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The Impact of Risk-taking Behavior on Firms' Performance through the Moderation Effect of Information Technological Turbulences: Empirical evidence from Algerian SMEs

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Abstract*: This paper aims to contribute to risk management studies in small and medium enterprises (SMEs) by examining the relationship between risk-taking behavior and firm performance. In addition, the study examines the intimidating effect of information technology turbulence in the above relationship. The study surveyed the Algerian SME owner-managers and used partial least square structural equation modeling to examine the moderating effects of information technological turbulence. Findings The results confirm the positive impact of risk-taking behavior on firm performance and identify that impact of risk-taking behavior on strong performance is more effective at the low information technological turbulence than at the high one. This study relied on information from the owner-managers in SMEs, which may bias against the perspective of their employees and business partners. This study advances the risk-taking behavior research in the SME context by introducing the effect of information technological turbulence.*

Keywords: Firm performance; Risk governance; Risk-taking behavior; Information technological turbulence

1. INTRODUCTION

It is commonly accepted in business research and practice that risk governance contributes to corporate performance through a combination of risk and return [1]. However, it is frequently difficult to persuade firm-level decision-makers with a strong entrepreneurial orientation to pursue high-risk strategies to obtain the highest results [2]. Many managers believe that in the face of information technological instability, they are not prepared to take a risk by dedicating resources to social media [3].

Risk-taking behavior produces a variety of consequences that require more inquiry to understand better the conditions under which business involvement is risk-enhancing or risk-diminishing [4]. Risk governance is a set of mechanisms, strategies, or regulatory policies that address risk-taking behaviors [5]. Management board members frequently have competing interests in terms of how much risk the company will carry [6]. Risk management still contains contradictions and creates certain issues about the selection of appropriate time intervals for risk identification and control demonstrates this [7].

Risk governance methods at SMEs are very informal, but they take a proactive approach to identifying potential sources of uncertainty and estimating the potential impact of risk [8]. SMEs' risk governance shows their ability to deal with business environmental turbulence [1], which is an essential component of entrepreneurial orientation [9].

This paper examines the moderating influence of information technological turbulence on the connection between risk-taking behavior and company performance. This research surveyed SMEs in Algeria, home to 210 SMEs that did internet commerce. This study considers the observed enterprises' variability by defining the SMEs analogy. There is a possible issue arising from the heterogeneity of SMEs in which risk-taking behavior is governed by a triumvirate of power and control owners, directors, and executives [10]. As a result, this study focuses on SMEs with managerial governance overseen by owner-managers. This means that administrative management depends on the owners, who are also managers.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Risk-taking Behavior and Firms' Performance

Risk-taking incentives, an entrepreneur must be a risk-taker, and better performance follows [11]. The entrepreneurs hope to profit from their decision to invest in their small businesses, which results in a willingness to accept the risks involved with the investment [12]. The result is influenced by common elements of the self-interest assumption, including cost, return, and risk [6]. SMEs are high-risk enterprises, whereas larger firms may be better able to access more resources while reducing risk [13]. Due to minor economies of scale, SMEs with basic organizational structures will be less profitable but more adaptable to the dynamic environment [8]. The long-term orientation strategy encourages SMEs to take more risks by better utilizing their management talents [14].

On the other hand, risk aversion refers to assertive action related to avoiding risk and settling within the comfort zone [15]. According to the principle of loss aversion, people will be risk-averse because they don't want to risk losing the gain they think they are getting. When there are fewer competing enterprises in the area, firms may achieve their expected profit more quickly. As a result, businesses with risk-averse strategies typically expect lower profits [16]. SMEs frequently hesitate to invest resources in knowledge-building initiatives that could help to reduce such knowledge hazards [8]. Because of the unstable business environment, the owner-managers are concerned about the risk to their future profitability [17]. They tend to put off recruiting staff or allocating resources, which results in a "wait and see" mentality [18]. The "wait and see posture" suggests a delayed decision-making process, which was made at the correct time, particularly when the decision-makers contemplate the worst-case scenario [19]:

H1. Risk-taking behavior has a positive impact on firm performance.

2.2 Information Technology Turbulence and Firms' Performance

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin in this template measures proportionately more than is customary. This comprehending the immaturity of SMEs' ability to adopt I.T. technology, the comparison of risks and rewards is frequently applied [20]. SMEs understand the low-risk technological arbitrage opportunities with imitable technology complexity despite having lower R&D competence and fewer resources [21]. SMEs with a strong desire to seize commercial possibilities will function well in the face of predicted technological upheaval [22]. SMEs with a limited market and technical expertise may struggle to perform because of reduced R&D spending and less product variety [23]. Owners of SMEs who are hesitant to distribute resources directly lose control of their networks and resources. The altered risk structure in business dynamics is the driving factor behind risk governance [1]. Effective risk management is still essential for businesses selecting innovation for expansion and competitiveness in the face of extreme technological instability [24].

SMEs cannot accept performance and security concerns because they lack investment funds and I.T. [20]. The firms perform worse when there is considerable technological turbulence than when there is low technological turbulence [25]. SMEs are susceptible to various dangers in an environment of intense technological change, including cybercrime, malware, spam, and distributed denial of service [26]. Businesses are adopting a "wait and see" strategy, such as employing new personnel until they gain confidence [19], as a result of the rising risk caused by environmental uncertainty:

H2. Risk-taking behavior affects information technology turbulences

H3. Information technological turbulence influences the relationship between risk-taking behavior and firm performance.

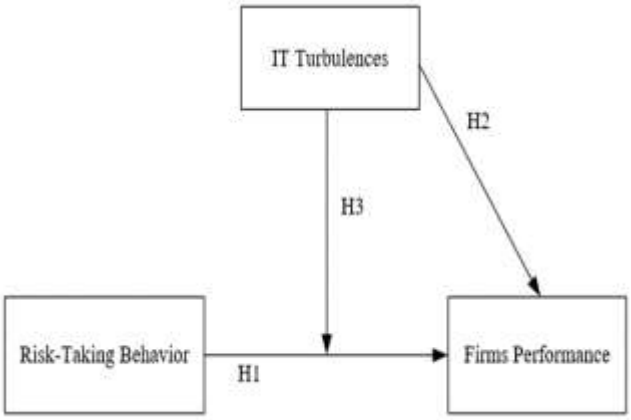

Figure 1. Conceptual framework model

3. Research Method

This study suggests a structural equation model by analyzing the relationship between risk-taking behavior and measurement and theoretical literature. The associations between the latent variables in this study are ascertained using a multivariate statistical approach. This study uses earlier research to help develop the model, and the measurements originate from a survey that was used to gather primary data.

3.1 Measurements

Risk-taking behavior, business performance, and information technology turbulence are the three latent factors. The research technique to address SMEs' low viability or disclosure of private financial information was to use subjective measurements for each component. Many small business owners prepare for personal or corporate taxes, not accounting reports. The questions were encouraged to be answered on seven-point Likert scales, with a lower score indicating less agreement with a statement and a higher score indicating more dealing with it.

The risk-taking behavior variable was modified [27]. There were initially eight risk-taking behavior measures. Six questions are covered in this: "a strong inclination for a high-risk project," "bold and widening acts," "funding for a new business," "business without appropriate resources," "rapid growth in business even during uncertainty," and "fast to spend money on a prospective solution." Additionally, two reversal questions emphasize "analyze a problem before deploying resources" and "wait and see posture to minimize the risk." The performance indicators for businesses are sourced from [13]. This includes the performance of sales growth compared to competitors, as well as return on assets,

return on investment, and sales during the previous three years. The five components that comprise the metrics of information technological turbulence were taken from [28]. This includes "technology breakthrough," "rapid change," "provide new ideas," and "offer significant opportunity.

3.2 Data collection

For several reasons, we were more interested in learning about the owner managers of the studied SMEs than the employees to explain their behavior. The measuring of a firm's entrepreneurial strategy is first determined by owner-managers attitudes about taking [29]. Second, many small businesses in the examined region employ self-employed people. This study concentrated on SMEs for which the Indonesian Ministry of Cooperative and Small Medium Enterprise offered the SME directory as the data population. Surveyors were used in this study to get in touch with the owner-managers of 250 businesses randomly chosen among SMEs in Algeria. As a result, 210 responses were useable, representing an 84% response rate. The participants in this study were sent an anonymous mail survey. This method uses a self-administration model, which is desirable since it encourages respondents to be sincere in their responses because there is no human interviewer. The survey preferred to encourage respondents to complete the anonymous questionnaire rather than doing face-to-face interviews since it was thought that the targeted respondents would provide more accurate answers.

3.3 Data Analysis

For a few reasons, the partial least squares (PLS) method was utilized in this investigation. First, PLS is capable of handling the development of complicated hierarchical models because of the adaptability of the soft modeling assumption for evaluating a hierarchical, reflective-formative quality model [30]. PLS is pertinent for exploratory topics with a tenuous theoretical foundation [31]. Second, the PLS can handle variables measured on interval scales that apply to ordinal data, such as formative measured constructs, complicated structural models, and non-normal data [32]. A nonparametric approach called PLS-structural equation modeling can be used with data of any scale and is simple to combine reflective and formative measurement models [33]. Lastly, PLS is a well-known path modeling technique frequently used to explain latent variables like firm behavior, attitudes, or intention and how they affect organizational performance [34].

The importance of the PLS approach has grown from human resource management to information system research [33], demonstrating the PLS's high relevance for business studies and highlighting the variety of PLS applications [35]. This study investigates the various levels of technical turbulence in I.T. to address the observed respondents' heterogeneity. Analyzing the moderating effects allowed for examining the structural equation model [36]. For modeling data from heterogeneous populations, PLS developed the interaction term, which was used in this study. As a moderator variable, the term "technical turbulence" was used in this interaction.

4. RESULTS

Convergent validity and internal consistency are requirements for the measurement models. This study uses average variance extracted (AVE) to test the concurrent validity. Table II shows that the values of AVE ranged from 0.758 to 0.891, suggesting that the particular constructs share a significant amount of variance. The outer loadings likewise show a consistency between the corresponding indicators and values greater than 0.7 (Table 2). The coefficients of Cronbach's alpha of the latent variables are between 0.936 and 0.98, indicating a better reliability level. This is the conventional criterion for internal consistency. The range of C.R. coefficients, typically regarded as C.A. acceptable in exploratory research, is 0.95 to 0.983. It is crucial to check for this to avoid bias estimation due to collinearity. Cross-loading and the Fornell-Lacker criterion are also used in this study to evaluate discriminant validity. The algorithm computation provides the path coefficient for the structural model and the estimation of loads and weights for the relationships in the measurement models. Together, the three constructs (R2 = 0.312) account for 31% of the variation of the endogenous construct.

Table 1. Reliability and validity test analysis

Constructs	Items	Factor. L	CA	CR	(AVE)
FM	FP1	0.938	0.98	0.983	0.891
	FP 2	0.956			
	F.P. 3	0.963			
	FP4	0.968			
	FP 5	0.901			
	FP 6	0.907			
	FP 7	0.974			
RTB	RTB1	0.93	0.937	0.95	0.758
	RTB2	0.9			
	RTB3	0.799			
	RTB4	0.907			
	RTB5	0.908			
	RTB6	0.77			
ITT	ITT1	0.816	0.936	0.949	0.759
	ITT2	0.815			
	ITT3	0.82			
	ITT4	0.785			
	ITT 5	0.809			
	ITT 6	0.764			
	ITT7	0.73			

Note: FP = Firms Performance; RTB = Risk taking Behavior; ITT = Information Technology turbulence

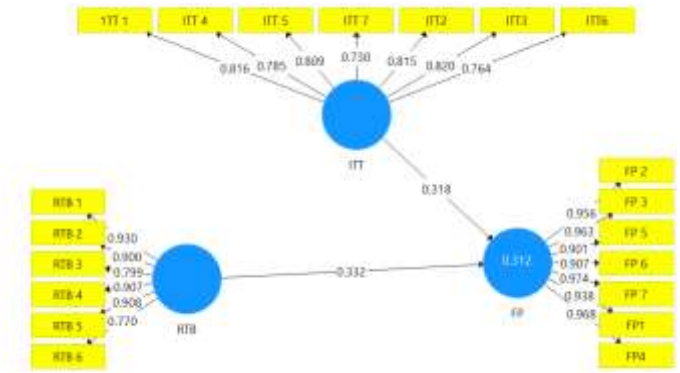

Figure 2 Measurement Model

Table 2. Correlations Matrix and discriminant validity results analysis

	FP	ITT	RTB
FP	0.944		
IT	0.476	0.792	
RTB	0.483	0.473	0.871

Note: FP = Firms Performance; RTB = Risk taking Behavior; ITT = Information Technology turbulence

4.1 *Hypothesis Testing*

Each one has a p-value of less than 1%, making them all statistically significant (Figure 1). The outcome demonstrates that risk-taking behavior has a significant positive impact on company performance at (β = 0.332, t-value = 6.383, p-value = 0.00), indicating that H1 is accepted. With a coefficient at (β = 0.318, t-value = 4.137, p-value = 0), the turbulence in information technology has a favorable impact on firm performance. As each path has a significant p-value of less than 1%, the data further support the validity of H2.

The association between risk-taking behavior and firm performance is finally moderated by ITtrubalence at the coefficient findings (β= 0.255, t-value = 7.725, p-value = 0). Therefore, since both information technological turbulence and interaction terms have a sizable impact on firm performance, hypothesis H3 is reasonable.

The outcome suggests that technological upheaval has a significant impact on the impact of risk-taking behavior on corporate performance. The impact of risk-taking behavior on business performance is sliding because of the rising technological unrest. The moderating influence reveals that, depending on the information technology upheaval, the link between risk-taking behavior and business performance shifts (Table 3 and figure).

Table 3. Summary of hypothesized results

Hypotheses Paths		β	T-value	p-value	Decision
H1(+)	RTB -> FP	0.332	6.383	0	Supported
H2 (+)	ITT -> FP	0.318	4.137	0	Supported
			(R^2)		
	ITT	31			
		Moderation	Effect of ITT		
ITT	ITT_ RTB X FP	0.255	7.725	0	Supported

Note: FP = Firms Performance; RTB = Risk taking Behavior; ITT = Information Technology turbulence

5. Discussion and Conclusion

This study presents an explanation of entrepreneurial behavior as well as actual proof that taking risks has a favorable impact on a company's performance. This study expands on earlier research on risk-taking behavior at the firm level in I.T. instability, given that risk governance is not limited to established procedures. The regression findings with information technology acting as a moderating variable show that under highly turbulent information technological environments, the impact of risk-taking behavior on business performance is less effective. The findings support that SMEs should view low-risk technical arbitrage opportunities as immature technologies. This broadens the discussion of why companies choose to take a risk by adopting a highly speculative technology with a slim chance of experiencing significant commercial success. In contrast, other companies continue to pursue outdated technology. The risk of technological turbulence is expanded upon in this study compared to earlier studies.

In contrast to earlier studies, this one suggests that demand fluctuations are a common source of risk for SMEs. The findings expand on how risk-taking SMEs can function well in the face of varying information technology turbulence levels. As a result, organizations are urged to adopt a risk governance approach to become more resilient and long-lasting. Due to technological upheaval, the effective previous approaches are no longer viable and relevant for the future. For businesses whose strategic position is founded on both competence and complementary capabilities, it must take into account the performance impact of technological capability. The study also likes to emphasize how different I.T. turbulence circumstances have varying effects on how risk-taking behavior affects the performance of firms. The findings also back up the idea that taking the risk of doing something new triggers a strong pricing competence, which leads to firm performance. This study relates the mediating function of pricing capability to a better comprehension of the complex relationship between risk-taking behavior and company performance using risk governance as the conceptual framework.

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