen tega prispevka je preučiti obseg in stopnjo vpliva prevzemanja podjetniškega tveganja kot ene od razsežnosti podjetniške miselnosti na uspešnost mikro podjetij v kraju Skikda v Alžiriji. Podatki so bili zbrani na osnovi samoprijavnega anketnega vprašalnika na naključnem vzorcu 142 mikropodjetij v mestu Skikda. V študiji so bile uporabljene opisna, korelacijska in regresijska analiza za oceno vpliva podjetniške naravnosti k tveganju. Zbrani podatki so bili analizirani s programom Statistical Package for Social Sciences (SPSS 22). Ugotovitve kažejo, da prevzemanje podjetniškega tveganja pomembno vpliva na uspešnost mikro podjetij v Skikdi. Od skupne variance uspešnosti mikro podjetij je 9,2 % mogoče pojasniti s spremenljivostjo prevzemanja podjetniškega tveganja. Majhen odstotek je pričakovan in ga je mogoče delno pojasniti s prisotnostjo drugih dejavnikov, ki vplivajo na uspešnost teh podjetij, ter z negativnimi učinki pandemije COVID-19 na proces gospodarske dejavnosti in razpoložljive poslovne priložnosti po vsem svetu, zlasti teh zelo majhnih podjetij. Vendar pa je treba zaradi prisotnosti tega pozitivnega učinka pozornost nameniti povečanju duha tveganja obstoječih in potencialnih alžirskih podjetnikov z organizacijo konferenc, forumov in podjetniških programov, ki krepijo in podpirajo to značilnost podjetniške miselnosti.

Ključne besede: prevzemanje tveganja, podjetništvo, poslovna uspešnost, mikro podjetja, Skikda, Alžirija