

*Full Length Research Paper*

# **Entrepreneurship in crisis situations: Determinants of entrepreneurial intentions among University Students in Yemen**

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**The aim of this study was to examine the entrepreneurial intentions of university students at two major universities in Yemen. The entrepreneurial intentions of students were determined using demographic, personality, environmental and situational variables. The primary data were collected through a questionnaire survey method. A total of 487 students have been included from different programs such as economics, commerce, sciences, computer and IT, medical sciences, agriculture, engineering, art and law. To analyze the data, descriptive statistics, principal component factor analysis, t-test, analysis of variance, correlation and regression analysis were employed. The results indicate that individual perceptions of need for achievement, self-efficacy, locus of control and situational variable have a significant impact on entrepreneurial intention, but not instrumental readiness. Age and entrepreneurial experience have a significant impact, but not gender and university. The study recommends that students should develop their entrepreneurial capacity by following informal and formal training of different entrepreneurial skills needed to run a business. Government and universities should organize entrepreneurship training courses and establishing entrepreneurship centers, incubators and support entrepreneurial start-ups activity.**

**Key words:** University students, entrepreneurial intention, Yemen.

## **INTRODUCTION**

Across the globe, entrepreneurship has been recognized as a viable determinant for progress and economic growth. As one of the basic impulsive forces of economic development, entrepreneurship and small and new firms have contributed significantly by attaining economic growth, high employment, creation of strong job opportunities, positive social change, providing support to

the domestic economy and recovering from conflict (Acs et al., 2004; Fayolle et al., 2006; Djip, 2014). Over the last decade, extensive studies have been conducted on entrepreneurship and economic growth within strong and stable environments (Giacomin et al., 2011; Kwong and Thompson, 2016). With about 1.5 billion people affected by conflicts all over the world (World Bank, 2011), the

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empirical work is still relatively little in studying entrepreneurship issues in hard and crisis situations, particularly political and economic instability (Aldairany et al., 2018). Conflict and crises are considered one of the most critical challenges facing entrepreneurship in the world today. These challenges vary in each country or case, therefore, in those different contexts, they have their special issues. To study this issue, many previous studies have depended on qualitative methods with small and non-random samples in some cases, whereas some others depended on the published households' surveys. However, there is still a critical need for empirical research on business and entrepreneurship intentions in such challenging contexts. Furthermore, entrepreneurship may be a part of the solution which refers to the recovery ability in the impact of crisis, where the need to earn some income for people who stay in crisis zones may play catalyst roles in moving towards stability. In crisis situations, many entrepreneurs may seek to do business to survive and sustenance their families. In contrast, the crisis contexts are linked with weak of the business environment in general. Therefore, this paper aims to contribute to filling this research gap by empirically analyzing the factors that impact the entrepreneurial intentions among university students in a unique socio-economic context. On one hand, it clearly considers the relationship between the crisis effect and the entrepreneurial intentions of university students. Doing so, it implicitly considers the impact of entrepreneurship education on shaping students' entrepreneurial intentions. On the other hand, the study does not restrict investigation to social entrepreneurship, but all entrepreneurial activities. This can shape our understanding and knowledge on this important issue, in order to formulate tailored policies catering to the particular needs of crises case.

### Country profile

The ongoing conflict in Yemen has wrought grievous costs on the nation, damaging lives, property, and devastated the country's essential infrastructure and a majority of production activities ceased since March 2015. The country had sunk to the bottom of the United Nations Development Program and Human Development Index (HDI) (Moyer et al., 2019). According to recent figures published by the World Bank, Yemeni GDP contracted by an accumulated 39% in the period between 2014 and 2019 (World Bank, 2019). Furthermore, the crisis has dramatically diminished employment and income opportunities in the private and public sector, that led towards losing many job opportunities and making the unemployment rate doubled (14.6%) in the year 2010. A report from the International Labor Organization (ILO) indicates that the unemployment rate among Yemeni youth in the 15-34 age group is high and it was estimated at 79.3% (ILO, 2015).

### Entrepreneurship in Yemen

In Yemen, entrepreneurship and Micro, Small and Medium-size Enterprises (MSMEs) are closely related, where the small and new firms have contributed significantly by new job creation. In that way, it helped to address one of the main problems facing young people, especially university graduates and provided support to the local economy. The private sector in Yemen provides many opportunities for self-employment. According to the Baseline Survey of Micro and Small Enterprises carried out in 2000, the number of SMEs is estimated at 311,000 firms, which employ around 500,000 private-sector-workers, out of which 224,000 are individual firms, constituting 72% of the total (MSE Survey Baseline, 2000). Adding to the above, MSEs are the main source of income for 70% of MSE entrepreneurs (Aliriani, 2013).

## LITERATURE REVIEW

### Entrepreneurial intention concept

The term Entrepreneurial Intention is considered synonymous with entrepreneurship. Most of the studies use entrepreneurial intention as a tool for measuring the level of entrepreneurship activity. Entrepreneurial intention has been defined in different ways: as a mental state that inspires a person to a specific path (Bird and West, 1998), the intention of a person to start-up a new business venture at some point in the future (Thompson, 2009), the intention of a person to own a business (Crant, 1996), the intention of a person to be self-employed (Douglas and Shepherd, 2002). Entrepreneurial intention has a psychological nature. According to Ajzen (1991) and Krueger et al. (2000) the intention has proven as the best predictor of an individuals' planned behavior, especially when the behavior is rare and hard to observe or involves an unpredictable amount of time. The stronger an individuals' intention to engage a given behavior, the more likely to perform this behavior (Maresch et al., 2016). In the current study context, entrepreneurial intention can be defined as the intention of a person to start-up a new business venture for the main purpose of profit-seeking at some point in the future.

### Entrepreneurial intention models

The development of the models that explain the entrepreneurial intention is credited to the eighties and nineties of the last century. Shapero and Sokol (1982) is one of the earliest scholars who developed a model of the Entrepreneurial Event (EEM). According to EEM model, there are three variables that determine entrepreneurial intention. Perceived desirability (the individual attractiveness of starting a business), perceived feasibility (the confidence a person has in their

ability to start a business) and entrepreneur's tendency to act (refers to individual's disposition to act decisively when faced with an opportunity). Ajzen (1991) developed a psychological model of "Planned Behavior", the Theory of Planned Behavior (TPB). Ajzen suggests three motivational factors that influence entrepreneurial intention. These factors are attitudes towards the behavior (the degree to which an individual has a favorable or unfavorable evaluation or appraisal of the behavior in question), subjective norms (the perceived social pressure to perform or not to perform the behavior) and behavioral control (the perceived easiness or difficulty of performing the behavior). Recently, TPB is becoming one of the main theoretical models frequently used to explain and predict human behavior.

Around these two complementary models, most works dealing with entrepreneurial intention has been developed. In one hand, the EEM is particularly applied to entrepreneurial behavior; on the other, the TPB is more general and refers to a wide range of behavior. However, both models confirm the importance of a person's behavioral intention as a predictor of a person's real behavior.

Davidsson (1995) introduced an economic-psychological model to test factors that affect an individual's intentions to start business. The model combines economic and psychological variables in a set of general attitudes (desire to change, competitiveness, money orientation, achievement, and autonomy), domain attitudes (payoff, social contribution and know-how), and the current situation. According to Guerrero et al. (2008), Davidsson's model considered as the last formal accredited entrepreneurial intention model was published in 1995. However, Lüthje and Franke (2003) later suggest a structural model dedicated to explore the effect of contextual and personality factors on entrepreneurial orientation. Thus, for the purpose of this study Davidsson (1995) model was borrowed.

### **Theoretical model**

The theoretical model of this study comprises four predictors of entrepreneurial intention. The four predictors are some personality traits (need for achievement, locus of control and self-efficacy), some environmental factors which are supporting nascent entrepreneurial activities (access to capital, access to business information, institutional environment and social networks) and demographic variables which are usually significantly associated with entrepreneurial intention such as age, student's gender, university and prior entrepreneurial experience. In addition, this study makes a significant contribution to entrepreneurship literature by adding a situational variable that interacts with individual perceptions to influence entrepreneurial intentions. In entrepreneurial intention models, relatively little research interest was devoted to a situational variable. Davidsson

(1995) is one of the authors who examine how the situational variable, unemployment status, has an impact on entrepreneurial intentions in the Norwegian context. Recently, entrepreneurship research highlighted the importance of the situational variables on shaping entrepreneurial intention. Arrighetti et al. (2016) take the impact of situational variable, the economic crisis, on the entrepreneurial intentions of university students in the Italian context. Mouselli and Khalifa (2017) determined the effect of a situational factor and crisis effect, on university students during the Syrian war. The current study hopefully has been able to initiate more interest towards the impact of the situational factor, crisis effect, in the entrepreneurial intentions of university students in the Yemen context. Figure 1 shows the entrepreneurial intentions model in this paper.

### **Variables definition**

#### ***Personality traits***

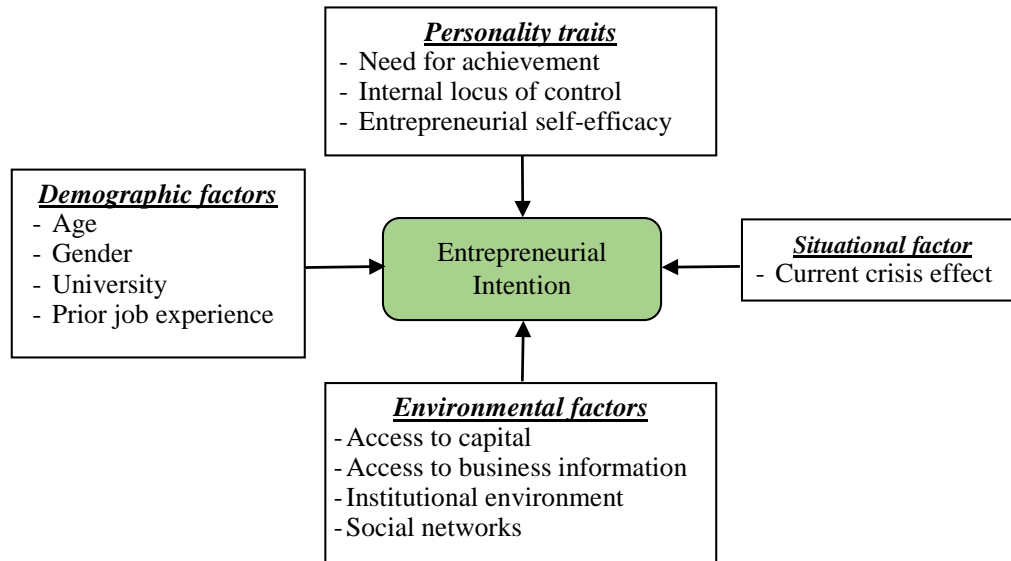
There is a growing body of literature arguing that the entrepreneur personality traits and attitudes play a very relevant role in the decision to start a new business (Kristiansen and Indarti, 2004; Sesen, 2013; Mat et al., 2015; Çolakoğlu and Gözükar, 2016; Mouselli and Khalifa, 2017) The present study focuses on the most commonly used which are: Need for achievement, Locus of control and Self-efficacy.

#### ***Need for achievement***

One of the most widely used psychological variables in personality traits and entrepreneurship research is the need for achievement, it shows whether an individual is inclined to entrepreneurship or not (Frank et al., 2007). It is more associated with performance compared with an individual's internal standards (Davidsson, 1995). According to Need for Achievement Theory by McClelland (1961), individuals with a high need for achievement have a strong desire to be successful. He also assures the importance of the achievement motivation for economic development. Hansemark (1998) noted that the founders of new firms have a higher level of need for achievement. Some prior research shows a positive relation between need for achievement and entrepreneurial intention (Gürol and Atsan, 2006; Çolakoğlu and Gzükara, 2016). However, this is in contrast with the findings of a recent study carried out by Sharaf et al. (2018) who reported that the need for achievement has no significant impact on entrepreneurial intention.

#### ***Locus of control***

Another personality trait that dominates entrepreneurship research is locus of control. It is the overall belief in a



**Figure 1.** Shows the conceptual model of intention.

person's power over the outcomes of actions. According to Locus of Control Theory by Rotter (1966) the individuals more internally oriented are more propensity to believe that reality can be affected by their efforts. In contrast, those who are more externally oriented believe in the power of external conditions. Locus of control considered to be important in individuals' motivation and intentions to start new ventures (Shane et al., 2003). Remeikiene et al. (2013) reported that education mostly contributes to the development of internal locus of control. The results of a number of studies found, that locus of control predicts entrepreneurial intention (Gerba, 2012; Sesen, 2013). However, Kristiansen and Indarti (2004) and Fayolle et al. (2006) found that the locus of control has no significant effect on entrepreneurial intention.

### Self-efficacy

The third personality trait in the present study is self-efficacy which is defined as the degree to which individuals believe they have the ability to successfully start a business (Malebana, 2017). In the field of entrepreneurship, it is related to entrepreneurial intention and termed "entrepreneurial self-efficacy" (ESE). Self-efficacy is a great driver of goal-oriented behavior (Baum and Locke, 2004). It is the core of the EEM model, the entrepreneurial intention is derived from desirability, feasibility, and propensity to act. Self-efficacy is also in the center of TPB, it represents the perceived behavioral control. The entrepreneurial intention tends to be affected by self-efficacy. Subsequent research has shown that self-efficacy is a significant factor to pursue entrepreneurial intention decision (Sesen, 2013). Within this framework defined by previous literature, three

research hypotheses were formulated to be empirically tested concerning personality traits:

- H1:* Need for achievement has a positive impact on entrepreneurial intentions.  
*H2:* Internal locus of control has a positive impact on entrepreneurial intentions.  
*H3:* Self-efficacy has a positive impact on entrepreneurial intentions.

### Environmental factors

In addition to personality traits, other factors associated with environment can be important sources of entrepreneurial intentions. Environmental factors are often viewed as filling the gap in relation between personality traits and entrepreneurial intentions (Lüthje and Franke, 2003). Previous studies included a large set of environmental factors that might influence the decision to begin an entrepreneurial career (Sesen, 2013). In some contributions, access to capital is found to be an important antecedent for the creation of a new venture (Jemal, 2017), availability of information on the potential business sector and the social networks (Kristiansen and Indarti, 2004), and impact of institutional factors (Mouselli and Khalifa, 2017).

### Access to capital

One of the issues related to entrepreneurship in general and especially among the youth generation is access to start-ups financing. According to Jemal (2017) the lack of start-up capital and the constraints of financial systems

considered as the most serious challenge for youth generation to think about launching their own business.

### Access to business information

The availability of information on the business environment such as, markets, sources of inputs, technological solutions, government regulations and rules and how to run a business. According to Kristiansen and Indarti (2004), access to information is an important element for the intention to launch new ventures. Previous study by Anand and Krishna (1994) found that information-seeking is the main characteristic of entrepreneurial.

### Institutional environment

Institutional environment plays a powerful role in creating or even destroying entrepreneurship in a country (Aldrich and Wiedenmayer, 1993). The rate of launch new ventures is directly affected by ease or difficulty of establishing businesses in terms of procedures and requirements to obtain a license, where it can influencing pursue the entrepreneurial activity. According to Stephen et al. (2005) environmental formal variables such as legal rules and government support procedures are critical to launching new ventures.

### Social networks

Social networks can be defined as a variety of channels, such as family, relatives, friends, or social groups in general. Social networks are important to establish an entrepreneurial venture. It is a way for entrepreneurs to receive information and support. According to Sesen (2013) some social networks may provide financial support, others provide the information for new entrepreneurs. He also pointed out the importance of support from the social networks on a person's intention to be an entrepreneur.

The major environmental variable used is "Instrumental Readiness". Based on prior study of Kristiansen and Indarti (2004) the current study considers that individuals' perception of their access to capital, access to business information, institutional environment and social networks as one factor with a combined measurable impact on entrepreneurial intentions, and the following hypothesis has been developed:

*H4.* Instrumental readiness has a positive impact on entrepreneurial intentions.

### Crisis effect

It is a country-level predictor related to the current

situation in the study context, specifically the influence of the current status. It is considered one of the situational variables that expected to affect the entrepreneurial decision (Davidsson, 1995; Arrighetti et al., 2016; Mouselli and Khalifa, 2017). The decision to launch a new business is not independent of the social, political and economic environment conditions where the new business will be operating (Lüthje and Franke, 2003; Turker and Selcuk, 2009). In times of crisis, the features of the economic environment get worse. As a result, a negative effect should be expected on the actual rate of new business creation (Klapper and Love, 2011); thus, the current crisis is expected to have a negative impact on entrepreneurial intention. The reason is due to the financial, economic, political, social even psychological constraints imposed by the crisis as well as the shrinking of business opportunities. In contrast, entrepreneurship may push some individuals to become necessity-based-entrepreneurs, where the wage employment opportunities are limited. In developing countries, many nascent entrepreneurs engaged in entrepreneurial activities are driven by necessity (Arrighetti et al., 2016; Mouselli and Khalifa, 2017). In contrast, the crisis might limit the financial resources available and damage individuals' psychological, social and mental conditions. However, this variable has yet to be thoroughly examined in the entrepreneurial intention literature. This study aims to make a contribution with respect to the above literature and investigate the effect of the current crisis on entrepreneurial intentions, Yemen context. Thus, the following hypothesis was proposed:

*H5.* The current crisis has a negative impact on entrepreneurial intentions.

### Aim of the study

This study aims to study the impact of some personality traits on entrepreneurial intentions, to assess the influence of environmental factors on entrepreneurial intention and to comprehend the impact of the situational factor "crisis effect" on the entrepreneurial decision.

## METHODOLOGY

### Data collection tool

The aim of this research was to investigate the factors that impact the entrepreneurial intention among university students in Yemen. The primary data was collected through a questionnaire. The researchers designed Entrepreneurial Intention Questionnaire (EIQ) following various questionnaires already tested by previous authors (Mueller and Thomas, 2001; Kristiansen and Indarti, 2004; Liñán and Chen, 2009; Mouselli and Khalifa, 2017). All EIQ items are measured using a five-point Likert scale from 1 (lowest measure) to 5 (highest measure). EIQ consists of two parts. The first part contained the demographic information (age, gender, university and entrepreneurial experience). The second part was related to the scales and items that target the purpose of the study. Table 1

**Table 1.** Entrepreneurial Intention Questionnaire (EIQ) items and the source of adoption.

<b>Constructs and measuring items</b>	<b>Sources</b>
<b>Need for achievement (NA)</b>	<b>Kristiansen and Indarti (2004)</b>
<i>Rate yourself to what extent your performances will be better than others or than previous one's own from 1 (strongly disagree) to 5 (strongly agree)</i>	
NA1: I will do very well in fairly difficult tasks relating to my study and my work.	
NA2: I will try to succeed and perform better than my friends.	
NA3: I will seek added responsibilities in job assigned to me.	
NA4: Current situation motivates me for more achievement*.	
<b>Locus of Control (LC)</b>	<b>Mueller and Thomas (2001)</b>
<i>Rate yourself to what extent you feel have the power to control the outcomes of actions from 1 (strongly disagree) to 5 (strongly agree)</i>	
LC1: Diligence and hard work usually lead to success.	
LC2: If I do not succeed on a task, I do not give up.	
LC3: I do not believe in luck in the job.	
LC4: I am fairly managing my financial situation.	
LC5: I am a good time-manager.	
LC6: I am able to start and run a new business during the crisis period*.	
<b>Self-efficacy (SE)</b>	<b>Liñán and Chen (2009)</b>
<i>Rate yourself to what extent you feel have the ability to start a business from 1 (strongly disagree) to 5 (strongly agree)</i>	
SE1: I have leadership skills that are needed to be an entrepreneur.	
SE2: I have mental maturity to start to be an entrepreneur.	
SE3: I have the skills and abilities required to succeed as an entrepreneur.	
SE4: I have the experience to start my own business.	
<b>Instrumental Readiness (IR)</b>	<b>Kristiansen and Indarti (2004)</b>
<i>Indicate your level of agreement that the following measures could be a barrier or incentive for you to launch your own business from 1 (extremely unsupportive) to 5 (extremely supportive)</i>	
IR1: Access to capital to start a business	
IR2: Access to supporting information to start a business.	
IR3: The administrative bureaucracy in the procedures of registering and running firms(e.g., paperwork and long delays, etc.)*.	
IR4: Essential infrastructure (e.g., transportation, water, electricity, telephone, and other telecommunication systems, etc.)*.	
IR5: The available labor forces required to start a business*.	
IR6: Social networks if I decide to be an entrepreneur.	
<b>Crisis Effect (CE)</b>	<b>Mouselli and Khalifa (2017)</b>
<i>Rate yourself to what extent the current crisis affected the status of your financial, psychological, social and to what extent the crisis limited the necessary resources to start up a new venture from 1(strongly effect) to 5 (Never affect)</i>	
CE1: My financial situation has been affected dramatically by the crisis.	
CE2: My psychological situation has been affected dramatically by the crisis.	
CE3: My social situation has been affected dramatically by the crisis.	
CE4: Crisis restricts resources that are necessary to start up business.	
<b>Entrepreneurial Intention (EI)</b>	<b>Liñán and Chen (2009)</b>
<i>Rate yourself on the following questions from 1 (strongly disagree) to 5 (strongly agree)</i>	
EI1: I am ready to do anything to be an entrepreneur.	
EI2: My professional goal is to be an entrepreneur.	
EI3: I will make every effort to start and run my own business.	
EI4: I am determined to create a business venture in the future.	

Items with an asterisk are self-developed.

**Table 2.** Sample distribution by gender, age, university and entrepreneurial experience ( $N = 487$ ).

Variable	Category	Frequency	Percentage	
<b>Gender</b>	Male	349	71.7	
	Female	138	28.3	
<b>Age (year)</b>	22-23	181	37.2	
	24-25	232	47.6	
	$\geq 26$	74	15.2	
<b>University</b>	Sana'a University	Public	363	74.5
	University of Science and Technology	Private	124	25.5
Prior entrepreneurial experience	Yes	53	10.9	
	No	434	89.1	

lists the EIQ items along with their sources of adoption. EIQ was administered during class sessions.

### Statistical approach

The collected data were analyzed by means of SPSS version 22 software using a set of approaches. Descriptive statistics in the form of frequencies, exploratory factor analysis and reliability analysis to help evaluate the goodness of the measure. Correlation analysis was used to check the validity of the conceptual framework. Independent Sample t-test and One-way ANOVA analysis were used to analyze the impact of demographic differences on entrepreneurial intention. Regression analysis was done to test the impact of predictor variables on entrepreneurial intention of students.

### Participants, procedures and sample size

The population of this study was final year university students in Sana'a University and University of Science and Technology in Yemen, in 2019/2020 academic year. Both universities had 16 similar and different humanitarian and scientific faculties. Randomly, 8 faculties (50%) were selected to be considered as the research population, which are, faculties of commerce and economics, sciences, computer and IT, law, agriculture, medical sciences, engineering and art. Furthermore, the administration of these two universities was contacted to seek permission and assistance with on-site data collection. The class representatives were also contracted to seek assistance with on-site data collection. The size of the population was approximately 7667 university students. The stratified sampling technique was employed and the required sample size was determined based on the formula given by Thompson (2012)

$$n = \frac{N \times p(1-p)}{(N-1)(d^2 + z^2) + p(1-p)}$$

Where  $n$  = Required sample size,  $N$  = Population size,  $Z$  = Confidence level at 95% (1.96),  $d$  = Error proportion (0.05),  $p$  = Probability (50%). A total of 555 questionnaires were distributed to students. Out of this, 487 were finalized and returned (Males = 349, Females = 138) from both universities, (74.53% = 363) Sana'a University and (25.47% = 124) University of Science and Technology, with the response rate (87.74%). The age distribution of the participants ranged from 22 to 27 years. The mean age was

24.11 (SD = 1.20). Whereas 89.1% = 434 of the total respondents have no prior entrepreneurial experience, 10.9% = 53 of them have (Table 2).

## DATA ANALYSIS AND RESULTS

### Factor analysis and reliability calculation

To ensure construct validity, exploratory factor analysis was run using the principal component analysis method with Varimax rotation to examine the structure of predictor factors measures in entrepreneurial intention used in the study. After performing factor loadings, each item with a loading value below 0.30 was deleted. Based on factor analyses, six factors were arising with the Eigenvalues above 1.0, these six factors altogether explained a total of 66.617% of the variance. Cronbach's  $\alpha$  coefficients were used to check the reliability of the generated factors. The reliability values of all the factors were acceptable above 0.81 in every case (Table 3).

### Kaiser–Meyer–Olkin test

To ensure an appropriate factor analysis result, the Kaiser-Meyer-Olkin (KMO) was tested to measure the sampling adequacy, with a result of 0.888, and a significant value (0.000) for Bartlett's test of sphericity. It can be concluded that factor analysis result is appropriate for this data (Table 4).

### Mean, standard deviations, and correlation between study variables

Table 5 shows the descriptive statistics and correlations between the study variables. The mean values indicated that all the variables have moderate to moderately high values. The instrumental readiness variable got the lowest means (2.88). In general, the correlations between

**Table 3.** Rotated component matrix and reliability.

Variable	Item	Component					
		1	2	3	4	5	6
Need for achievement	NA3	0.812					
	NA2	0.686					
	NA1	0.664					
	NA4	0.638					
Locus of Control	LC3		0.796				
	LC4		0.753				
	LC1		0.677				
	LC5		0.671				
	LC2		0.631				
	LC6		0.542				
Self-efficacy	SE4			0.752			
	SE2			0.752			
	SE3			0.724			
	SE1			0.713			
Instrumental readiness	IR1				0.893		
	IR5				0.882		
	IR4				0.767		
	IR2				0.732		
	IR3				0.722		
Crisis effect	CE2					0.860	
	CE3					0.816	
	CE1					0.790	
	CE4					0.729	
Entrepreneurial Intention	EI1						0.814
	EI3						0.777
	EI2						0.768
	EI4						0.760
Eigenvalue		8.089	3.271	2.645	1.628	1.248	1.105
Variance explained (66.617%)		13.024	12.656	11.255	10.422	9.865	9.395
Cronbach's $\alpha$		0.850	0.843	0.848	0.866	0.818	0.849

Extraction method: principal component analysis; rotation method: Varimax with Kaiser normalization.

**Table 4.** Kaiser–Meyer–Olkin (KMO) and Bartlett's test of sphericity.

KMO and Bartlett's test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.888
Bartlett's test of sphericity	Approx. $\chi^2$	7163.547
	df	351
	Sig.	0.000

the dependent variables and the independent variable were significant. More specifically, the relationships between entrepreneurial intention and need for

achievement was high ( $r = 0.53$ ,  $p < 0.01$ ), while the relationship between entrepreneurial intention and instrumental readiness was low ( $r = 0.10$ ,  $p < 0.05$ ).



**Table 5.** Mean, standard deviations and correlation among the study variables.

Variable	Mean	SD	NA	LC	SE	IR	CE	EI
NA	3.5749	.57290	1.00					
LC	3.4541	.54091	0.645**	1.00				
SE	3.2562	.68697	0.591**	0.580**	1.00			
IR	2.8875	.68995	0.173**	0.185**	0.260**	1.00		
CE	3.5108	.65852	0.038	-0.015	-0.079	-0.065	1.00	
EI	3.7023	.58589	0.533**	0.463**	0.470**	0.101*	0.133**	1.00

The variables label as follows: NA - need for achievement; LC - locus of control; SE - self-efficacy; IR - instrumental readiness; CE - crisis effect; EI - entrepreneurial intention. Significant at: \* $p < 0.05$ ; \*\* $p < 0.01$ .

**Table 6.** *T-test* for assessing the impact of gender, entrepreneurial experience and university on entrepreneurial intentions.

Variable	<i>t</i>	df	Sig.
Gender	-0.187	485	0.852
Prior entrepreneurial experience	7.257	485	0.000***
University	0.591	485	0.555

Significant at: \*\*\* $p < 0.001$ .

**Table 7.** Analysis of Variance (ANOVA) for assessing the impact of age on entrepreneurial intentions.

Variable	<i>F</i>	df	Sig.
Age	28.388	2	0.000***

Significant at: \*\*\* $p < 0.001$ .

### The impact of demographic differences on entrepreneurial intention

In order to investigate the impact of differences on statistical demographic variables on entrepreneurial intentions, Independent Sample *t-test* was applied for gender, university and prior entrepreneurial experience. One-way ANOVA analysis was utilized for the variable of age. The results of *t-test* for the independent samples (Table 6) indicate that there is no significant difference between gender and entrepreneurial intention. This implies that the levels of entrepreneurial intention amongst male and female students are equal. This finding is consistent with past work of Smith et al. (2016), that students' entrepreneurial intentions were not influenced by differences of gender. The results also showed no significant differences in entrepreneurial intentions among students from public and private sector universities. This result is supported by Mouselli and Khalifa (2017). Nevertheless, there was a significant impact of prior entrepreneurial experience on entrepreneurial intentions ( $t = 7.257$ ,  $df = 485$ ,  $p < 0.000$ ).

This finding agrees with the study conducted by Peng et al. (2012) that the prior entrepreneurial experience has an impact on entrepreneurial competence.

Analysis of variance (ANOVA) was utilized to investigate the impact of age differences on student's entrepreneurial intentions. The results (Table 7) explain that age was a significant impact on entrepreneurial intentions. This is demonstrated by a significant value (0.000). As the students were getting older, their entrepreneurial intention increases. This is in line with the findings of Ozaralli and Rivenburgh (2016).

### The impact of predictor factors on entrepreneurial intention

Multiple regression analysis was used to investigate the impact of five predictor variables, namely, need for achievement, locus of control, self-efficacy, instrumental readiness and crisis effect on student's entrepreneurial intention. As shown in Table 8 the significant and positive impact of all personality traits, need for achievement, followed by self-efficacy and locus of control on entrepreneurial intention of students. Thus, *H1*: need for achievement has a positive impact on entrepreneurial intentions is supported. Similarly, *H2*: internal locus of control has a positive impact on entrepreneurial intentions and *H3*: self-efficacy has a positive impact on entrepreneurial intentions are supported as well. This result is consistent with the study of Mat et al. (2015), who report that the most personality traits drive entrepreneurial intention was need for achievement,

**Table 8.** Multiple regression analysis.

Variable	Estimate ( $\beta$ )	p-value
Need for achievement	0.310	0.000***
Locus of control	0.140	0.006**
Self-efficacy	0.224	0.000***
Instrumental readiness	-0.028	0.466
Crisis effect	0.139	0.000***

Significant at: \*\*p < 0.01; \*\*\*p < 0.001.

self-efficacy, and locus of control respectively. The results also showed that instrumental readiness (accessing capital, accessing information, institutional environment and social networks), have no significant impact on entrepreneurial intentions. Thus, *H4*: instrumental readiness has a positive impact on entrepreneurial intentions is not supported. These findings were consistent with the findings of Gerba (2012) who found that the mean score for instrumental readiness (access to capital, access to information and social networks) was much lower than the mean scores for other variables. The result shows that crisis had a significant impact on entrepreneurial intentions. It means the crisis does not motivate university students to entrepreneurial intentions. Thus, *H5*: the current crisis has a negative impact on entrepreneurial intentions is supported. However, this finding is different from the results obtained by Mouselli and Khalifa (2017).

## DISCUSSION

This study provides empirical evidence for the state of entrepreneurial intention within a sample of final year students in two major universities in Yemen. This study came out with four important implications for the entrepreneurial intentions of university students. The result clearly indicates there is no significant difference between gender and entrepreneurial intention, which means, no meaningful difference between males and females in terms of intentions to start businesses, this is in line with the work of Smith et al. (2016). In contrast, some prior studies found that men had stronger entrepreneurial intentions than women (Zhang et al., 2014). The results also showed no significant differences in entrepreneurial intentions among students from public and private sector universities (Mouselli and Khalifa, 2017). In this study, prior entrepreneurial experience and age of the respondents significantly affect entrepreneurial intentions of students, these findings are consistent with that of Peng et al. (2012) and Ozaralli and Rivenburgh (2016), who found that the older students have higher entrepreneurial intention.

Additionally, the predictor strongly related to entrepreneurial intention in this study was the need for achievement, this finding is consistent with prior research

(Çolakoğlu and Gzükara, 2016; Yukongdi and Lopa, 2017). Among the personality factors, need for achievement seems to distinguish itself more than the others as a measure of intentions. It is one important personality trait that affects individuals' actions to entry into entrepreneurship (Fine et al., 2012). The high need for achievement pushes an individual to seek out entrepreneurial career in order to accomplish more achievement and satisfaction than could be obtained from other types of careers. Need for achievement should lead individuals to seek the challenges which match their personality and boost their confidence in the probability of their success, which might lead to an increase in overall society's growth. Nevertheless, the need for achievement alone is not enough to completely clear why one would choose to undertake an entrepreneurial activity, but, it does seem to be a key component. The results also show that self-efficacy and internal locus of control are important elements to entrepreneurship intention.

Furthermore, the study found that the access capability of entrepreneurial supporting factors, instrumental readiness (access to capital, access to business information, institutional environment and social networks), have no significant impact on entrepreneurial intentions. This result is inconsistent with the findings of Kristiansen and Indarti (2004) who found a positive relation between entrepreneurial intentions and instrumental readiness (accessing capital, information and networks). This difference may be due to the context of the current study. However, the findings of this research concurred with the results of the study conducted by Yukongdi and Lopa (2017) who did a study comprising respondents from 12 different nationalities in Asia, and they reported that the environment for starting a business had no significant on entrepreneurial intention. It also concurs with Susetyo and Lestari (2014) who found that instrumental readiness (access to capital, information and networks) did not impact significantly on entrepreneurial intentions of Indonesian university students. According to entrepreneurship literature, instrumental readiness supports development of entrepreneurial intentions and impacts nascent entrepreneurs in the form of access to capital, access to business information, institutional environment and quality of social networks. Nevertheless, the findings of this study considered instrumental readiness as one of

the major obstacles facing university students to consider entrepreneurship as a career choice. Another reason for the insignificant effect of instrumental readiness on entrepreneurial intention maybe as this study was conducted in an underdeveloped and unstable context where instrumental readiness is related to the issues such as unavailability of resources, insufficient capital and a general lack of infrastructural support. This result should be investigated with comparative studies in the future as well.

Moreso, one of the study goals concerns the impact of the current situation on entrepreneurial intentions. The results found the current situation, crisis effect, had a significant effect on students' entrepreneurial intentions, which means the crisis does not motivate university students to establish their entrepreneurial intentions and it harmed their entrepreneurial intentions. The results also show the crisis impact not only on the financial, psychological and social situation for students, but it also weakened dimensions of entrepreneurship, such as the intentions and perceived likelihood. Interestingly, this differs from the findings of Mouselli and Khalifa (2017) who noted that the crisis effect has insignificant impact on Syrian students' entrepreneurial intentions. However, the effect of the crises on entrepreneurial intentions are very diverse and depends on each case on a set of interacting factors, such as hampers overall economic activity, a decline in economic opportunities, type of crisis as well as the cause emerging from the entrepreneurship literature. There is a distinction between necessity- and opportunity-based entrepreneurship; this may explain the distinction between the two cases. Entrepreneurial literature's lack of research on the emergence of, and challenges to entrepreneurial activities during the periods of crises is a significant lacuna. This finding calls for further research on the impact of the situational factors on entrepreneurial intention.

Finally, the entrepreneurial intentions of university students can be considered as a stepwise process influenced by demographic variables, personality traits, environmental and situational factors. The study found that the personality traits were more effective than instrumental readiness which does not have a significant impact for the entrepreneurial intention, and need for achievement was the important personality factor. It has been revealed that the situational factor "crisis effect" does not motivate students' intentions toward entrepreneurship and it harms their entrepreneurial intentions. In addition to this, the current study concluded that the entrepreneurial intention of university students is complex and not easy to construct.

This study also has a number of recommendations. First, students should develop their entrepreneurial capacity by following informal and formal training and evolutions of different entrepreneurial skills needed to run a business. Also, the management of universities should make some changes in the curriculum and add entrepreneurship courses to influence and promote entrepreneurial

intentions and skills among students. In addition, the government should make more efforts to enhance entrepreneurial skills by establishing business incubators and science parks that would provide students with excellent venues to develop their entrepreneurial intentions. Finally, although the studies attempt to separate the effect of situation factor, crisis effect, in forming entrepreneurial intentions from other factors, it may still be implied in other factors.

### Limitations and future research directions

Like all studies, this research is not without limitations that should be addressed in future studies. It is clear that the results of this study are for a specific context. Although it is theoretically possible to extend this study to other contexts, the specific differences between the context of the study and other contexts over the world strengthen the generalization of the findings. Thus, a useful extension would be to conduct this study in other environments that suffer from crises and economic and political instability. In communities suffering from war and crises, entrepreneurship may be affected differently by attributes and contexts. Therefore, it is necessary to overcome the constraints of measuring this factor and to find more accurate measurements. The authors hope that this study could provide an important first step to further examine the antecedents of entrepreneurial intentions in hard and unstable contexts which could promote future studies in this important area. In addition, the investigation of the effect of entrepreneurship education on shaping entrepreneurial intentions of university students is also a gap and an interesting topic that deserves further research in the study context.

### CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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