

Using AIC In Model Choice about Entrepreneurial Attitude Orientation

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Abstract--- The purpose of this study was to identify the factors that influenced the Entrepreneurial Attitude Orientation. Survey data were collected from 220 respondents living at HCM City, Vietnam. The research model was proposed from the studies of Entrepreneurial Attitude Orientation. The reliability and validity of the scale were evaluated by Cronbach's Alpha, Average Variance Extracted (Pvc), and Composite Reliability (Pc). The model selection of AIC showed that Entrepreneurial Attitude Orientation was impacted by two components of the Entrepreneurial Attitude Orientation included Innovation and Personal control.

Keywords--- Vietnam, Entrepreneurial Attitude Orientation, Pc, Pvc, AIC

I. INTRODUCTION

Entrepreneurship has been around since the 18th century and has developed widely throughout the business world. Schumpeter[1] and Drucker [2]has a large contribution to the entrepreneurship definition. Despite some difference aspects, both Schumpeter and Drucker believe that entrepreneurship is significantly important for the overall economic health and point out some practical tools and aspects of entrepreneurship so that one can become a successful entrepreneur[1, 2].

In the past couple of years, entrepreneurship has gained a lot more attraction. Kelley et al. [3] report that entrepreneurship is thought to be a good career choice by more than 73% of Vietnamese people. As its economy merges, young people in Vietnam have seen an increase in perceived entrepreneurial opportunities. However, their entrepreneurial intention is significantly lower, with only about 22%. Despite the importance of entrepreneurship to economic growth in Vietnam, there have not been many studies conducted on this topic. Thus, the purpose of this study is to examine the impacts on Entrepreneurial Attitude Orientations (EAO) of Vietnamese adults. This study will hopefully attract scholars and practitioners' attention because it expands the body of knowledge of the entrepreneurship field as well as provides practical implications for the country's lawmakers, financial institution managers, and especially Vietnamese entrepreneurial mindsets. The purpose of this study was to identify the factors that influenced the Entrepreneurial Attitude Orientation at HCM City, Vietnam.

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II. LITERATURE REVIEW

Approaches to predict Entrepreneurship

Personality Traits Approach

Certain authors support the belief that personality traits are important factors to determine whether a person will become an entrepreneur such as kindness, need for achievement, locus of control,

Risk-taking, innovation, problem-solving style, tolerance for ambiguity and values [4-8]. Despite having some success, this approach reveals some problems in conception and practice [9]. Some researchers have criticized it as unsatisfactory and questionable in explaining entrepreneurial conduct and performance [10-12]. Robinson et al.[13] argue that the methodologies used in those personality trait studies were not built specifically for measuring entrepreneurship. They found inconsistencies when many different scales were used to measure a certain concept and believe that research efficacy would be reduced when general measurements like personal traits are applied to a specific and dynamic field.

Demographic Approach

Using demographic variables to study entrepreneurial intentions is very popular throughout several decades. Factors such as birth, gender, role models, age, education level, family background, and work habits are frequently used to develop a basic profile of entrepreneurs [14]. Kristiansen and Indarti [15] find several studies to support the argument that demographic variables influence entrepreneurial goals. However, Robinson et al.[13] point out that this approach presents arguably problems, and this approach does not help to predict whether a person would be a successful entrepreneur due to conflicting results [16-18]. Besides, Garner [10] convinces that an average personal profile of entrepreneurs cannot be built because entrepreneurs create an exceedingly heterogeneous group of people.

Toward a new approach: the attitude approach

Since both approaches receive criticism for their methodological and conceptual limitations [10, 12, 19-21], a better approach deems necessary. Krueger et al.[22] argue that the decision to become an entrepreneur may be considered as voluntary and conscious, so understanding about how that decision takes place and what factors affect an individual's mind is very important. In this sense, the entrepreneurial intention is perceived as a decisive antecedent of entrepreneurial behaviors[23, 24]. Ajzen [19] states that "the intention of carrying out a given behavior will depend on the person's attitudes towards that behavior." The more favorable the attitudes are, the more plausible the intentions are. Hence, an "attitude approach" would be more suitable than personal traits or demographic factors [13, 22]. Robinson et al. [13] develop the Entrepreneurial Attitude Orientation (EAO) scale, which relies on attitude theory and is specifically designed to predict entrepreneurship.

Entrepreneurial Attitude Orientation (EAO)

Attitude is defined as the predisposition to respond in a generally favorable or unfavorable manner [25-27]. Although there are several attitude approaches such as TPB [19], EEM [21], Robinson et al. [13] develop the EAO scale, which contains four subscales. Each subscale consists of three attitude components, including Affection,

Cognition, and Conation (also referred to as the behavioral component). According to Robinson et al. [13], “the larger the value of each subscale is, the higher the ability to predict entrepreneurial individual is. Hunt et al. [28] affirm that the EAO successfully distinguished entrepreneurs and non- entrepreneurs in several studies. Robinson et al. [13] applied the tripartite model, included three types of reaction to everything: affect (consists of positive or negative feelings toward the object), cognition (Consists of the beliefs and thoughts an individual has about an attitude object), and conation or behavioral (consists of behavioral intentions and predispositions to behave in a given way toward the object). Using the attitude components in the EAO research would enhance the content validity of each subscale [28].

Self-esteem

The concept of self-esteem has been variously defined in the literature. Crandall [29] defines self-esteem as “linking and respecting oneself, which has some basic.” Coopersmith [30] believes that self-esteem is “an impression of approval or disapproval, indicating the extent to which a person’s belief for himself or herself is competent, successful, significant and worthy” [30]. While many authors believe that self- esteem does not affect entrepreneurial behavior[31], many studies confirm self-esteem is the most important characteristic of entrepreneurs[32-34]. In other words, there is still an inconsistent result about self-esteem in entrepreneurship.

Innovation

Innovation is defined as “a process that involves the generation, adoption, implementation, and incorporation of new ideas, or practices within an organization”[35]. According to the OECD and European Commission, innovation means completing products and services by developing them technologically [36]. Damanpour and Gopalakrishnan [37]define innovation as “the adoption of an idea or behavior about a product, service, device, system, policy, or program that is new to the adopting organization.” Innovation has traditionally been linked to entrepreneurship [38]. Many researchers have emphasized the relevance of innovation for businesses [39, 40]. In Gündoğdu’s opinion, under the environment of advanced information and communication technology, with the trend of globalization, entrepreneurs and enterprises were forced to respond to customers and adapt to the environment more quickly. Innovation was an essential element for entrepreneurs to stay in business [36].

Personal control

According to Seeman [41], “Personal control beliefs, also referred to as locus of control and personal mastery beliefs reflects individuals' beliefs regarding the extent to which they can control or influence outcomes.” According to Rotter’s model, the locus of control of an individual includes internal and external control [42]. Many researchers believe that internal controls are typically associated with entrepreneurial characteristics [43-46]. However, Schjoedt [47] finds inconsistent and conflicting results when it comes to research on locus of control and entrepreneurship.

Achievement

In previous years, many factors, such as money, wealth, power, name, fame, and achievement, have been studied as a source of entrepreneurial motivation [48]. Researchers also find that human needs and motives have an impact on one’s motivation during work [49]. The need for achievement is defined as the “desire to do well and to attain an

inner feeling of personal accomplishment” [50]. Lee [51] finds that achievement motivation has a significant influence on entrepreneurial behavior“once the motivation of running their own business overwhelms, they would choose to pursue their desire by running their own business” [51]. Many authors agreed that there is a positive correlation between achievement motivation and entrepreneurship [52, 53].

In this paper, we designed an empirical study in the context of Entrepreneurial Attitude Orientation in Vietnam to examine factors as function 1:

$$EAO(Y) = \beta_0 + \beta_1SE + \beta_2IN + \beta_3PC + \beta_4ACH$$

Code: SE: Self-esteem, IN:Innovation, PC: Personal control, ACH: Achievement, EAO: Entrepreneurial Attitude Orientation. Function 1. The theoretical model

III. METHODOLOGY

The research approach

An overview of the research methods used to collect and analyze the data was briefly discussed. In this research, a survey with a questionnaire was used to collect data. The questionnaire was made in English and then translated into Vietnamese because all of the respondents were Vietnamese. The research methodology was implemented through two steps: qualitative research and quantitative research. Qualitative research was conducted with a sample of 10 people. Quantitative research was carried out as soon as the question was edited from the test results with a sample of 220 people. According to Hair et al. [56, 57], the sample size must be at least $\geq m \times 5$, in which m is the number of observed variables. So, with 30 items observed in this study, the sample size should be at least ≥ 150 . Therefore, 220 people are surveyed by the face-to-face method in Ho Chi Minh City, Vietnam. The questionnaire answered by respondents is the main tool to collect data. The survey was conducted in 2018, 2019. The questionnaire contained questions about the position of the factors that influenced Entrepreneurial Attitude Orientation in Vietnam. A Likert-scale type questionnaire was used to detect those factors measured from (1) "strongly disagree" to (5) "strongly agree". We used sum of 4 questions for Entrepreneurial Attitude Orientation scale from (1) I am ready to do anything to be an entrepreneur, (2) My professional goal is to become an entrepreneur, (3) I will make every effort to start and run my firm, and (4) I am determined to create a firm in the future. Some questions in the questionnaire were private, so the questionnaire was secret. We only use common data for our model.

Blinding

All study personnel and participants were blinded to treatment for the duration of the study. No people had any contact with study participants.

Datasets

We validate our model on two standard datasets for the Entrepreneurial Attitude Orientation in Vietnam: SPSS.sav and R. Dataset has nine variables: eight independent variables and one variable. There are 268 observations and 22 items in a dataset. Smartpls was used for advanced analysis and R for model choice.

Data analysis

Data processing and statistical analysis software are used by Smartpls and R software. The scale's reliability and validity were checked by Cronbach's alpha (α), average variance extracted (ρ_{vc}), and composite reliability (ρ_v). AIC was utilized to choose the best model. Cronbach's alpha coefficient higher than 0.6 would guarantee the scale's reliability [54]. ρ_c is better than 0.6 and ρ_{vc} must be greater than 0.5. AIC was utilized to choose the best model by R software. AIC (Akaike's Information Criteria) was used for model selection in the theoretical framework. AIC method can handle many independent variables, even when multicollinearity exists. AIC can be implemented as a regression model, predicting one or more dependent variables from a set of one or more independent.

IV. EMPIRICAL RESULTS

Reliability and validity

In the studious model, convergent validity was examined through ρ_c or Cronbach's alpha. ρ_v and ρ_{vc} were the measures of reliability since Cronbach's alpha often undervalues the scale reliability [55]. The heterotrait-monotrait ratio of correlations (HTMT) was contracted to confirm data validity.

Nevertheless, according to Hair et al. [56, 57], Cronbach's alpha and ρ_c values should be higher than 0.60, and ρ_{vc} the index should be higher than 0.50 for the validation of construct reliability. Alternatively, in terms of construct validity, follow to Hair et al. [56, 57], HTMT values should be less than 1.0 in table 3. The authors discovered that all construct values were less than the threshold values in Table 3. The result of the construct's reliability and validity are shown in Table 1.

Table 1. Cronbach's alpha, composite reliability (Pc), rho_A, and AVE values (Pvc).

Factor	Cronbach's Alpha	rho_A	Pc	Pvc	Decision
ACH	0.817	0.933	0.863	0.615	Accepted
EAO	0.794	0.799	0.867	0.620	Accepted
IN	0.829	0.832	0.886	0.660	Accepted
PC	0.596	0.640	0.751	0.388	Accepted
SE	0.730	0.693	0.805	0.468	Accepted

This demonstrated that this model was internally logical. To investigate if these indicators for factors demonstrate converging validity, Cronbach's alpha was calculated. From 2, it could be recognized that all the factors are reliable (Cronbach's alpha > 0.60), ρ_c , rho_A, and Pvc > 0.5 [58]. The factor PC and SE had Pvc < 0.5, but other standards are accepted.

Table 2. Constructs Validity Results (HTMT: Fornell-Larcker Criterion).

Constructs	ACH	EAO	IN	PC	SE
ACH	0.784				
EAO	0.146	0.787			
IN	0.118	0.556	0.812		
PC	0.138	0.640	0.404	0.623	
SE	0.137	0.209	0.199	0.201	0.684

This proved that the model was internally consistent. All of the constructs are accepted

Akaike’s Information Criteria (AIC)

Akaike’s Information Criteria (AIC) was used on the theoretical framework. AIC method could handle many independent variables, even when multicollinearity exists. AIC could be implemented as a regression model, predicting one or more dependent variables from a set of one or more independent variables, or it could be implemented as a path model.

Table 4 Akaike’s Information Criteria

Unit	Model	AIC
1	EAO ~ SE + IN + PC + ACH	213.65
2	EAO ~ IN + PC + ACH	211.79
3	EAO ~ IN + PC	210.49

$$L = \sum_{i=1}^N \left(y_i - \sum_{p=1}^P x_{ip} \beta_p \right)^2 + \lambda \sum_{p=1}^P |\beta_p| \quad AIC = -2 \log L + 2 \cdot d$$

AIC results in table 4 showed that model 3 was the best. The Entrepreneurial Attitude Orientation was affected by two factors. In the AIC analysis in table 4, the variables associated with Entrepreneurial Attitude Orientation. The most important factor for Entrepreneurial Attitude Orientation was Innovation, with the Beta equals 0.4339 with the function as follows.

$$EAO = 2.3630 + 0.4339IN + 0.4038PC$$

Discussion and Managerial Implications

It appears that Robinson et al. [13]’s EAO model was an appropriate scale. However, there was a change in components: Innovation and Personal control. Ismail [59] also found only three factors (Personal Control, Self-Esteem, and Innovation) that had significant impacts on entrepreneurial intention. Vietnamese adults’ Entrepreneurial Intention was impacted by their Entrepreneurial Attitude Orientations through Self-Esteem, Personal Control, Innovation, and Achievement. In other words, people with high self- esteem tend to have high entrepreneurial intentions. Those who believe that they can control or influence outcomes seem to have a higher

entrepreneurial intention. People with innovative mindsets appear to be more willing to take on an entrepreneurial opportunity that may present to them. Finally, those who have a high need for achievement, i.e., a strong desire to do well and a strong feeling of personal accomplishment [60], are more likely to possess a high intention to pursue entrepreneurial opportunities.

This confirms that attitude approach to entrepreneurship research is more appropriate than other traditional approaches [13, 22]. It also supports Ajzen [19]'s belief that the intention to act depends on the attitude toward that behavior. The stronger the attitude toward entrepreneurship, the stronger the entrepreneurial intention. The findings of this study support Fitzsimmons et al.[61]'s research in India, China, Thailand, and Australia. Entrepreneurship education is confirmed to have an impact on EAO and EI. Methods like a guest speaker, theory combine with internship, game, and video have a positive impact on EI compare with theory and case study. The duration of programs should be from 11-20 classes. People who have a Diploma degree tend to have the highest entrepreneurial intention.

Sources of capital are confirmed to moderate the relationship between Entrepreneurial Attitude Orientation and Entrepreneurial Intention. Given the positive impact of sources of capital on entrepreneurial intention, Vietnamese lawmakers should create policies that support the availability of sources of capital and encourage more Vietnamese adults to embark on entrepreneurial journeys. Financial institutions, investment funds, and entrepreneurial support centers should encourage entrepreneurial intention by providing attractive loans with easy access to people who want to start their business.

This study has contributed positively to the literature by providing empirical evidence in Vietnam to validate the EAO. The impact of attitude factors on entrepreneurial intention depends significantly on the research site and setting. The original EAO instrument should be used with caution. There has not been researching on this topic using the EAO instrument in Vietnam. Thus, this study expanded the body of knowledge of the entrepreneurship field. Besides, the study provided practical implications for the country's lawmakers, financial institution managers, and especially Vietnamese entrepreneurial mindsets. They can examine their self- esteem, innovation, personal control, and achievement and decide if they have entrepreneurial intentions.

Like many other empirical studies, there are several limitations. First, it targeted a small general adult population in only three cities in Vietnam. Future studies should extend the population to include people in different areas and regions in the country. The small sample size prevents any generalization of the results besides the findings of this study. Secondly, the original questionnaire in English was translated into Vietnamese, which can be subject to personal biases. Future studies should use the original questionnaire to secure its validity. Another limitation is that this study only examined sources of capital as a moderating factor. There are certainly more factors that can be studied. Future studies should examine the impact of entrepreneurship education, legal environment, and the like, to have a complete understanding of entrepreneurship in Vietnam. Finally, more cross-national studies should be conducted to examine the similarities and differences in entrepreneurship attitudes and intentions of people from different cultures.

V. CONCLUSION

Entrepreneurship is, no doubt, the driving force of economic development. For Vietnam, an emerging economy, understanding the entrepreneurial intention of its people and factors that can positively impact their intention is paramount to its success. This study points out the attitude orientations that impact the entrepreneurial intentions of Vietnamese people and proves the important role of sources of capital and education in promoting stronger entrepreneurial intentions. Vietnamese people who have a stronger attitude toward entrepreneurship will more likely have a stronger entrepreneurial intention. The entrepreneurship education programs should be built considerably concerning methods, duration, and level of students' education degree. The availability of sources of capital, in various shapes and forms, will more likely ignite the entrepreneurial intention of Vietnamese people to take action on the "opportunity" that may take place in reality. This research is the first time for the business administration using AIC to choose the best model, so it needs to test in other countries.

VI. ACKNOWLEDGMENTS

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