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ENTREPRENEURSHIP EDUCATION AND ENTREPRENEURIAL INTENTION: PERSPECTIVES ON INSTITUTIONAL THEORY

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Abstract
Entrepreneurial intentions have been considered a critical element understanding the formation of new venture creations that have been seen in creating jobs and economic growth in a country. This study draws upon institutional environment theory to clarify and test the model using multiple linear regression on entrepreneurship education and three determinants of institutional environment dimensions, namely, regulatory, cogni-tive, and normative dimensions toward entrepreneurial intentions in the context of Esto-nia. A questionnaire-based survey on 265 Estonian university students was conducted to validate the hypotheses of the study. The results suggest that entrepreneurship education has a significant influence on university students' entrepreneurial intention. Additionally, all three institutional environment determinants moderate the positive relationship be-tween entrepreneurship education and entrepreneurial intention. Interestingly, interaction terms among normative environment, entrepreneurship education, and entrepreneurial intention are statistically significant. Therefore, the results of this study advance institu-tional theory and its application in entrepreneurship research in the context of Estonia.

Research paper

Keywords: Entrepreneurship education, Entrepreneurial intentions, Institutional environment theory, Estonia, University students

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Introduction

In this changing world, various factors develop intervention in changing individuals' entrepreneurial intentions. Numerous entrepreneurship programs offered by higher education institutions heavily focus on the youth, who are considered as key drivers of becoming a potential entrepreneur. Cooper and Lucas (2006) add that educational intervention must be considered to encourage university students' perceptions to conquer their goals, difficulties, and specific tasks. Therefore, people who gain knowledge and perception at a young age tend to develop interest toward specific intentions and a career path in the future. As a result, unemployment of young people can have a profound impact and ruptures their transition into adulthood (Bjarnason & Sigurdardottir, 2003). In addition, Mroz and Savage (2006) find that unemployment among the youth can cause long-term consequences, including lost wages. Increase in the propensity of subsequent periods of further unemployment may also be present.

The International Labor Office (ILO, 2017) reports that over 13.1% or 70 million youth worldwide are currently unemployed, including Estonia (Michoń, 2019; Mursa et al., 2018). In this regard, government agencies in several countries are continuously searching for ways to boost innovation and productivity, which can also initiate enterprising behavior in people (Cooper, 2006). Alternatively, governments also consider educational institutions to address a wide variety of issues associated with creativity, innovation, and enterprise (SBA, 2017, 2018). Therefore, several countries, such as

Austria, Estonia, and Germany, have looked into investing in entrepreneurship education (EE) in universities to nurture entrepreneurship in the country (Walter & Block, 2016; Brush et al., 2003). In Estonia, EE is one of the key drivers supported by the government and has become obligatory for all higher education institutions (Mets & Raudsaar, 2017). Moreover, the Estonian government and the Ministry of Education and Research, together with universities, schools, employers, and other partners, have launched a nationwide entrepreneurship education program to develop the entrepreneurship competencies of learners, including the cultivation of entrepreneurial mindsets at all educational levels and types. This program reaches beyond higher education institutions, and it aims for EE to become a natural part of education throughout the educational journey of a learner (SBA, 2018).

In addition, EE is found to have an impact on entrepreneurial behavior, which can be gained from academic courses (Fayolle & Gailly, 2015) and help develop thinking skills that are considered powerful drivers to motivate students toward entrepreneurial activities (Peterman & Kennedy, 2003; Fayolle et al., 2006, Kautonen et al., 2015; Souitaris et al., 2007). As a result, students are given an opportunity to participate in entrepreneurship (Entrialgo & Iglesias, 2016; Ghulam et al., 2016), thus promoting entrepreneurship activities that become a scholarly interest. Numerous premiere studies have found that EE has an impact on entrepreneurial intentions (e.g., Fayolle et al., 2006, Kautonen et al., 2015; Peterman & Kennedy, 2003). In contrast, evidence of negative outcomes that discourage the effects of EE on entrepreneurial intentions in different countries are present (Oosterbeek et

al., 2010). According to De Clercq et al. (2013) and Walter and Dohse (2012), the institutional environment can vary in other countries which can have an impact on EE in new venture creation. Following the latter line of thought, Scott (1995) and Busenitz et al. (2000) explain that institutional environments in a country can be classified into three dimensions: regulatory, cognitive, and normative. These three institutional environmental dimensions are argued as powerful influential factors in shaping entrepreneurial activities within a country (Radovic Markovic and Salamzadeh, 2012). Thus, institutional theory and EE are considered critical frameworks in evaluating entrepreneurial intention. Entrepreneurship contribute to creating jobs and economic growth in a country; self-employment or building a start-up is one of the ways to solve unemployment problems (Armington & Acs, 2002). Thus, examining entrepreneurial intentions among the youth is important (GEM, 2015). This study posits that EE stimulates entrepreneurial activity depending on the normative, cognitive, and regulatory institutional dimensions within a country. Specifically, EE and institutional theory can be modified as the formation process of intentions through its interaction effect. The outcome of this study can be beneficial for policy makers and educators who are under pressure to invest in EE; they can set educational goals that yield the best outcomes universally (Oosterbeek et al., 2010).

This study explores and confirms the existing research and literature on entrepreneurial intention. We first review the literature to define institutional theory. The next section explains the relationship between EE and entrepreneurial intention and its interaction term. After presenting the meth-

odology of our research, we then introduce the next section, which provides insight on the findings of the study. Finally, we conclude the research implications and suggestions for future researchers.

Literature review and hypothesis development

Institutional environment theory

The institutional environment in this study is based on Scott and Busenitz's framework, which is classified into three dimensions, namely, regulatory, cognitive, and normative (Scott, 1995; Busenitz et al., 2000). First, regulatory environment represents the regulations and government policies that are designed to embrace entrepreneurial activities. Second, cognitive environment represents people's beliefs, knowledge, and skills for obtaining new venture formation. Third, according to Scott (2007), normative environment codifies the standards and values of entrepreneurial behavior that are admired and accepted in the country. In this sense, institutional theory is an influential predictor in observing the entrepreneurial sphere within the country and cross-countries (e.g., Bruton et al., 2010; Jennings et al., 2013). Furthermore, several institutions are key drivers in boosting entrepreneurial activities in the country. The governmental designs and legal system in the country can indirectly influence entrepreneurial actions (Welter & Smallbone, 2011). Thus, the government of Estonia has adopted its 2014–2020 Estonian entrepreneurship growth strategy and launched the EE program Edu & Tegu to support this strategy and enhance entrepreneurial

mindsets throughout educational levels and types. Minniti (2008) confirms that institutions can implement government policies to influence entrepreneurship in the country. EE has also been found to drive career choices and reduce unemployment among the youth (Dickson et al., 2008). Thus, institutional environment factors cannot be ignored and should be prioritized in measuring entrepreneurial intentions.

Entrepreneurship education and entrepreneurial intention

According to Souitaris et al. (2007), EE is the most important means to embrace entrepreneurship, and it helps to increase jobs and economic growth. Ehiobuche and Madueke (2017) explain that the impact of EE still depends on the cultural context of a country, religion and values, people's attitude, social norms and society's drive, and regulatory factors. In addition, EE becomes a focus in the research community. EE has mostly been identified as a potential factor toward entrepreneurial intention (e.g., Robinson et al., 1991; Dyer, 1994). Certain researchers discuss people's attitudes in becoming entrepreneurs; educational institutions can shape a strong determined mindset toward a new venture by offering training or specialized courses in entrepreneurship that may give students the confidence to start a new business (Robinson et al., 1991; Dyer, 1994). Thus, knowledge gained from entrepreneurship courses can build students' self-efficacy, increasing their confidence in conquering their fear of starting a new business (Krueger & Brazeal, 1994). Similarly, Souitaris et al. (2007) confirm this argument by explaining the effect of entrepreneurship programs on students' attitudes

toward new venture formation. Entrepreneurship courses have been found to increase students' entrepreneurial intentions significantly. This finding is supported by the work of Bae et al. (2014), who have observed the direct relationship between EE and entrepreneurial intention (Martin et al., 2013). Therefore, we propose the following hypothesis:

H1: EE positively influences on entrepreneurial intentions.

The interaction between entrepreneurship education, institutional environment theory, and entrepreneurial intention

The research on EE has gradually been growing, shedding light on the numerous applications of EE. For example, EE helps individuals learn to be more innovative to generate new business ideas to the market than others who do not attend EE classes (Peterman & Kennedy, 2003). EE offers the idea of how a business can be desirable and feasible, which leads students to have their own business (Walter et al., 2012). Numerous studies have shown and confirmed that students who take entrepreneurship courses be interested in becoming entrepreneurs in the future (e.g., Athayde, 2009; Peterman & Kennedy, 2003; Souitaris et al., 2007; Walter & Dohse, 2012; Walter et al., 2012). However, these findings may differ from other institutional characteristics in different countries. These differences are supported by the work of Walter and Block (2016), who claim that the relative importance of EE can vary across institutional environments. Moreover, they have also found that EE and entrepreneurial intention can be moderated by institutional envi-

ronments. Drawing upon Scott and Busenitz's framework (Scott, 1995; Busenitz et al., 2000), EE presents favorable results to motivate students to have entrepreneurial careers depending on the institutional environments in a particular country (Walter & Block, 2016; Armstrong & Crombie, 2000; Peterman & Kennedy, 2003). Moreover, Bruton et al. (2005) also explain that the level of how people in societies admire or show interest toward entrepreneurship as a career choice is critical. Certain societies have norms that facilitate and promote entrepreneurship and its financing, whereas other societies discourage it by making challenging obstacles (Baumol et al., 2009). Therefore, examination and exploration of the interaction of institutional environment, EE, and entrepreneurial intention is crucial. Thus, we propose the following hypotheses:

H2: The regulatory dimension of the country moderates the positive relationship between entrepreneurship education and entrepreneurial intention.
H3: The normative dimension of the country moderates the positive relationship between entrepreneurship education and entrepreneurial intention.
H4: The cognitive dimension of the country moderates the positive relationship between entrepreneurship education and entrepreneurial intention.

Methodology

This research has determined the perception of Estonian students toward the influential factors on entrepreneurial intention, which is drawn upon institutional environment theory and its interaction effects.

Data Collection and Respondents

The questionnaire was presented in English and then translated into the Estonian language. To confirm the understanding of all question items, a pre-test was given to few local students to review each item before finalizing and launching questionnaire. The questionnaire was posted online for Estonian universities and was rated on a 5-point Likert scale. The samples were from university students because they were likely to have their own business (GEM, 2015). Out of all the answered questionnaires, 265 samples were valid. Similarly, several studies also investigated entrepreneurial intentions from students' perspectives (Awang et al., 2014; Salamzadeh et al., 2014; Entrialgo & Iglesias, 2016; Lourenço et al, 2015; Lee-Rose, 2017; Morales et al., 2016).

Furthermore, institutional environments were measured by adapting the scale developed by Scott (1995) and Busenitz et al. (2000). Entrepreneurship education items were measured by adapting the measurement scale from Nazri et al. (2016) and Sarada (2017). Additionally, two control variables were also included in the multiple regression analysis. The control variables in this study were gender and age. Gender and age, two socio-demographic factors, were claimed to affect entrepreneurial intention (Brush, 1992; Camelo et al., 2016). Notably, Estonian students could give and post their opinions and perspectives on this research freely and anonymously. According to the descriptive statistic results, the samples were from

18 to 20 years old (44.2%); over 53.2% were female. Over 70.9% were pursuing bachelor's degree.

Measures

Dependent variable

Entrepreneurial intention: The survey operationalized entrepreneurial intention through 4 questions on a 5-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"). For example, one item described, "I have a very serious thought of starting a business in the future" (α = .915, KMO = .845).

Independent variables

Entrepreneurship education: The survey was measured with 5 questions on a 5-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree") adapted from Nazri et al. (2016), Sarada (2017), and Souitaris et al. (2007). One of the items stated, "Entrepreneurship courses or subjects should be made compulsory in order to stimulate entrepreneurial spirit." This measure furthers our study by highlighting the extent to which EE has led individuals to generally perceive entrepreneurial activity to be desirable and feasible (α = .916, KMO = .858).

Regulatory institutional environments: The survey was measured with 5 questions on a 5-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree") adapted from Scott (1995) and Busenitz et al. (2000). For

example, one item stated, "Government organizations assist individuals in starting their own businesses" (α = .907, KMO = .877)

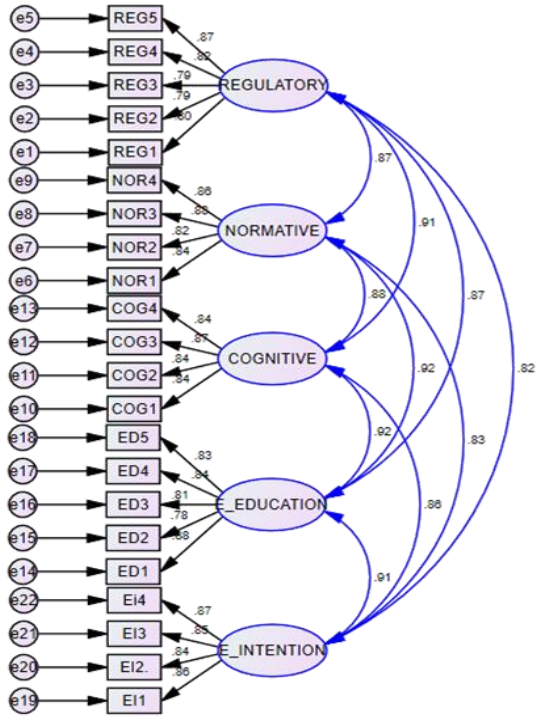
Normative institutional environments: It was measured with 4 items questions on a 5-point Likert-Scale (1 = "strongly disagree" to 5 = "strongly agree") and adapted from Scott, (1995) and Busenitz et al, (2000). For example, "innovative and creative thinking are viewed as a route to success in Estonia" (α=.912, KMO=.831)

Cognitive institutional environments: It was measured with 4 items questions on a 5-point Likert-Scale (1 = "strongly disagree" to 5 = "strongly agree") and adapted from Scott, (1995) and Busenitz et al, (2000). For instances, "individuals know how to protect a new business legally" (α=.911, KMO=.827)

Control variables

Our two control variables were included in the regression models. According to Lévesque and Minniti (2006), entrepreneurship is nurtured with the age of respondents. Therefore, the ages of the respondents in this study were controlled and divided into 5 groups: 1 = Below 18, 2 = 18–20 years old, 3 = 21–23 years old, 4 = 24–26 years old, and 5 = above 27. However, according to Brush (1992), males had more propensity to become entrepreneurs compared with females. Therefore, the gender of respondents in this study were recorded as 1 = male and 0 = female.

Before analysing the data and running multiple linear regression to validate our hypotheses, confirmatory factor analysis (CFA) was performed. Suhr (2006) explained that CFA was a statistical technique that was used to verify the factor structure of a set of observed variables. Therefore, we adopted this idea. The CFA results are shown in Figure 1 below.



CMIN/DF=2.676, CFI= .940, RMSEA=.080, PCLOSE=.000, GFI=.849, IFI=940

Figure1. Confirmatory Factor Analysis (CFA)

Based on Figure 1, all factor loadings are greater than the 0.6, which is an acceptable value (Hair et al., 2010). The CFA results indicated that all

scales in this study confirmed validity and reliability. Therefore, the scales measuring entrepreneurial intention in this study were valid. Moreover, the descriptive statistics for all constructs and correlations are presented in Table 1. From the initial examination of the correlations, the relationships among three dimensions of institutional environments, entrepreneurship education, and the entrepreneurial intentions were significantly correlated, justifying the following tests on the regression models.

Table1. Pearson's correlation (n=265)

Constructs	1	2	3	4	5
Regulatory environment	1				
Normative environment	.830**	1			
Cognitive environment	.829**	.868**	1		
Entrepreneurship Education	.797**	.863**	.770**	1	
Entrepreneurial intention	.746**	.790**	.815**	.833**	1
Mean	4.16	4.22	4.18	4.23	4.20
Standard Deviation	.827	.861	.882	.821	.833

Results

In the next step, our four hypotheses were tested using multiple regression analysis and the model summary results are presented in Table 2 as follow:

Table 2. Multiple Linear Regression

	Coefficient						
Model	**Beta**	**t**	**VIF**	**ΔR^2**	**R^2**	**Adjusted R^2**	**F-test**
(Constant)		30.240		0.43**	.043	.035	5.83**
1 Age	-.149*	-2.453	1.005				
Sex	.133*	2.193	1.005				
2 (Constant)		32.629		.112***	.154	.145	15.87***
Age	-.144*	-2.516	1.006				
Sex	-.090	-1.316	1.451				
Entrepreneurship Education	.402***	5.870	1.448				
3 (Constant)		48.421		.524***	.679	.671	90.81***
Age	-.066	-1.831	1.054				
Sex	.014	.335	1.490				
Entrepreneurship Education	.078	1.730	1.650				
Regulatory environment	.193**	2.796	3.838				
Normative environment	.368***	4.688	4.961				
Cognitive environment	.261***	3.286	5.056				
4 (Constant)		48.454		.018**	.696	.686	64.93***
Age	-.087*	-2.423	1.079				
Sex	.010	.232	1.497				
Entrepreneurship Education (EE)	.119*	2.607	1.743				
Regulatory environment	.154*	2.207	4.089				
Normative environment	.256**	3.111	5.705				
Cognitive environment	.264***	3.381	5.124				
EE*Cognitive environment	.063	.830	4.801				
EE*Regulatory environment	-.043	-.624	3.966				
EE*Normative environment	-.205*	-2.527	5.528				

Significant levels: * p < .05; ** p < .01; *** p < .001

Durbin-Watson= 2.162

The model summary results in Table 2 demonstrate the relationship among variables. Additionally, according to Durbin and Watson (1971), multiple regression analysis is performed when the autocorrelation in the residuals are tested. Therefore, the Durbin−Watson statistic value in this

study was 2.162 and suggested no violated autocorrelation assumption in the sample (Durbin & Watson, 1971). The highest variance inflation factor (VIF) value was 5.705 in Model 4, which was considered acceptable and were in the same criteria of Cooper and Emory (1995), where VIF values of below 10 was an acceptable level, thus supporting the VIF value of this study. Moreover, F-test is also statistically significant in all four models.

Two control variables, age and gender, are included in Model 1. Consequently, Model 2 includes entrepreneurship education as the main effect. We posit that three determinants of institutional environments are moderators in Model 3. We also explore the two-way interaction of institutional environments and entrepreneurship education toward entrepreneurial intention, which is presented in Model 4. Therefore, the results of Model 1 explain that both gender ($\beta = -.149$) and age ($\beta = .33$) are partially significant ($p<0.05$). Entrepreneurship education was added in Model 2 (Adjusted R2 = 14.5%, F = 15.87, $p<0.001$), which explains 15.4% of the variance that demonstrates model improvement comparative to Model 1 (F = 5.83, $p<0.01$). As a result, entrepreneurship education toward entrepreneurial intention is substantially significant, which confirms our first hypothesis. Consequently, institutional environment determinants are included in Model 3 to test their effects toward the entrepreneurial intention. Model 3 (Adjusted R2 = 67.1%, F = 90.81, $p<0.001$) explains 67.9% of the variance, which demonstrates that model improvement is comparative to Model 2 (F = 15.87, $p<0.001$). Therefore, regulatory environment ($\beta = .193$, $p<0.01$), normative environment ($\beta = .261$, $p<0.001$), and cognitive environment ($\beta =$

.368, $p<0.001$) are statistically significant; they all moderate the positive relationship between EE and entrepreneurial intention, which confirm our last three hypotheses (H2, H3, and H4). In addition, after institutional environment determinants and EE show their positive relationship to entrepreneurial intention, we further explore the two-way interaction term, which can be interpreted in Model 4 (Adjusted $R2 = 68.6\%$, $F = 64.93$, $p<0.001$), wherein 69.6% of the variance that demonstrates that model improvement is comparative to Model 3.

Interestingly, we found that the only interaction term that is significant in this study is in Table 2 and Model 4. The interaction term between normative environment dimension and EE toward entrepreneurial intention which is negatively significant ($\beta = -.205$, $p<0.05$). Therefore, the impact of Estonian university students' perception on normative environment dimension in the country is extremely low when the level of entrepreneurship education is also low.

Conclusion and discussion

Our findings showed that the three dimensions of institutional environment, namely, regulatory, normative, and cognitive, have a positive relationship between EE and Estonian university students' entrepreneurial intention. The researchers have investigated entrepreneurial intentions by adopting Busenitz et al. (2000) and Scott's (1995) framework for institutional environment theory to cultivate a new understanding of its potential influences toward entrepreneurial intention in the national level and in dif-

ferent countries (e.g., Busenitz et al., 2000; Bowen & De Clercq, 2008; Walter & Block, 2016). In this study, EE has been found to be a powerful predictor and has a positive impact on entrepreneurial intention, which is in line with previous studies (e.g., Entrialgo & Iglesias, 2016; Nazri et al., 2016; Sarada, 2017; Souitaris et al., 2007). In the same vein, entrepreneurship intention and institutional environments also go hand-in-hand and has been found to be associated with entrepreneurial intention (Walter & Block, 2016).

Further discussion is suggested based on the two-way interaction between normative environment dimension and entrepreneurship education toward entrepreneurial intention, which is negatively significant ($\beta = -.205$, $p<0.05$). From the results of two-way interaction, Estonian university students' perception of the normative environment dimension is extremely low when the level of entrepreneurship education is also low. In addition, Bruton et al. (2005) has explained that normative institutions is relevant to how people in societies admire or show interest toward entrepreneurship as a career choice. Therefore, normative institutions can be influenced by social obligation (March & Olsen, 1989). Significantly, different societies have different norms that nurture entrepreneurship and its financial capital, whereas other societies demotivate people from entering the entrepreneurial sphere in the country by placing difficult obstacles (Baumol et al., 2009). Moreover, Davidsson and Wiklund (1997) explain that in a supportive environment where values and beliefs are generated, a person may be inclined toward new venture formation. Additionally, they also explain that a large

presence of entrepreneurs in a country or region may motivate more people to become entrepreneurs following social movements or habits. Furthermore, Walter and Block (2016) have also found that EE and entrepreneurial intention are negatively moderated by institutional environment. As such, drawing upon these supportive studies and arguments, our study can serve as a model for further exploration, specifically in Northern European countries, such as Estonia.

Implication and future research

The implications of this study can be divided into two areas. First, three institutional environment dimensions are crucial and can be applied for entrepreneurial behavior in the national level. Moreover, the effect of different normative factors on entrepreneurial intention can be considered thoroughly. Specifically, our findings provide initial evidence to support this theory. Estonian university students' perception of normative environment dimension is extremely low when the level of EE is also low. Therefore, this concept can contribute to the role of EE, which leads to low perception of university students toward normative environment and entrepreneurial intention. Second, our study has certain implications for the scientific community, educators, and policy makers. Therefore, the Estonian government should also focus on how to build the environmental factors of the country to present appropriate policy support for EE toward potential entrepreneurs. Finally, our findings add to the broad stream of literature on the outcome of entrepreneurship education. However, more research should focus on the

educational outcomes and the existence of moderating influences (Bae et al., 2014; Martin et al., 2013). Therefore, this research uses theoretical and empirical analysis, which can offer different perspectives on how EE can be contingent on the institutional environment of the country. Future research can explore how the interplay of EE and institutional environment contexts can shape the success and evolution of new ventures (e.g., Walter & Block, 2016; Estrin et al., 2013). In addition, samples in this study are not generalized because the data have primarily been collected in Northern Europe, specifically in Estonia. Thus, our results are conditional and can suggest cross-country analysis.

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