

FinTech ecosystem as influencer of young entrepreneurial intentions: empirical findings from Tunisia

FinTech
ecosystem as
influencer

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Received 18 August 2021

Revised 10 January 2022

12 February 2022

Accepted 9 March 2022

Abstract

Purpose – The study aims to investigate the influence of FinTech (Financial Technology) determinants such as crowdfunding, mobile payment and blockchain as potential facilitators in an entrepreneurial ecosystem for undertaking decisions in Tunisia, as an example of emerging economy.

Design/methodology/approach – Quantitative research was carried out with data collection based on a questionnaire that has been sent via email to young Tunisian entrepreneurs (potential or actual). A following regression was calculated on 93 respondents.

Findings – Analysis of the data showed that most of the relationships under investigation were confirmed. Statistical tests highlighted that knowledge, availability and access about crowdfunding and blockchain had a positive and significant impact on entrepreneurial intention. Regarding mobile payment, there was a negative and insignificant effect on entrepreneurial intention.

Originality/value – From the evidence of the research, Fintech ecosystems may positively influence the decision to undertake, with relevant implications at institutional, industrial and individual level. More specifically, demonstrating a positive and significant relationship between some main dimensions of FinTech and entrepreneurial intention and emphasizing the contribution of related knowledge to intellectual capital accumulation through entrepreneurial education, this study seems to be unique in examining and verifying this potential effect.

Keywords FinTech, Entrepreneurial intention, Crowdfunding, Mobile payment, Blockchain, Intellectual capital

Paper type Research paper



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Journal of Intellectual Capital
Vol. 24 No. 1, 2023
pp. 205-226
Emerald Publishing Limited
1469-1930
DOI 10.1108/JIC-08-2021-0220

1. Introduction

Nowadays, interest in financial technology (FinTech) has increased. The world that has witnessed the emergence of more than 12,000 large established companies globally. They invested US\$19bn in 2015 (Lee and Shin, 2018), and this explains the adoption of FinTech in the world. This growth has also impacted emerging economies, stimulating entrepreneurs to use advanced technologies to attain a market competitive edge. A vast series of innovative solutions have emerged that have propelled increasing progress in entrepreneurship. In this respect, FinTech represents a powerful element of the global entrepreneurial ecosystem, both for developed and emerging economies (Berman *et al.*, 2021).

In fact, FinTech is a combination of innovative technological platforms and new business models that facilitate everyday financial services. In this respect, it has enormously impacted the e-economy all over the world (Campanella *et al.*, 2020). Common products for FinTech include e-wallet, cryptocurrency and peer-2-peer (P2P) lending. Also, InsurTech has become the leading financial alternative for consumers and businesses in the insurance sector. Although FinTech is still in its nascent stage in the Tunisian market, it is at the perimeter of the investigation in the current research as example of an emerging economy. The costs and benefits of FinTech for consumers and businesses remain vastly unexplored in this region. At the same time, there is a relevant ferment of start-ups in this industry who implement e-payments, e-trading, e-crowdfunding and so on (Festa *et al.*, 2019); thus offering great opportunities to potential new entrepreneurs.

Incumbent financial service operators, as well as established technology companies, also play an important role in the FinTech ecosystem. Financial service firms spent over US\$480bn on information technology in 2018 (IDC, 2018), and many have engaged in FinTech innovation. However, the digital economy offers many opportunities for small and large companies to innovate, and these opportunities extend to the financial sector where FinTech start-ups continue to enter the market with new, smarter and more user-friendly financial services and products than incumbents. They are applying new technologies, such as blockchain, smart contracts, artificial intelligence and other impactful technologies (Haddad and Hornuf, 2019; Di Vaio *et al.*, 2020).

In this respect, Dapp (2014) pointed out that FinTech is generally not derived from finance. Instead, it shows more characteristics of its technological background. The trend toward FinTech appears to be continuing as the constant progress of mobile devices, cloud processing and big data collection through social networks and other web applications continues, and new opportunities for simplification, adaptability and individualization are evolving (Dapp, 2014). This provides evidence for the enabling role of knowledge management to feed new and innovative entrepreneurial ecosystems (Autio *et al.*, 2018; Rossi *et al.*, 2020, 2021b; Caputo *et al.*, 2021; Gomes *et al.*, 2021).

In this respect, intellectual capital, a complex mixture of intangible assets, is essential because it is widely recognized as one of the most relevant resources for companies to generate competitive advantages (Edvinsson and Sullivan, 1996; Paoloni *et al.*, 2020). In the information society, knowledge derived from inside and outside the company ("ecosystem") is strategic for business survival, growth and development (Ferraris *et al.*, 2017; Santoro *et al.*, 2018; Scuotto *et al.*, 2020a), especially with respect to human capital (Inshakova *et al.*, 2020).

In this direction, entrepreneurship education can play a major role in developing undertaking intentions, especially of young people (Anwar and Saleem, 2019). Supporting entrepreneurship by teaching skills increases the potential for future entrepreneurial activities, foraging human capital and then intellectual capital accumulation. This reinforces the need for entrepreneurship education for young potential undertakers (Murray and Palladino, 2020).

In this regard, this study examines the importance of knowledge availability and access to information about FinTech solutions (namely crowdfunding, mobile payment and

blockchain) as potential determinants, at the level of the entrepreneurial ecosystem, together with opportune entrepreneurial education, for the carriers of innovative projects of young entrepreneurs in emerging economies, adopting the following structure. A review of the literature is presented hereafter to provide support for the research hypotheses. The sections that follow explain the methodology and report on data collection, analysis and discussion, with related implications. Finally, concluding remarks and the limitations of the study are debated.

2. Environmental background and theoretical perspective

2.1 *Entrepreneurial education in the entrepreneurial ecosystems*

In general, the act of undertaking physiologically includes several dimensions of analysis, implying that the related investigation could start from different perspectives. For example, from the point of view that highlights innovation, entrepreneurship is the invention of different products, processes (Abdulkader *et al.*, 2020) or models (Schumpeter, 1934). From the point of view that highlights creativity, entrepreneurship is substantially a business invention (Gartner and Carter, 2003).

In the perspective of the entrepreneurial ecosystem as a set/network of factors and actors that may stimulate to undertake, particularly in a specific region (Cohen, 2006; Stam, 2015; Spigel, 2017), the study of entrepreneurial intentions requires an advanced research approach to go beyond descriptive research (Bird, 1988; Hussain *et al.*, 2021). Potential entrepreneurs must be prepared to face any business obstacle or possible risk in general. Although they can learn from failure, extreme failure can demotivate entrepreneurs to move forward because of the financial and psychological costs and the negative perception of society (Liu *et al.*, 2020).

From another perspective, the entrepreneurial intention could also depend on the difference in potential income that could be earned as an employee or freelance. Science, technology, engineering or math (STEM) graduates particularly are believed to be mostly well paid simply by being employees, a circumstance that may discourage them from being self-employed (Cai and Winters, 2017).

Ginanjar (2016) defines entrepreneurship education with specific regard to university courses about entrepreneurship. The supposed effect of the education to undertake on actual undertaking derives from the assumption that entrepreneurial skills can be taught and/or learned in such environments (Scuotto *et al.*, 2020a, b).

In general, education about entrepreneurship contributes to the development of human capital and then the intellectual capital of a potential business. However, so far, few studies have considered the contribution of the entrepreneurial competence derived from entrepreneurial education to entrepreneurial intention, meaning that this relationship seems, so far, to be mainly supported from a theoretical more than an empirical point of view.

2.2 *Human capital as the accumulation of entrepreneurial education in entrepreneurial ecosystems*

The concept of the intangible assets that can flow into the accumulation of intellectual capital has different definitions with dual effects. From one side, they constitute evidence about the relevance of intellectual capital in the scientific literature (due to the increasing volume of studies in the field). From the other one, they manifest the absence of a common definition. Nonetheless, many researchers (Sullivan, 1999; Hormiga *et al.*, 2011; Festa *et al.*, 2020; Rossi *et al.*, 2021a) assume that intellectual capital is substantially made up of three components, that is, human, structural and relational capital.

Adopting an entrepreneurial perspective, one of the most relevant factors that new entrepreneurs can activate for undertaking is their entrepreneurial knowledge, which should

be physiologically transformed, after starting the business, into the human capital and then the intellectual capital, of the enterprise (Mariano and Walter, 2015; Matricano, 2016; Passaro *et al.*, 2018). In this respect, individual and then corporate intellectual capital represents a dynamic engine of business knowledge creation. It operates as an intangible asset that evolves continuously, and thus it is required in order to capture the tacit knowledge accumulated and/or created to turn it into explicit knowledge. On the one hand, knowledge management (KM) becomes a theoretical and practical framework to guarantee the contribution of intellectual capital to achieve creation, innovation and improvement of business performance (Papa *et al.*, 2021). On the other hand, intellectual capital can be used to further implement KM strategies by examining its benefit, from an entrepreneurial perspective, in successfully improving financial and operational performance and, when possible, activating the entrepreneurial education that the potential undertakers may have received directly via the academic system or indirectly via the entrepreneurial ecosystem (Bontis *et al.*, 1999; Nonaka *et al.*, 2000; Carayannis *et al.*, 2014; Schiavone *et al.*, 2014; Rossi *et al.*, 2020).

2.3 FinTech opportunities in the entrepreneurial ecosystems

Innovative business platforms on which financial companies, exploiting and exploring incremental and disruptive innovations, develop new products, services, processes and models constitute the fundamental concepts that may represent the FinTech environment (Puschmann, 2017). For instance, the use of emerging technologies, such as decentralized distributed ledgers (“blockchains”) or P2P systems, to radically change the state of the art of the financial sector and accurately leverage new capabilities (Gozman *et al.*, 2018) are examples in this respect.

In general, Leong and Sung (2018) defined FinTech as an innovative ecosystem that improves financial services by using technology in a business scenario and adopting disruptive concepts and models that change the entire business. Bofondi and Gobbi (2017) affirmed that FinTech offers all of the services that banks previously offered, but with a minimal margin.

With specific reference to FinTech as factor of the entrepreneurial ecosystem, Santoso (2016) stated that the use of information technology greatly influenced entrepreneurial intention. They found that Indonesian students who understand and use information technology show more entrepreneurial intentions than students who do not understand and access information technology. Also, this is true for those who have financial capital (in the form of money) and a strong entrepreneurial intention. The lack of capital is one of the main causes that prevents students from undertaking (Aragon-Sanchez *et al.*, 2017).

2.4 A combined focus on young entrepreneurs

By mixing entrepreneurial education and subsequent potential intention, intellectual capital accumulation and FinTech opportunities, it is possible to determine a multifaceted profile of investigation, that is, young entrepreneurs in FinTech with entrepreneurial education. According to several regulations around the world, youth refers to a varying interval of age. Young people may be considered to be between the ages of 15 and 30, and young entrepreneurs can be defined as individuals under the age of 25 who wish to pursue entrepreneurial activities as a career (Hulsink and Koek, 2014). For the purposes of the current research, young entrepreneurs in FinTech are defined as young individuals between the ages of 18 and 25 that created their own business or planned to set up a business in this specific sector.

3. Hypotheses development

Based on the previous considerations, the following hypotheses have been formulated. They aim at investigating the impact of knowledge, availability and the accessibility of the FinTech

ecosystem (in the form of crowdfunding, mobile payment and blockchain) as potential influencers of entrepreneurial intention, working in combination with entrepreneurial education (at an individual level) as a contextual intellectual capital factor (at the environmental level).

3.1 Crowdfunding and entrepreneurial intention

Achieving accumulation, via electronic platforms, of a quantity of capital in the form of large, medium or usually small contributions is the essential meaning of the concept of crowdfunding (Festa *et al.*, 2019), even in terms of additional integration with respect to common entrepreneurial finance (Short *et al.*, 2017). A recurring schematization of crowdfunding configures it as an Internet call for collecting the financial means to support specific projects (Bellefamme *et al.*, 2010; Mollick, 2014).

For some authors, crowdfunding has emerged as an important force in corporate finance and nonprofit businesses (Vealey and Gerding, 2016; Li *et al.*, 2017). In general, crowdfunding seems to have enormously impacted entrepreneurial potentiality (Del Sarto and Magni, 2018). It has emerged as an interesting opportunity, especially in emerging economies (Nisar *et al.*, 2020).

Research suggests that the relationship between capital seekers and capital providers depends on the context and the intent of the campaign (Bellefamme *et al.*, 2010). The behavior of the funder is influenced by the potential of the project, the duration of the campaign and the geographical proximity (Agrawal *et al.*, 2010; Burtch *et al.*, 2013; Gleasure and Feller, 2016). However, for many countries, several studies have highlighted the relevance of many operators, at an institutional more than an individual level, which may influence crowdfunding evolution (Mollick, 2014; Jegelevičiūtė and Valančienė, 2015), highlighting the impact of the entrepreneurial ecosystem in stimulating new entrepreneurship in this field.

Although crowdfunding was born as a solution for collecting funds in the creative and social sectors, usually having nonmonetary rewards in return (Hemer, 2011), the more intense diffusion of crowdfunding in the economic systems has evolved toward entrepreneurship (Vasileiadou *et al.*, 2016; Bento *et al.*, 2019). In general, this has happened in the concept of a social enterprise, especially when it is technological (Del Giudice *et al.*, 2019). To test this expectation, the following hypothesis has been formulated.

H1. Crowdfunding has a positive impact on entrepreneurial intention.

3.2 Mobile payment and entrepreneurial intention

The evolution of the Internet, most of all when accessible from smartphones, has vastly impacted the financial system, in particular as regards the mobile payments, as in truth has happened for any other field of the digital economy (Del Giudice *et al.*, 2021). There has been a rapid development in the part of telecom operators, financial institutions and merchants to increase the adoption of mobile services using the Internet, most of all via mobile phone usage (Humbani and Wiese, 2019; Kumar *et al.*, 2020, 2021).

Other relevant studies in the field have emphasized the necessity for common technological standards (Dahlberg *et al.*, 2008), confidence on behalf of the users (Lu *et al.*, 2011) and the maturity of some psychological and social factors (Yang *et al.*, 2012). All of these aspects are strictly related to the concept of the risk that is connected to mobile payments, which somehow should discourage one from conceptualizing it as a positive relationship. Instead, to test this specific expectation, the following hypothesis has been formulated.

H2. Mobile payment has a positive impact on entrepreneurial intention.

3.3 Blockchain and entrepreneurial intention

To ensure the integrity of whatever utility (product, process or other) is possible to enable its tokenization, using a decentralized network that can be called a blockchain, these tokens can be sold not only to gain access to the abovementioned product and/or process but also, for example, to enter the capital of a business. In fact, even equity investments are nowadays possible. For example, with the implementation of the 2012 “Jumpstart Our Business Start-ups (JOBS)” law in the USA (Goulding *et al.*, 2013), entrepreneurs and small business owners have the opportunity to seek stock or bond investments from the public, often in the form of crowdfunding (Stemler, 2013). In this vein, crypto entrepreneurship tokens may accelerate the harmonization among the several operators that may act in an ecosystem (Bakos and Halaburda, 2018) with a blockchain that may enable relationships that are more transparent, reliable and fluent among entrepreneurs and potential investors (Cong *et al.*, 2021).

Most probably, the better the performance of the blockchain, the better the vitality of the entrepreneurial ecosystem (Li and Mann, 2018). To test this expectation, the following hypothesis has been formulated.

H3. Blockchain has a positive impact on entrepreneurial intention.

3.4 Entrepreneurial education and entrepreneurial intention

Undertaking is a complex activity, with several elements that may condition the related spirit (Autio and Acs, 2010). In many cases, these elements discourage potential entrepreneurs, above all when young, from starting a business (Van Gelderen *et al.*, 2015). In addition, entrepreneurial education is one of the most important investments that people can implement. By accessing this kind of training, people can not only develop knowledge and skills but can also have more ideas, solutions and then opportunities (Wu and Wu, 2008).

Thus, education about undertaking is a relevant enabler of the entrepreneurial ecosystem because it can improve the performance of young people in starting their own businesses and augment the possibilities and the probabilities of potential positive results for entrepreneurship trainees (Duval-Couetil, 2013; Brockman *et al.*, 2021). To test this expectation, the following hypothesis has been formulated.

H4. Entrepreneurial education has a positive impact on entrepreneurial intention.

3.5 Favored regions and entrepreneurial intention

Entrepreneurship is emerging as one of the most important pillars of economic growth and development. There is widespread consensus that entrepreneurial ecosystems necessarily represent the humus for dynamic, productive and job-creating economies, despite the diversity of definitions of entrepreneurship (Stam, 2015; Nicotra *et al.*, 2018; Olutuase *et al.*, 2018; Stam, 2018; Clark *et al.*, 2021; Stam and Van de Ven, 2021). In this respect, awareness of the importance of an entrepreneur in economic activity has evolved, and several emerging economies, such as Argentina, Chile or Tunisia, have developed specific programs that aim to strengthen the creation of jobs by granting financial and fiscal advantages to those who launch their projects in favored areas (Cruz del Rio Rama *et al.*, 2014).

However, most of the projects have been carried out in the favored areas. To test this expectation, the following hypothesis has been formulated.

H5. Favored regions have a positive impact on entrepreneurial intention.

3.6 Gender and entrepreneurial intention

Most research about potential differences concerning entrepreneurial behavior related to gender has been framed in a comparative fashion (Eddleston and Powell, 2008). To put it

briefly, there seems to exist the underlying presumption that men and women behave differently, even though there is substantial difficulty in proving that unequivocally (Wilson and Tagg, 2010).

Yet, "... the notion that women and men entrepreneurs are essentially different seems to retain a firm grip and thus, continues to inform research efforts and policy development" (Ahl and Marlow, 2012, p. 545). To test this expectation, with specific reference to young entrepreneurs, the following hypothesis has been formulated.

H6. Male gender has a positive impact on entrepreneurial intention.

4. Research structure

This section has been provided to describe the sample, the instruments and the methodology that was adopted for data collection and analysis. Afterward, the empirical model and its engineering are explained.

4.1 Sample

The data were collected through an online survey from all over Tunisia, which was selected as a common example for emerging economies (Othmani, 2021; Akrouit and Damak Ayadi, 2022; Sghaier *et al.*, 2021). The questionnaire of the investigation was sent via Google Forms to all young entrepreneurs who had registered with the Junior Chamber International (JCI) in Tunis, Tunisia. The respondents were assured that no personal detail or information was required for the survey so that their identity would remain anonymous.

The survey was globally conducted in the period from April 2020 (first submission) to July 2020 (last responses). Finally, the sample contains a total of 93 people (respondents on a convenience basis) registered with the Tunisian JCI (respondents on a judgment basis).

4.2 Instruments

The survey questions were developed starting from previous investigations in the background context of this research (namely entrepreneurial intentions in entrepreneurial ecosystems and FinTech). A pilot test was conducted on young entrepreneurs to check the validity and reliability of the questionnaire. To help people understand the concepts of crowdfunding, mobile payment and blockchain, a brief description, for clarification, was given at the beginning of the questionnaire.

As reported in Table 1, the questionnaire was subdivided into four main distinct parts: entrepreneurial intention, crowdfunding, mobile payment and blockchain (entrepreneurial education, favored regions and gender were investigated as secondary factors). A five-point Likert scale was used to assess the items, where 1 = strongly disagree and 5 = strongly agree.

4.3 Methodology

A deductive quantitative approach, structured in predefined assumptions and variables (Dana and Dana, 2005), was adopted, considering that the quantitative research method in empirical investigations uses numerical data to achieve the research objective (Zikmund *et al.*, 2013). Despite some criticism regarding the use of quantitative methods (Dana and Dumez, 2015), this approach is often considered to lead to reliable and generalizable results because it contains information with a higher level of precision (Easterby-Smith *et al.*, 2008). In this study, the data passed the validity and reliability check before running the *T*-test, and regressions were calculated using SPSS 25.

4.4 Regression model

To analyze the determinants of the potential influence of knowledge, availability and accessibility of the FinTech ecosystem (as subsystem of the more general entrepreneurial ecosystem) on the entrepreneurial intention, with the contextual contribution of entrepreneurial education, the following regression model was estimated.

$$\text{EIN}_{it} = \beta_0 + \beta_1\text{CRW} + \beta_2\text{MOB}_{it} + \beta_3\text{BCH} + \beta_4\text{EDU}_{it} + \beta_5\text{FAV}_{it} + \beta_6\text{GEN}_{it} + \beta_7\text{AGE}_{it} + \beta_8\text{COV}_{it} + \beta_9\text{STA}_{it} + \varepsilon_{it}$$

EIN = entrepreneurial intention

CRW = crowdfunding

MOB = mobile payment

Constructs	Measures	Sources
<i>Entrepreneurial intention</i>	(1) I am currently spending time growing my business with new online platforms (2) I am looking for opportunities to use financial technology to start a business (3) I fully intend to start a business on technological platforms	Ács et al. (2014)
<i>Crowdfunding</i>	(1) The crowdfunding platforms are integrated (2) Crowdfunding helps in marketing and promoting entrepreneurship (3) Crowdfunding is suitable for financing small emerging projects (4) Crowdfunding is a short (one year) funding method for an existing business (5) Crowdfunding reduces the cost of financing channels (6) Crowdfunding increases the efficiency of funding channels (7) Crowdfunding platforms are trustworthy (8) Anti-terrorism laws diminish the chances of success of crowdfunding (9) Crowdfunding offers the freedom to use the appropriate payment method (10) Crowdfunding leads to efficient payments	Malhotra et al. (2004) Sharma and Lertnuwat (2016)
<i>Mobile payment</i>	(1) Mobile payment is easy to use (2) Mobile payment gives me up-to-date information (3) People whose opinions I value prefer that I use mobile payment (4) Mobile payment is convenient because I can use it anytime (5) Compared to traditional payment methods, mobile payment methods are more convenient	Chen et al. (2020)
<i>Blockchain</i>	(1) Blockchain technology improves transparency (2) Blockchain technology increases trust (3) Blockchain technology reduces risk (4) Blockchain technology reduces transaction costs (5) Blockchain technology ensures a fast and secure payment process	Bentler and Chou (1987) Bryant and Yarnold (1995) Chen (2018)
Source(s): Authors' elaboration		

Table 1.
The questionnaire:
constructs and
measures

BCH = blockchain

EDU = entrepreneurial education

FAV = favored region

GEN = gender

AGE = entrepreneur's age

COV = coronavirus

STA = start-up

In this model, CRW, MOB and BCH are supposed to act as determinants for EIN (as primary factors of investigation) together with EDU, FAV and GEN (as secondary factors of investigation). Whereas AGE, COV and STA work as control variables.

5. Results analysis

As shown in [Table 2](#), the gender of most of the respondents was masculine (78.5%), the age of most of the respondents was between 25 and 29 years (58.1%), and most of the respondents led projects in favored regions of Tunisia (68.8%). More than half of the respondents (62.4%) had management education.

The collected data was then subjected to principal component analysis (PCA) and scale purification. Item reduction was undertaken based on the removal of items showing factor loads less than 0.5, insisting on four distinct factors ([Table 3](#) presents the results of the analysis). The criteria used to identify the charges were that each element should charge 0.50 or more ([Igbaria et al., 1995](#)). Thus, before submitting the data to the PCA, the Kaiser–Meyer–Olkin (KMO) test was performed to determine if the data were suitable for PCA.

For the entrepreneurial intention dimension, a single item (EI3) did not present factorial weights of at least 0.5, so it was removed to support a specific factor structure. Subsequently, the total variance explained by the three items was 70.683% (cf. [Table 3](#)). The Cronbach's alpha coefficient is 0.792, which certifies the reliability of the "entrepreneurial intent" measurement scale. Finally, the results show that the value of KMO is equal to 0.669, which is respectable because it is greater than 0.500.

After eliminating the items CRW1, CRW4, CRW8, CRW9 and CRW10, a second analysis was carried out for "crowdfunding," and one-dimensionality was sufficiently strong given the existence of a single factor that makes it possible to recover over 89% of the information. The value of KMO is equal to 0.797, which is respectable, and the quality of the item representation is satisfactory because it is greater than 0.5. The five elements considered altogether as a single element explain the 70.434% of the total variance.

Similar considerations were developed for "mobile payment" (deleting MOB3 and MOB5) and "blockchain" (deleting BCH5). The following calculations are satisfactory as well, and [Table 4](#) shows the correlation coefficients between the various explanatory variables used in the model.

According to [Gujarati \(2004\)](#), significant multicollinearity occurs if the couple between two independent variables is greater than 0.8. The maximum value per pair in this study is 0.619, and therefore, multicollinearity should not be a concern for the regression analysis. The null hypothesis of autocorrelation can be accepted, that is, the explanatory variables are weakly correlated with each other.

The Durbin–Watson statistic (2.320) indicates that autocorrelation is not a problem. This is shown in [Table 5](#) which summarizes the results obtained from the regression estimation. This table contains β coefficients, T -student's coefficients and significance coefficients.

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Demographic items	Frequency	%
<i>Gender</i>		
Male	73	78.5
Female	20	21.5
<i>Age</i>		
Under 25	16	17.2
25–29	54	58.1
30–34	2	2.2
35–45	13	14.0
over 45	8	8.6
<i>Region</i>		
Favored region	64	68.8
Nonfavored region	29	31.2
<i>Education</i>		
Management education	58	62.4
No management education	35	37.6

Table 2.
 Profile of the respondents
Source(s): Authors' calculation

Dimension	Items	Factor Loadings	σ^2	Vp	α	KMO
Entrepreneurial intention	EI1	0.792	70.683	2.120	0.792	0.669
	EI2	0.620				
	EI3	0.493 [†]				
Crowdfunding	CRW1	0.352 [†]	70.434	3.525	0.890	0.797
	CRW2	0.741				
	CRW3	0.560				
	CRW4	0.400 [†]				
	CRW5	0.667				
	CRW6	0.696				
	CRW7	0.858				
	CRW8	0.254 [†]				
	CRW9	0.212 [†]				
	CRW10	0.313 [†]				
Mobile payment	MOB1	0.673	64.648	2.122	0.725	0.653
	MOB2	0.725				
	MOB3	0.236 [†]				
	MOB4	0.542				
	MOB5	0.322 [†]				
Blockchain	BCH1	0.810	89.041	3.562	0.959	0.869
	BCH2	0.903				
	BCH3	0.923				
	BCH4	0.925				
	BCH5	0.322 [†]				

Table 3.
 Rotated factor matrix
Note(s): [†] Deleted for further analysis
Source(s): Authors' calculation

	MOB	BCH	CRW	STA	FAV	GEN	EDU	AGE	COV
MOB	1								
BCH	-0.233	1							
CRW	-0.149	0.619	1						
STA	-0.097*	0.086	0.015**	1					
FAV	-0.082	0.033**	0.019**	0.100	1				
GEN	-0.051**	-0.054**	-0.141	-0.044**	0.026**	1			
EDU	0.188	0.108	-0.009***	0.064	0.128	0.218	1		
AGE	0.076	0.056**	0.102	-0.016**	0.006	0.119	-0.132	1	
COV	-0.043**	0.105	0.136	0.149	0.044**	-0.194	-0.173	0.053**	1

Note(s): *, **, *** represent significance at the 10, 5 and 1% levels, respectively

Source(s): Authors' calculation

Table 4.
Correlation coefficients

Items	β	T-student	Significance
(Constant)	0.089	0.320	0.750
CRW	0.473***	4.873	0.000
MOB	0.066	0.815	0.417
BCH	0.344***	3.477	0.001
EDU	0.312	1.892	0.062
FAV	0.280*	1.694	0.094
GEN	0.098	0.530	0.598
AGE	-0.145**	-2.054	0.043
COV	-0.025	-0.161	0.872
STA	-0.327**	-2.050	0.044
Model statistics	$F = 10.621 - p = 0.000$ $R^2 = 0.535 - R^2_{adj} = 0.485$ $D-W = 0.2320$		

Note(s): *, **, *** represent significance at the 10, 5 and 1% levels, respectively

Source(s): Authors' calculation

Table 5.
Multiple regression
results

The results of the multiple regression, shown in [Table 5](#), support several indications. Fisher's statistic (F), measuring the overall significance of the model, is equal to 10.621. This confirms the validity and the reliability of the model at a significance level lower than 1%. R^2 is equal to 0.535, meaning that the independent variables explain 53.5% of the variation in the entrepreneurial intention variable. In other words, the model demonstrates an explanatory power equal to 53.5%, a quite significant percentage.

6. Results, discussion and related potential scientific and managerial implications

The first hypothesis ([H1](#)) was used to verify whether crowdfunding positively influences entrepreneurial intention. [Table 5](#) indicates that crowdfunding is positively (0.473) and significantly related to entrepreneurial intention (the associated value is 4.873 with $p = 0.000$); this allows acceptance of [H1](#).

The results confirm the study of [Abdalhakeem and Mostafa \(2018\)](#), which shows that crowdfunding, as a new concept, requires more attention and reporting to the entrepreneurial community, especially in poor regions where unemployment is high and where work opportunities are few. In addition, microfinance has become a tool for democratizing the financing of entrepreneurship, and crowdfunding potentially opens the financing of

entrepreneurship to the masses; then, combining crowdfunding and microfinance can lead to accelerate poverty eradication. Naturally, this consideration is probably even more evident for emerging economies, but crowdfunding is also expected to positively influence entrepreneurial intention in general (Fanea-Ivanovici and Baber, 2021).

The second hypothesis (H2) states that the presence of mobile payment has a positive impact on entrepreneurial intention. Table 5 indicates that mobile payment is positive (0.066) but not significant (Student's $t = 0.815$ with $p = 0.417$), meaning that this variable has no effect on entrepreneurial intention in this observation.

This result confirms previous studies (Antovski and Gusev, 2003); other research has suggested that security could be a reason for nonuse (Nambiar *et al.*, 2004). In truth, the Covid-19 pandemic has meant that mobile payments, by keeping economies running and helping people reduce contact with the virus, have received strong interest during the coronavirus crisis. It is not strange that young entrepreneurs feel familiar with mobile payments and ready for undertaking in this regard. At the same time, they could feel that potential users are still unfamiliar and then be discouraged from undertaking (Mustafa *et al.*, 2021).

The third hypothesis (H3) states that blockchain influences entrepreneurial intention, showing a positive effect. The coefficient relating to this variable is positive (0.344) and significant (Student's $t = 3.477$ with $p = 0.001$).

This result is consistent with the study of Morkunas *et al.* (2019), which shows that blockchain is promising in many organizational applications with a direct impact on business models and value chains. Related applications such as supply chain, Internet of Things, digital identity, electronic records, digital currency, digital payments and electronic voting (Deloitte.Com, 2018) are very powerful, and a Credit Suisse survey (CreditSuisse.Com, 2016) identified the main objectives of blockchain technology pilot projects as reduced operational costs, shorter payment times, reduced risk, new revenue opportunities and reduced costs of capital, all factors motivating entrepreneurship. In addition, according to some research, blockchain technologies represent several opportunities for entrepreneurship (Akbarpour, 2019; Morkunas *et al.*, 2019) because entrepreneurs may reduce their transaction costs by collecting funds with a secure process (Mahto and Khanin, 2013; Mahto *et al.*, 2018a, b).

The fourth hypothesis (H4) indicates that entrepreneurial education influences entrepreneurial intention. In fact, the coefficient relating to this variable is positive (0.312) and significant (Student's $t = 1.892$ with $p = 0.062$).

This result specifically seems consistent with the study of Ferreira *et al.* (2017); entrepreneurial education initiatives are specific and measurable as concerns productivity and development of entrepreneurial spirit. Therefore, the expertise of entrepreneurs and employees is quite likely to be very powerful for stimulating entrepreneurial decisions (Shi and Weber, 2021). In general, several studies have revealed the strong influence of entrepreneurial education on entrepreneurial intention, particularly in emerging economies (Guerrero *et al.*, 2017; Doan and Hien Phan, 2020; Polbitsyn *et al.*, 2021) where it impacts the prestige and the status/career of the entrepreneur (Orlando *et al.*, 2021).

The fifth hypothesis (H5) specifies that the (favored) region has a positive impact on entrepreneurial intention. The results show that the coefficient for this variable is positive (0.280) and significant (Student's $t = 1.694$ with $p = 0.094$).

This result expresses a physiological connection and more specifically confirms the study of Fayolle and Gailly (2015), who highlighted the importance of the environment and externalities on entrepreneurial movement and business creation (Arias-Pérez *et al.*, 2021). With specific reference to unfavored regions, however, other research emphasizes the possibility that less-favored conditions could stimulate alternative forms of entrepreneurship, which might have been disregarded in other contexts (Sá *et al.*, 2019), also alternative motivations could be considered (Usai *et al.*, 2020; Sharma *et al.*, 2021).

The sixth hypothesis (H6) states that male gender has a positive impact on entrepreneurial intention. From Table 5, the coefficient relating to the gender variable is positive (0.098) but not significant (Student's $t = 0.530$ with $p = 0.598$), meaning that this variable has no effect on the entrepreneurial intention in this observation.

These results seem compatible with the studies of Wilson *et al.* (2007) and Hamidi *et al.* (2008); although, in general, female propensity to entrepreneurship still seems less common (Zhao *et al.*, 2005). Entrepreneurial ecosystems should be governed in this direction at an institutional level, that is, to stimulate female entrepreneurship by virtue of entrepreneurial education (Ferrandiz *et al.*, 2018; Meeralam and Adeinat, 2022; Pelegrini and Moraes, 2022). From the current survey, male gender does not have a primary impact on entrepreneurial intentions. However, the study found some interaction effect, although not significant, probably highlighting the complex impact of gender on entrepreneurial intentions (Hamidi *et al.*, 2008). Also, similar impacts, with a validating negative sign, emerged for age, coronavirus and startup variables.

7. Conclusion

FinTech is a hot topic nowadays, and there is a lot of speculation about its potential to replace existing business models. In this respect, this study intended to analyze the potential impact of some FinTech determinants, namely crowdfunding, mobile payments and blockchain, together with entrepreneurial education, on young entrepreneurs' intention in the Tunisian context, as example for emerging economies.

The results of the research revealed that knowledge, availability and accessibility of crowdfunding and blockchain have an impact on young entrepreneurial intention. FinTech acts as a powerful contributor to the more general entrepreneurial ecosystem to help young Tunisian entrepreneurs focus on related applications for improving financing for start-ups and innovative projects. Instead, mobile payment seems to generate no significant stimulus on entrepreneurial intention. Further research could be developed using more advanced FinTech applications to generate entrepreneurial activities, customer satisfaction and financial performance.

In addition, entrepreneurial education exerts a relevant influence. The results show that young entrepreneurs in Tunisia are interested in new technological platforms and that knowledge building, with respect to accumulating related intellectual capital, may enhance their decision to undertake, as this emerged from the preference for favored regions. If accordingly supported, young entrepreneurs want to launch their projects in a context characterized by strong environmental and even health disturbances such as the Covid-19 pandemic by taking advantage of new financial technologies, without regard to the gender of the entrepreneur.

Finally, all of the main components of intellectual capital seem to be represented in the possible scenario under investigation in the current study: human capital (with regard to the entrepreneurial education), structural capital (with regard to the Fintech ecosystem) and relational capital (with regard to the attractiveness of the favored regions). In this direction, intellectual capital can arrive at generating, at the environmental level, a sort of widespread social capital that is potentially able to impact the psychological and emotional motivations of young entrepreneurs, especially in emerging economies.

8. Research limits and future directions

This research has a few limitations, which may consequently act as indicators for future investigations. First, further investigation should be considered to gather more information regarding the ample impact of FinTech determinants on entrepreneurial intent by increasing

the number of determinants under investigation. Second, the study used a sample based on judgment (the Tunisian context) and convenience (the first respondents). Therefore, it is suggested to enlarge and diversify the sample for better results and for a better understanding of potential cross-cultural bias. Third, further effort could be concentrated on studying which kind of entrepreneurial education initiatives would be more powerful for leveraging technology for undertaking.

At last, we should mention that mainly attitudes and motivations were under investigation. Although these are potentially exposed to the influence of a more general knowledge ecosystem, even qualitative analysis can be useful. In this respect, mixed methodologies could be quite interesting to adopt in order to highlight with more emphasis the abovementioned psychological and emotional factors at the basis of the undertaking decisions, even in such technological environments as Fintech ecosystems.

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