

Achieving banking entrepreneurship through the marketing mix : Case of some Algerian commercial banks

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Received: 21/12/2020

Accepted: 30/04/2021

Published: 18/07/2021

Abstract:

The purpose of this paper is to measure the impact of the marketing mix elements on banking entrepreneurship in some commercial banks in Algeria, with information technology capabilities as a moderator variable on the relationship between the marketing mix and entrepreneurship in the selected commercial banks. The study dealt with four strategies for entrepreneurship in the banking sector: innovation and creativity, taking risks, taking initiative and seizing opportunities, and The degree of uniqueness. In order to achieve the objectives of the study, a questionnaire was designed and distributed to a sample of senior and middle management employees in some commercial banks. Hypotheses were analyzed using SPSS software. The study concluded that there is a direct impact of the marketing mix on banking entrepreneurship, and that the capabilities of information technology in banks and their interaction with the marketing mix greatly contributed to strengthening the banking entrepreneurship of Algerian commercial banks.

Keywords: Marketing mix, Banking entrepreneurship, IT capabilities, Commercial banks.

JEL Classification: M31, L86, L26.

تحقيق ريادة الأعمال المصرفية من خلال المزيج التسويقي حالة بعض البنوك التجارية الجزائرية

ملخص :

الغرض من هذه الورقة هو قياس تأثير عناصر المزيج التسويقي على الريادة المصرفية في بعض البنوك التجارية في الجزائر، مع وجود قدرات تكنولوجيا المعلومات كمتغير معدّل على العلاقة بين المزيج التسويقي وريادة الأعمال في البنوك التجارية المختارة. تناولت الدراسة أربعة استراتيجيات للريادة في القطاع المصرفي: الابتكار و الإبداع ، أخذ المخاطرة ، المبادرة و انتهاز الفرص و درجة التفرد. ولتحقيق أهداف الدراسة تم تصميم وتوزيع إستبان على عينة من موظفي الإدارة العليا والوسطى في بعض البنوك التجارية. تم تحليل الفرضيات باستخدام برنامج SPSS. وقد خلصت الدراسة الى أن هناك تأثيراً مباشراً للمزيج التسويقي على الريادة المصرفية ، وأن قدرات تكنولوجيا المعلومات في البنوك وتفاعلها مع المزيج التسويقي ساهم بشكل كبير في تعزيز الريادة المصرفية للبنوك التجارية الجزائرية.

الكلمات المفتاحية : مزيج تسويقي، ريادة مصرفية، قدرات تكنولوجيا المعلومات، بنوك تجارية.

تصنيف JEL : M31 ، L86 ، L26 .

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1. Introduction :

Since the nineties of the last century, intense competition led institutions, especially financial institutions, to adapt, renew, and restructure their resources and capabilities to suit the competitive environment. Many institutions make up the financial sector in Algeria. The banking sector in developing countries, especially Algeria, is the main and only supplier of credit for public and private investment projects. Therefore, there is a need to investigate the performance of the banking industry. International and national companies are constantly striving for growth, sustainability and entrepreneurship. Entrepreneurship is not only a challenge; it is also a necessity for all types of companies today (Ireland, Hitt, & Sirmon, 2003), making the market more competitive. Researchers and practitioners have mutually agreed that marketing capabilities (MM) are an important consideration in identifying entrepreneurship (Hultman & Hills, 2011).

For example, in their seminal works, (Morris & Lewis, 1995), as well as (Carson, Cromie, Mcgowan, & Hill, 1995), have established that marketing capabilities plays an important role in enhancing Entrepreneurship. Relatedly, studies have also indicated the importance of IT Capabilities (ITCAP) for influencing Entrepreneurship effectively (Hoffman, Sellers, & Skomra, 2018); (Chae, Koh, & Prybutok, 2014).

This study examines the extent of the impact of information technology capabilities on the relationship between marketing mix and entrepreneurship in the Algerian banking sector. The study also assesses the extent of adoption of the public administration in the Algerian banks to integrate information technology in their daily operations and research the degree of confidence in the information technology of banking operations in Algeria. To achieve the highest degree of profitability and credibility of these banks, the results of this study may be useful in terms of proposing some appropriate solutions that may lead to the development of work in the banking sector, increase its efficiency, and formulate appropriate strategies achieved in to the end of the goals that banks seek to achieve.

2. Theory and hypohese development

2.1. Entrepreneurship

Entrepreneurship is an important and promising field in the economies of developed and developing countries alike (Kuratko, 2007). Entrepreneurship contributes effectively to inclusive economic development in all countries, and the concept of “entrepreneurship” is a critical concept in the contemporary economy (Muñoz, Mosey, & Binks, 2011). Entrepreneurship is an ancient concept that was first used at the beginning of the sixteenth century. The concept then included the meaning of risk and the difficulties that accompanied the military exploration campaigns (Zahra & George, 2002), where the concept of entrepreneurship entered into economic activities in the early eighteenth (Kuratko, Hornsby, & Covin, 2014).

After reviewing several literature (Walter, Auer, & Ritter, 2006), (Martens, Machado, Martens, Silva, & Freitas, 2018). It was found that there is agreement among these groups of literature that there are three characteristics of the leading organizations. It was adopted for testing in the practical aspect of the current research, and that these characteristics can improve the entrepreneurial performance of organizations. (Himrane & Hassini, 2019); (Simba, 2015) describe creativity as the organization's efforts to find new opportunities and innovative solutions. This also means the organization's position on the innovation process and its preference for innovation, and includes the spirit of creativity and experience that produces a new product or service and improving technological processes, and creativity is one of the most important components of entrepreneurial behavior. Numerous studies

(Lumpkin & Dess, 2001) and (Hacioglu, Eren, Eren, & Celikkan, 2012) have confirmed that proactive is very effective in promoting entrepreneurship. Proactive organizations monitor trends and try to know the future requirements of existing clients and identify changes in demand or recognize emerging problems that could lead to opportunities for new projects (Davis, Morris, & Allen, 1991); (Bucktowar, Kocak, & Padachi, 2015). To be successful entrepreneurs, they usually have risks and dangerous alternatives even if that means leaving the methods or products they've been working on before, and getting high financial returns (Shepherd, Williams, & Patzelt, 2015). Enterprises sometimes risk borrowing large amounts, committing to large amounts of organization resources, introducing new products into new markets and investing in undiscovered technology (Ndubisi & Iftikhar, 2012).

2.2. banking Entrepreneurship

Banking entrepreneurship means the ability of banks to offer innovative products and services in the market ahead of their competitors from other banks, that is, the ability of banks to exploit opportunities, enter markets in a timely manner and face threats. Banking leadership also means the bank's ability to identify opportunities in the market in which it is active, to procure the resources necessary for its activity and to search for the best ways to employ or invest in banking. A bank that aspires to be a pioneer must convince its customers that it is a distinguished bank in providing certain types of services, as The bank seeks to provide innovative banking services that are offered for the first time in the local or international market.(Dahou c Hacine,2017)

2.3. Marketing mix and banking Entrepreneurship

Entrepreneurship enhances the organization's market orientation through marketing mix operational (Mami & Sadoud, 2016), because market-oriented organizations are in a unique position to predict the needs of customers and provide innovative and creative products and services to satisfy those needs (Bilal & Al Mqbali, 2015), in addition, marketing enhances the organization's creative and innovative capabilities (Kivipöld & Vadi, 2013). Based on the above, the overlap between marketing and entrepreneurship and the impact of marketing mix on entrepreneurship can be illustrated.

(Ahmadi & O'Cass, 2016) pointed out that the marketing activity that Entrepreneurial Marketers are eager to do is one that leads to growth. Marketing from the perspective of entrepreneurial organizations is not just a business function, but they use marketing as a path to achieve competitive advantage based on achieving excellence in their marketing programs and to raise the knowledge of these organizations distinct from customers, markets and technology (Bilal & Al Mqbali, 2015). Entrepreneurial marketers see the marketing function as the core and central function of the organization, which includes creativity and innovation (Nasution, Mavondo, Matanda, & Ndubisi, 2011).

Therefore, the present study proposed following hypothesis:

H1. There is a positive correlation between marketing mix and banking entrepreneurship.

2.4. IT Capabilities and banking Entrepreneurship

(Oh, Yang, & Kim, 2014) defined the capacity of information technology as the ability of a company to acquire, deploy, collect, and reconstruct IT resources to support and enhance business strategies and business processes. (Hoffman et al., 2018) address the IT capability that consists of IT operations and the ability to manage IT in studying the impact of IT capability on corporate performance. Many organizations use information technology

capabilities as unparalleled valuable resources that help the organization gain a leading edge.

Similarly, literature also provides enormous support pertaining to the relationship between IT Capabilities and banking Entrepreneurship (Trainor, Rapp, Beitelspacher, & Schillewaert, 2011); (Bharadwaj, 2000). The present study has attempted to investigate the relationship between ITCAP and Entrepreneurship because ITCAP will vary from business to business. Therefore, the researchers deemed it necessary to further investigate this relationship by proposing following hypothesis:

H2. There is a positive correlation between information technology capabilities and banking entrepreneurship.

2.5. Moderating role of IT Capabilities

The main objective of the present study was to investigate the moderating effect of ITCAP on the relationship between MM and banking Entrepreneurship. The choice of ITCAP as a moderating variable was due to the following reasons.

First, the neglect of traditional marketing theories of the specificity of marketing in the environment of entrepreneurial organizations. And the lack of focus of major marketing processes and tools on the requirements of marketing activity in these organizations was a strong motivation. Which served as the basis for studies that have been concerned with the mixing and overlap between marketing and entrepreneurship (Sulistyo & Siyamtinah, 2016); (Morris & Paul, 1987).

Second, the current study proposed that ITCAP be a potential intermediate variable in the relationship between MM and banking Entrepreneurship, suggesting that the relationship between two variables is conditional or dependent on the level of the third variable. It is therefore suggested that the introduction of an intermediate variable in the relationship between two variables may allow specific understanding and prevent misleading conclusions. Thus, it was hypothesized as under:

H3. The relationship between a marketing mix and banking Entrepreneurship will be moderated by information technology capabilities. Increased levels of IT capabilities will increase the contribution of marketing mix to banking entrepreneurship.

3. Methodology

3.1. Sample and data collection

Some Algerian commercial banks were selected as a field for this study, because they are active in an environment governed by multiple and varied variables, subject to continuous and successive developments, as the number of banks classified as Algerian commercial banks is (20) banks according to the banks guide issued by the Central Bank. And we were able to reach 15 commercial banks.

To test our hypotheses, we used a sample of 160 employees working in major banks operating in Algeria. The survey method was used to collect data from these banks. We used the questionnaire as the main tools to collect data from the study sample. The composition of the sample collected is described in Table 1. We also excluded 12 questionnaires because there was no statistical analysis of them, so the statistical analysis was performed on only 148 questionnaires ($160-12 = 148$).

Table (1): Composition of the collected sample.

Variables	Levels	The number	Percentage %
Gender	Female	78	52.7
	Male	70	47.3
Age group	20-30	39	26.4
	31-40	75	50.7
	41 and above	34	23.0
Educational level	Secondary	02	1.4
	Obtain a certificate or diploma	01	0.7
	Graduate Studies	145	98
Job position	Director	11	7.4
	Deputy director	18	12.2
	Chief Service	38	25.7
	Managerial staff	81	54.7
Professional Experience	Less than 05 years	38	25.7
	From 05 to 10 years	39	26.4
	From 10 to 15 years	47	31.8
	More than 15 years	24	16.2
Totale		148	100%

Source: Researcher

After completing the questionnaires in the statistical analysis program, the following statistical tests were conducted on the data:

- (1) the reliability of the scale were measured; and
- (2) Pearson correlation analysis and other descriptive statistical analyzes were conducted to test the correlation between independent and dependent variables; and
- (3) Process macro modeling, to identify the effect of the moderator variables on the relationship between independent and dependent variables (A. F. Hayes & Rockwood, 2017).

3.2. Measures

Marketing mix

It includes seven main dimensions: elements of operational marketing mix, elements in this scope reflect the extent to which new ideas are developed and implemented in the bank's marketing mix. Marketing service from the workers' point of view, which included (28) items, and previous researchers have already used it in the same way. For example, see (Yelkur, 2000). This scale was used and researchers adjusted it to fit the goals of the current study.

IT capabilities

The IT Capability Scale included five paragraphs (IT infrastructure including hardware and software (Chae et al., 2014), proprietary software and shared services, IT skills and operations (Byrd & Turner, 2001).

Banking Entrepreneurship

Entrepreneurship in bank sector, which indicates the positions of managers to the extent that the bank took the lead in the field of banking. It includes three main dimensions: excellence and creativity, risk orientation, and proactive direction (Lumpkin & Dess, 2001). This scale was used as the formula approved in previous research. The researcher made the necessary adjustments to fit the objectives of this study and included 12 paragraphs for the three dimensions (four paragraphs for each dimension).

Ratings were based on a five-point Likert scale ranged from 1 = strongly disagree to 5 = strongly agree.

4. Results and discussion

4.1. Measurement model assessment

According to (Henseler, Ringle, & Sarstedt, 2012) for assessing measurement model; researchers need to determine individual item reliability and determine internal consistency, content validity, convergent validity and discriminant validity.

Validity of the scale

The Smirnov Z kolmogorov scale was used to measure whether the study variables were normally distributed (moderate) or not (Jarque & Bera, 1987). If the attribute Sig is less than 0.05, The distribution is normal, and we can see from Table (02) that the value of the tabular Sig is less than 0.05 at 95% confidence level, and therefore all variables take the normal distribution.

Reliability of the scale

It was evaluated by calculating the total and partial alpha Kronbach coefficient. It was greater than 60% for all independent, intermediate and dependant study variables, which indicates good reliability of the scale, the value of this coefficient ranging from (0) to (1), and the value of the coefficient of stability (Alpha) is an indicator of the degree of reliability of the internal scale (Goforth, 2015). The total alpha value for the study variables was (82%). Alpha is good because it is above the minimum acceptable ratio (60%). Table (02) shows the results of the test of the validity and reliability of the study scale.

Table (2): The results of the test of the validity and reliability of the study scale

variables	Items	Test Kolmogorov-Smirnov	Sig. asymptotique (bilatérale)	Cronbach's Alpha
MM	07	0.18	.200	0.87
IT Capabilities	05	0.17	.200	0.89
Innovation and creativity	05	0.13	.200	0.86
Take risks	02	0.14	.200	0.82
Taking initiative	03	0.24	.200	0.86
The degree of uniqueness	03	0.15	.200	0.83

Source: Researcher

The means, standard deviations, and bivariate correlations for all variables are presented in Table 3. Moderation analysis with process was used to test the hypotheses, as suggested by (A. F. Hayes & Rockwood, 2017). In each regression, the control variables

(bank age and size) were entered in step 1. The independent variables (MM and ITCAP) were included in step 2, followed by the interaction term of MM and ITCAP in step 3. To reduce possible problems with multi-collinearity resulting from interaction terms, we centered the independent predictor variables prior to computing the interaction term. The Correlations indicate that there are strong correlations between independent variables and dependent variables, all of which are significant at the level of significance of 1%, which does not exceed the value of 90%, and this indicates that these variables do not suffer from the problem of self-correlation between them, and therefore can continue the hypothesis test.

In the main effect model, regression coefficients estimate public relations across all levels observed for other predictions. In line with hypothesis 1, MC has a positive effect on creativity and excellence ($b = 0.99, p \leq 0.01$), risk tolerance ($b = 1.04, p \leq 0.01$), Proactiveness ($b = 0.77, p \leq 0.01$). Hypothesis 2 was only partially supported. However, the effects of ITCAP on creativity and excellence, risk tolerance and proactive orientation were not significant in Form 2.

In model 3, The R², ranging from 0.38 to 0.92, indicate a satisfactory level of explanation of the performance variables.

Differences in the values of coefficients for the main effects model and the overall interaction model result from the fact that the MM and ITCAP coefficients in the latter model estimate conditional relationships (Prado, Korelo, & Silva, 2014). (A. F. Hayes, 2012).

Table (3): Descriptive statistics and correlations*

Variables	Mean	S.D	1	2	3	4	5	6	7	8	9
MM	3,73	0,46	1.0								
ITCAP	3,39	0,59	0,53**	1.0							
Innovation and creativity	3,25	0,67	0,64**	0,29**	1.0						
Take risks	3,40	0,75	0,52**	0,13	0,60**	1.0					
Taking initiative	3,66	0,56	0,63**	0,33**	0,59**	0,47**	1.0				
The degree of uniqueness	3,65	0,57	0,61**	0,32**	0,59**	0,47**	0,49**	1.0			
Firm Size	4,62	0,78	-0,29**	-0,18*	-0,21**	-0,00	-0,32**	-0,26**	1.0		
Firm Age	3,66	1,55	-0,17*	-0,06	-0,20*	-0,03	-0,26**	-0,16*	0,83**	1.0	
Sector type	1,45	0,49	0,10	-0,00	0,07	0,02	0,08	0,04	-0,46**	-0,38**	1

** . The correlation is significant at the 0.01 level (bilateral).

* . The correlation is significant at the 0.05 level (bilateral).

The MM×ITCAP interaction terms are, all positive and significant (on Creativity and excellence: $b = 0.41, p \leq 0.05$; on take risks: $b = 0.79, p \leq 0.01$). The ΔR^2 for the contingency versus main effects models are statistically significant. Thus, Hypothesis 3 is

supported with respect to most of entrepreneurship measures. The interaction effect of MM×ITCAP on proactive orientation was, as expected, positive, but not significant.

4.2. Testing moderation effect.

To test this hypothesis, the researcher used Process macro modeling, to find the effect of the moderator variables on the relationship between independent and dependent variables, based on an estimate of three models. The first model aims (base model) to test the significance of the direct effect of the independent variable (marketing mix) and the control variables (age, size and sector of the bank) in the dependent variable (banking entrepreneurship). In the second model (Reduced model), the researcher introduced the moderator variable (IT capabilities) to test the direct impact of this variable in the model, while the third model aims (Full model) to test the interaction between (marketing mix and IT capabilities) in the banking entrepreneurship.

It is clear from Table 04 that the base model is statistically significant, where the value of F for the model as a whole was (36.48) and a significant level (0.00), and the results show a direct significant impact of the marketing mix in banking entrepreneurship (H1).

Table (4): Hierarchical regression models

variables	Banking entrepreneurship		
	Model 1 (Base Model)	Model 2 (Reduced Model)	Model 3 (Full Model)
Control :			
Firm Size	0.06	0.06	0.07
Firm Age	0.05	-0.05	-0.04
Sector type	-0.02	-0.03	-0.02
Independent :			
MM	0.80	0.82	0.92
ITCAP		-0.02	-0.03
Interaction :			
MM × ITCAP			0.44
R² (square)	0.49	0.48	0.53
R² change(intr)			0.02
F	36.48	29.06	26.60
N	148	148	148
	0.000	0.000	0.000

Source: Researcher

It is also clear from the previous table, that the reduced model is statistically significant, where the value of F for the model as a whole (29.06) at the level of significance 0.00. As the ITCAP significantly affect banking entrepreneurship (H2), as the adding of ITCAP as an independent variable in the model did not lead to a change in the explanatory power of the model, where the adjusted determinant coefficient was (48%), a decrease of (1%) compared to the base model.

As for the results of the full model (Model 3), which is the theoretically and statistically approved model, he indicated the importance of the model. Where the value of F for the model as a whole reached (26,60) at a significant level (0.00) and the results indicate that adding the effect of (IT capabilities) as a moderator variable in the model led

to an increase in the explanatory power of the model. Where the value of the coefficient of determination (R^2) (53%) is an increase of 5% compared to the reduced model, and an increase of 4% compared to the base model.

Recalling (H3), it was stated that ITCAP moderates the relationship between MM and banking entrepreneurship. As expected, the interaction terms representing MM *ITCAP ($b = 0.44$, $t = 2.75$, $p < 0.005$) was significant. Thus, H3 was fully supported. Following the guidelines of (A. Hayes, 2016).

4.3.Discussion:

This study examines how MM and ITCAP affect entrepreneurship in the banking sector in Algeria. MC is a set of tools available to marketing managers to find the form and nature of the service provided to customers, which helps to develop long-term strategies and short-term programs (E. Jerome M, 2019). ITCAP refers to a wide range of capabilities, components, or various components used to process, store and distribute data and information (Chae et al., 2014).

MM and banking entrepreneurship:

The results of this research give two theoretical contributions. First, they support the recent arguments of entrepreneurs regarding the importance of MC elements to achieve the dimensions of entrepreneurial behaviour (Sulistyo & Siyamtinah, 2016). Second, we analyzed the overlap between marketing and entrepreneurship and not just the presence of MC. Entrepreneurial organizations use marketing as a path to achieve competitive advantage, based on achieving excellence in their marketing programs. Highlighting that increased marketing capabilities lead to more effective identification of opportunities in banks.

ITCAP and banking entrepreneurship:

In this study, we found that ITCAP has a very important direct impact on achieving entrepreneurial advantages. Obviously, the banks under study may use ITCAP as an effective means of seeking competitive advantages. The moderate significant impact of ITCAP on the entrepreneurship makes it clear that ITCAP can maintain a creative approach, attract customers and improve the organization's reputation as a qualified technology provider. As such, ITCAP contributes to the relational capital (Chen & Siau, 2012) of companies, which can be considered as one of the most important factors in laying the foundations and pillars of leadership that give the organization the status of excellence.

Moderating effect of ITCAP on the MM – banking entrepreneurship relationship:

Pursuing an Entrepreneurial Behavior is a resource-consuming process (Karimi & Walter, 2016) have argued that an organization's entrepreneurial capacity will be limited by its available resources and capabilities. In this study, the moderate role of ITCAP is shown. Comparing the reduced model to the complete model and the associated interaction term clearly reveals that ITCAP modifies the relationship between MM and banking entrepreneurship. We found that the two variables had a significant interactive impact on the dimensions of entrepreneurship. Thus, ITCAP strengthens the relationship between MM and entrepreneurship. Therefore, Algerian banks can adopt a pioneering approach that relies on marketing mix (elements of the marketing mix) and because of information technology capabilities to meet the cases of strategic change that occur in their environment.

These results have important implications for the management of banks. Companies should note that the market orientation itself is not enough to compete in today's markets. MC is an entry ticket that offers higher efficiencies on performance. However, marketing mix activities do not create value and should not be considered the primary force to reach and maintain a leading position. This also means that the researched banks should enhance their capacity in the IT framework to enhance the positive aspects and address the negative aspects of the link between the IT capabilities and the indicators of entrepreneurship. Our findings indicate that the factors that influence entrepreneurial dimensions are not only marketing mix activities but also IT capabilities.

Therefore, The results of this study indicate that decision-makers in the banking sector in Algeria, in particular marketing managers, should seriously consider developing the marketing mix (the independent variable) for its direct role in banking entrepreneurship (the dependent variable), by assuming environmental risks and seizing marketing opportunities. The moderating role of ITCAP indicated that the effective alignment of the IT capacities of Algerian banks with the elements of the marketing mix, could strengthen the entrepreneurial position of the bank, as well as making marketing managers aware of the importance of fostering an entrepreneurial culture in their banks. Accordingly, the above conclusions and discussions summarize that the elements of the marketing mix were a significant potential indicator of entrepreneurship in the banking sector in Algeria. Therefore, it is necessary to pay attention to the importance of these factors in promoting entrepreneurship in the Algerian service sector.

5. Conclusion

First, it is essential to mention that the data on entrepreneurship presented in this study were of a personal nature. Although researchers have shown that subjective data are valid and reliable for entrepreneurship assessment (Dechow, 2012) on the contrary, the researchers also argued that subjective measures are subject to many types of judicial biases (Schulte, Lehmann-Willenbrock, & Kauffeld, 2015). Although objective data were not readily obtained (Judd, Kenny, & McClelland, 2001). However, the objective measure will further enhance the results. Therefore, future research using objective measures is needed to further validate the results of this study. Second, it is very difficult to present the generalization of the results of this study because the study sample was mainly driven by some of the major banks in Algeria and in particular, covering the main cities of the country. Therefore, it would be appropriate to include other banks in Algeria in the study sample to improve the generalization of results. Banks can also be studied and compared with other financial institutions in the country for their comprehensive understanding of the entire financial sector and its prospects.

Third, in this study, the research model showed 53% of the difference. This suggests that other factors may specifically explain and explore the disparity in entrepreneurship. Future researchers may therefore consider other factors that can improve entrepreneurship. In particular, further investigation of this phenomenon is encouraged in service-based industries such as health care, education, insurance and hotel industries. Finally, the study presented test potentially moderate impact of IT capabilities on the relationship between marketing mix and entrepreneurship. This states that IT capabilities is a critical element in promoting entrepreneurship by helping organizations to strengthen their marketing practices. In the future, researchers may make further efforts to determine how IT capabilities can help organizations enhance their performance and enhance their entrepreneurial capacity.

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