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ORIGINAL SCIENTIFIC PAPER

Investigating the Relationship between University Environment and Female Student's Entrepreneurial Thinking in Algeria: Institutional Theory Perspective

Atmane Saadaoui [1]
Armanurah Binti Mohamad [2]
Shamsul Huda Abd Rani [3]
Universiti Utara Malaysia, College of Business, School of Business Management, Sintok, Malaysia

A B S T R A C T

Female entrepreneurship is a growing segment which has the potential to promote economic growth and job creation in specific regions and countries. In particular, there is no consensus on the most effective way to foster female entrepreneurship. Universities are well-known actors where female students' entrepreneurial thinking can be developed. Moreover, the educational policies related to supporting students' entrepreneurial activities differ significantly among institutions and environments. Based on the lens of institutional theory, the aim of this study is to analyze the influences of the university environment on the development of entrepreneurial thinking among Algerian female university students. A self-administered survey was used in this study to gather data from 413 female students enrolled in three different Algerian universities. Using Smart-PLS software, the outcomes assert that the normative and cognitive dimensions significantly influence entrepreneurial thinking among female business students in

[1] Corresponding author, e-mail: at_saadaoui@yahoo.fr
[2] E-mail: armanurah@uum.edu.my
[3] E-mail: shuda@uum.edu.my

Algerian universities. Such a finding contradicts past research on the impact of the regulative dimension and brings fresh insights into the role of the support of Algerian higher education institutions in fostering the entrepreneurial thinking of their female business students.

KEYWORDS: *entrepreneurial thinking, female entrepreneurship, university environment, institutional theory, Algeria*

Introduction

In general, female entrepreneurship is often regarded as a core building block of economic improvement and job creation (Dhar et al., 2022; Rafiki & Nasution, 2019). In this regard, many studies have been conducted, considering that female entrepreneurship represents a growing segment with the potential to be an engine for employment and economic growth (Widiyanto et al., 2023). Literature around is mostly concerned with identifying and analyzing female entrepreneurship impediments (Soomro et al., 2022), whilst the drivers remain mostly unexplored (Sharafizad et al., 2022). Moreover, most existing studies mainly revolve around a gender comparison view, in which female entrepreneurs are examined solely in comparison to males (Ahsan, 2023; Yusuf et al., 2023). Indeed, Scholars (e.g., Rafiki & Nasution, 2019; Cabrera & Mauricio, 2017) asserted that female entrepreneurship as a separate research field is a suitable option. Thus, this represents an essential setting to investigate since female participation in influencing the future, innovation, and growth through entrepreneurship requires additional attention (Pergelova et al., 2023; Sharafizad et al., 2022).

Extant literature has attempted to explain and understand the factors that stimulate female students' entrepreneurial doing (Drakpa et al., 2022). However, the existing studies have primarily focused on studying women's entrepreneurial intention (Manjaly et al., 2022; Rahman et al., 2022; Messikh, 2021), neglecting to thoroughly investigate the antecedents of entrepreneurial thinking (ET hereafter). This oversight is unfortunate, as the essence of being entrepreneurial lies in ET (Krueger, 2007) and is often seen as an essential step in the entrepreneurial process, which everything else follows (Baron, 2006). Thus, ET can be a better measure when analyzing female student entrepreneurialism.

ET is a soft skill that helps female students spot and seize opportunities (Low et al., 2019), and it's positively associated with creative thinking

(Nasr et al., 2019). In view of its evident importance, the Algeria government invested deeply in universities, which are well-placed to provide students with settings that foster ET and behavior (Osmani & Beloucif, 2021). Despite these efforts, female students represent a minority in the entrepreneurial field and are not optimistic about starting their own business upon graduating. As the origin of entrepreneurship among women is scarce (Ali et al., 2022; Salamzadeh et al., 2023), it is important to build efficient mechanisms to support female entrepreneurship, especially in African countries like Algeria (Muindi & Masurel, 2022). And because Algeria has become a business hub with a lot of entrepreneurial opportunities, it is critical to examine the specific factors that enhance ET among female students (Kivalya & Caballero-Montes, 2023). Thus, understanding or forecasting how a female becomes an entrepreneur requires knowledge of the factors associated with the development of ET in females.

As a key element of the ecosystem, universities play an increasingly vital role in promoting entrepreneurship among their students (Saoula et al., 2023). Literature has also contended the crucial role of universities in catalyzing ET among female students (Chen et al., 2023). Therefore, universities are cornerstone actors in entrepreneurial ecosystems, and their environment has a direct role in raising female participation in business activities (Quagrainie, 2023). For example, the findings of Víquez-Paniagua et al. (2023) indicated that female undergraduates' entrepreneurial attitude is positively influenced by the university environment (UE hereafter). It is within the UE that students and future entrepreneurs can develop their entrepreneurial spirit (Moraes et al., 2021). In fact, this environment can boost students' entrepreneurial behavior (Víquez-Paniagua et al., 2023). Therefore, UE is one of the elements that this present study identifies as ET antecedents, owing to its relevance and the maneuverability of policymakers and educational institutions at many levels.

Institutional Theory (IT hereafter), on the other hand, has recently been a topic of interest for both entrepreneurship studies and scholars (Chiengkul et al., 2023). IT theorists (Scott, 1995) bifurcated institutions (universities) into three dimensions: "regulative, normative, and cognitive". In this conceptual conformity, Prior studies also showed that these three dimensions of institutions have an influence on entrepreneurial behavior (e.g., Valdez and Richardson 2013). Scott (2008) argued that UE might be primarily explained by the regulative, normative, and cognitive of

institutionalism. In accordance with IT, scholars such as Mustafa et al. (2023) showed that UE could be an alternative way to boost students' entrepreneurial activities. Despite this, investigations linking this theory with female ET are still uncharted, especially in Arab countries like Algeria (Aloulou, 2022). The present study seeks to respond to recent calls for more employee IT to further understand entrepreneurship (such as Xiao et al., 2022; He et al., 2020) as well as explore the influence of UE on female students ET (Pinheiro et al., 2023).

Toward this end, our work also attempts to offer a new perspective in the field in response to a recent call for more studies to examine the link between institutional dimensions and female students ET using Scott's (1995) paradigm (Sobhan & Hassan, 2023). To provide a more comprehensive perspective on female entrepreneurship, especially in African countries like Algeria (Kivalya & Caballero-Montes, 2023), and to fill previous gaps, this study empirically examines how the UE can help foster ET among young women in Algeria. Investigating ET from an institutional lens will indicate the extent to which each dimension of UE impacts the ET of female students in Algeria.

Literature Review and Hypotheses

Our work is motivated by the scarcity of literature on the influences of UE on ET using Institutional theory in Algerian higher education institutions, specifically among female students enrolled in Business courses. The review of the relevant literature on the Regulative Dimension (RD hereafter), Normative Dimension (ND hereafter), and Cognitive Dimension (CD hereafter) helps us present the theoretical framework and develop its hypotheses.

Entrepreneurial Thinking and Regulative Dimension

The RD gathers the laws, policies, and regulations that offer support for stimulating entrepreneurial doing (Aloulou, 2022). It has been widely demonstrated in the literature that the RD helps to reduce the fear of failure and enhance the capability to participate in entrepreneurship (Chen et al., 2023). Results of existing research (such as Urban and Kujinga, 2017) indicate a substantial correlation between RD and ET. Among these studies, Oftedal et al. (2018) explored the link between RD and ET, suggesting that it increases opportunity recognition among students. Furthermore, Zhuang

and Sun, (2023) have demonstrated how RDs may assist individuals in identifying and taking advantage of opportunities and thus influence ET. There is considerable evidence found in previous studies that show that RD positively (e.g., Ali et al., 2019), as well as negatively (Aljarodi et al., 2022;), influences female entrepreneurial activities. Furthermore, past studies have also argued that little is known about how university regulations and laws affect student entrepreneurship (Muscio et al., 2016).

Since most of the evidence offered by existing research was less collected in Algeria, therefore, our first hypothesis:

H1: RD positively influences ET among female business students at Algerian universities.

Entrepreneurial Thinking and Normative Dimension

According to Ghazali et al. (2021), the normative dimension frequently comprises both values and norms represented in desirable behaviors of individuals. From an entrepreneurial perspective, the ND helps boost entrepreneurial start-ups (Chiengkul et al., 2023). For instance, the findings of Chen et al. (2023) supported the argument that ND can promote female entrepreneurship and compensate for a lack of entrepreneurial cognition. Similarly, the findings of Hatoum et al. (2023) reveal the important influence of ND (under informal institutions) on the development of entrepreneurial activities among females. In the meantime, Li et al. (2021) emphasized the significance of ND in encouraging women's entrepreneurship. From these logics, studies such as Oftedal et al. (2018) further indicated that the ND of the UE could influence students' behavior. In a related study, Ogunsade et al. (2021) also demonstrated unequivocally that ND influences the ET of university students and the possibility of self-employment. Lahikainen et al. (2018) also provided new insights that normative influences had a greater impact on individuals' thinking and actions. More directly, Junaid et al. (2019) reveal that females in Malaysia are more inclined to be self-employed because entrepreneurship is an accepted career option. Since most of the evidence offered by existing research was less collected in Algeria, therefore, our second hypothesis:

H2: ND positively influences ET among female business students at Algerian universities.

Entrepreneurial Thinking and Cognitive Dimension

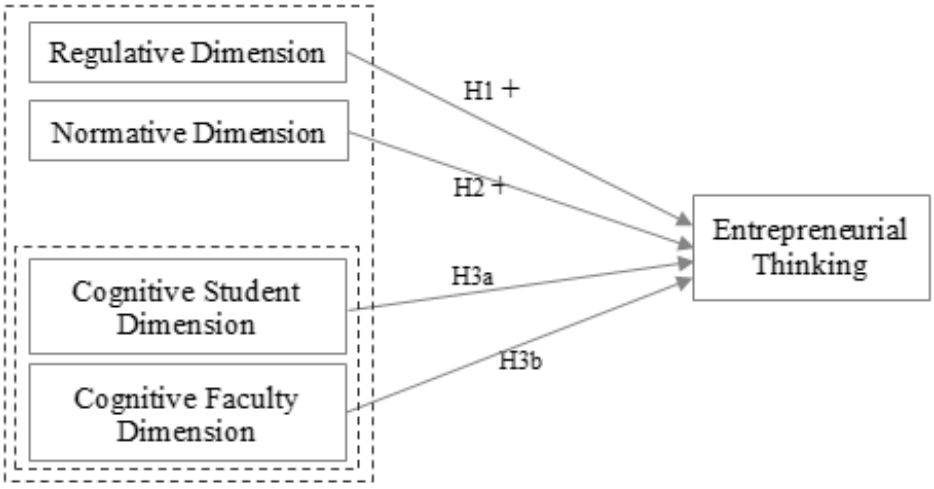
An individual's cognitive dimension involves the knowledge and skills acquired through social interactions that enable them to form new firms. Existing literature contends that CD includes students' knowledge and skills and learning outcomes (e.g., Oftedal et al., 2018; Aloulou, 2022). According to Armanurah et al. (2019), the significant role of the skills and knowledge provided at universities can serve as effective tools for empowering ET and lead to greater involvement in entrepreneurship activities. The CD has been proven to influence ET significantly and positively. For instance, Chiengkul et al. (2023), illustrated that entrepreneurs' growth is positively correlated with CD. Similarly, Junaid et al. (2019) examined entrepreneurship activities among women in Malaysia and Pakistan and found that cognitive dimensions are crucial in encouraging women to start businesses. Furthermore, the findings of Zhuang and Sun, (2023) support that the cognitive aspect influences entrepreneurial orientation, business growth, and new start-ups through entrepreneurship knowledge. Unexpectedly, the results of Oftedal and his colleagues (2018) showed the weak effect of CD on entrepreneurial intention.

Guided by this previous literature (such as Oftedal et al., 2018), our work classifies and focuses on two types of CD due to the lack of a measure of the institutional dimension of UE. The first group is "knowledge of fellow students" (herein CDST), and the second is "advice from faculty" (herein CDF). Since most of the evidence offered by existing research was less collected in Algeria, therefore, our third hypothesis:

H3a: CDST positively influences ET among female business students at Algerian universities.

H3b: CDF positively influences ET among female business students at Algerian universities.

Figure 1: Conceptual Framework and Hypotheses



Source(s): Author's work

Method

Sampling Methods and Data Collection

In our work, proportionate stratified random sampling is utilized to determine the appropriate number of questionnaires to be distributed. Geographic regions can be utilized as different geographic strata; therefore, the respondents were divided into three groups depending on the country's main geographic regions. In order to get as heterogeneous a group as possible, samples were taken from the North (Tissemsilt University), the East (Milla University), and the West (Bechar University), which were chosen because they represent the three different regions of the country, respectively. Thus, a sample of business students was randomly selected from these three Algerian Public Universities.

To carry out this research, the authors utilized a self-administered survey to collect data from university female business students. This method was appropriate for this research to investigate female students' entrepreneurial thinking. Moreover, a mature scale was adopted from the recent studies in the questionnaire to ensure its validity. To assure accuracy and preserve the items` meanings, they were translated into Arabic and reviewed by native speakers via a back-translation procedure (Dawson and

Dickinson, 1988). Data collection took place from March 2022 to August 2022 (Six months) with the assistance of unit coordinators and teachers. 413 of the 512 questionnaires distributed were totally completed and returned.

Variable Measurement

The variables of Entrepreneurial Thinking, Regulative Dimension, Normative Dimension, Faculty Cognitive Dimension, and Student Cognitive Dimension were all measured by adopting previously validated scales. First, for the independent variables, to examine the dimensions of the university environment, we adopt the measurements proposed by Oftedal et al. (2018). RD was measured through four items (RD1-RD4), and ND through six items (ND1-ND6). Next, the CD construct split into two distinct variables: Student Cognitive Dimension (CDST) with six items (CD1-CD6) and Faculty Cognitive Dimension (CDF) with three items (CD7-CD9) adapted also from Oftedal et al. (2018).

Second, in our work, the dependent variable (ET) is measured as a higher-order construct consisting of five lower-order constructs (Risk-Taking, Identifying Opportunities, Creativity and Innovation, and Tolerance of Ambiguity) that have already been utilized in past literature (such as Armanurah et al., 2019; 2021). For ET, we initially measured the Identifying Opportunities (OP) through sixteen items (OP1-OP16), then Risk-Taking (RT) with five items (RT1-RT5), Tolerance of Ambiguity (TA) with four items (TA1-TA4), and the Creative and Innovative (CI) with four items (CI1-CI4). To this end, a five-point Likert scale was utilized to assess all items.

Data Analysis Procedure

This work used the PLS-SEM method and the SmartPLS 4 software to evaluate the proposed model. We use PLS-SEM since it is considered more suitable for multivariate non-normality issues and supports complex phenomena (Hair et al., 2022). Moreover, scholars (such as Sarstedt et al., 2022; Hair et al., 2022) also document that PLS-SEM is the recommended statistical tool if the model includes higher-order constructs.

Respondent's Profile

Table 1 shows the demographics of the respondents.

Table 1: Respondents' profile

Demographic variables	Category	Frequency	(%)
Age	Under 23	134	55.6
	23–26	83	34.4
	Above 26	24	10
Qualification	Master's degree	236	2.1
	PhD	5	7.9
Marital Status	Married	19	7.9
	Single	222	92.1
Role models	Yes	72	29.9
	No	169	70.1
Previous self-employment experience	Yes	80	33.2
	No	161	66.8

Note: N = 241

Source: Author's own work

Analysis and Results

Preliminary Analysis

After dealing with missing values and univariate and multivariate outliers, 347 questionnaires were considered for further analysis. To ensure that the data is suitable for further investigation, the authors performed a preliminary analysis before the main analysis.

Firstly, the validity of the constructs was investigated through the Common Method variance (CMV) by applying Harman's Single-Factor test as recommended by Podsakoff et al. (2003). Using SPSS software, Harman's single factor test recorded 15.958% of the variance, which is within the limit (less than 50%). In other words, these confirmed that CMV was not an issue in our work.

Secondly, our work used the "Web Power online tool" to examine the multivariate normality of the collected data. Mardia's (1970) "Mardia's multivariate skewness and kurtosis" test reported that the data in this study did not have a multivariate normal distribution. Accordingly, the non-normality issue of the data provided yet another reason to use PLS-SEM (see Hair et al., 2022).

Lastly, the variance inflation factor (VIF), tolerance, and correlation matrix analyses were utilized to test multicollinearity. More specifically, the

findings (see Table 2) report there is no significant presence of multicollinearity since all the coefficients of the Correlations Matrix are below 0.9, as recommended by Hair et al. (2022). Furthermore, the research findings are not affected by multicollinearity, where VIF is below 3, and the tolerance level is greater than 0.60 (see Table 3; Sarstedt et al., 2022). Thus, it confirms no significant threat of multicollinearity.

Table 2: Correlations matrix

Constructs	RD	ND	CDST	CDF	PACT
RD	1				
ND	.116	1			
CDST	.183	.353	1		
CDF	.383	.280	.458	1	

Source: Authors' own work

Table 3: Tolerance and VIF values

Construct	Tolerance	VIF
RD	.853	1.173
ND	.858	1.166
CDST	.736	1.359
CDF	.686	1.458

Source: Authors' own work

Measurement Model Validation

The PLS-SEM was used to verify the collected data. This method will be used since it is more suitable for multivariate non-normality issues and complex models (Hair et al., 2022). PLS-SEM models are analyzed using a two-stage disjoint approach: the evaluation of the measurement model and the structural model. Initially, the statistical analyses in this work involved assessing the measurement model to ensure the constructs' reliability and validity. This was followed by the structural model, which examined the links between the endogenous and exogenous constructs (VIF, R2, Q2, Q2 predict, β and significance level). The Smart-PLS (Version 4.0.9.5) was employed to examine these two stages and subjected to several quality criteria tests.

To determine our model's fitness, the convergent and discriminant validities of the constructs were first investigated. As previously highlighted, our proposed model identifies only the dependent variable "ET" as a high-order (HOC) construct type II, consisting of five low-order (LOC) constructs. Following Becker et al. (2022), we applied the disjoint two-stage method to examine the data and estimate HOC. The evaluation of the reflective model is in the first stage, and then the formative model is evaluated in the second stage (see Hair et al., 2022).

In the first stage, the authors assessed the convergent and discriminant validities of all lower constructs involved in our measurement. Initially, the convergent validity was checked through these five measures: Cronbach's alpha, composite reliability (CR), Rho-A, outer loadings, and average variance extracted (AVE) (Hair et al., 2022). The loadings of all items (Table 2) surpassed the acceptable threshold (> 0.5), except for the 16 items that have been deleted (≤ 0.40). Additionally, the Rho-A and CR of all constructs meet the required threshold (> 0.7), and for the AVE, all constructs surpass the criterion "0.5" (Hair et al., 2022). Further, the findings also reveal that Cronbach's alpha of a few constructs is slightly below 0.7, which is acceptable (> 0.673). Thus, the results of Table 4 meet the required criterion and confirm the convergent validity of the constructs in this article.

Table 4: First-order constructs reliability and validity test

First-order Construct	Cronbach's Alpha	CR	Rho_A	AVE
OP	0.700	0.814	0.715	0.524
RT	0.719	0.817	0.797	0.533
CI	0.715	0.821	0.725	0.535
TA	0.708	0.811	0.825	0.524
RD	0.838	0.891	0.853	0.673
ND	0.725	0.828	0.751	0.548
CDST	0.760	0.836	0.784	0.507
CDF	0.673	0.815	0.699	0.597

Source: Author's own work

Next, in this work, the discriminant validity of our model was checked using the Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015) as well as the Fornell and Larcker (1981) criterion. The results mentioned are

shown in Tables 5 and 6, respectively, and all are within the parameters established by Hair et al. (2022).

Table 5: Fornell-Larcker's results

	OP	**RT**	**TA**	**CI**	**RD**	**ND**	**CDST**	**CDF**
OP	0.724							
RT	0.479	0.730						
TA	0.223	0.223	0.724					
CI	0.175	0.222	0.316	0.731				
RD	0.032	-0.023	0.207	0.130	0.821			
ND	0.345	0.332	0.114	0.185	0.073	0.740		
CDST	0.347	0.228	0.197	0.122	0.179	0.318	0.712	
CDF	0.310	0.198	0.200	0.152	0.382	0.231	0.470	0.773

Source: Authors' own work

Table 6: Discriminant validity (HTMT)

	OP	**RT**	**CI**	**TA**	**RD**	**ND**	**CDST**	**CDF**
OP								
RT	0.657							
CI	0.241	0.324						
TA	0.329	0.326	0.451					
RD	0.113	0.120	0.157	0.233				
ND	0.480	0.446	0.259	0.207	0.145			
CDST	0.436	0.302	0.176	0.254	0.238	0.421		
CDF	0.405	0.271	0.210	0.244	0.512	0.319	0.659	

Source: Authors' own work

In stage 2, as suggested by Becker et al. (2022), our study measured ET as HOC type II, which is reflective-formative. Following Hair et al.'s (2022) guidelines, we applied the two-stage method to assess the formative measurement for ET. In addition to the variance inflation factor (VIF), our work also assesses the outer weights to examine the ET's validity. Using the scores of latent variables, table 5 reveals no issues with multicollinearity, as the VIF values were less than 3 for all items, as Sarstedt et al. (2022) recommended. Furthermore, the outer weights' bootstrapped results show

that two indicators turn out to be significant ($p< 0.05$) (Sarstedt et al., 2022) except "CI" and "TA" (respectively; weight = 0.180, p-value = 0.120; weight = 0.124, p-value = 0.223). Even though the outer weights of "CI" and "TA" are not significant, these indicators must be retained because their loading was significant (see Hair et al., 2022). Hence, the findings reveal that the quality of the HOC (ET) is verified because all conditions were met (see Table 7; Sarstedt et al., 2022).

Table 7: Validation of the Higher-order construct

Higher order construct	Formative indicators	Outer weights (Outer loadings)	VIF (<3)	t-value	P-Value
ET	OP	0.703	1.325	5.065	0.000
	RT	0.320	1.345	1.894	0.029
	CI	0.413	1.144	2.677	0.004
	TA	0.409	1.159	2.596	0.005

Source: Authors' own work

Structural Model and Hypotheses Testing

Afterward, the measurement model was tested, and we estimated the quality of our structural model through a coefficient of determination (R^2), predictive relevance (Q^2), path coefficients as well as the PLSpredict-based out-of-sample predictive power (see Hair et al., 2022).

First, this study adopted the standardized root mean square residual (SRMR) to measure the model fit. Henseler et al. (2016) suggested that a cut-off value of less than 0.08 for the SRMR indicates a good fit. This study's SRMR value was 0.078, indicating a good model fit. Following Falk and Miller (1992), the strength of each structural path in the model is determined by the R^2 values, which must be larger than or equal to 0.1 in order to ascertain that the endogenous variable is adequately explained. The results of R^2 indicate that OP, RT, TA, and CI explain 19.6% of the variance of ET. Based on Cohen's criteria (1992), this result explains that the PLS model was nearly substantial. Furthermore, the results showed that Q^2 values of the endogenous construct are above zero (0.183). These results reveal sufficient predictive relevance of our model.

Adopting the recommendations of Shmueli et al. (2019), the authors expanded further by the inclusion of another predictive relevance analysis,

namely the PLSpredict. Table 8, which displays the results of the prediction analysis, indicates that all Q2 predicted values are positive for all indicators except one. Further, the PLSpredict results have shown that the RMSE (root-mean-square error) obtained by PLS-SEM is smaller than the RMSE found by the LM (linear model) for all indicators. As suggested by Liengaard et al. (2021), the CVPAT "cross-validated predictive ability test" should be included in the assessment of PLS-SEM results. Thus, this ability occurs since the suggested model beats the IA benchmark (Sharma et al., 2023; average loss difference =-0.024, p=0.397), as well as is strong because the proposed model makes more accurate predictions than the LM (Sharma et al., 2023; average loss difference =-0.033, p=0.000).

After confirming the model's satisfactory predictive and explanatory power, the analysis then shifted to confirm the hypothesized paths of the variables. The hypothesized relationships were examined via the bootstrap procedure, and p values were accordingly produced. The findings display that out of four hypotheses, three were confirmed (see Table 8). As per the hypotheses, the SEM results demonstrate that the RD has a negative correlation with ET and a non-significant effect (β= -0.041, $p > 0.05$). Therefore, H1 was rejected. The findings also outline that NDs have a strong positive and significant effect on ET (β= 0.297, $p = 0.000$); thus, hypothesis H2 is accepted. Likewise, the study's findings also found support for Hypothesis H3a concerning the positive and significant effect of CDST on ET (0.186, $p = 0.007$) and Hypothesis H3b for the significant and positive effect of CDF on ET ($\beta = 0.195$, $p = 0.005$). The study, therefore, retains H3a, H3b.

Table 8: Structural model results

Path	Path coefficient	T statistics	Results
H1: RD →ET	0.345	0.398	Not Supported
H2: ND →ET	0.000	3.758	Supported
H3a: CSD →ET	0.007	2.437	Supported
H3b: CDF →ET	0.005	2.575	Supported

Source: Authors' own work

Discussion, Limitations, and Conclusion

Discussion

The promotion of entrepreneurial thinking among students has become a priority to contribute to society's development (Secundo et al., 2023). Through different modalities, universities can enhance ET among female students. Accordingly, the purpose of our work was to employ the institutional theory view to better grasp the relation that exists between the UE and ET in the Algeria context. Similarities and differences have been identified in the three dimensions of analysis (Regulative, Normative, and Cognitive Dimension).

The results of this study showed that female business students' entrepreneurial thinking was not influenced by the regulative dimension. This finding was consistent with existing entrepreneurship work in the literature. The non-significant effect of RD on female entrepreneurial thinking was also found by Chiengkul et al. (2023), and Chen et al. (2023). Meanwhile, the non-significant effect of RD on ET was also found by Li's (2021). There may be several explanations for these findings. In Algerian universities, the rules, practices, and support systems are not seen as empowering female students' new firm foundations. In addition, these results perhaps could be related to Algeria's economic background or insufficient regulatory environment for entrepreneurial start-ups. Therefore, improving RD will reduce the fear of failure and promote women and men to engage in entrepreneurship (Wang et al., 2019). Besides that, this finding is at variance with related earlier literature (e.g., Aloulou, 2022; Oftedal et al., 2018), which documents the significant positive effect of the regulative environment on entrepreneurial activities. Hence, since the relation between the RD and ET is under-explored in the literature, it needs to be tested further.

The subsequent results of our research pertain to the normative dimensions. The results of our study confirmed that the ND is the primary driving force behind female students' ET. These findings are consistent with Chen et al. (2023), who support the idea that ND can compensate for the lack of entrepreneurial cognition and promote female entrepreneurship. Likewise, Li et al. (2021) showed that NDs are the most important causal recipe for achieving a high TEA rate for females. This viewpoint is also supported by Junaid et al. (2019). This means that there are supportive norms or values in Algerian universities that encourage and support female

students in creating their businesses. Our findings are also similar to those in earlier literature, which posit the claim that ND represented by norms and values within society plays an essential role in enhancing entrepreneurship self-identity (e.g., Boucher et al., 2023; Ndofirepi, 2020; Tlaiss and Kauser, 2019; Oftedal et al., 2018; Ogunsade et al., 2021). Nonetheless, these results were not in line with the results of recent studies that showed that ND in the environment constrains females from starting entrepreneurial activities (e.g., Chang & Xu, 2023). Our results also contrast with the few studies whose findings queried the relevance of ND that raises and supports people in creating their activities (e.g., Zhuang & Sun, 2023; Wang et al., 2019).

Finally, our findings concur with extant literature on entrepreneurship (Wang et al., 2019; Chiengkul et al., 2023), which indicated the significant influence of the cognitive dimension on entrepreneurial activities. The CD represents the skills and knowledge obtainable available to university students. Our findings are in line with the study by Pergelova et al. (2023), showing that females are better able to develop when their intentions are aroused by receiving education or training on creating business. There is an echo between the CD and entrepreneurship education; both develop and enhance enterprising knowledge and skills to better increase female business activities (see Chen et al., 2023). Indeed, Hanandeh et al. (2021) and Armanurah et al. (2019) convincingly demonstrated that knowledge and skills related to entrepreneurial start-ups improve ET. In spite of its importance, however, our results also contradict the work of Oftedal et al. (2018), who established that none of the CD (CDST and CDF) seemed to be attached to entrepreneurial intentions. Thus, it justifies that universities should develop suitable entrepreneurial skills and knowledge for female students' "cognitive dimension" of practical entrepreneurial needs.

An interesting feature of our study is that the results are significant, except RD (Table 6). We argue that the development of ET should not only be about knowledge and skills relating to entrepreneurship within universities. Instead, universities should aim to develop laws, rules, and regulations that encourage female students to start or explore opportunities for entrepreneurial start-ups with their partners. We strongly believe that the institutional support provided to female students for risk-taking will enable them to pursue their chosen careers and foster ET. Thus, the university community can develop their ET only when the conducive environment within universities relating to entrepreneurship is further promoted.

Limitations and Future Research

The present work still has some limitations and offers interesting opportunities for future studies. Initially, our work is executed in the context of Algeria's developing economy, and it focuses solely on female Algerian students. This is a point requiring careful consideration before generalizing. It is recommended that future studies investigate other regional areas or developing economic nations. Moreover, in our work, we did not bring up the issue of additional control variables (such as family influence, age, working experience, and educational levels) to determine this relationship. We believe those issues might have an impact and which might be an option to be explored in future studies. Finally, the qualitative approach could offer deeper insights into entrepreneurial thinking within the universities, strengthening the overall quality and reliability of the results presented in our study (Kudo et al., 2024).

Conclusion

Promoting entrepreneurial thinking and encouraging entrepreneurial start-ups is essential for job creation and growth. Therefore, universities are anticipated to have a significant role in stimulating entrepreneurial doing (Çera et al., 2021). Highlighting developing countries (e.g., Algeria), the current study enhances comprehension of how the university environment influences female students' entrepreneurship thinking. Recent studies have called for more investigation of the influence of UE on female students' entrepreneurial activities (Pinheiro et al., 2023) using IT (e.g., Xiao et al., 2022; He et al., 2020). For that, this work sought to address this research gap by examining the influence of UE on female students ET. Using Scott's (1995) institutional framework, the current research is the first attempt to fill the gap and provides a novel analysis of the precursors that enhance female students' entrepreneurial thinking. In an underexplored educational environment in a developing nation, our research highlights the effect of the institutional university environment (normative, cognitive, and regulative dimensions) on female students` ET. For this purpose, a sample of female students at Algerian universities was selected. Through the data analysis, our results showed that the normative dimension and cognitive dimension positively influence female students' entrepreneurial thinking. Besides, the study revealed that the regulative dimension does not impact entrepreneurial thinking among female students. These findings were discussed, and

interesting future study directions were provided to help ET researchers and scholars uncover useful insights about this subject to find more evidence for the findings' generalizability. Importantly, the findings from this present study provide evidence-based insights that may guide policymakers in establishing appropriate regulations that can improve female students' entrepreneurial thinking in the future. Finally, universities need to strengthen their laws, rules, and regulations developed to push their key role in stimulating entrepreneurial thinking and doing.

References

[1] **Ahsan, R.** (2023). Female academic entrepreneurship: evidence from a developing country. In Emerald Publishing Limited eBooks (pp. 113–139). https://doi.org/10.1108/978-1-83982-780-820231005

[2] **Ali, I., Ali, M., & Badghish, S.** (2019). Symmetric and asymmetric modeling of entrepreneurial ecosystem in developing entrepreneurial intentions among female university students in Saudi Arabia. *International Journal of Gender and Entrepreneurship*, *11*(4), 435–458. https://doi.org/10.1108/ijge-02-2019-0039

[3] **Ali, J., Jabeen, Z., & Burhan, M.** (2022). Measuring factors influencing entrepreneurial intention across gender in India: evidence from Global Entrepreneurship Monitor (GEM) Database. *Journal of Research in Marketing and Entrepreneurship*, *25*(1), 63–82. https://doi.org/10.1108/jrme-08-2021-0105

[4] **Aljarodi, A., Thatchenkery, T., & Urbano, D.** (2023). The influence of institutions on early-stage entrepreneurial activity: a comparison between men and women in Saudi Arabia. *Journal of Entrepreneurship in Emerging Economies*, *15*(5), 1028–1049. https://doi.org/10.1108/jeee-02-2021-0076

[5] **Aloulou, W. J.** (2022). The influence of institutional context on entrepreneurial intention: evidence from the Saudi young community. *Journal of Enterprising Communities*, *16*(5), 677–698. https://doi.org/10.1108/jec-02-2021-0019

[6] **Armanurah, M., Norashidah, H., Sahadah Haji, A., & Awanis Ku, I.** (2021). The Contribution of University Environmental Elements in Nurturing Students' Entrepreneurial Thinking: A Comparative Study. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(3), 1175–1184. https://doi.org/10.17762/turcomat.v12i3.864

[7] **Armanurah, M., Syahrina, A., Awanis Ku, I., & Norashidah Bint, H.** (2019). Entrepreneurship Education as a Way of Cultivating Entrepreneurial Thinking among Students of Malaysian Public Higher Learning Institutions.

International Journal of Social Science and Humanity, 97–102. https://doi.org/10.18178/ijssh.2019.v9.998

[8] **Baron, R. A.** (2006). Opportunity Recognition as Pattern Recognition: How Entrepreneurs "Connect the Dots" to Identify New Business Opportunities. *Academy of Management Perspectives*, *20*(1), 104–119. https://doi.org/10.5465/amp.2006.19873412

[9] **Becker, J., Cheah, J., Gholamzade, R., Ringle, C. M., & Sarstedt, M**. (2022). PLS-SEM's most wanted guidance. *International Journal of Contemporary Hospitality Management*, *35*(1), 321-346. https://doi.org/10.1108/ijchm-04-2022-0474

[10] **Boucher, S., Cullen, M., & Calitz, A. P.** (2023). Culture, entrepreneurial intention and entrepreneurial ecosystems: evidence from Nelson Mandela Bay, South Africa. *Journal of Entrepreneurship in Emerging Economies*. *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/jeee-05-2022-0156

[11] **Busenitz, L., Gómez, C., & Spencer, J.** (2000). Country Institutional Profiles: Unlocking Entrepreneurial Phenomena. *Academy of Management Journal*, *43*(5), 994–1003. https://doi.org/10.5465/1556423

[12] **Cabrera, E. M., & Mauricio, D**. (2017). Factors affecting the success of women's entrepreneurship: a review of literature. *International Journal of Gender and Entrepreneurship*, *9*(1), 31–65. https://doi.org/10.1108/ijge-01-2016-0001

[13] **Çera, G., Çera, E., Rozsa, Z., & Bilan, S.** (2021). Entrepreneurial intention as a function of university atmosphere, macroeconomic environment and business support: a multi-group analysis. *European Journal of Training and Development*, *45*(8/9), 706–724. https://doi.org/10.1108/ejtd-08-2019-0148

[14] **Chang, A. Y., & Xu, Y.** (2023). Decoding underperformance of entrepreneurship at the bottom of the pyramid: a literature review of the field. *New England Journal of Entrepreneurship*, *26*(2), 88–106. https://doi.org/10.1108/neje-10-2022-0093

[15] **Chen, C., Huang, Y., & Wu, S.** (2023). How do institutional environment and entrepreneurial cognition drive female and male entrepreneurship from a configuration perspective?. *Gender in Management: An International Journal*, *38*(5), 653–668. https://doi.org/10.1108/gm-04-2022-0124

[16] **Chiengkul, W., Tantipanichkul, T., Boonchom, W., Phuangpornpitak, W., & Suphan, K.** (2023). Social entrepreneurship of small and medium-sized entrepreneurs in Thailand: influence of institutional environment, entrepreneurial passions, and entrepreneurial self-efficacy. *Social Enterprise Journal*, *19*(4), 370-389. https://doi.org/10.1108/sej-01-2023-0005

[17] **Cohen, J.** (1992). Statistical Power Analysis. *Current Directions in Psychological Science*, *1*(3), 98–101. https://doi.org/10.1111/1467-8721.ep10768783

[18] **Costa, J., & Pita, M.** (2020). Appraising entrepreneurship in Qatar under a gender perspective. *International Journal of Gender and Entrepreneurship*, *12*(3), 233–251. https://doi.org/10.1108/ijge-10-2019-0146

[19] **Dawson, S. C., & Dickinson, D.** (1988). Conducting International Mail Surveys: The Effect of Incentives on Response Rates with an Industry Population. *Journal of International Business Studies*, *19*(3), 491–496. https://doi.org/10.1057/palgrave.jibs.8490387

[20] **Dehghanpour Farashah, A.** (2015). The effects of demographic, cognitive and institutional factors on development of entrepreneurial intention: Toward a socio-cognitive model of entrepreneurial career. *Journal of International Entrepreneurship*, *13*(4), 452–476. https://doi.org/10.1007/s10843-015-0144-x

[21] **Dhar, S., Farzana, T., & Abedin, S. S. I.** (2022). Pushed or Pulled into Entrepreneurship? Motivations behind Entrepreneurial Entry for Women with Disabilities in Bangladesh. *Journal of Women's Entrepreneurship and Education*, (3–4), 103–125. https://doi.org/10.28934/jwee22.34.pp103-125

[22] **Drakpa, D., Loday, S., & Yangchen, K.** (2022). Factors affecting entrepreneurial intention of the female students of Business Colleges of Bhutan: Applying the Theory of planned Behaviour. *Journal of Women's Entrepreneurship and Education*, (1–2), 170–186. https://doi.org/10.28934/jwee22.12.pp170-186

[23] **Falk, R. F., & Miller, N. B.** (1992). A Primer for Soft Modeling. University of Akron Press, Akron, Ohio.

[24] **Fornell, C., & Larcker, D. F.** (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, *18*(3), 382–388. https://doi.org/10.1177/002224378101800313

[25] **Garud, R., Hardy, C., & Maguire, S.** (2007). Institutional Entrepreneurship as Embedded Agency: An introduction to the special issue. *Organization Studies*, *28*(7), 957–969. https://doi.org/10.1177/0170840607078958

[26] **Ghazali, E. M., Mutum, D. S., & Javadi, H. H.** (2021). The impact of the institutional environment and experience on social entrepreneurship: a multi-group analysis. *International Journal of Entrepreneurial Behaviour & Research*, *27*(5), 1329–1350. https://doi.org/10.1108/ijebr-05-2020-0332

[27] **Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M.** (2022). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (3 ed). Thousand Oaks, CA: Sage.

[28] **Hanandeh, R., Alnajdawi, S., Almansour, A. Y., & Elrehail, H.** (2021). The impact of entrepreneurship education on innovative start-up intention: the mediating role of entrepreneurial mind-sets. *World Journal of*

Entrepreneurship, Management and Sustainable Development, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/wjemsd-02-2020-0016

[29] **Hatoum, H., Haddoud, M. Y., & Mordi, C.** (2023). The contextual embeddedness of female entrepreneurship: investigating the influence of macro and motherhood factors in Bahrain. *Journal of Small Business and Enterprise Development*, *30*(4), 804–827. https://doi.org/10.1108/jsbed-12-2021-0506

[30] **He, J., Nazari, M., Zhang, Y., & Cai, N.** (2020). Opportunity-based entrepreneurship and environmental quality of sustainable development: A resource and institutional perspective. *Journal of Cleaner Production*, *256*, 120390. https://doi.org/10.1016/j.jclepro.2020.120390

[31] **Henseler, J., Hubona, G. S., & Ray, P. A.** (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial Management and Data Systems*, *116*(1), 2–20. https://doi.org/10.1108/imds-09-2015-0382

[32] **Henseler, J., Ringle, C. M., & Sarstedt, M.** (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

[33] **Junaid, D., He, Z., Yadav, A., & Asare-Kyire, L.** (2019). Whether analogue countries exhibit similar women entrepreneurial activities? *Management Decision*, *58*(4), 759–772. https://doi.org/10.1108/md-06-2018-0681

[34] **Kivalya, N. Y., & Caballero-Montes, T.** (2023). Understanding the dimensions of women entrepreneurs' empowerment: a systematic review of the microfinance literature and avenues for research. *International Journal of Gender and Entrepreneurship*. https://doi.org/10.1108/ijge-06-2023-0162

[35] **Krueger, N. F.** (2007). What Lies Beneath? The Experiential Essence of Entrepreneurial Thinking. *Entrepreneurship Theory and Practice*, *31*(1), 123–138. https://doi.org/10.1111/j.1540-6520.2007.00166.x

[36] **Kudo, L. K., McPhail, R., & Despotovic, W. V.** (2024). Retaining the repatriate by organisation in developing countries (in Africa): understanding the decision-making point (stay or leave) of the expatriate. *Employee Relations*, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/er-10-2020-0466

[37] **Lahikainen, K., Kolhinen, J., Ruskovaara, E., & Pihkala, T.** (2018). Challenges to the development of an entrepreneurial university ecosystem: The case of a Finnish university campus. *Industry and Higher Education*, *33*(2), 96–107. https://doi.org/10.1177/0950422218815806

[38] **Lewellyn, K., & Muller-Kahle, M. I.** (2016). A configurational approach to understanding gender differences in entrepreneurial activity: a fuzzy set

analysis of 40 countries. *International Entrepreneurship and Management Journal*, *12*(3), 765–790. https://doi.org/10.1007/s11365-015-0366-3

[39] **Li, Y., Wu, J., Zhang, D., & Li, L.** (2021). Gendered institutions and female entrepreneurship: a fuzzy-set QCA approach. *Gender in Management: An International Journal*, *36*(1), 87–107. https://doi.org/10.1108/gm-07-2019-0110

[40] **Liengaard, B., Sharma, P. N., Hult, G. T. M., Jensen, M. H., Sarstedt, M., Hair, J. F., & Ringle, C. M.** (2021). Prediction: Coveted, Yet Forsaken? Introducing a Cross-Validated Predictive Ability Test in Partial Least Squares Path Modeling. *Decision Sciences*, *52*(2), 362–392. https://doi.org/10.1111/deci.12445

[41] **Low, S. P., Gao, S., & Ng, E. P. J.** (2019). Future-ready project and facility management graduates in Singapore for industry 4.0. *Engineering, Construction and Architectural Management*, *28*(1), 270–290. https://doi.org/10.1108/ecam-08-2018-0322

[42] **Manjaly, N. B., Joseph, G., Nimmi, P. M., & S, K.** (2022). Entrepreneurial intention of Indian Women university students. *Journal of Women's Entrepreneurship and Education*, (3–4), 273–290. https://doi.org/10.28934/jwee22.34.pp273-290

[43] **Mardia, K. V. (1970).** Measures of multivariate skewness and kurtosis with applications. *Biometrika*, *57*(3), 519–530. https://doi.org/10.1093/biomet/57.3.519

[44] **Mehtap, S., Pellegrini, M. M., Caputo, A., & Welsh, D. H.** (2017). Entrepreneurial intentions of young women in the Arab world. *International Journal of Entrepreneurial Behaviour & Research*, *23*(6), 880–902. https://doi.org/10.1108/ijebr-07-2017-0214

[45] **Messikh, A.** (2021). The entrepreneurial intention of Algerian women (a sample study of SKIKDA University female students). *Journal of Women's Entrepreneurship and Education*, (3–4), 134–150

[46] **Moraes, G. H. S. M. D., Fischer, B. B., Guerrero, M., Rocha, A. K. L. D., & Schaeffer, P. R.** (2021). An inquiry into the linkages between university ecosystem and students' entrepreneurial intention and self-efficacy. *Innovations in Education and Teaching International*, 1–12. https://doi.org/10.1080/14703297.2021.1969262

[47] **Muscio, A., Quaglione, D., & Ramaciotti, L.** (2016). The effects of university rules on spinoff creation: The case of academia in Italy. *Research Policy*, *45*(7), 1386–1396. https://doi.org/10.1016/j.respol.2016.04.011

[48] **Mustafa, M., Lee, C., & Galloway, J. E.** (2023). The importance of context: How university entrepreneurial climates enhances entrepreneurship in tourism and hospitality graduates. *Journal of Hospitality, Leisure, Sport & Tourism Education*, *33*, 100453. https://doi.org/10.1016/j.jhlste.2023.100453

[49] **Nasr, L., Mooney, C. H., Gur, F. A., Kabadayi, S., Renko, M., & Vink, J.** (2019). Transformative service research, service design, and social entrepreneurship. *Journal of Service Management*, *31*(1), 24–50. https://doi.org/10.1108/josm-05-2019-0139

[50] **Ndofirepi, T. M.** (2021). How spatial contexts, institutions and self-identity affect entrepreneurial intentions. *Journal of Entrepreneurship in Emerging Economies*, *13*(2), 153-174. https://doi.org/10.1108/jeee-12-2019-0182

[51] **Oftedal, E. M., Iakovleva, T., & Foss, L.** (2018). University context matter: An institutional perspective on entrepreneurial intentions of students. *Journal of Education and Training*, *60*(7/8), 873–890. https://doi.org/10.1108/et-06-2016-0098

[52] **Ogunsade, A. I., Obembe, D., Woldesenbet, K., & Kolade, S.** (2021). Entrepreneurial attitudes among university students: the role of institutional environments and cultural norms. *Entrepreneurship Education*, *4*(2), 169–190. https://doi.org/10.1007/s41959-021-00050-y

[53] **Osmani, A., & Beloucif, A.** (2021). Challenges of Algeria's Economic Development: A Youth Entrepreneurship Perspective. In Emerald Publishing Limited eBooks (pp. 173–191). https://doi.org/10.1108/978-1-80071-322-220211009

[54] **Pergelova, A., Angulo-Ruiz, F., Manolova, T. S., & Yordanova, D.** (2023). Entrepreneurship education and its gendered effects on feasibility, desirability and intentions for technology entrepreneurship among STEM students. *International Journal of Gender and Entrepreneurship*, *15*(2), 191–228. https://doi.org/10.1108/ijge-08-2022-0139

[55] **Pinheiro, G. T., Moraes, G. H. S. M. D., & Fischer, B. B.** (2023). Student entrepreneurship and perceptions on social norms and university environment: evidence from a developing country. *Journal of Entrepreneurship in Emerging Economies*, *15*(4), 746-765. https://doi.org/10.1108/jeee-03-2021-0121

[56] **Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P.** (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

[57] **Quagrainie, F. A.** (2023). Do psychological and social factors drive female youth entrepreneurial readiness: the moderating effect of entrepreneurial education. *Journal of Entrepreneurship and Public Policy, ahead-of-print* (ahead-of-print) https://doi.org/10.1108/jepp-01-2023-0002

[58] **Rafiki, A., & Nasution, F. N.** (2019). Business success factors of Muslim women entrepreneurs in Indonesia. *Journal of Enterprising Communities*, *13*(5), 584–604. https://doi.org/10.1108/jec-04-2019-0034

[59] **Rahman, M. M., Salamzadeh, A., & Tabash, M. I**. (2022). Antecedents of Entrepreneurial Intentions of Female Undergraduate Students in Bangladesh:

A Covariance-Based Structural Equation Modeling Approach. *Journal of Women's Entrepreneurship and Education*, (1–2), 137–153. https://doi.org/10.28934/jwee22.12.pp137-153

[60] **Salamzadeh, A., Radović-Marković, M., & Ghiat, B.** (2023). Women entrepreneurship in Algeria. *Environments for Women Entrepreneurship in North Africa*, 55-70. https://doi.org/10.1142/9789811276125_0003

[61] **Saoula, O., Shamim, A., Ahmad, M. J., & Abid, M. F.** (2023). Do entrepreneurial self-efficacy, entrepreneurial motivation, and family support enhance entrepreneurial intention? The mediating role of entrepreneurial education. *Asia Pacific Journal of Innovation and Entrepreneurship*, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/apjie-06-2022-0055

[62] **Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B., Radomir, L., & Ringle, C. M**. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing*, *39*(5), 1035–1064. https://doi.org/10.1002/mar.21640

[63] **Scott, W. R.** (1995). Institutions and Organizations. Sage Publications: Thousand Oaks, CA, USA.

[64] **Scott, W. R.** (2008). Institutions and Organizations: Ideas and Interests, 3rd ed. SAGE Publications, Thousand Oakes, CA.

[65] **Secundo, G., Mele, G., Passiante, G., & Albergo, F.** (2021). University business idea incubation and stakeholders' engagement: closing the gap between theory and practice. *European Journal of Innovation Management*, *26*(4), 1005-1033. https://doi.org/10.1108/ejim-08-2021-0435

[66] **Sharafizad, F., Brown, K., Jogulu, U., & Omari, M.** (2022). Avoiding the burst pipeline post-COVID-19: drivers of female academic careers in Australia. *Personnel Review*, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/pr-12-2021-0909

[67] **Sharma, P. N., Liengaard, B., Hair, J. F., Sarstedt, M., & Ringle, C. M.** (2023). Predictive model assessment and selection in composite-based modeling using PLS-SEM: extensions and guidelines for using CVPAT. *European Journal of Marketing*, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/ejm-08-2020-0636

[68] **Shepherd, D. A., & Krueger, N. F.** (2002). An Intentions–Based Model of Entrepreneurial Teams' Social Cognition*. *Entrepreneurship Theory and Practice*, *27*(2), 167–185. https://doi.org/10.1111/1540-8520.00005

[69] **Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J., Ting, H., Vaithilingam, S., & Ringle, C. M.** (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*, *53*(11), 2322–2347. https://doi.org/10.1108/ejm-02-2019-0189

[70] **Sobhan, N., & Hassan, A.** (2023). The effect of institutional environment on entrepreneurship in emerging economies: female entrepreneurs in

Bangladesh. *Journal of Entrepreneurship in Emerging Economies*, *16*(1), 12-32. https://doi.org/10.1108/jeee-01-2023-0028

[71] **Soomro, B. A., Abdelwahed, N. a. A., & Shah, N.** (2022). Entrepreneurship barriers faced by Pakistani female students in relation to their entrepreneurial inclinations and entrepreneurial success. *Journal of Science & Technology Policy Management*, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/jstpm-12-2021-0188

[72] **Tlaiss, H. A., & Kauser, S.** (2019). Entrepreneurial Leadership, Patriarchy, Gender, and Identity in the Arab World: Lebanon in Focus. Journal of Small Business Management, *57*(2), 517–537. https://doi.org/10.1111/jsbm.12397

[73] **Urban, B., & Kujinga, L.** (2017). The institutional environment and social entrepreneurship intentions. *International Journal of Entrepreneurial Behaviour & Research*, *23*(4), 638–655. https://doi.org/10.1108/ijebr-07-2016-0218

[74] **Valdez, M. E., & Richardson, J. E.** (2013). Institutional determinants of Macro–Level entrepreneurship. *Entrepreneurship Theory and Practice*, *37*(5), 1149–1175. https://doi.org/10.1111/etap.12000

[75] **Víquez-Paniagua, A. G., Leiva, J. C., & Mora-Esquivel, R.** (2022). Entrepreneurial attitude in female Latin American university students: internal and external influences. *Management Research*, *21*(3), 284–304. https://doi.org/10.1108/mrjiam-10-2021-1237

[76] **Wang, J., Li, Y., & Long, D.** (2019). Gender gap in entrepreneurial growth ambition. *International Journal of Entrepreneurial Behavior & Research*, *25*(6), 1283–1307. https://doi.org/10.1108/ijebr-04-2018-0248

[77] **Widiyanto, W., Yulianto, A., Feriady, M., & Nurkhin, A.** (2023). Learning models of women entrepreneurship in Indonesia. *Journal of Women's Entrepreneurship and Education*, (1–2), 32–50. https://doi.org/10.28934/jwee23.12.pp32-50

[78] **Xiao, Z., Chen, X., Dong, M. C., & Gao, S.** (2022). Institutional support and firms' entrepreneurial orientation in emerging economies. *Long Range Planning*, *55*(1), 102106. https://doi.org/10.1016/j.lrp.2021.102106

[79] **Yusuf, N., Jamjoom, Y., & Saci, K.** (2023). Entrepreneurial orientation across gender in Saudi Arabia: evidence from the Adult Population Survey (APS) of Global Entrepreneurship Monitor (GEM). *Journal of Entrepreneurship in Emerging Economies*, *16*(1), 134-158. https://doi.org/10.1108/jeee-12-2022-0375

[80] **Zhuang, J., & Sun, H.** (2023). Impact of institutional environment on entrepreneurial intention: The moderating role of entrepreneurship education. *The International Journal of Management Education*, *21*(3), 100863. https://doi.org/10.1016/j.ijme.2023.100863

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