

**School of Management  
Curtin Business School**

**Revisiting Individual Entrepreneurial Orientation Theory:  
A Study of Indonesian Entrepreneurs**

**Feri Setyowibowo**

**This thesis is presented for the Degree of  
Doctor of Philosophy  
of  
Curtin University**

**May 2019**

# Student Declaration

Herewith this, I, **Feri Setyowibowo** declare that:

This thesis to the best of my knowledge and belief contains no material that had been previously published by any other person except that which has been duly acknowledged.

This thesis also contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma.

The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (Number SOM—32-12-2012).

Except where otherwise indicated, this thesis is my own work.

Feri Setyowibowo

Signature:

Date: 24 May 2019

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# Revisiting the Individual Entrepreneurial Orientation Theory:

A Study of Indonesian Entrepreneurs

## Abstract

In recent years, entrepreneurship researchers are interested in entrepreneurs' personal characteristics and differences between entrepreneurs regarding optimising business opportunities. Researchers in entrepreneurship education studies are gaining awareness of the Individual Entrepreneurial Orientation (IEO) concept, especially in terms of its applications and contribution towards entrepreneurial performance. However, to date, studies on IEO are still dispersed and thus apply IEO measurements and conceptualisations differently. More research is needed to test the consistency across different cultural contexts and conditions. These differences also call for more IEO research to clarify the concept, particularly the conceptualisation, dimensionality, consistency of measurement applications, and its conceptual nomological network in theory.

This thesis aims to explore how Individual Entrepreneurial Orientation (IEO) operated in prior research to provide an integrated review of the contributions of different authors. This thesis addresses these research questions: RQ1: Does the five-dimensional model measure IEO better in Indonesian entrepreneurs? RQ2: Can IEO distinguish between entrepreneurs and non-entrepreneurs in the Indonesian context? RQ3: To what extent can IEO contribute to entrepreneurial performance in Indonesia? RQ4: Does IEO mediate or moderate the relationship of Human Capital and Personality Traits toward Entrepreneurial Performance?

This study employed a quantitative approach in the development of IEO measurement scale. In the first phase, the scale was distributed to ten respondents comprising of entrepreneurs and PhD students in economics and marketing studies. The respondents validated the scale. In phase two, the items were then validated in a pilot testing involving 120 Master's students as respondents. The valid IEO scale was then tested with 399 entrepreneurs and non-entrepreneurs. All data were gathered and analysed for correlations, discriminant analyses and Structural Equation Modelling.

The results of the study confirm the scale with four main findings related to the proposed research questions: (1) the IEO scale with 20 items was able to load significantly and spread into five dimensions in the analyses. (2) The IEO scale also proved its ability to distinguish between entrepreneurs and non-entrepreneurs' statuses with 63% can be correctly classified within its groups. (3) In the case of Indonesian entrepreneurs, the IEO measures also have a significant level of correlation toward entrepreneurial performance with  $R^2 = 0.72$ . (4) Contrary to the literature, the structural model of IEO revealed two levels of results. The IEO contributed as a mediating variable of human capital relationship toward entrepreneurial performance. However, in the analyses, the IEO failed to mediate or moderate the relationship between personality traits and entrepreneurial performance. The results of the research are important for the development of IEO and entrepreneurial education in Indonesia.

Based on the findings, it can be concluded that although IEO has been widely used, the application shows that the constructs provide a similar syndrome to an annoying construct

such as entrepreneurial orientation. Thus, the core concept of IEO may require further research and application to wider groups and areas. In this sense, the current theoretical exploration provides a basis for Individual Entrepreneurial Orientation as a framework for the development of a measure and suggestions for future research.

**Keywords:** *Individual Entrepreneurial Orientation, nomological network, level of analysis, measurement model*

# Dedication

I dedicate this dissertation to:

My beloved wife, Arumsari; dearest children, Feranisa and Adriano; my dear parents, Ir. Koeswinarto and Muryati; my dear brother and sisters and also my inlaws Dr. Burham Warsito, SpOG (K. Onk) family for their love, support, patience, and the sincerity of their hearts and responses to me.

# Acknowledgement

I am honoured to thank my many colleagues, friends, supervisors and all of the faculty members who supported and helped me finish this research project. Special thanks are provided to my supervisors, Associate Professor Kantha Dayaram, Associate Professor Maria Fay Rola-Rubzen and Dr. Tadayuki Miyamoto, and Associate Professor Paul Alexander, Director of Research, for sharing their experience and support to provide me with professional guidance for my dissertation. I would also like to thank all the committee members for the support and motivation to see this thesis through to submission.

This research project would not be possible without the support of my lovely family: Arum, Feranisa and Adriano, who supported me through my ups and downs in finishing the project. I would also thank my fellow graduate students; whose support and discussion made my PhD program become more fun and an enjoyable experience. Not to forget, I would also like to thank my parents who never stopped praying for me and gave me blessings for my journey.

Last, but not least, I would like also to express my sincere to thanks to *Kementerian Pendidikan Tinggi*, Ministry of Culture and Education of the Republic of Indonesia for granting me a scholarship to gain the opportunity for doctoral study and pursue my degree overseas. I also would like to convey my gratitude to Sebelas Maret University as my home institution for the encouragement to study overseas, specifically, the administrative staff and academics for their assistance during my study.

I would like to thank my God, Allah SWT for the blessings and guidance in finishing the study.

# Chapter 1 Introduction

In recent years, the concept of Individual Entrepreneurial Orientation (IEO) has attracted the attention of researchers in entrepreneurship education studies. They apply the concept for measuring the tendency for individuals to undertake entrepreneurship. However, previous studies used the concept of IEO inconsistently due to different conceptualisations amongst researchers. The literature indicates a great variety of IEO concepts, approaches and models, which provides opportunities for clarification and further research regarding definitions, dimensions, and approaches of IEO within specific contexts. Therefore, this study has four objectives. The first objective is to propose an IEO model using an attitudinal approach. The second is to test the construct consistency to discriminate entrepreneur and non-entrepreneur status. The third is to test the relationship between IEO and entrepreneurial performance in an Indonesian context. The last objective is to test the antecedents of IEO that can be integrated into entrepreneurship education, such as personality traits or human capital, because these variables are often cited as the starting points of entrepreneurial activities. Literature studies in psychology show the importance of personality traits in determining who can potentially become entrepreneurs. Meanwhile, in economic studies, cultural and general skills acquired as investment in human capital are also significant in promoting entrepreneurship. Both of these variables are commonly introduced in entrepreneurship studies as the main variables of individual specific antecedents of entrepreneurial endeavours. This study highlights the construct and proposes a conceptual framework for entrepreneurship studies. It also reveals the need for further research and analysis based on the theoretical and literature approaches.

This chapter begins the background which provides theoretical contexts for the research background and entrepreneurship areas of literature for the thesis. This is followed by the main theory and focal construct explained in section 1.2 on Entrepreneurial Orientation theory. Then, section 1.3 presents the Individual Entrepreneurial Orientation. The context of the research is explained in section 1.4, which is Small Businesses in Indonesia. These discussions lead to the problem formulations and research questions, elaborated separately in sections 1.5 and 1.6. The

specific gaps addressed in this study are provided in section 1.7 on theoretical gaps for IEO. The specific objectives of the current research are provided in section 1.8. The overall relationship of the constructs is explained in section 1.9 on the development of theoretical framework for developing the hypotheses later in the literature review chapter. The results of these relationships in the framework which explain the connections of the research and the development of the theory are presented in section 1.10 regarding the anticipated research contributions. Last, the chapter concludes with section 1.12: thesis structure.

## 1.1. Background

Entrepreneurs are considered as innovative individuals who can act proactively on a new opportunity. Conventionally, entrepreneurs refer to owners/managers of start-up businesses that are growth-oriented (Runyan, Droge, & Swinney, 2008). There has been a misconception in the society that entrepreneurs always aim for rapid growth and high return projects. However, existing literature shows that this is not true. For example, Josien (2012) suggests that not all business owners are growth-oriented. Josien's study is also consistent with other research, suggesting that the main preference of some entrepreneurs is to have a stable income which meets their daily household expenses, contrary to previous general beliefs (Carland et al., 2001). However, this preference is common in many countries, especially in developing countries (Krauss et al., 2005).

Differences in business orientation have also been identified among Indonesian small and medium enterprises (SMEs), which include a large number of micro enterprises. These micro enterprises generally consist of self-employed (or organised within core family members) businesses whose primary goal is to obtain a subsistence living, and are characterised by minimal use of technology or low productivity and low-quality products (Bhasin & Venkataramany, 2010). Tambunan (2011) recounts a policy program enacted by the Indonesian government to enhance local businesses, including incentive provisions to increase success rates. However, Indonesian entrepreneurs occupy less than 2% of the overall population, while developed countries have a higher ratio of entrepreneurs in their population (Sulistiyo, 2012). This talent shortage is not

a unique problem for Indonesia; rather, it is a problem commonly found among developing countries, as indicated by the ever-growing popularity of entrepreneurship training and education programs (Fayolle, 2013).

With the support of the government, many universities have established academic programs to develop students' entrepreneurial capacity and even to help students start their own ventures (Mueller & Thomas, 2001; Prodan & Drnovsek, 2010). The proliferation of entrepreneurship education and training over the past years has generated some understandings of effective training and education programs. For example, Fitrianti (2012) identifies five alternative teaching and training programs in Indonesia, including implicitly embedding entrepreneurship training into the curriculum, establishing business incubators, organising student entrepreneurship workgroups, conducting student entrepreneurship tournaments and internship programs, as well as stressing the importance of a contextualised teaching and training approach in such programs. The implementation of these programs is intended to develop students' skills, knowledge, ability, and mindset for the successful creation of new ventures.

However, there is a critical limitation in the current effort to design entrepreneurship training and education programs. They lack an underlying theory that explains the way in which individuals' skills, knowledge and ability shape their entrepreneurial approach towards growth and their desire for entrepreneurial actions (Bolton & Lane, 2012). In particular, Bolton (2012) and Elenurm and Moisala (2007) call for a better understanding and knowledge about individual entrepreneurial preferences towards optimising business, which are essential for effective entrepreneur training and teaching programs, an approach known as Individual Entrepreneurial Orientation (IEO).

Researchers are eager to respond to this urgent need for specific guidelines to distinguish an individual's entrepreneurial directions in optimising business opportunities (Basso et al., 2009). Such individual preferences have not been addressed within the existing approach of Entrepreneurial Orientation (EO), which is designed to fit within an organisational framework. Unfortunately, the extant entrepreneurship

literature does not cover individuals' different entrepreneurial orientations (Rauch & Frese, 2009), especially within the context of developing countries.

The current study aids in addresses the need for an implementation of EO at the level of the individual. Recently, this approach has gained attention since more researchers have become aware of the contribution of entrepreneurship to the economy of a nation (Davis et al., 2010). Furthermore, IEO has been used to identify individuals who are suitable for top management positions as they have a greater proclivity for risk-taking, innovation, and proactiveness towards competitors (Kreiser et al., 2002). The specific characteristics and behaviours of top management will often determine firm performances; these will always be the main interest of entrepreneurship education scholars (Martin et al., 2013). In supporting these special characteristics, entrepreneurship education can support dual objectives: increasing entrepreneurial characteristics, cultures and behaviours, as well as increasing the capability, competency, and quality of entrepreneurship (Ghina, 2014). However, there are still debates about whether nurture approach or nature approach are more suitable for increasing entrepreneurship success (Matthews et al., 2011). In this debate, the nurturing approach refers to the idea that entrepreneurship can be developed by providing suitable skills, knowledge and abilities relevant to entrepreneurship tasks. On the other hand, the nature approach argues that only certain people born with entrepreneurial personality traits can be successful. In dealing with this debate, many researchers conceptualise approaches differentiating between entrepreneurs and non-entrepreneurs through the IEO of individuals. The primary aim of this thesis is to conduct a preliminary analysis of IEO using a five-dimensional approach and test the psychometric properties. This investigation also includes the reliability and construct validity of the IEO, specifically for testing nomological networks across entrepreneurship theories.

The existing literature on the definition and measurement of IEO has not resulted in significant theories and constructs (Miller, 2011). The lack of clear and sound theoretical positions on the nomological network has led to dispersed studies, which will impede research in the future. More consistent and rigorous measures of IEO would be acquired if there were more reliable metrics in the theory, which at the

moment has left theoretical gaps for researchers to resolve. On the other hand, inconsistent definitions and applications of the IEO model create dilution of the model itself. Researchers in this field have put forth their own definitions, which could lead to incomparable and overlapping theories (Low & MacMillan, 1988). In an attempt to fill this void, the current study attempts to clarify the concept and to validate a reliable scale for its measurement. Furthermore, this research suggests testing of the antecedents for the IEO with entrepreneurship education approaches, regardless of any nature or nurture tendencies.

As mentioned previously, researchers are interested in the personal differences between entrepreneurs with regard to optimising opportunities in business (Shane et al., 2003). Conceptually, entrepreneurship has been regarded as entrepreneurs' superior growth compared to their competitors' (Stevenson & Jarillo, 1990); meanwhile, in the actual application, it is completely different. In the literature, many researchers suggested an explicit distinction between entrepreneurs and non-entrepreneurs (Carland et al., 1988; Robinson, Stimpson, et al., 1991). In real business, this distinction is not so visible. With the absence of any specific measurement, differentiating high growth entrepreneurs and stable growth business owners may impede studies on entrepreneurial education and also inhibit research development, specifically on the contributions of personality trait and organisation performance (Rauch & Frese, 2007b).

Some other researchers have quantified these differences by employing the *Carland Entrepreneurship Index* (CEI) which can be used to distinguish business owners in optimising opportunities orientation in small businesses. The marker lies on the continuum between non-entrepreneurs, small business owners, and entrepreneurs (Carland & Carland, 1992; Josien, 2008). The first category in the continuum indicates non-willingness to optimise business opportunities, the second is more stable and inflow-oriented in embracing opportunities, while the latter strives for growth (Runyan, Droge, & Swinney, 2008). Using these distinctions, researchers in entrepreneurship studies are advised to acknowledge heterogeneous groups of entrepreneurs, often treated homogeneously in current entrepreneurship literature (Josien, 2008). However, this measurement scale is considered impractical for a longer

time span and is based on personality characteristics only. As such, this scale requires further development (Runyan, Droge, & Swinney, 2008).

In entrepreneurship studies, constructs for measuring an orientation toward business optimisation are limited. There are a number of studies using personality traits, along with demographical approach, to relate opportunity orientation to business performance. However, the results indicate an imprecise or sometimes insignificant relationship between the two (Zhao et al., 2010). This triggers an attention shift of entrepreneurship studies towards other psychological models of entrepreneurial predictions (Robinson, Stimpson, et al., 1991). Studies focusing on individual characteristics only yield slow progress and thus attract research interest away from personal differences in creating new business ventures (Thompson, 2009). The limited of measurement has also guided some researchers to utilise EO for measuring individuals' willingness to exploit more in creating new ventures (Taatila & Down, 2012), as well as managers' capacity in predicting business performance (Zainol & Ayadurai, 2011).

## 1.2. Entrepreneurial Orientation

Entrepreneurial orientation (EO) is one concept in entrepreneurial literature that has been widely studied since 1980 (Miller & Friesen, 1982). Conventionally, EO is defined as an organisation-level concept that describes strategic processes used by firms to obtain a competitive advantage (Rauch & Frese, 2009). Covin and Slevin (1989) have been given credit for their contribution to the development of EO literature. They devised and operationalised the management style concept drawn from Miller's (1983) work on the dimensions of a firm's entrepreneurship. Originally, the concept identified the three key dimensions of entrepreneurship and these are pioneering, innovation and risk-taking. Later, Covin and Slevin (1989) proposed and conceptualised entrepreneurial management style using these three dimensions to explain and measure the strategic postures of an organisation or its sub-unit. The concept was further augmented as EO with the addition of two more dimensions, namely aggressiveness and autonomy (Lumpkin & Dess, 1996, p. 137). The EO of an

organisation or sub-unit is defined on a continuum anchored in the two polar opposites of conservative versus entrepreneurial (Covin & Wales, 2012).

Recently, the number of studies on EO empirical and theoretical developments is increasing (Rauch et al., 2009b). In the literature meta-analyses, it is reported that there are at least 19 definitions of EO in the last 25 years (Basso et al., 2009). Furthermore, the concept has been applied across different levels of research and stretched beyond its original conceptual domain, encompassing institutional, group, and individual levels. At this point, George and Marino (2011) propose that a theoretical and an operational definition needs to be devised carefully, which would impact the conceptual and empirical consequences. They suggest to ensure a fit between the domain and levels of the concept, and the phenomenon being investigated. Furthermore, George and Marino (2011) and Covin and Lumpkin (2011) criticise the stretching of the EO concept boundary to another level of the phenomenon, which leads to an analysis that dilutes the concept's meaning. They argue that it is because such an analysis compromises the clear approach of the original concept, which is clearly inappropriate and thus inhibits the researcher's ability to understand what is being measured.

Nonetheless, these critics did not mean to propose that individuals cannot have any entrepreneurial directions, thoughts or actions (Covin & Lumpkin, 2011). Supporting such a view, Basso et al. (2009) asserted that EO can be defined and utilised as long as the researcher makes necessary adaptations. For example, the application of the organisational level concept in an individual-level research context should also recognise the idiosyncratic concerns found at individual level.

In order to understand EO within an organisational context, Lumpkin and Dess (1996, p. 137) define EO in the literature as follows:

*“EO refers to the processes, practices and decision-making activities that lead to the new entry. [...] It involves the intentions and actions of key players functioning in a dynamic generative process aimed at new venture creation. The key dimensions that characterize an EO include a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relatively to marketplace opportunities”*.

This EO definition at the organisational level clearly mentions key players, the leaders of the venture who will direct the strategic paths. Supported by this view, the researchers believed that the application of EO at the individual level of analysis is theoretically supported (Krauss et al., 2005; Rauch & Frese, 2009). However, this view has also been criticised, that without rigorously adjusted empiricism and refined content according to individual theories, the construct might be diluted, thus leaving the empirical results neither refuted nor supported by the existing literature (George & Marino, 2011).

Providing a suggestion to researchers in the application of EO in individual level analysis, Miller (2011) called for the development of a scale that measures the aforementioned individual business orientations based on the individual concept in that domain. Theoretically, the supporters of EO implementation at the individual level are more focused on the relation between the measurement of entrepreneurial subjective perception and an individual's business decisions (Kollmann et al., 2007). Since the EO concept has had high exposure in the literature, attempts to measure at an individual level yielded vast research with many variations of number, definitions and measurement models (Pisapia et al., 2016).

One approach to study Entrepreneurial Orientation at the individual level starts with developing a model based on the concept of management style that adopts entrepreneurial action which associated with firm success in the literature (Covin & Slevin, 1988, p. 217). In an SME context, successful ventures mostly arise from a number of factors such as individuals with owner-manager essential characteristics, the organisation structure and the cultural characteristics (Pownall & Lawson, 2005). The initiator of a business venture and source of business success should have a focus on the entrepreneur and entrepreneurial difference, which are important for further IEO analyses. It is said that the entrepreneur is an active element of the business who transforms his or her personality and characteristics into long-term venture survival (Davis et al., 2010).

It is also important to note that when EO is seen as a measurement of management style of high growing ventures, it measures the willingness of board managers in an organisation to favour innovative activities, along with the inclination to bear business-

related risk and compete proactively with other firms (Covin, 1991). While these behaviours in business are perceived as the manifestation of an entrepreneur's psychological characteristics, they also contribute to complying with the dynamics of business environmental changes (Lumpkin & Erdogan, 2004). Hence, the EO actually measures individuals of the board of managers in the organisation. These views are in line with upper echelon theory, suggesting that the characteristics of managers will transform into their decisions (Hambrick & Mason, 1984). Most EO applications in individual level analyses follow this logic.

However, Covin and Miller (2014) offer a different view. They contend that the EO applications at the individual level are inconsistently conceptualised, since EO actually measures organisational-level phenomena. Furthermore, Covin and Miller (2014) argue that EO is not appropriate for individual contexts since the measurement was not meant for individual innovativeness, proactiveness and risk-taking tendency: “[a] problem [*in applying EO directly to individual level*] here is that there may be [*other*] few obvious and meaningful indicators of, for example, an individual's innovativeness or proactiveness that link directly to new entry as is necessary to claim the presence of an EO” (p. 18). Based on this view, the current study focuses on the development of an orientation measure for individual-specific entrepreneurship, which is theoretically driven by the organisational-level EO.

### 1.3. Individual Entrepreneurial Orientation

EO implementation in individual settings is gaining attention as it has been tested and suggested by previous studies (Bolton & Lane, 2012; Krauss et al., 2005; Stone & Good, 2004). Such an implementation has also been tested and applied to samples of students and active entrepreneurs. Many researchers are looking for better ways to differentiate high entrepreneurial and low entrepreneurial individuals since the existing scales such as CEI or EAO are considered impractical because of their lengthy questionnaire (Josien, 2008).

The EO implementation in individual settings has provided a new perspective to the literature. However, scholars argue that if EO is stretched too far from the actual

concept, the results may be neither refuted nor supported by the existing studies (George & Marino, 2011). Addressing the EO implementation in individual settings, researchers called for better conceptualisation and investigation of EO representations in a larger theoretical framework (Wales et al., 2013). Many attempts have been done by researchers to conceptualise IEO as the EO measurement at the individual level. This research stream began with Bolton and Lane (2012) who developed an IEO measurement and calling for further research to validate a larger sample. Several studies have tested this construct towards predicting predisposition toward the entrepreneurial path and found valid constructs across both student samples (Padilla-Meléndez et al., 2014) and entrepreneur samples (Bolton, 2012). These researchers suggest that more studies are required to reveal the robustness of the scale in various settings. However, the existing IEO measurement (Bolton & Lane, 2012) is still dispersed and built on a theoretical conceptualisation that requires more empirical research with more established variables to further validate its construct. The nomological fit of these measurements will contribute to entrepreneurship studies.

The call for more research on this topic opens up new perspectives on entrepreneurship study, entrepreneurship education, and SME management study. In entrepreneurship studies, scholars argue that overgeneralisation across contextual settings has been caused by the strong focus on individual entrepreneurs (Wiklund et al., 2011). By providing measurements at individual level, such a generalisation can be an alternative to approach individuals with a stronger proclivity toward entrepreneurship. Decisions made by individuals in a business venture and entrepreneurship will affect the way individuals learn (Bolton & Lane, 2012), which is also an important topic in entrepreneurship education studies (Wang & Chugh, 2013). Obviously, it is the time to build a mutual understanding among scholars interested in the IEO construct, so testing on this scale can be conducted with a broader sample.

Following Bolton and Lane (2012) recommendations to test their validated IEO measurement using a non-student sample, Bolton (2012) used the concept with 340 entrepreneurs in West Kentucky USA. The study confirmed ten of the items from the questionnaire in IEO dimensions, including innovativeness, risk-taking and proactiveness, which are loaded as separate factors. Their study also verified the

internal consistency of IEO. However, in the findings, the subscale of innovativeness showed an insignificant correlation with the performance measurement. Bolton (2012) then provided the possible underlying reasons and linked them to similar discussions on EO. Lumpkin and Dess (1996) suggested that different EOs will correlate with different performance measurements. On the other hand, Padilla-Meléndez et al. (2014) also tested the construct on student samples and affirmed the construct validity. Supporting this assumption, Runyan et al. (2012b) found that, in a cross-cultural measurement of EO, only eight items fit the model in an Asian context, compared to nine items in the US context.

In light of the previous studies in IEO, this invites more questions regarding the relationship between dimensions and other established variables in entrepreneurship studies. The current direction of study suggests variables that hypothetically contribute to increasing the IEO, and therefore the performance of SME ventures within the individual domain. Those variables are personality traits (Rauch & Frese, 2000) and human capital (Becker, 1994).

## 1.4. Small Business in Indonesia

This study focuses on entrepreneurs with small business ventures in Indonesia, specifically in Surakarta, a regional city in Central Java, Indonesia. *Indonesian Statistics Body (BPS)* defines small enterprises (SEs), including micro enterprises (MIEs), as businesses that employ one to 19 workers. Medium enterprises (MEs) are businesses employing 20 to 99 workers, while large enterprises (LEs) are businesses that employ 100 or more workers (Tambunan, 2011, p. 69). The involvement of Small to medium entrepreneurs in this study are in line with the research purpose, revealing a connection between owner-manager entrepreneurs and their business ventures. Indeed, such a connection is usually contradicted in larger companies (Krauss et al., 2005). Regarding the entrepreneurial orientation of small businesses, Carland and Carland (1992) revealed that not all small business owners tend to strive for high growth in their businesses. Indeed, these differences have been addressed by previous studies, for example, Miles et al. (2000). These studies assert that many small business

owners with stable business environments are not eager to embrace entrepreneurship behaviours and attitudes.

Other scholars, such as Runyan, Droge, and Sweeney (2008), found that small business owners, when compared to entrepreneurs, have different orientations in optimising their businesses. The study divided small business owners into two groups: those whose ventures had been established for less than 11 years, and those whose ventures had been established for more than 11 years. The findings show that there is a significant relationship between the orientation of small businesses and performance. These studies on the orientations of small business have developed a newer construct. However, the applications and empirical supports are still scarce and in need more theoretical refinement. This construct is also developed as the opposite of an EO construct at the individual level, which is more concerned with dimensions of business purposes and emotional attachments to business (Runyan, Droge, & Sweeney, 2008). With these characteristics, further IEO development and validation will provide more insights into entrepreneurs in a small business context. Furthermore, the theoretical concepts covered in Chapter 2, while matters specific to the Indonesian entrepreneurs context will be discussed in Chapter 3.

## 1.5. Problem Formulation

To fill an individual-specific measurement of EO, a number of studies have focused specifically on IEO. The term ‘entrepreneurial orientation’ with a connotation of ‘individual endeavour in entrepreneurship’ has been applied to two distinct concepts: first, as individuals’ tendencies in business (Domke-Damonte et al., 2008) and second, as organisational-level behaviours (Covin & Slevin, 1989). These intertwined and sometimes overlapping terms are not uncommon as entrepreneurship study is approached from various theoretical backgrounds (Low & MacMillan, 1988). The current study focuses on the individual’s development toward business success and also acknowledges different conceptualisations of entrepreneurial orientation within the individual realm. Besides, the current study is also concerned specifically with EO as a strategic option for top managers with regard to the functionalities of a business venture (Covin & Lumpkin, 2011).

Answering the call to build individual measurements based on an EO construct, Bolton and Lane (2012) conceptualised and developed Individual Entrepreneurial Orientation. The measurement specifically pertains to individual-level analyses and consists of three dimensions, which are risk-taking, innovativeness and proactiveness. These dimensions are derived from the EO construct and adapted to individual level, with the results empirically showing that all items in the questionnaire are loaded into the three distinct dimensions. However, there are discrepancies in the extant literature regarding individual entrepreneurial orientation which requires further formulation and validation. The discrepancies addressed in this thesis relate to the number of dimensions and conceptualisation of the measurement. These discrepancies are elaborated in Chapter 2.

Firstly, previous studies show that the existing IEO conceptualisations varied greatly between one researcher to another – from identifying the individual’s tendency to become an entrepreneur (Hormiga et al., 2013; Kropp & Lindsay, 2001; Padilla-Meléndez et al., 2014), measuring managerial entrepreneurship (Barbat et al., 2014; Davis et al., 2010; Felgueira & Rodrigues, 2012), assessing modes of entrepreneurial penetration choice (Elenurm, 2012), to assessing individual preferences related to entrepreneurship (Bolton, 2012; Krauss et al., 2005). The current research acknowledges these differences and focuses on the latter term, setting the conceptual model of IEO as a psychological variable which directs entrepreneurs in optimising their business ventures. The discrepancies regarding the conceptualisations in IEO require further research to develop a consistent and rigorous empirical-driven construct.

Bolton and Lane (2012) developed their scale based on business students in developed countries using Lumpkin and Dess (1996) conceptualisation in five dimensions: Proactiveness, Risk Taking, Innovativeness, Competitive Aggressiveness and Autonomy. However, items in the last two dimensions could not be loaded into the scale. This result validated the composition of a three-dimensional IEO in the research (Bolton, 2012; Bolton & Lane, 2012). These drawbacks emphasize the need for further clarification of the conceptual frames in the current research. An extant study asserts that the configurations of EO in various contexts depend on the business situation of

enterprises (Basso et al., 2009, p. 314). This drives the concern over whether the development of scale using active entrepreneurs would result in different scales in measuring entrepreneurship.

Secondly, the varying conceptualisations of IEO will lead to different consequences in the interpretations of the result. For example, measuring individual impetus to become an entrepreneur (Hormiga et al., 2013; Kropp & Lindsay, 2001; Padilla-Meléndez et al., 2014) would mean students who have entrepreneurial proclivities would score higher IEO. However, other researchers, extending the concept toward those active entrepreneurs, also found that the IEO scale had a significant relationship with performance (Bolton, 2012). Other researchers, using personality aspects as the framework for their IEO measurement, found there are significant differences of IEO between entrepreneurs and non-entrepreneurs (Vantilborgh et al., 2015). This directs the next research questions in the current research.

Thirdly, although IEO is gaining attention and supported by empirical evidence in various studies, the concept is still considered as newly-developed theoretical-driven variables which require further analysis in terms of its conceptual and modelling rigour. To ensure that these variables have firm theoretical grounds, Cronbach and Meehl (1955) suggest a test using an established and related construct in the form of a nomological net. This suggestion is also supported by Covin and Lumpkin (2011) and George and Marino (2011), who state that stretching a conceptualisation toward another level of measurement requires further tests against the extant construct in entrepreneurship psychological measurement. As the IEO is grounded in an individual domain and its relationship with entrepreneurial performance, the research aims to study the contributions of IEO in factors that contribute to venture performance. In this aspect, there are two major streams of factors contributing to entrepreneurship: nurture approach or nature approach. Nurture is seen as a form of development of human capital (Becker, 1994), the upgrading of individuals through studying, learning, training, and experience important for the creation of an entrepreneur. Typically, the nature approach is interpreted as the development of essential underlying personality traits, such as risk propensity, self-efficacy, proactive personality, and innovativeness

that can provide important support to individuals in becoming an entrepreneur (Frese & Gielnik, 2014; Gartner, 1989).

Chrisman et al. (1998) note that in the individual domain, Personality Traits, Human Capital and an entrepreneur's cognitive skill sets would direct venture performance. These also align with the necessity of entrepreneurship research to investigate whether entrepreneurialism is a phenomenon of nurture or nature (Mount, 2010). However, the literature also does not support the relationships of human capital and personality trait factors and their relationship toward entrepreneurial performance (Baum, 1994; Unger et al., 2011). For example, Baum et al. (2001) found that although personality traits were important predictors of entrepreneurial performance, personality traits worked indirectly through competencies, motivation and strategies. This means that individual personality traits of the entrepreneurs will influence the selections of competencies being mastered, influencing the achievement motivation and subsequently executions of strategies. In conclusion, the relationships between personality traits and performance were mostly found to demonstrate only moderate or insignificant results. Some researchers have suggested studying these two factors using a mediating or moderating factor model (Baum & Locke, 2004). This suggestion has directed the current research to find the relationship of these factors toward establishing the entrepreneurial performance.

Following this model, the research delves into relationships of attitudinal model, personality traits and human capital interactions in contributing toward performance in the Active Characteristics Model by Frese (2009). The model was later elaborated by Frese and Gielnik (2014), and calls for researchers to empirically test the model. Using the Frese and Gielnik's model of Entrepreneurial Psychology, the current research examines the theoretical relationship between these variables.

Fourthly, this construct has been developed and utilised in the US context (Bolton & Lane, 2012) but not in developing countries. Thus, testing the construct in a developing country is important to determine the construct's applicability and its efficacy in other cultural contexts. The implementation in a developing country, such as Indonesia, could consequently provide new perspectives and theoretical contributions to the field of entrepreneurial study. The impact of cultural and demographic differences on the

concept of EO has been validated empirically by other researchers (Kreiser et al., 2010; Kreiser et al., 2002).

Indonesia is a developing country, which provides an ideal context to examine Individual Entrepreneurial Orientation. According to OECD/Economic Research Institute for ASEAN (2018, p. 264), Indonesia is a lower middle-income economy, whose growth has traditionally been driven by its natural resources and low technology goods. Therefore, the government is providing opportunities to support entrepreneurship. However, the major challenges facing Indonesian entrepreneurship development include insufficient infrastructure, poverty and uneven resource distribution and unemployment (Burger et al., 2015). Together these factors provide a space for supporting Individual Entrepreneurial Orientation and in turn it provides an avenue for national development.

## 1.6. Research Questions

### *How does IEO contribute to increasing entrepreneurial performance in Indonesia?*

This question directs the current study to assume that there is a significant relationship between the construct and the increase in entrepreneurial performance. Based on this hypothesis, the following questions are addressed in this study:

RQ1: Does the five-dimensional model measure IEO effectively in Indonesian entrepreneurs?

RQ2: Can IEO distinguish between entrepreneurs and non-entrepreneurs consistently in an Indonesian context?

RQ3: To what extent can IEO contribute to entrepreneurial performance in Indonesia?

RQ4: Does IEO mediate or moderate the relationship between Human Capital and Personality Traits toward Entrepreneurial Performance?

## 1.7. Theoretical Gaps for IEO

Individual Entrepreneurial Orientation (Bolton & Lane, 2012) is a construct which is based on EO (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Originally, EO measures the degree to which a company's top manager is inclined to keep their businesses more innovative, proactive and take more risks. However, researchers with this focus agree that EO measurement should only be applied at the organisation level (Miller, 2011), and using it at other levels of analysis needs more tweaking to obtain scientific rigour.

The IEO construct was claimed to be theoretically derived from a higher construct EO, and this is supported by Kollmann et al. (2007) and Krauss et al. (2005). However, IEO by Bolton and Lane (2012) was further tested by Bolton (2012) on entrepreneur respondents. The results showed a significant positive relationship between the three variables and entrepreneurial success. Another study tested the construct in predicting entrepreneurial intentions (Padilla-Meléndez et al., 2014). This study also yielded a similar result, in which the proactiveness variable showed an insignificant relationship with the entrepreneurial success, and indicated further clarification of its IEO constructs (Padilla-Meléndez et al., 2014).

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According to the research rationale mentioned, there are three gaps to address in the validation of IEO construct:

- (1) Consistent definitions that currently vary greatly among existing researchers
- (2) Dimension and measurement modelling of IEO
- (3) Validity of the construct with existing entrepreneurship theory in nomological net

Progressing to a more rigorous model, this newly developed and validated construct needs a more empirical and nomological test, specifically in conceptual modelling that aligns with the existing theories and suggested definitions (George & Marino, 2011). Validation of the construct is achieved using a nomological net in order to assert the construct validity (Cronbach & Meehl, 1955). Krauss et al. (2005) also raised the call for a new construct, using a nomological net on individual characteristics and psychology variables supported by empirical testing. The nomological network can also demonstrate the antecedents and consequences of this construct.

Recent reviews on IEO indicate that the focus of this study has gained attention in recent entrepreneurship literature. However, these reviews also suggest that IEO is conceptualised as a construct different from other variables in individual realms. There is little knowledge about the overall concept. Therefore, there is a need for a higher degree of integration between this construct and the existing concepts (George & Marino, 2011). This study uses three factors in the psychological domain of individuals which, hypothetically, have contributions to venture performance with the aim of finding an IEO specific nomological net. There are individual variables that are perceived as important for venture performance. However, empirical results indicate a vague or insignificant relationship between these variables and venture performance (Zhao & Seibert, 2006). Among the variables are personality traits (Rauch & Frese, 2000), motivation (Carsrud & Brännback, 2011) and human capital (Becker, 1994).

## 1.8. Objectives

The study adopted a quantitative approach with the main objective being to revisit the IEO and its five dimensions within the Indonesian entrepreneurial context, this study employed a quantitative approach. The research aims to seek an integrated review of IEO and how its various factors contribute to building its nomological networks. To achieve the primary purpose, four objectives of the research are addressed.

The first objective is to test the validity and reliability of the five-dimensional model in the Indonesian entrepreneurial context. In achieving this purpose, IEO is explored within its five dimensions, which include proactiveness, innovativeness, risk taking, competitive aggressiveness and autonomy. The IEO scale will be developed and tested in terms of the consistency to be applied in Indonesia context.

The second objective is to test the consistency of the IEO scale in distinguishing between entrepreneurs and non-entrepreneurs. This is an important point for the scale to be able to differentiate between the two groups. The scale would be useful in providing the application on business and educational context of Indonesian entrepreneurs.

To examine the application of IEO in the business context, the third objective is to examine the relationship between IEO and business performance. In order for IEO to apply its nomological network in Indonesian entrepreneurs, the fourth objective is to examine the extent to which IEO interacts with Human Capital and Personality Traits.

## 1.9. Development of Theoretical framework

In this thesis, a theoretical framework is employed to reflect the IEO as a mediating variable between human capital, motivation and personality traits, with entrepreneurial performance as the dependent variable. The entrepreneurial performance is the primary focus in developing the predictive validity of the IEO construct. In addition to this relationship, the more established variables of EO were tested to indicate the variance between IEO and entrepreneurial performance. The theoretical foundation for the current study was based on a model known as Value Creation Performance (Herron

& Robinson, 1993). This theory states that venture performance is influenced by strategy, referred to in this research as EO (Covin & Slevin, 1989), industry structure (Covin & Slevin, 1990), and individual characteristics. This view is supported by Storey (1994) who concluded that growing processes in small firms derive from the combination of three components: (1) the characteristics of entrepreneurs, (2) the characteristics of small firms, and (3) implemented strategies.

The current study uses IEO for predicting the extent to which individuals' characteristics differ in attaining their business goals. The hypothesis in this study includes the idea that the different levels of IEO will be influenced by human capital expertise and personality traits.

There are some assumptions made in the current study which set the boundaries and limitations of the variables. First, IEO is considered as a new construct which is still being studied by scholars for its consistency in the theory. Subsequently, according to Cronbach and Meehl (1955), it is important to validate the construct using a nomological test. In this study, EO (Covin & Slevin, 1989) is referred to as a more established construct which can significantly predict and measure venture performance (Rauch & Frese, 2009). EO also useful as the reference variable of IEO relative to venture performance. While IEO is believed to derive from EO in an individual context, the measurement is perceived to have a high correlation with EO (Bolton, 2012) and with entrepreneurial performance. However, it should also be noted that whilst EO has been studied and considered as a stable construct (Covin & Wales, 2012), it is still evolving with regards to its measurement, dimensions and construct relationship (Runyan et al., 2012b).

Secondly, in the literature, research articles that focus on the full-scale relationship between the antecedents and endogenous factors for IEO still become subjects of discussions in the entrepreneurship literature. Thirdly, this area of study is under-researched, particularly the relationship between IEO and Human Capital and Personality Traits. Therefore, current references focus only on the connection between these antecedent variables and EO.

## 1.10. Anticipated Research Contributions

The study is expected to contribute to knowledge of the existing research within IEO, such as Bolton and Lane (2012), and its relationship with venture performance, which currently contains theoretical gaps in entrepreneurship studies. Firstly, many entrepreneurship studies have applied EO (Covin & Slevin, 1989) to the individual level of analysis, considerably contradicting the actual purpose of the construct, which is to measure a top manager's decisions regarding their business preferences (Covin & Miller, 2014). Furthermore, Bolton and Lane (2012) developed IEO which included student samples and explicated a construct that was tested on the entrepreneur samples (Bolton, 2012). They claimed to have validated the measurement in those samples.

The current study further tests the model on the entrepreneur sample from small business ventures and relates it to the venture performance. Secondly, other researchers suggested producing a new construct with an empirical relationship and a more established construct in the theoretical net (Cronbach & Meehl, 1955). The current study attempts to probe the IEO construct relative to other individual-level variables, such as personality traits (Rauch & Frese, 2007b) and human capital (Becker, 1994). These two variables are suggested according to the model of venture performance by Baum and Locke (2004). The model provides a conceptual base wherein personality traits are related to venture performance and mediated by a particular variable. This variable, to the best of the researcher's knowledge, has not been found in the literature.

Thirdly, previous studies also inconsistently suggest the personal characteristics of successful entrepreneurs – which include risk-taking, innovativeness and proactiveness – among other personality characteristics. However, it is unclear whether these three variables appear in a unidimensional or multidimensional model. Therefore, the current study can provide insight into the existing entrepreneurship studies, particularly on the way entrepreneurship works. Fourthly, the current study also suggests adding more variables to IEO research as a consequence of its focus on small business orientation (SBO) (Runyan, Droge, & Sweeney, 2008). These are new avenues in the literature: EO and SBO are considered opposites, which is known,

having high EO results equal to having low SBO (Carland & Carland, 1992). Fifthly, in the Indonesian context, the current study may have significant implications for new and existing local business owners, creditors, educators, local government and policy-makers. Furthermore, this study is expected to provide a basis for future studies elsewhere. Through a better understanding of entrepreneur orientations at the individual level, it is hoped that this study can provide greater insight into the entrepreneurship studies and business education in the future.

## 1.11. Thesis Structure

The rest of the thesis is structured as follows. Chapter 2 discusses in detail the literature review on Individual Entrepreneurial Orientations and the nomological network. The chapter begins with an outline of the thesis followed by an introduction section regarding the study's direction. Further, the literature review discusses the starting point of this research, which is the field of management with a particular interest in the field of entrepreneurship, on the entrepreneurship domain and schools of thoughts of entrepreneurship in the literature. Based on the explanation of the entrepreneurship domains, the entrepreneurship and level of analysis set limits of the research boundaries. The development on the field of Individual Entrepreneurial Orientation brought a specific focus on the discussions of five dimensions, thus explaining the approach of the current IEO study. The discussions then define how the IEO is formulated in this thesis. These definitions brought about the dimensionalities of IEO that should be operated in the study. The specific framework developed is for IEO and its relationship with Entrepreneurial Performance, as the theoretical antecedents and consequences of IEO in the literature. These discussions help to build the theoretical frameworks, specifically on the Human Capital, and Personality Traits.

Chapter 3 discusses the context in which this research was conducted. Starting with the introduction, then it is followed by specific descriptions of Small Medium Entrepreneurial activities in the Indonesian context. The descriptions on the development of entrepreneurship and the progression toward nurturing the

entrepreneurship are explained in the section. This leads to discussions to address the support of the Indonesian government provided to entrepreneurs, which is explained in the section of Government Support for the Small Medium Entrepreneur Development in Indonesia. The specific aims for developing entrepreneurship are provided in the section about the Source of Entrepreneurship Education in Indonesia. The specific groups of entrepreneurs acknowledged in Indonesia are described in a section about the Differences Between Entrepreneurship Definitions Across Studies. After acknowledging the specific groups targeted in this thesis, the chapter then discusses major challenges for Indonesian SMEs development and presents a conclusion of the chapter.

Chapter 4 discusses the research methods. It begins with an outline and introduction. The sampling and populations are discussed, followed by Research Procedures. Then, the measurement utilized in the current research is discussed. This chapter also discusses the variables relationship in the Entrepreneurial Performance, the Individual Entrepreneurial Orientation, Personality Traits and the Human Capital. These variables and relationships are then hypothesised in the section of relationships between variables (SEM Modelling). The next section discusses the data analysis of this research. The chapter also outlines the translation and back translation procedures for making the scale in the current research and conclusions.

Chapter 5 presents the results of the research. It starts with an outline, followed by research results based on the respondents' answers which are provided in the section of descriptive statistics. The statistical analyses from the answers are then used for preliminary tests, in which the results are explained in the section about the normality test. The results are found suitable for further analyses, and the next section presents the results of IEO from the confirmatory factor analysis. Then, the results for CFA on structural modelling and the discriminant analyses are explained. The next section deals with the contributions of IEO to Entrepreneurial Performance, presenting the elaborated and explained results. The chapter also provides the proposed specific cut-off points for IEO goodness of fit estimation model based on the statistical references. They become the benchmark for the results in the theoretical structural equation modelling, which is a base model for statistical relationships among variables. The

results of the statistical analyses are explained in section 5.11: Empirical Model Analyses. Each of the relationships' statistical results is presented in each subsection respectively. A conclusion is then presented in the last section of the chapter.

Chapter 6 provides discussions on the statistical results presented in the previous chapter. It starts with an outline and introduction to the chapter to highlight the directions and topics discussed in each section. In this chapter, the discussion of the analysis results presents several interesting findings, which are elaborated in the section of Major Findings. More detailed discussions of each dimension of IEO are explained in the sections on Proactiveness, Innovativeness, Risk Taking, Autonomy and Competitive Aggressiveness which predict IEO. The discussion then explains the findings in relation to the first objective, that Entrepreneurs and Non-entrepreneurs are significantly different in IEO levels within the Indonesian sample. The discussions also explain the second objective, that is the contributions of IEO in influencing the performance. The results of the third objective provide interesting findings on nomological networks as explained in section 6.6: The results regarding the nomological networks. However, the results also show several unsupported findings in the fourth objective of the research and are further explained in the section specifically about the insignificant influence of human capital to entrepreneurial performance and section Insignificant influence of Personality traits to the Entrepreneurial Performance. The chapter concludes with how IEO significantly mediates the relationship between Human Capital and Personality Trait toward Entrepreneurial Performance.

The final section, Chapter 7, presents the overall discussion. The chapter discusses the limitations of the study. The discussion of these limitations addresses the need for future research in this stream. Finally, the chapter concludes by providing recommendations for future research.

# Chapter 2 Literature Review

## 2.1. Introduction

This chapter reviews the literature on IEO, that leads to the identification of theoretical gaps. This chapter starts with a discussion on the definitions of entrepreneurship and EO (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Further, it outlines the IEO approach within the research theories and gaps, as well as IEO discussions and limitations. The existing theories also set the boundaries of the entrepreneurship study and provide conceptual domains for a theoretical lens in addressing the research problems. Besides, EO development at the individual level, which is the focus of this study, will contribute to further development of the theory (Rauch & Frese, 2009). The discussions on entrepreneurship, entrepreneurs, and entrepreneurial actions are viewed as an important base when addressing the research objectives. Additionally, the chapter presents what entrepreneurship entails, with a focus on the five schools of thoughts: The Great Person, The Classical, the Psychological Characteristics, Leadership, and Intrapreneurship.

Further, the definitions of entrepreneurship in the existing theories and its relationship with IEO applications will be elaborated, including the definitions, dimensions and contexts of previous studies. The next section discusses entrepreneurial performance, in which objective and subjective measurements will be differentiated. The following section will form the basis of establishing the relationship between EO and IEO theories. This relationship will lead to the nomological networks that are described in the subsequent section. The links between these configurations will then lead to hypothesis development. Finally, a summary closes the chapter.

## 2.2. Entrepreneurship

Although there are various definitions of entrepreneurship, generally they contain definitions that are dispersed and varied, there are common themes in the accepted definitions, such as 1) opportunity seeking, 2) perceived risk-taking actions, and 3) organising activity. Opportunity recognition (Shane & Venkataraman, 2000) is considered as a special gift which only entrepreneurial individuals can detect, and which non-entrepreneurs are likely to overlook. In optimising an opportunity,

entrepreneurs also face risks that come from many aspects of business. In their proposed definition, Hisrich et al. (2007, p. 576) state that “Entrepreneurship is the process of creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks and receiving the resulting rewards.” This definition also stresses that entrepreneurs entail risk to their wellbeing. The acceptance of risk is another important characteristic that distinguishes entrepreneurs from non-entrepreneurs. The risk is borne because an entrepreneur has to sacrifice his or her time and money to make complete preparation for optimising a business opportunity. Besides, the entrepreneur should also nurture the venture to see it through to fruition (Lumpkin & Dess, 1996). This broad perspective of viewing the field has attracted the attention of researchers and practitioners.

The field has attracted much attention in the last few decades (Landström et al., 2012). Entrepreneurship research has become an independent field of study and as such has gained a lot of attention in management scholarship as an independent research field (Audretsch, 2012; Hebert & Link, 1989). The increase in the number of journals and articles in the field of entrepreneurship over the last decade indicates the increasing attention given by scholars from various fields to this area of scholarship. Indeed, an online search using PROQUEST journal database with the keyword ‘entrepreneurship’ generated 2,159 articles published between 1981 and 2000. This number increased more than ten-fold to 27,218 articles in the period of 2000 to 2009. Therefore, it is safe to say that this field has gained a lot of attention within the entrepreneurship and management research. This may have been triggered by the increasing awareness of both governments and academia regarding the contribution of entrepreneurship in supporting national productivity growth and supply of goods, providing job opportunities, contributing to tax revenues, and boosting exports (Low & MacMillan, 1988).

Governments and researchers are aware of the contributions of entrepreneurial activities to national economic development. In the literature, many scholars from various fields have conducted studies on entrepreneurship. Almost all social sciences, including (but not limited to) anthropology, history, sociology, law, finance, marketing, economic, management and other social fields of science (Low & MacMillan, 1988), have their own conceptual framework and operationalisation of

entrepreneurship. By observing these different conceptual frameworks and research foci, it is clear that the development of entrepreneurial research is not capturing the overall picture of the concept. Although the current study is not aimed at developing a definition of entrepreneurship, it is important to highlight such definitions as a basis for building the conceptual framework. Since the definitions of entrepreneurship vary, many researchers demand an operational definition which can be widely accepted and is consistent across academia, media, commerce, and even in ordinary conversations (Bull & Willard, 1993).

As a starting point, entrepreneurship theory emerged at a time when business was commonly in the form of a small venture managed by one person (Spiegel, 1950). In the current condition, this is no longer the case. The success of a company is now indicated by its growth in size and capacity. Thus, it will be more difficult for an owner to manage a company single-handedly; he or she will also need to hire managers to take care of the business. This fine line between entrepreneurs and managers becomes more blurred in the modern business context, especially in developing countries (Runyan, Droge, & Swinney, 2008). The terms 'entrepreneur', 'manager' and 'businessperson' are becoming interchangeable and bound together. In the Indonesian context, people in charge in the private sector are usually called executives, while businessperson refers to a person who runs and manages a business venture. However, this definition becomes problematic when the founder/owner assigns some of the managerial tasks to a manager. On many occasions, it is common for managers to be perceived as the company owners, although they own only a small part of the company shares. The current study will clarify this dichotomy by focusing specifically on the owner/founder or owner/founder/manager.

Discussions on the varied definitions of entrepreneurship have raised concerns about the possible impact of the knowledge development of entrepreneurship itself. The lack of agreement on the scope and domain of the studies often results in no unanimous definition (Dacin et al., 2010). The term 'entrepreneur' has been used in many research disciplines and studied with many different foci, ranging from the important stages of the business process, to business creation and venture management (Cunningham & Lischeron, 1991). Some working definitions of entrepreneurship are even intertwined with related constructs, such as innovation, change management, technological and environmental turbulence, new product development or even industrial evolution

(Low & MacMillan, 1988). Without unification of the different perspectives, consensus on a definition will be impossible to reach. Attempts to achieve an agreement on a specific definition will be hard to obtain and it has been suggested that researchers have a specific working definition for each of their studies (Gartner, 1990). In reaching the definitions in this research, the theoretical and conceptual views in the entrepreneurship literature will first be consulted. This will help to understand the basis of the entrepreneurship frameworks being studied.

In early studies on entrepreneurship, an entrepreneur was conceptualised as a person with distinctive personality traits, and was defined as “an individual who establishes and manages a business for profit and growth” (Carland et al., 1984, p. 356). The conceptualization of entrepreneurship as manifested in behaviours is considered to differentiate the study focus from research previously focusing on the demographic characteristics and personality of the individual. Behaviour conceptualisation shifted the research focus based on Gartner (1988) approach, which defined entrepreneur as a person who conducts venture activities. This approach gives a different perspective to the dichotomy between entrepreneur and manager, which are quite different in nature. Åstebro and Thompson (2011) assert that the term entrepreneur is more of a generalist one, while a manager, who works for others, has the capability of a specialist. Based on these notions, it is important to further distinguish entrepreneur and manager from the general populations.

Cunningham and Lischeron (1991, p. 46) divided the historical stages of the focus by defining entrepreneur in entrepreneurship studies in six stages: the great person school, the psychological characteristics, the classical school, the management school, the leadership school, and the intrapreneurship school. These stages are important for considering current entrepreneurship studies and for setting the boundaries for this research. Rather than adopting the definition of entrepreneurship as an internal management phenomenon, the current study focuses on entrepreneurship led by individuals with a specific personality that influences every business decision. More details about entrepreneur differences between each school are described in the next subsections.

Learning about the special characteristics of individuals related to business creation, scholars are divided in their approach to conceptualising entrepreneurs. While they are related, there are distinctive approaches amongst the sources of entrepreneurship.

Therefore, entrepreneurship will be discussed based on theoretical backgrounds, distinct from other studies, focusing on entrepreneurs and entrepreneurship. Views on the term 'entrepreneur' are divided into several groups or schools of thought, some of which are outlined below.

### 2.2.1 The Great Person School of thought

The 'great person' school of thought considers the entrepreneur as an individual born with special traits and instincts to maximise opportunities (Cunningham & Lischeron, 1991). These entrepreneurs have special capabilities to detect opportunities and are willing to take risks. In order to embrace these opportunities, entrepreneurs are seen as gifted with the capabilities to manage, lead and raise the funds needed to develop goods and services that form new ventures. Traditional literature, including research by Richard Cantillon, defines entrepreneurship as "self-employment with an uncertain return" (in Kao, 1993, p. 70). Indeed, early literature viewed entrepreneurs as extraordinary persons who created new opportunities for specific resources and put in additional efforts and risks to produce more value and make a profit. Early entrepreneurship studies mainly focused on entrepreneurs' contribution to economic development.

For many years, entrepreneurship researchers have been looking for special characteristics that can differentiate between entrepreneurs and non-entrepreneurs. These special characteristics appear in the form of demographic variables, such as age, parents' occupations, and other characteristics (Gartner, 1988). Even though extensive studies on this differentiation have been undertaken, other researchers argue that some characteristics are found in both successful entrepreneurs and non-entrepreneurs (Low & MacMillan, 1988).

These extraordinary groups changed their economies by bearing risks and providing good management for firms, which subsequently became the focus of studies conducted mainly at the time when businesses were small enough to be self-operated by the founders (Spiegel, 1950). Because of economic turbulence, high risks and uncertainty at that time, extraordinary individuals with considerable courage were necessary to manage a business. With the Industrial Revolution changing modern

economies and competition coming from many directions, research interest shifted from these special individuals to specific personality of individual entrepreneurs.

## 2.2.2 The Classical School of Thought

The next group is the view from the classical school of thought, which study entrepreneurs' behaviours in searching for and optimising opportunities. Gartner (1988) and Low and MacMillan (1988) offer a simple definition of entrepreneurship, which focuses on the role of the individual as 'entrepreneur' in the forming and creating of organisations. Based on this definition, the focus of entrepreneurship studies is to discover the role of individuals in forming new enterprises and their contribution to society. With this simple definition, all activities that involve the formation of a new business organisation can be considered as entrepreneurial. While entrepreneurial actions in developing a new venture are seen as critical, it is not sufficient to measure entrepreneurship based solely on these actions. Researchers argue that the way entrepreneurs exploit opportunities is also an important point (Carland et al., 1984). In this regard, some researchers also suggest that the definition of an entrepreneur should be considered within a broader concept (Eckhardt & Shane, 2003). With regard to optimising opportunities, critics state that entrepreneurs can manage these within various forms of ventures, such as micro, small, medium and large businesses (Matlay, 2005).

One of the most important views of the classical school of thought is that it sees an entrepreneur as an active element in the business; his or her preferences will direct the success of their ventures. This school of thought considers that entrepreneurs can be anyone with distinctive personal characteristics and are born with these genetic characteristics. Most researchers only define entrepreneurship based on people in society with the intention to become entrepreneurs (Shane & Venkataraman, 2000). With the focus of study on entrepreneurs in a venture, be it a micro company or a large business, research in these studies usually includes entrepreneurial leadership and management capability.

### **2.2.3 The Psychological Characteristics School of Thought**

Modern literature still focuses on the individuals, but with more emphasis on personality traits or psychological factors (Carland et al., 1988). Researchers have focused their research on psychological traits based on the distinguishing inner self of entrepreneurs, compared to that of non-entrepreneurs. Among the traits that describe entrepreneurial acts are the need for achievement (McClelland, 1965), the locus of control, risk taking, values and even creativity, daring, aggressiveness, risk tendency, and other psychological characteristics (Stevenson & Jarillo, 1990). Unfortunately, the attempt to distinguish entrepreneurs solely based on the psychological-centric approach has been unsuccessful (Gartner, 1990).

### **2.2.4 The Leadership and Management School of Thought**

In company leadership and management, there is a continuum with entrepreneurs at one end and administrators at the other (Hisrich et al., 2007). In creating new ventures and surviving competition, good management capabilities are vital. To survive the first year of establishment, the management and leadership of an entrepreneurial venture should be of high quality. As Jean-Baptiste Say proposes, an entrepreneur is “...an extraordinarily talented manager” (in Kao, 1993, p. 70). With their capability in leading and managing organisations, it has been suggested that those in managerial positions are termed entrepreneurs, including those in high and middle-level management positions.

### **2.2.5 The Intrapreneurship School of Thought**

The intrapreneurship viewpoint asserts that entrepreneurship emerges from existing organisations (Antoncic & Hisrich, 2003), within which the managerial and leadership capabilities are underway. This subsequently shifts entrepreneurship studies to another focus, which is the role of entrepreneurship in establishing a company, also known as intrapreneurship. Even though the notion is contradictory, the idea is that entrepreneurship cannot be limited solely to individuals or new venture formations; indeed, these organisations could also pursue and exploit opportunities (Stevenson & Jarillo, 1990). In this view, entrepreneurship should not be considered at the individual level only. To include a broader context, McKenzie et al. (2007, p. 24) suggest a

broader definition: “Entrepreneurship involves individuals and groups of individuals seeking and optimising the economic opportunity.”

Using the categorisations of entrepreneurship suggested by Cunningham and Lischeron (1991), entrepreneurship studies can benefit in three ways. First, researchers can operate the same frameworks and contexts to obtain a deeper understanding and the expected results. By having a common ground with the other concepts within the individual level of analysis, entrepreneurship studies can benefit and obtain support from scholars who are working on intertwining models. Having the same definition and conceptual framework of entrepreneurship in the same school of thought or definition of entrepreneurship will provide a basis for future development of research. Second, by operating in one of established categorisations, researchers can borrow the operationalisation and constructs that are already available, acquiring a richer source of literature. Third, employing shared frameworks will help readers understand the precise concepts constructed by the researchers.

However, based on the discussions of entrepreneurship sources by Cunningham and Lischeron (1991), this research employs more in-depth analysis of individual entrepreneurs within the domain of psychological entrepreneurship. This is an important boundary for current research in which the research construct will be limited to entrepreneur constructs in individual domain. This thesis also follows the discussions about entrepreneur identification based on individuals actively involved in entrepreneurship (Gartner, 1988). Even though researchers have rarely arrived at a unanimous definition, most scholars agree that an entrepreneur is a person that owns a business organisation (Cromie, 2000; Gartner, 1988).

However, among business owners, there are several types of entrepreneurs. For example, there are individuals who run a business for growth and expansion, while others only aim to keep the business running (Runyan, Droge, & Swinney, 2008). This is consistent with the proposition from Carland et al. (1984), suggesting a distinction between the two; first, entrepreneurs are innovative individuals whose primary goals are to gain profit and business growth, and act strategically to meet the organisational objectives; on the other hand, small business owners operate conservatively for non-innovative firms with a single purpose of achieving personal goals. Furthermore, Cromie (2000, p. 9) highlights the characteristics of entrepreneurs as follows: (1) they have a propensity to create business organisations; (2) they proactively scan business

environments in search of new opportunities; (3) they seek innovative solutions to problems and opportunities; (4) they play an autonomous and strategic role in identifying, marshalling, and organising resources to convert opportunities into marketable goods or services; (5) they vigorously strive to achieve profit and business growth; and (6) they are willing to bear the risks associated with this behaviour. These behaviour characteristics are useful in defining entrepreneurs, but it would be more useful to study the distinguishing characteristics of people with the aforementioned behaviours (Chell et al., 1991, p. 8).

Table 2.1 Characterization of entrepreneurs in entrepreneurship studies

<b>School of Thought</b>	<b>Characterization of entrepreneurs</b>
The Great Person	Innate capacity: the entrepreneur is born with the potential to act intuitively, energetically, with confidence and determination.
Psychological Characteristics	Psychological profile: entrepreneurs have values and behavioural patterns that set them apart from the rest of society.
Classical	Entrepreneurial function: the entrepreneur is anyone showing evidence of functioning in an inventive, innovative and creative way.
Management	The organizer: the entrepreneur is able to identify opportunities, assess risks, plan the process, and manage the resources necessary for successful conclusion.
Leadership	The leader: the entrepreneur directs and motivates a team established to achieve specific aims.
Intrapreneur	The intrapreneur: the motivations and mindsets of managers working in complex organisations allow them to act in an enterprising manner.

Source: Gerry et al. (2008, p. 46)

With the categorisation of entrepreneurship definitions, entrepreneurship studies many kinds of entrepreneur activities, such as searching, founding, establishing and managing activities, with the goal of obtaining economic value from the opportunities pursued. The definition from the classical school of thought will also have an impact on this study. By using a broader definition, not only does this research focus on the psychological or behavioural school of thought, it will also consider intrapreneurship capability research. The entrepreneurship framework is used by considering the typology to gain insight into entrepreneurs. Therefore, this research will also focus on the typology of entrepreneurship proposed by McMullen (2011), who claims that entrepreneurship blends business, social and institutional aspects to accelerate economic growth.

These typologies in entrepreneurship research signify the need to limit the research in this thesis to the individual level of analysis. The following section discusses entrepreneurship research specifically at the individual level of analysis, and how its construction differs from the organisational level.

### 2.3. Entrepreneurship and Level of Analysis

Entrepreneurship is all about the focus on exploitation of opportunities (Shane, 2000, p. 466). Hence, the venture as the entrepreneurial vehicle will highly depend on the entrepreneur's disposition or orientation in optimising the business. In order to clearly observe the influence of the entrepreneur, hypothetically this will be evident in the small business of which the entrepreneur is the owner/founder/manager. This view is adopted in the thesis, that the person who has to answer the questionnaire is an entrepreneur who plays the main role in a venture, with particular regard to their personality, human capital, goals, strategies and business environment (Rauch & Frese, 2000). However, before reaching the focus of the research, the background of the related theory and its adoption to the individual level of analysis needs to be described. This theoretical boundary for the current research is important. First, it is appropriate to begin with the existing entrepreneurship literature and continue to the available theories related to the current research focus, which is about EO and individual characteristics.

Classical economic theory emphasises personality traits in describing entrepreneurs; for example, creativity (Schumpeter, 1935) and risk taking (Knight, 1921; Mill, 1909). However, these studies raised conceptual doubts about the actual existence of personality characteristics (Gartner, 1989). The study on the role of individual characteristics in decisions to start a business and maintain business success only provides controversial results in entrepreneurial research (Rauch & Frese, 2007b). Researchers' scepticism increased in the presence of the relationship between personality traits and entrepreneurial behaviour, and called this kind of research a dead-end (Aldrich, 1999). Specifically, researchers doubted the role that personality plays in start-up and business success, leading to a shift from entrepreneurship research to research on the organisational domain (Kreiser et al., 2002).

Entrepreneurial Orientation (Covin & Slevin, 1989) supposedly measures organisational strategic decisions regarding business activities. This research was later

proved to be empirically and theoretically consistent in its relationship with firm performance (Rauch et al., 2009a). With research in the individual domain being inconsistent, EO soon gained popularity and was perceived as the remedy for the problem. However, several researchers proposed utilising the concept at the individual level (Kollmann et al., 2007).

Nevertheless, shifting the application of EO to the individual level was not without criticisms. Slevin and Terjesen (2011) argued that the application of EO as an individual construct would be problematic, and that focusing on entrepreneurial awareness, self-efficacy and effectuation would be more suitable. Covin and Lumpkin (2011, p. 857) also added that using the EO measurement and applying it to other levels or different domains of analysis may dilute its empirical value as it creates conceptual ambiguity. However, supporters of individual level analysis argued for the applicability of EO in the SME contexts (Lumpkin & Dess, 1996). In this context, the organisation's EO resembles the individual characteristics of the entrepreneurs, because it is the entrepreneur (as the owner) of the firm that drives it.

Based on this discussion, EO in this study specifically acknowledges entrepreneurs as individuals who perceive and oversee their business. In addition, the level of analysis in the study lies within the domain of single individual, and is usually focused on his/her characteristics (McClelland, 1961); personality traits (Frese & Rauch, 2001); cognition (Haynie et al., 2010); or other specific individual differences (Robinson, Stimpson, et al., 1991). These individual specific focus factors are suggested since previous studies have obtained contradictory results between the contributions of these individual characteristics to the nature of entrepreneurship, and those for business performance (Baum & Locke, 2004). Although Baum and Locke (2004) specifically address the contribution of individual personality traits to business performance, they argue that inconsistent findings regarding these contributions may be overcome by employing other factors to mediate the relationship with organisation performance. Thus, led to a gap in the theory, overlooking other individual entrepreneurial characteristics that may better contribute to entrepreneurial performance; for example, dispositions, cognitions and attitudes to the business, which may be significant differences in relation to the model of business exploitation and thus entrepreneurial performance.

Therefore, to suit the research, several theories in the EO construct will be adopted to the individual level of analysis. In addition, this research agrees with the suggestion found in the existing entrepreneurship literature for placing more emphasis on independent ventures in identifying the direct influence of entrepreneurs on their venture activities, specifically the IEO theory. The subject of the research is therefore the entrepreneur in SMEs.

The setting of this study is SMEs located in Surakarta regional city of Indonesia. Due to the various definitions which exist within the literature, it is important to define the term SME within this specific research context. This study will use the definition of SMEs provided by the National Agency of Indonesian Statistics (*Badan Pusat Statistik* or BPS). SMEs refer to “small enterprises (SEs), including micro enterprises (MIEs), employing between one and 19 workers, meanwhile, medium-sized enterprises (MEs) are defined as businesses employing 20-99 workers” (Tambunan, 2011, p. 29).

## 2.4. Individual Entrepreneurial Orientation

According to Krueger Jr (2007, p. 124), every individual decision to act entrepreneurially is mostly driven by that person’s entrepreneurial intentions. Bolton and Lane (2012) developed and tested IEO to measure the extent to which individual psychological characteristics directly influence the behaviour of people in entrepreneurial settings and to be involved in such activity. Due to the fact that research on IEO theory and scale development is still in its infancy stage, efforts to pioneer it are marked by the development of the IEO scale using student samples by Bolton and Lane (2012), which was later validated towards entrepreneurs by Bolton (2012).

Bolton and Lane (2012) developed measurements involving 1,110 students from the mid-southern region of the United States for measuring students’ orientation toward entrepreneurship and found that the level of IEO correlates with the individuals’ willingness to engage in entrepreneurial activities. The scale was then validated towards active entrepreneurs by Bolton (2012), who measured 340 entrepreneurs in US Midwestern areas and applied the IEO scale. The findings of the study indicated that higher IEO scores correlated with entrepreneurial success. This study also demarcated the proliferation of research on individual level EO.

The acknowledgment of the prediction value of EO has led to the increased use of the EO construct in many entrepreneurship studies in an attempt to implement measurement at the individual level (Frese & Rauch, 2001). This application at the individual level will be further referred to as IEO. The basic premise of IEO is that an entrepreneurial individual possesses overall characteristics that reflect those of entrepreneurial ventures, including deep internal beliefs and values associated with the tendency to be simultaneously proactive, risk taking and innovative. The application of EO measurement “at the individual-level construct is necessary, since the basic beliefs and predispositions of founders and top managers contribute to the shaping of the strategic directions of firms” (Weaver et al., 2002, p. 89). This means that identifying the predispositions or antecedents of an individual’s contributions to entrepreneurial performance might be essential to the development and progress of the theory at the individual level. The results will benefit policymakers and educators interested in increasing entrepreneurial success (Obschonka et al., 2011).

Krauss et al. (2005) called for more studies into individual-level EO by providing the nomological network and using certain statistical techniques to test the connections for the concept and other well-developed variables. Other scholars have also pointed out the interesting potential result for developing of IEO to management studies. Furthermore, the individual level EO study may open new directions on research regarding entrepreneurial decisions and actions, within and outside organisational boundaries (Kollmann et al., 2007). Studies to measure individual EO have been published, with samples ranging from active entrepreneurs (Bolton, 2012; Krauss et al., 2005; Kropp & Lindsay, 2001); nascent entrepreneurs (Davis et al., 2010); and pre-nascent entrepreneurs (Bolton & Lane, 2012; Goktan & Gupta, 2013; Kollmann et al., 2007). The main purpose of these articles is to confirm certain personality characteristics in entrepreneurs, including innovativeness, proactiveness, risk taking and several other suggested variations. Most of these studies report the significant contribution of the IEO construct in predicting entrepreneurial success. However, there are inconsistent results in relation to the contribution of several dimensions to business performance. For example, among the five dimensions, three dimensions, namely risk-taking, competitive aggressiveness and autonomy, were found to have insignificant contribution to entrepreneurial performance in some studies (Bolton, 2012; Bolton & Lane, 2012; Stone & Good, 2004), but in some other studies, they were claimed to

contribute significantly (Krauss et al., 2005). These results are in line with the conceptualisation of EO as a multidimensional variation (Lumpkin & Dess, 1996), contrary to the unidimensional IEO model (Covin & Slevin, 1989). To approach these inconsistencies, the current thesis holds that the entrepreneurial success of individuals can only be acquired with the whole sets of characteristics.

As a starting point, among many research articles on IEO, only Bolton and Lane (2012) had been leading the research in this subject by developing the measurement, tested, validated and then it had been replicated on student and active entrepreneur samples (Bolton, 2012). However, the generalisability of IEO based on EO, which was originally at the organisation level, is arguable if active entrepreneurs are not considered. While the generalisability and stability of IEO are expected across time and differing situations, as well as logically under the assumptions of environmental and cultural dynamics, studies based on student samples may show inconsistent results. Furthermore, Robinson, Huefner, et al. (1991) argue that students and non-students (entrepreneurs, potential entrepreneurs and non-entrepreneurs) show differences in their characteristics, whose stability was expected across time according to the personality theory. Besides, generalisation using student samples has its own limitations. Therefore, measurement development and validation are should done by further studies of IEO (Bolton, 2012; Covin & Lumpkin, 2011; Miller, 2011).

This study has different stance from the position of previous researchers, who addressed EO at the individual level by asking, “What are the personal characteristics or attitudes a person possesses that might increase the propensity to engage in and be successful at entrepreneurial activities?” (Bolton & Lane, 2012, p. 221). The research question of this study is as follows: “Are the personal characteristics of successful entrepreneurs better measured in terms of risk-taking, innovativeness, proactiveness, autonomy and competitive aggressiveness toward business?” In answering this question, the study will take the entrepreneur as the focal point, and be based on personality traits, attitudes and business environments that contribute to entrepreneurial performance.

Applying a theoretical lens in addressing this research stream is in line with the theory of new venture performance suggested by Hofer and Sandberg (1987), who argue that venture performance is the manifestation of specific strategies applied by entrepreneurs to address the industry structure. More researchers are calling for

research on the nomological network related to the contribution of IEO to venture performance (Krauss et al., 2005). This network is necessary to address the limitations of the existing approach. Besides, the integration of earlier results from a wide variety of disciplines, different theoretical backgrounds, and not necessarily congruent methodologies, has led to synthesised elements that do not actually fit together (Kollmann et al., 2007).

However, due to a wide range of theoretical perspectives and variables employed in empirical research on IEO, it is difficult to specifically address suitable previous empirical studies (Jelenc et al., 2016). In order to search for the literature in this field, the following section will discuss the approach to research on IEO in the literature.

## 2.5. IEO study approaches

One of the most important IEO discussions is concerned with the approach to the construct. Selecting the conceptual approach is important to understand and distinguish between the literature to be used in this study. In targeting the specific model and theory to approach the IEO concept, the current research follows the conceptualisation of IEO as an attitudinal model in the literature which provides the pathway to distinguishing among IEO research (Frese & Gielnik, 2014). Even though IEO is an interesting measurement model, the attempt to measure Entrepreneurial Orientation at the individual is only beginning to gain more attention (Davis et al., 2010). According to Jelenc et al. (2016, p. 13) literature study, there are four main approach types in the entrepreneurship literature which measure entrepreneurship at the individual level. A brief summary of these approaches is given in Table 2.2 Traditions in the study of IEO. Although this grouping by Jelenc et al. (2016) is not rigid and comprehensive, it does however provide a base for the distinction between IEO approaches for the literature review of this thesis.

The first approach is the Entrepreneurial Orientation tradition (Jelenc et al., 2016), which perceives EO as an entrepreneurial mindset, climate or strategic orientation within the individual and organisation which will lead to success in the industry. It was perceived to be consistently evident that EO as an antecedent of firm performance (Rauch & Frese, 2009). When the EO (Covin & Slevin, 1989; Lumpkin & Dess, 1996) concept is adopted at the individual level, it measures individual inclination towards entrepreneurial behaviour. Examples of this type of approach are Bolton and Lane

(2012) and Bolton (2012) IEO scale. In this tradition, IEO is also perceived as the antecedent of entrepreneurial success.

The individual tradition is the study of the likelihood of an individual's inclination towards business based on individual characteristics in the form of attributes, attitudes and personality traits (Raposo et al., 2008). It cites the characteristics of entrepreneurial individuals as being the need for achievement (McClelland, 1965); having an internal locus of control; and being a risk taker (Brockhaus & Brockhaus, 1980; Covin, 1991), among other individual characteristics. However, the use of personality traits in the prediction of specific actions has been criticised (Brandstätter, 1997).

Table 2.2 Traditions in the study of IEO

<i>Tradition</i>	<i>Measures</i>
Entrepreneurial Orientation	A firm's inclinations toward entrepreneurial behaviour.
Individual	Entrepreneurial attributes, attitudes and personality traits that relate to a person's likelihood of starting a business.
Top Management Team	Antecedents suggested by upper echelon theory.
Cognitive	Cognitive skills of entrepreneurs to gain insight, and make assessments, judgements or decisions involving new opportunity evaluation, venture creation and growth.

Source: Jelenc et al. (2016, pp. 13-14)

The third tradition is that of the top management team, which reflects the upper echelon theory (Hambrick & Mason, 1984) in daily organisational activities. It infers that the top management entrepreneurial style will direct a firm's business orientation (Miller, 1983). This model is also in line with entrepreneurship leadership style (Renko et al., 2013), which reflects that top level leadership will stimulate employee behaviour. Studies in this tradition confirm that EO is actually based on the top management inclination towards the business (Lumpkin & Dess, 1996; Sadler-Smith et al., 2003), which will eventually drive the firm's business. All of these approaches are similar to the conceptualisation of a leadership study in the leadership literature (Day et al., 2014).

The final tradition is the cognitive one, which states that entrepreneurs think differently from the rest of the population (Busenitz & Barney, 1997; Cools & Van den Broeck, 2007). This tradition suggests that entrepreneurs use different cognitive skills to make decisions or judgements, or to evaluate opportunities to make their venture grow (Haynie et al., 2012; Mitchell et al., 2002).

These traditions, which mark the attempt to identify specific personalities linked to firm performance, have proven to be inconsistent (Jelenc et al., 2016). However, some researchers continue to believe that the most promising traits in the prediction of entrepreneurship include internal locus of control, tolerance of ambiguity, self-efficacy, achievement motivation and persuasive personality (Cools & Van den Broeck, 2007; Jelenc et al., 2016). Nevertheless, other researchers believe that these traits are not specific to entrepreneurs, and argue that they exist in any active individuals (Rauch & Frese, 2000). Similarly to the discussions of the concept of personality traits in leadership studies, this research proposes a new construct that considered more proximal construct to entrepreneurial performance. In this case, following the task specific personality traits that predict entrepreneurship better (Rauch & Frese, 2007b), instead of a broader concept such as the main five personality dimensions proposed by Zhao and Seibert (2006). Different from the view of extant research that personality traits are inconsistent contributions on entrepreneurial performance (Rauch & Frese, 2007b), the current research argues that personality traits may still have impact towards entrepreneurial actions. Although this may not be a direct relationship, it could possibly operate through some kind of mediating variables.

Learning from the leadership approaches, this study revisits the Individual Entrepreneurship Orientation theory. By utilising the adapted approach, the study uses the boundaries set by the approach governing the discussion to examine the influence of personal characteristics on entrepreneurial performance, as well as to identify the model used, and whether that model is nature or nurture. The study will attempt to use an approach based on the adaptation traditions proposed by Jelenc et al. (2016).

As a starting point, the literature review considers EO as the basic construct and examines the way studies have adopted it to the individual level. Basically, EO (Covin & Slevin, 1989) is proposed to measure entrepreneurial behaviours at the organisational level. The measurement is focused on the company's past performance,

based on evaluation and perception of today's world. However, researchers who propound EO application at the individual level argue that the EO scale is naturally intended to measure a CEO's subjective evaluations of the company's past performance. These evaluations are then combined to become the organisational process in large companies or SMEs (Lumpkin & Dess, 1996). In the case of SMEs, the top manager is usually a one-man entrepreneur. Therefore, if this construct is applicable to SMEs, it can also be implemented at the individual level (Krauss et al., 2005). Furthermore, EO has been seen to be the top managers' perceptions of their organisational activities. This perception is then reflected as various organisational processes and decisions (Kollmann et al., 2007). Therefore, the model will produce effective individual measurement.

An increasing number of entrepreneurship studies have examined IEO using various respondents and job contexts. Some of these studies were interested in probing the entrepreneurial personalities of people with a tendency toward entrepreneurship, and which distinguish them from other groups (Bolton & Lane, 2012). EO implementation at the individual level has been widely studied in the literature. Reflecting on these studies, it has been established that EO implementation in the individual realms has been operating in three layers. In the first layer, the EO construct has been directly used to analyse individual entrepreneurs, managers and also entrepreneurship students. Secondly, EO has also been conceptualised as personality types of measurement. In this model, EO is referred to as sets of personality traits, such as the inclination toward risk-taking, innovativeness and proactiveness. The debate between nurture and nature in entrepreneurship resembles the long debate about effective leadership models involved in leadership study which has taken place for more than a century (Day, 2001). The focus of individual leadership development studies is the individuals who place more emphasis on developing the knowledge, skills and abilities associated with their leadership roles. On the other hand, the research focus on leadership development emphasises the interactions between the leader and the social and organisationorganisational environments, hence the intrapersonal competence in interacting within the business. However, although not stated explicitly, the approach to entrepreneurship studies follows a similar path.

## 2.6. IEO definition

The focus of this study is the validation of the influence IEO has on entrepreneurial performance (Bolton, 2012). In addition, the study also attempts to confirm this influence on the SME entrepreneurs in a developing country. To this end, studies focusing on testing the way IEO impacts on entrepreneurial performance are first examined. However, it was found that the application of the IEO construct is highly dispersed, without unanimous conceptualisations among related studies. In reviewing the literature, there are several streams of IEO measurement. Studies by Covin and Slevin (1989) and Lumpkin and Dess (1996) observe that researchers have studied EO using the personality traits model (Lumpkin & Erdogan, 2004); direct application to the individual (Josien, 2012); or the adaptation of the individual model (Bolton & Lane, 2012). However, this study will only focus on articles that utilise IEO in their research.

In the journal databases, there are 123 journal articles containing the phrase “Individual Entrepreneurial Orientation.” Based on these keywords, the following three aspects of this study need to be clarified. First, the study is probing and searching for the use of IEO and attempts to provide a related conceptualisation in order to advance further research. Second, the abbreviation ‘IEO’ does not solely stand for Individual Entrepreneurial Orientation, but also refers to International Entrepreneurial Orientation, an international, export-oriented company based on strategies. Covin and Miller (2014, p. 903) define International Entrepreneurial Orientation as: “A combination of innovative, proactive and risk seeking behaviour that crosses national borders and is intended to create value in organisations”. However, International Entrepreneurial Orientation does not relate to the current research focus and is thus excluded from the study.

In addition, there is also confusion about the use of the term ‘EO’. In several articles, individual EO refers to a single dimension of EO related to the object being studied. These articles will also be discarded from this research focus. Third, this study only addresses the use of IEO in the literature and does not specifically address the application of EO at the individual level, which has been examined in other studies.

**Table 2.3 Studies focused on IEO theory**

<i>Authors</i>	<i>E/T</i> *	<i>IEO definition</i>	<i>Scale used</i>	<i>Dimensions</i>
Kropp and Lindsay (2001, p. 27)	E	IEO refers to the processes, practices, and decision-making activities that lead to a new entry to market.	Individual entrepreneurial orientation (IEO) Kropp and Lindsay (2001)	Start Business Risk/Rewards Analysed Opportunities Personal Customer Skills
Stone and Good (2004)	E	Individualized EO in a specific technological framework.	EO in the technological context Stone and Good (2004)	Autonomy Proactiveness Assertiveness Innovation Risk-Taking
Krauss et al. (2005, p. 317)	E	Psychological orientations of the owners that relate to their daily tasks and fit with environmental requirements.	Individual based psychological concept of EO (Krauss et al., 2005)	Personal Initiative Achievement Orientation Risk-Taking Orientation Learning Orientation Autonomy Orientation Competitive Aggressiveness Innovative Orientation
Kollmann et al. (2007, p. 330)	T	IEO is “what drives entrepreneurial action, which is typically modelled in the form of processes” [at the individual level].	-	A common construct utilised to measure attitude towards entrepreneurship
Davis et al. (2010, p. 43)	E	The degree to which top managers favour innovative activities, are inclined to take business-related risks, and compete proactively with other firms.	Covin and Slevin (1989)	Risk Taking Innovativeness Proactiveness

Joardar and Wu (2011, p. 331)	T	Individual orientation towards entrepreneurial activities.	-	
Elenurm (2012, p. 219)	E	Orientation of an individual who is searching for new business opportunities, followed by processes, practices and decision-making activities at enterprise level.	Elenurm and Moisala (2007)	Imitation Innovativeness Co-Creativity
Bolton and Lane (2012)	E	IEO is the personal propensity to engage in and be successful at entrepreneurial activities.	Individualised adaptation of Lumpkin et al. (2009)	Risk-Taking Innovativeness Proactiveness
Bolton (2012)	E	IEO is the personal propensity to engage in and be successful at entrepreneurial activities.	Bolton and Lane (2012, p. 221)	Risk Taking Innovativeness Proactiveness
Felgueira and Rodrigues (2012)	T	Desire to innovate on a regular and bold basis, taking significant risks in competitive strategies and product markets.	ENTRE-U Todorovic et al. (2011)	Research mobilization Industry collaboration Unconventionality University Policy
Goktan and Gupta (2013, p. 10)	E	Holistic construct comprising individual proclivity towards innovativeness, risk taking and proactiveness.	Aggarwal & Prasad (1998) Stewart Jr et al. (1999) Bateman and Crant (1993)	Risk Taking Innovativeness Proactiveness
Hormiga et al. (2013)	E	Individual intention to be involved in entrepreneurship.	Stull and Singh (2005) Wakkee et al. (2010)	Innovation Proactiveness Risk-taking
Lei 2014	E	High tendency towards innovativeness, risk-taking, proactiveness and competitive aggression.	Lei (2014)	Innovation Proactiveness Risk-taking

				Competitive Aggression
Robinson and Stubberud (2014)	E	IEO is the personal propensity to engage in and be successful at entrepreneurial activities.	Bolton & Lane (2012, p. 221)	Risk Taking Innovativeness Proactiveness
Padilla-Meléndez et al. (2014)	E	A person's general attitude towards becoming an entrepreneur.	Bolton & Lane (2012)	Risk Taking Innovativeness Proactiveness
Barbat et al. (2014)	T	Individual or firm level behaviour, which includes innovation, proactiveness and risk taking in order to [support] internationalise or export.	Covin and Slevin (1989)	Risk Taking Innovativeness Proactiveness
Vantilborgh et al. (2015)	E	Individual EO defined as entrepreneurs' tendency to wish for autonomy, take risks, be innovative, take a competitive stance, and be proactive.	Vantilborgh et al. (2015, p. 33)	Innovation Proactivity Risk Taking Autonomy
Pisapia et al. (2016)	E	The dispositions of individuals with a proclivity for entrepreneurial behaviour.	Entrepreneurial Disposition Scale Pisapia et al. (2016)	Risk Taking Innovativeness Proactiveness Autonomy
Kollmann et al. (2016)		A tendency to respond to situations, or classes of situations, in an entrepreneurial manner.	Kollmann et al. (2016)	Risk Taking Innovativeness Proactiveness
Koe (2016)		IEO is the personal propensity to engage in and be successful	Bolton & Lane (2012)	Risk Taking Innovativeness Proactiveness

	at entrepreneurial activities.	
This research	IEO is the degree to which top managers' psychological orientations and propensities fit with environmental requirements to favour innovative activities, to take business related risks and compete proactively with other firms.	Risk Taking Innovativeness Proactiveness Autonomy Competitive Aggressive

Note: E\*= Empirical T= Theoretical

Source: various sources

The reviewed studies define IEO quite differently from each other, indicating that no unanimous definition has been agreed upon. Researchers are divided when applying the term to their respective studies. Table 2.3 shows that researchers also differ in their conceptualisation of IEO. The first group of researchers uses the term IEO to measure the profiles needed to become a successful entrepreneur. Individuals with these profiles are likely to start their own ventures; consequently, individuals with fewer of these characteristics are less likely to do so. It is considered that the person who is finally pursuing the development a venture that fits his/her personality will be more successful (Markman & Baron, 2003). Therefore, it can be concluded that having a higher IEO will lead to more successful entrepreneurial activities. Within this stream, Kropp and Lindsay (2001, p. 27) mention that “IEO refers to the processes, practices, and decision making activities that lead to a new entry”. In their operationalisation, IEO measures the subjective level of entrepreneurial competence, or self-efficacy, related to business activities by using a behavioural model. With this concept, they refer to IEO as reflecting entrepreneurs’ self-confidence in optimising their positions to develop a business. However, this concept contradicts the notion of EO that reflects business decisions and, in turn, the processes which in Kropp and Lindsay (2001) study are conceptualised as the interest in entrepreneurship.

There was a vacuum within entrepreneurship studies focusing on IEO after the work of Kropp and Lindsay (2001), and IEO did not grow very rapidly during this time.

However, researchers eventually did return to this field of study, probably because a number of studies had obtained significant results with regard to EO. For example, Stone and Good (2004, p. 2) borrowed the concept of organisational EO, adapting it specifically at the individual level in a technology company. Their study measured the managers' orientations, and eventually defined IEO as "individualized EO in technology contexts" (p. 2). Likewise, Davis et al. (2010, p. 43) define IEO as "the degree to which top managers favour innovative activities, are inclined to take business related risks and compete proactively with other firms". Furthermore, Joardar and Wu (2011) adopt a theoretical approach to the contribution of IEO conceptualisation towards entrepreneurial activities.

There are several empirical studies on IEO with inconsistent findings when applied to entrepreneurs' samples, and these have pushed researchers to shift the IEO research to focus on nascent ones. Criticisms also exist regarding the group of people that is in the process of planning a concrete venture or business, who belong neither to active entrepreneurs nor nascent ones. In addressing such a criticism, Kollmann et al. (2007) also conceptualised IEO into the pre-nascent phase. Even when an individual has no explicit plan for a business venture, he or she still has a specific 'attitude' towards entrepreneurship. Kollman et al.'s study defined IEO as "what drives entrepreneurial action, which is typically modelled in the form of processes" [at the individual level] (p. 330). Scholars have also stretched the IEO definition further, to the proclivity or positive attitude towards an entrepreneurial career. Among these streams are researchers such as Goktan and Gupta (2013), Hormiga et al. (2013) and Padilla-Meléndez et al. (2014), who define IEO as the intention to become involved in entrepreneurship.

In the studies mentioned previously, IEO been measured based on an entrepreneur's behaviour, psychology and attitude (Jelenc et al., 2016). However, with regard to behaviour, the application of IEO would create a contradiction if implemented on nascent, or pre-nascent, entrepreneurs. The term 'entrepreneurial behaviour', according to Bird and Schjoedt (2009), refers to an academic interest in human behavioural study. Entrepreneurial behaviour is involved in the act of finding and optimising entrepreneurial opportunities through the creation and development of new venture organisations. The definition of behaviour limits the research objective only to those who are active in business developments. Within this kind of measurement,

IEO should only be applicable to individuals who are experienced and currently involved in business. Moreover, further studies on behaviour clarify that it is also concerned with the outcome, in the form of observed activities (Bird et al., 2012). This entrepreneurship research stream mainly attempts to explain, predict and change the behaviours of individuals and teams (Bird & Schjoedt, 2009). Considering these notions, it is better to use psychological characteristics in IEO, rather than behavioural analysis.

Despite the acknowledgment of other psychological characteristics, such as personality traits, there is a need to propose some variables for a stronger relationship between personality traits and IEO. This is because the personality characteristic results of this stream remain inconclusive, and are thus unable to provide solid ground for further related studies (Frese & Rauch, 2001). Scientific rigour in the concept and measurement will play a significant role, considering the frameworks suggested by many studies from various research fields to address the problem. Researchers are attempting to find specific individual differences that will be favourable, or unfavourable, in nurturing and growing entrepreneurial activities (Brockhaus & Brockhaus, 1980). These scholars are mainly looking for psychological traits (risk propensity, need for achievement, or locus of control). However, these traits have been shown to be inconsistent, or have an insignificant relationship with performance (Zhao et al., 2010). Is it a set of personal characteristics or set of individual behaviours or attitudes that builds performance? A clear answer to this question is not evident in the literature.

Scholars have applied the previous IEO conceptualisation to measure an individual proclivity to accept and embrace entrepreneurship (Goktan & Gupta, 2013). From these studies, it can be inferred that IEO measures the quality and exposure of entrepreneurs within the entrepreneurship endeavour. Rather than measuring one's willingness to be an entrepreneur, however, the current study uses IEO to measure the preference level of individuals regarding the entrepreneurship process. After all, entrepreneurship studies are the "study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate and exploit them" (Shane, 2000, p. 218).

On the other hand, Entrepreneurial Orientation was originally used to measure top managers' evaluations and preferences regarding superior strategic positions in order

to compete with other companies. The term ‘orientation’ refers to the degree to which entrepreneurship is performed by the top managers in creating strategic decisions (Lumpkin & Dess, 1996). Nevertheless, “The term entrepreneurialness refers to how entrepreneurial either an individual’s mindset or an organisation’s culture, [that is] the higher the entrepreneurialness, the more entrepreneurial the mindset and culture, respectively” (Shepherd et al., 2010, p. 60). This conceptualisation of EO is in line with the idea proposed by Covin and Slevin (1988, p. 218), that it can only be accepted and operationalised by managers who have an entrepreneurial style:

*Entrepreneurial firms are those in which the top managers have entrepreneurial management styles, as evidenced by the firms’ strategic decisions and operating management philosophies. Non-entrepreneurial or conservative firms are those in which the top management style is decidedly risk-averse, non-innovative, and passive or reactive.*

This conceptualisation of EO provides insights and understanding into IEO research. Indeed, EO measures the way top managers run the business, while IEO measures their attitudes to more specific dimensions, including innovativeness, proactiveness, risk-taking, competitive aggression and autonomy.

Prior studies in IEO were conducted to detect an individual’s specific characteristics ‘expected’ to support an organisation’s progress towards success. However, there is an extent to which these characteristics exist in each individual. Rather, existing conceptualisation only reports that there are simply various profiles that might exist across the dimensions of management styles, cultural values and personalities (Covin & Wales, 2012). These characteristic profiles are cited by previous studies to represent pre-nascent entrepreneurs.

The expectation of these characteristics in supporting organisational success will increase, along with other external and internal influences, which will also determine the extent of these attitudes. The notion of an individual’s attitudes ranging in degrees toward entrepreneurial actions has also been suggested (Covin & Slevin, 1988, p. 230):

*Some top managers may feel compelled to adopt a more entrepreneurial style if they perceive that bold, entrepreneurial actions are needed to improve their firm’s performance. Other top managers in poorly performing firms may feel that risky, entrepreneurial actions are exactly what their firms must avoid.*

*Other top managers in high-performing firms may feel that an entrepreneurial [character] is the key to their success.*

Based on the discussion above, this study defines IEO as the degree to which an individual's psychological orientations and propensities fit within the environmental requirements in optimising a business. These orientations and propensities are exhibited by favouring innovative activities, taking business-related risks and competing proactively with other firms. This definition is intended to embrace these psychological characteristics evident in various kinds of entrepreneurs: from an active, nascent and pre-nascent condition, and varying from high to low. Therefore, this study is focused on establishing the reasons why certain individuals pursue more entrepreneurial ventures than others within a business context and discovering the differing sets of characteristics between individuals.

A company is considered more entrepreneurial than others when the strategies appearing as its behaviours operate more proactively and innovatively. In addition, entrepreneurial characteristics are also shown when a company is making decisions that involve more risk-taking (Covin, 1991). Hence, an individual can gain entrepreneurial success with the existence of an entrepreneurial personality. With regard to entrepreneurial success, researchers define success differently in relation to pre-nascent, nascent and active entrepreneurs. The success of pre-nascent entrepreneurs is determined by their achievement in starting a business, while that of nascent entrepreneurs is measured by their survival within the first years of business establishment. Meanwhile, active entrepreneurs' success is identified by the level of profit margin they produce. Furthermore, researchers also endorse the contribution of IEO to company performance and entrepreneurial success. IEO has been reported to make contributions to net profit (Davis et al., 2010); business and employee growth (Krauss et al., 2005); and the career selection of students (Bolton & Lane, 2012; Goktan & Gupta, 2013; Kropp & Lindsay, 2001).

For consistency, scholars suggest more in-depth validity tests involving other groups or samples. It is rather difficult to obtain cumulative result consistency because there are often different measurement tools and contexts applied in the field (Miller, 2011). Following this suggestion, this study will use a measurement tool that has already been tested and used by other researchers to confirm the validity of the construct.

**Table 2.4 Compilation of IEO measurement**

Authors	Scale used	Dimensions	Dependent variable	Suitable (Y/N)
Kropp and Lindsay (2001)	Individual entrepreneurial orientation (IEO) (Kropp & Lindsay, 2001)	Starting Business Risk/Rewards Analysed Opportunities Personal Customer Skills	n/a Variance analysis	No. Tendency to entrepreneurship
Stone and Good (2004)	EO in technology context (Stone & Good, 2004)	Autonomy Proactiveness Sssertiveness Innovation Risk-taking	n/a. Not within the purpose of the study	No. Targeted specifically at managers in technology companies
Krauss et al. (2005)	Individual-based psychological concept of EO (Krauss et al., 2005)	Personal initiative Achievement orientation Risk taking orientation Learning orientation Autonomy orientation Competitive aggression Innovative orientation	Business performance	No. The questionnaires need to be conducted by a psychologist
Kollmann et al. (2007)	-	A common construct utilised to measure attitude towards entrepreneurship	n/a Theoretical only	No scale used
Davis et al. (2010)	EO (Covin and Slevin (1989)	Risk taking Innovativeness Proactiveness	Firm performance	No. Organisation level EO
Joardar and Wu (2011)	n/a	n/a	n/a Theoretical	No.
Elenurm (2012)	(Elenurm & Moisala, 2007)	Imitation Innovativeness Co-Creativity	n/a Cluster analysis	No. Not in line with the current study's IEO conceptualisation

Bolton and Lane (2012)	Individualised adaptation of Lumpkin et al. (2009)	Risk taking Innovativeness Proactiveness	Entrepreneurship intentions	Yes. Tested on students and possibly entrepreneurs
Bolton (2012)	(Bolton & Lane, 2012)	Risk taking Innovativeness Proactiveness	Business performance	Yes. Tested on entrepreneurs
Felgueira and Rodrigues (2012)	ENTRE-U (Todorovic et al., 2011)	Research mobilisation Industry collaboration Unconventionality University Policy	Performance of teachers	No. Specific to universities
Goktan and Gupta (2013)	Aggarwal & Prasad (1998) Stewart Jr et al. (1999) Bateman and Crant (1993)	Innovativeness Risk taking Proactiveness	IEO as independent variables	Yes. Reliability ( $\alpha=.85$ ) Tested on student samples.
Hormiga et al. (2013)	Stull and Singh (2005) Wakkee et al. (2010)	Innovation Proactiveness Risk taking	Entrepreneurial intention	No. Proactiveness unable to load
Padilla-Meléndez et al. (2014)	Bolton and Lane (2012)	Risk taking Innovativeness Proactiveness	Entrepreneurial intention	Yes.
Barbat et al. (2014)	Covin and Slevin (1989)	Risk taking Innovativeness Proactiveness	International entrepreneurial orientation	No. Not in line with current study

Source: (Author's review from various sources)

The Table 2.4 Compilation of IEO measurement shows that tested measurements still require reliability and validity tests. Therefore, this study is focused on testing the validity of IEO measurement in entrepreneurs and nascent entrepreneurs. Among the existing studies, only the measurement tool utilised by Bolton and Lane (2012) has been tested within other contexts, such as by Bolton (2012) and Goktan and Gupta (2013), both reporting validity and reliability. Therefore, this study will use the model of Bolton and Lane (2012), which will henceforth be referred to as IEO.

## 2.7. Gaps in the current research

Since it was first published, the EO construct has appealed to researchers, who have published several articles in various respected journals (George, 2011, p. 990). Entrepreneurial Orientation is a concept intended to measure top managers' behaviours and strategic position, as well as the competitive environment of the company which allows it to successfully compete within the industry (Lumpkin & Dess, 1996). This organisational-level construct has been operationalised by three or five dimensions, namely risk-taking, proactiveness, innovativeness, and two further dimensions of competitive aggressiveness and autonomy. Many empirical EO studies have established a significant relationship between the construct and company performance (Covin & Lumpkin, 2011).

Recently, a number of studies have attempted to measure EO at the individual level, a field which has just started to gain attention (Davis et al., 2010). These researchers argue that the nature of the EO scale actually measures CEOs' subjective evaluation in addressing organisational processes within a large, small and medium-sized companies (Lumpkin & Dess, 1996). In the case of small and medium companies, the owner and top manager are usually the same person, an individual entrepreneur. Therefore, if this construct is applicable to SMEs, it can also be implemented at the individual level (Krauss et al., 2005). Research supporting EO at the individual level of analysis argues that EO is actually the top managers' perception of their organisational activities. This perception is reflected in various organisational processes and decisions, and EO measurements will also produce a sound individual measurement (Kollmann et al., 2007).

An increasing number of entrepreneurship studies have applied IEO by using various respondents and job contexts. Many scholars are interested in probing the extent to which entrepreneurial personalities exist and the individual tendency towards entrepreneurship for theoretical and practical purposes. Specifically, the research addresses the extent to which this tendency distinguishes entrepreneurs from other groups (Bolton & Lane, 2012), which then leads to superior entrepreneurship performance (Krauss et al., 2005). However, studies on the use of IEO have been largely based on measuring a person's tendency to be involved in entrepreneurial activities (Bolton & Lane, 2012; Pradhan & Nath, 2012); the selection of

entrepreneurship initiatives (Elenurm et al., 2007); business strategy by managers (Moroku, 2013); or CEO tendency in business activities (Krauss et al., 2005). These various applications of IEO may indicate that researchers have yet to clearly distinguish IEO from other similar entrepreneurial constructs widely available in the entrepreneurship literature. In an attempt to clarify the concept, it is important to make a comparison with the existing EO concept in the literature.

Conceptually, EO exists in the literature as the tendency of firms' behavioural and organisational strategy, which appear as actions involving more risk-taking, innovativeness and proactiveness compared to competitors (Miller, 1983). EO was developed to measure top managers' preferences and strategic decisions in response to organisations' business environment (Covin & Slevin, 1989). In this regard, the EO research has been criticised for applying this construct to other levels of analysis, such as the individual level, by using concept travelling or concept-stretching that should be carried out with caution regarding the context-specific nature of the construct (George & Marino, 2011). In short, it is advised that in exploring the application of EO in a given context, the same items to measure the construct should be used consistently. However, when EO cannot be applied in the designated context, the researcher should then provide boundaries for the construct stretching and draw the limits for the application. Based on these criticisms, the application of EO at the individual level should be encouraged by developing context-specific conceptualisation. Therefore, the development of IEO to specifically measure the individual level concept is important for the theory.

Individual Entrepreneurial Orientation has been used to distinguish between top management based on variables such as risk-taking, innovativeness and proactiveness in relation to competitors (Kreiser et al., 2002). This is likely to remain an important area of research, specifically by entrepreneurship education scholars (Martin et al., 2013). However, the attempt to measure what is entrepreneurial and how to observe it is not a simple task. The word 'entrepreneurial' has been loosely applied to define and measure a wide number of concepts, but has yet to yield any significant theories or constructs (Miller, 2011). Even though there have been many attempts to measure entrepreneurial constructs in the literature, the lack of a clear nomological network theory and of the theoretical relationship between constructs may have led to dispersed

and contradictory study results. This situation, in turn, has hindered the progress of research in the entrepreneurship field.

The continuing problem regarding a valid measure for IEO guarantees further research in the field. On the other hand, the inconsistent definitions and its free application may dilute the efficacy of the model itself. Several researchers focusing on IEO have applied their own definitions, leading to theories that are incompatible and overlap with each other, meaning that it may be difficult to support or refute the existing theories that have been developed in the past (George & Marino, 2011; Low & MacMillan, 1988). Hence, it is important for future research to have a consensus on what IEO is and how it can be measured. Building the construct from a theoretical basis provides a starting point for approaching the current research.

Based on the literature review, there are four gaps that need to be addressed to reach a better concept of IEO which will then benefit future studies. The first gap concerns the conceptualisation, definition and the way that the IEO construct exists in the entrepreneurship theories. Previous studies of IEO have significantly differentiated between the psychological characteristics of those in the student samples (Bolton & Lane, 2012), in the manager samples (Davis et al., 2010), and also in the entrepreneur samples (Kollmann et al., 2007). These studies have reported that respondents show distinctive sets of personality characteristics which lead to entrepreneurship intentions, compared to the controlled group of respondents. Researchers conclude that there are entrepreneurial-specific personalities, referring to the tendencies or proclivities to become an entrepreneur, or to exploit entrepreneurial opportunities, specifically of risk-taking, proactiveness and innovativeness dimensions (Bolton, 2012; Bolton & Lane, 2012).

Most of these studies borrowed the EO measurement from Covin and Slevin (1989) or Lumpkin and Dess (1996) and adapted it in order to measure entrepreneurship at the individual level. Since EO is concerned with organisational behaviours, some criticisms were made by EO researchers, who argued that the conceptualisation of IEO as dispositions or behavioural measurements would be an important avenue for further research (Slevin & Terjesen, 2011). Some of the existing definitions were based on an individual's tendency to become involved in entrepreneurial activities (Goktan & Gupta, 2013). While these definitions do not raise contradictions, they will no longer be accurate after the individual has become involved in entrepreneurship. With regard

to this problem, Bolton and Lane (2012) suggest that future studies should test their recently validated IEO measurement using non-student samples. Future studies are expected to respond to this request by using samples of more mature entrepreneurs. These samples are incorporated to address other dimensions, such as competitive aggressiveness and autonomy, which attracted less attention from Bolton and Lane (2012). This gap will be addressed in the following section, which also serves as a starting point for conceptualisations that are proposed in different ways. As a result, IEO measurements as dispositions or behaviours will lead to the second criticism concerning the dimensions involved in the construct.

The second gap refers to the dimensions upon which researchers do not seem to agree within the construct development. The application of IEO to student respondents generated consistency with the three dimensions from the EO construct, risk-taking, innovativeness and proactiveness (Bolton & Lane, 2012). Meanwhile, in the IEO application with the active entrepreneur samples, a number of additions were made to these dimensions, namely personal initiative, achievement orientation, competitive aggressiveness and autonomy orientation (Krauss et al., 2005). However, other researchers using active entrepreneur samples also suggest measuring behavioural IEO using variables such as the ability to organize a business; the ability to identify and evaluate opportunities; the willingness to take necessary risks; and, interpersonal customer skills (Kropp & Lindsay, 2001, p. 24).

Differences in these studies lead to different conceptualisations of IEO from the perspective of each researcher. One reason for these differences might relate to the suggestion by Osigweh (1989) to apply construct-travelling or stretching cautiously using the existing theories available in the studies. In the literature, researchers have criticised the application of a measurement to other levels of analysis without proper attention given to the research contexts and boundaries. These contexts and boundaries should be taken into account within the construct that is intended to be stretched or borrowed. Even though the EO construct is considered to be a solid theory (George & Marino, 2011, p. 995), applying the construct at a different level of analysis will produce a result that does not reinforce or refute the existing concept. This study will address this problem in another section.

The third gap is concerned with the need for a clear link between the dimensions in reflective or formative measurement. One study suggests that differently formulated

variables might inflate results by up to 240% higher than they should be (George, 2011). Furthermore, a more recent study objected to results obtained in a cross-cultural setting, which found that EO is best measured with eight items (Runyan et al., 2012a). This contrasts with the common application in cross-cultural EO studies of nine items (Kreiser et al., 2002). In order to decide whether there should be a consistent number of items, the IEO concept needs to be formularised, and it should be decided whether it will use reflective or formative measurement (Tang et al., 2008). The IEO formulation of Kollmann et al. (2007), which supports the formative measurement within IEO, differs from that of Bolton and Lane (2012) and Stone and Good (2004). In addition, the studies by Kollmann et al. (2007) and Bolton (2012) conceptualised IEO differently and further clarification is needed, which is the goal that this research is attempting to achieve.

The fourth gap is related to a suggestion by Covin and Slevin (1988), who studied individuals' contribution to EO research. This suggestion is that a potentially fruitful focus of research could be directed toward identifying the EO antecedents and consequences from an individual perspective. This is important, since the application of EO theories is based on observational research. Moreover, the contexts and antecedents of EO, which are based on a theoretical approach, need to be established.

All these four gaps will be addressed in separate sections of this study. The discussion will flow from the formulation and concepts based on the existing IEO literature, followed by further discussion of the features and relationships of each dimension. Subsequently, suggestions will be made on approaching the concept from within theoretical frameworks. The study will also make suggestions for further IEO research and discuss the limitations.

## 2.8. Dimensionalities of IEO

*How many dimensions should IEO have and how should they be conceptualised?*

The EO construct in research conducted by Covin and Slevin (1989) and Miller (1983) is described as consisting of three firm behaviours, which were developed from a combination of business strategies and entrepreneurship literature. These behaviours are innovativeness, willingness to take risks, and proactiveness (Lumpkin & Dess, 1996). Indeed, these three behaviours have been used in the majority of EO studies, although two newly proposed ones, autonomy and competitive aggressiveness, have

been studied less often (Lyon et al., 2000; Rauch & Frese, 2009). With regard to EO application at the individual level, some researchers have used dimensions other than those commonly employed at the organisational level. Among these dimensions are learning and achievement orientation (Krauss et al., 2005); entrepreneurial self-efficacy (Kropp & Lindsay, 2001); and imitative or co-creative preferences (Elenurm, 2012). However, most scholars have consistently used the three dimensions previously mentioned.

This study attempts to probe the relationships between these dimensions and to propose a model. By borrowing from organisational-level EO, the discussions on EO dimensionality have been centred on whether unidimensional measures or multi-dimensional ones reflect each EO sub-dimension (Kreiser et al., 2002). Most importantly, the criticisms are mainly focused on whether these dimensions should appear all together or can be independent (Covin & Lumpkin, 2011). For example, EO scholars have demonstrated that the subscales within the three dimensions all correlate with each other and also with firm performance (Covin & Slevin, 1989; Wiklund & Shepherd, 2005). Meanwhile, several other researchers have shown that the correlations between the five EO dimensions may vary (Lumpkin & Dess, 1996).

In this sense, this IEO study will analyse whether a single dimension can contribute to business performance. These dimensionalities offer important information related to entrepreneurs' efforts and whether they should be increased to develop the company. The importance of dimensionalities is similar to the discussions of EO, in which Lumpkin and Dess (1996) made EO conceptualisation a domain focus. Their study is focused on examining the specific dimensions which indicate that an organisation has EO. Meanwhile, Miller (1983) states that EO conceptualisation is more about revealing what a company with EO looks like. These differences had been overlooked by scholars prior to the propositions made by Lumpkin and Dess (1996) regarding multi-dimensional relationships.

The current IEO literature only reports that these dimensions are significantly present in individuals with a tendency for entrepreneurship (Bolton & Lane, 2012). Theoretically, it would be more beneficial for business educators to know whether these existing dimensions can be substituted with other dimensions. However, researchers argue that research on the addition or substitution of IEO dimensions may open up unique contributions that each IEO sub-dimension has to offer, and also makes

a significant contribution to the process of educating entrepreneurs (Covin & Wales, 2012). If innovation, risk taking and proactiveness independently make unique contributions to IEO, then the use of the aggregated measures proposed in the entrepreneurship literature may not be desirable in many research situations. This confirms that the dimensionalities or multidimensional model would be preferable for the development of IEO. Although this knowledge signifies an interesting gap, because there have been no significant research adaptations focusing on the differences between each dimension's contribution to entrepreneurial performance, this thesis is limited to confirming the dimensionalities of IEO.

### 2.8.1 IEO dimensions in this thesis

IEO dimensions in this study are conceptualised from previous related studies in this stream of research. Thus, it is beneficial to discuss the concepts and frameworks that have been developed. Prior studies have identified individual differences in optimising opportunities (Shane & Venkataraman, 2000). However, this research focuses on IEO as the measurement of individuals' entrepreneurial exploitation in their business. This study should have discussed about the definition before applying the same construct operating in the definition for further analysis.

Based on the literature review, there are many similar definitions of IEO dimensions (Bolton & Lane, 2012). Even though this measurement has been employed by many researchers, there has yet to be agreement on the dimensions. As of today, some scholars have operationalised three IEO dimensions (Bolton, 2012); some five (Davis et al., 2010); some seven (Krauss et al., 2005); or some the IEO behavioural model (Elenurm et al., 2007; Kropp & Lindsay, 2001), as summarised in Table 2.3. Furthermore, Bolton and Lane (2012) discovered that only three dimensions are significant in validating entrepreneurial predictions that involve student samples. Many of these studies used the EO concept at the individual level, which was suitable for the application of the five IEO dimensions proposed by Lumpkin and Dess (1996). This implementation did not contradict previous studies, such as that of Krauss et al. (2005), because it was more suited to SME contexts. The five dimensions presented in Lumpkin and Dess's study are innovativeness, proactiveness, risk taking, autonomy and competitive aggressiveness, as summarised in Table 2.5.

**Table 2.5 IEO definition and conceptualisation**

<b>Dimension/Definition</b>	<b>Activities</b>	<b>Authors</b>
<b>Innovativeness</b>		
Predisposition to creativity and experimentation through introduction of new products and services as well as technological leadership via R and D in new processes	<ul style="list-style-type: none"> <li>• Tendency to experiment</li> <li>• Supports new ideas</li> <li>• Departs from established practices</li> </ul>	Rauch and Frese (2009) Bolton and Lane (2012) Hansen et al. (2011)
	<ul style="list-style-type: none"> <li>• Related to perceiving and acting upon business activities in new and unique ways</li> </ul>	Robinson, Stimpson, et al. (1991)
<b>Product/service innovativeness</b>		
A tendency to support creativity and experimentation in introducing new products/services		Lumpkin and Erdogan (2004)
<b>Process Innovativeness</b>		
A willingness to support novelty and technological research in developing new processes		
<b>Proactiveness</b>		
An opportunity-seeking, forward-looking perspective characterised by new products and services ahead of the competition and acting in anticipation of future demand	<ul style="list-style-type: none"> <li>• A propensity to act aggressively towards rival firms in the pursuit of favourable business opportunities</li> </ul>	Rauch and Frese (2009) Bolton and Lane (2012) Hansen et al. (2011)
The ability to anticipate and react to critical events through the use of technology	<ul style="list-style-type: none"> <li>• Forward looking</li> <li>• First in the pursuit of new opportunities through technology</li> </ul>	Stone and Good (2004)
A forward looking perspective involving acting in anticipation of future demand or change		Lumpkin and Erdogan (2004)
<b>Risk-taking</b>		
Taking bold action by venturing into the unknown, borrowing heavily and/or committing significant resources to ventures in uncertain environments	<ul style="list-style-type: none"> <li>• Takes calculated risks</li> <li>• Willingness to make investments in projects that have uncertain outcomes or unusually high profits and losses</li> </ul>	Carland et al. (1984) Rauch and Frese (2009) (Bolton & Lane, 2012) (Hansen et al., 2011)
A willingness to take bold actions with uncertain outcomes		(Lumpkin & Erdogan, 2004)
<b>Autonomy</b>		

Independent action undertaken by entrepreneurial leaders or teams directed at bringing about a new venture and seeing it to fruition	• Self-directed in the pursuit of opportunities	(Rauch & Frese, 2009) (Bolton & Lane, 2012) (Stone & Good, 2004)
<hr/>		
<b>Competitive aggressiveness</b>		
Intensity of a firm's effort to outperform rivals		(Rauch & Frese, 2009) (Bolton & Lane, 2012)
A tendency to be forceful and combative in efforts to outperform industry rivals		(Lumpkin & Erdogan, 2004)

Source: various sources

Previous research on IEO has produced conflicting results on the dimensions. The majority of studies have proposed three, four or five dimensions, with each of these approaches including risk-taking, proactiveness, innovativeness, competitive aggressiveness and autonomy. Bolton and Lane (2012) only used the proactiveness, innovativeness and risk-taking dimensions. However, attempts to measure IEO with five dimensions have yielded unexpected results (c.f. Pisapia et al., 2016; Vantilborgh et al., 2015). These researchers still believed, however that these dimensions should be included in the IEO scales.

Using the conceptual approach presented before, this thesis specifically focuses on the adoption of five dimensions IEO that similarly used in the personality traits approach to explain entrepreneurial behaviour. An explanation of the definition of each dimension is presented in Table 2.5 IEO definition and conceptualisation. The following sections will discuss separately each IEO dimension and its relationship to entrepreneurial status and success.

## 2.8.2 Proactiveness

Proactiveness can be defined as an action to anticipate future needs, problems or changes by linking market opportunities and utilisation initiatives, thereby helping firms to lead the market (Lumpkin & Dess, 1996; Lumpkin & Dess, 2001). Entrepreneurs start their own business by seeking opportunities and optimising them. Therefore, they can recognise opportunities and take actions immediately before their rivals. This dimension shows entrepreneurs' initiative, forward looking ability and persistence to get ahead of the rivals (Crant, 1995). In addition, Lumpkin and Dess (1996) also add that proactiveness involves adopting an attempt to shape the existing condition to favor own advantage, on the other hand, responsiveness includes the

desire to act in accommodating challenges and competition. IEO therefore involves both being proactive in the pursuit of opportunities, and willing to anticipate competition. Furthermore, based on empirical findings, highly proactive individuals tend to have higher entrepreneurial intentions (Crant, 1995).

Support for the inclusion of proactiveness in IEO is well established in the literature. Rauch and Frese (2007b)'s meta-analytic study suggests that proactiveness is an important predictor of business success. It has also been linked to objective and subjective career success (Seibert et al., 2001). Proactive individuals are likely to adopt proactive strategies; always scanning their surroundings for new opportunities; persistently on developing new products and constantly conducting market research (Kickul & Gundry, 2002). This action may give them strategic advantages compared to the other rivals that slow mover.

The proactive concept refers to opportunity-seeking, the forward-looking perspective that is characterised by the introduction of innovative services and products ahead of competitors and acting to anticipate potential demand (Rauch et al., 2009; Lumpkin & Dess, 2001). Proactiveness is considered important for building entrepreneurial orientation as it promotes a forward perspective, which is coupled with adventurous or innovative activities (Lumpkin & Dess, 1996).

***Hypothesis H1a: Proactiveness is a dimension of Individual Entrepreneurial Orientation***

### 2.8.3 Innovativeness

Innovativeness is perceived as one of original factors that is important in depicting entrepreneurs. It drives an entrepreneur to create something that has never been there or create something completely different. Those things are actually needed by entrepreneurs. Entrepreneurs are pioneers in business, innovators, risk takers who have a vision ahead and have excellence in achievement in the business field. A meta-analysis by Rauch and Frese (2007a) shows a positive correlation of innovativeness with business success. However, it should be noted that innovativeness is slightly different from creativity. Creativity explains the ability to create new ideas, while innovation emphasises the application of creativity to the adaptation of these ideas (Cromie, 2000).

Innovation and creativity in the context of this thesis refer to the entrepreneur's willingness to break out from routines and operational procedures to create new solutions to problems and challenges (Lumpkin & Dess, 1996). Therefore, innovation plays a very important role as a factor that represents entrepreneurship in finding new opportunities and solutions through experimentation and creativity which produce new products and services or improve the technical aspects of existing products and services (Dess & Lumpkin, 2005). Innovative action is considered to be the core of entrepreneurial activity (apart from the fact that innovation may differ in impact and intensity) (Cuervo et al., 2007). This is because innovativeness involves a combination of activities that can radically alter the basis of competition within an industry or can lead to the establishment of an entirely new industry. As it can be inferred that innovativeness is at the core of entrepreneurship, then it is not unusual for entrepreneurs to show a higher level of innovativeness than non-entrepreneurs (Koh, 1996). Successful entrepreneurs often show the ability to produce original ideas compared to unsuccessful entrepreneurs (Ames & Runco, 2005). With innovation, entrepreneurs can increase the chance of success of a new business opportunity or find alternative solutions to existing problems.

*Hypothesis H1b: Innovativeness is a dimension of Individual Entrepreneurial Orientation*

#### 2.8.4 Risk taking

Risk taking is a concept generally regarded as a feature often used to describe entrepreneurship (Lumpkin & Dess, 1996). It remains a well-accepted dimension of entrepreneurs' functions, specifically in fierce and turbulent competition environment, and represents the ultimate responsibility for decisions which entail certain risks. This dimension is also used to approach entrepreneurial orientation (Miller, 1983), and its construction can be measured at the enterprise level by measuring managerial responses in relation to the tendency to engage in risky projects (Lumpkin & Dess, 1996; Miller, 1983). In line with this view, some researchers predicted that groups of entrepreneurs will be more tolerant to risk and significantly different compared to non-entrepreneurs in risk taking tendency (Perry, 1990; Rauch & Frese, 2007a; Stewart Jr & Roth, 2001). Indeed, Niess and Biemann's (2014) suggested that individuals who are tolerant to risk have more tendency to become self-employed.

Entrepreneurs are more likely to pursue business opportunities considered risky to non-experienced entrepreneurs, because experts entrepreneurs have the knowledge and information in evaluating the risk more properly (Chell et al., 1991). The capability to take risks while others do not, which requires the skills and judgement that can support business growth and thus competitive advantage. The skills differ and the entrepreneurs with risk taking attitudes contrast to those of the gambler, as the latter highly depends on luck (Stewart Jr & Roth, 2001). Krauss et al. (2005) point out that although the risk-taking dimension of entrepreneurs may explain business growth, it may appear inconsistent when they add other personality traits into their models. This means that there is a potential counterproductive relationship between risk taking and entrepreneurial success. Too much risk taking may also lead to business failure (Vantilborgh et al., 2015).

Some risk-taking characteristics involve acting boldly in unknown business situations, borrowing heavily, and being willing to devote valuable resources to businesses in an uncertain environment (Rauch & Frese, 2009). It also important at the organisational level that firms with entrepreneurial orientation are often characterised by the entrepreneurs' risk-taking behaviour, such as the willingness to make larger fund commitments or to incur large debts in order to earn higher returns by optimising the opportunities available in the market (Lumpkin & Dess, 1996). Interestingly, although entrepreneurs are always exposed to risk, Niess and Biemann (2014) suggest that entrepreneurs taking medium-level risks are also likely to remain as entrepreneurs. Nevertheless, it is important to test the effects of proclivity to taking risk on entrepreneurial success, as the conceptual model from Rauch and Frese (2007) also supports risk-taking as entrepreneur characteristics, although the curvilinear relationships are beyond the remit of this study.

*Hypothesis H1c: Risk taking is a dimension of Individual Entrepreneurial Orientation*

## 2.8.5      Autonomy

Lumpkin and Dess (1996) define autonomy as the need of an individual or group to develop ideas and execute them independently, without intervention, control or supervision. People with a strong need for freedom in making decisions and exercising control have high levels of desire for autonomy in many aspects of their business (Kollmann et al., 2007). Because there are differences in autonomy between

individuals, this area is quite often studied as an entrepreneurial orientation predictor (Brandstätter, 2011).

In IEO research, many have attempted to study this dimension, but they have failed to justify its significance. For example, Bolton and Lane (2012) developed an IEO scale from student samples which was adopted from Lumpkin et al. (2009), but the autonomy dimension failed to load into a separate factor in the factor analysis process. The researchers argued that maybe the autonomy dimension was only weakly supported by the literature. Another reason was that the need for autonomy had perhaps not yet developed in the student samples. In another study, Pisapia et al. (2016) tested the autonomy dimension in a sample of 218 entrepreneurs from the United States and Croatia and obtained different results; the autonomy dimension loaded in the factor analysis, but failed to survive confirmatory factor analysis on high school principals. This suggests that autonomy is an important aspect of entrepreneurial success (Kets de Vries, 1996; Lumpkin, Cogliser, & Schneider, 2009).

However, researchers continue to believe that individuals with high autonomy can achieve their goals faster because they want to control all aspects of the business environment very strictly (regulations, procedures, social norms), which requires a strong need for autonomy (Cromie et al., 1992). Supporting this view, Rauch and Frese (2007b) meta-analysis in the individual domain reveals a link between autonomy and business performance.

*Hypothesis H1d: Autonomy is a dimension of Individual Entrepreneurial Orientation*

## 2.8.6 Competitive Aggressiveness

Lumpkin and Dess (1996) defined competitive aggressiveness as the possibility of someone directly challenging the strategy of their industry competitors. Small businesses have a very high risk of business failure if they fail to react to competition in the industry. Therefore, this dimension is considered to play an important role in corporate survival and entrepreneurial success (Vantilborgh et al., 2015). This leads to the recognition of competitive aggressiveness as one of the dimensions of entrepreneurial orientation.

Competitive aggressiveness is related to the tendency to compete for a position. Those with a strong attitude to aggressive competition will be comfortable taking an

aggressive position against competition. Researchers who have incorporated this dimension in their EO construction have confirmed its impact on the performance of corporate innovation (Madhoushi et al., 2011). However, mixed findings have also been reported. Casillas and Moreno (2010) found no association between competitive aggressiveness and growth. Similarly, competitive aggressiveness also has no link with entrepreneurial performance in the case of newly developed firms, as found by Hughes and Morgan (2007).

Conflicting results indicate the need to re-examine the effects of competitive aggressiveness on firm performance. In the studies of Vantilborg (2014) and Lei 2014, this dimension is also insignificant.

***Hypothesis H1e: Competitive aggressiveness is a dimension of Individual Entrepreneurial Orientation***

These sub-hypotheses lead to the compilation of first main hypothesis:

***Hypothesis H1: Innovation, proactiveness, risk-taking, autonomy and competitive aggressiveness are unique dimensions of Individual Entrepreneurial Orientation.***

A fundamental point of discussion in the EO literature contemplates whether the EO concept should be measured as a latent construct using a formative measurement model or a reflective measurement model (Covin & Wales, 2012). IEO studies have uncovered mixed findings. IEO is conceptualised as a formative construct by Krauss et al. (2005), but as a reflective one by Bolton and Lane (2012) and Stone and Good (2004). Briefly, these authors claim that the formative measurement model indicates that the latent constructs measure its products; meanwhile, the reflective measurement model indicates that the latent constructs are measured by the products.

Differences in causality will become a significant problem with regard to the correlation between variables. As a result, in the reflective models, high correlations between measures are desired. On the other hand, in formative models items are not interchangeable. Hence, it should contain no correlation between variables (Covin & Wales, 2012, p. 678). Further, it is suggested that the constructs themselves are not necessarily or specifically formative or reflective in nature.

However, based on the analysis of Covin and Wales, reflective measurement is often the most appropriate model for assessing EO. IEO studies have ignored the analysis of

each dimension's relatively important contribution to improving specific entrepreneurial performance. Amongst the theories, Lumpkin and Dess (1996) propose that EO dimensions might lead to different favourable outcomes from one dimension towards the performance indicators, and unfavourable ones from other dimensions towards the same indicator, depending on different firms' conditions. Based on the literature study, hypothesis 1 above states that IEO is best measured using five dimensions. This is also the case with IEO, a field in which scholars should also know the relationship between each dimension with regard to entrepreneurial performance. More importantly, organisation theories contribute to lending these characteristics to entrepreneurial venture stages (Hughes & Morgan, 2007), as well as the variability in samples of active, nascent or pre-nascent entrepreneurs.

The nature of the relationship between the focus construct and its dimensions has implications for the theoretical development of IEO antecedents (George & Marino, 2011). In a formative model, the nature of the dimensions represents different domains within a multidimensional construct. These dimensions would not have shared antecedents or consequences (MacKenzie et al., 2005). Furthermore, researchers suggest that when conceptualised as a reflective second-order measurement, IEO antecedents will influence all the dimensions. However, an IEO antecedent can be difficult to rationalise because it can be derived from any of the dimensions, since they do not share the same antecedent.

In the case of international entrepreneurship studies, Zahra et al. (1999) emphasised the need to cover multiple countries and cultures comparatively. Furthermore, Bolton (2012) suggested that obtaining sample data from somewhere other than the US is worthy of additional consideration in the field of IEO studies; internal contexts other than those in developed countries can serve as the cross cultural validation of the model. Entrepreneurs in other regions may show significant differences and variances. In addition, most IEO studies have obtained data from outside Asian countries. There has been a tendency in these studies to use US or European contexts, while there are significant differences in the cultures, personalities and values of entrepreneurs in other countries (Kollmann et al., 2007). In the following sections, IEO antecedents and consequences will be discussed further.

## 2.9. Consistencies

Research efforts using psychological scales to describe and measure the extent to which individual factors contribute to encouraging a person to be an entrepreneur have been made in the entrepreneurship literature. For example, Carland and Carland (1992) proposed the Carland Entrepreneurial Index (CEI) which is still being developed (Carland et al., 1998; Carland, Carland & Ensley, 2000 Josien 2012). The CEI uses four elements that have been tested to be related with entrepreneurship: (i) personality traits; (ii) risk-taking tendencies; (iii) innovative behaviour; and (iv) strategic posture. In the study, scores were given in the form of a scale from 0 to 33, 0-15 representing micro entrepreneurs, 16-25 entrepreneurs, and 26-33 macro entrepreneurs. Given the growing importance of people's psychological condition to assess the orientation of their business, several studies have used the IEO approach to examine the differences in individual characteristics in the selection of business path.

Bolton and Lane (2012, p. 221) define IEO as the level at which one's characteristics or attributes drive the tendency to exhibit entrepreneurial behaviour and to engage in entrepreneurial activity. Although the IEO scale has not been used to measure a person's psychological predisposition, it was developed using student respondents (Bolton & Lane, 2012) and has also been validated using entrepreneurial respondents (Bolton, 2012). However, in Bolton and Lane (2012) and Bolton (2012)'s study results, only three dimensions were able to produce a significant relationship, namely proactiveness, risk taking and innovativeness, while the two other factors, i.e. autonomy and competitive aggressiveness, were omitted from analysis factor. It was argued that the autonomy and competitive aggressiveness dimensions were also unsupported for lack of empirical validation of previous research (Bolton & Lane, 2012). The empirical evidence suggested that on articles regarding IEO, the operational of dimensions for autonomy was only used in three out of the 51 studies, while competitive aggressiveness was reported only in seven (Rauch et al., 2009a).

Vantilborgh et al. (2015) used five personality trait dimensions from the IEO scale, which are proactivity, risk-taking, innovativeness, need for achievement, and need for autonomy, to explain entrepreneurial status and success. Their study results show that if compared to non-entrepreneurs, the entrepreneurs are having higher score in these dimensions. Similar to Bolton and Lane (2012)'s results, only the innovation,

proactivity and risk taking dimensions produced significant results; while the other two dimensions did not to produce a significant relationship. This is an interesting finding for this research, that IEO can distinguish between entrepreneur and non-entrepreneur statuses.

In another IEO research, Pisapia et al. (2016) developed a disposition-based measurement (EDS) that also used proactiveness, risk-taking, innovativeness and autonomy dimensions. Developed from Bolton and Lane's (2012) scale, it is important for this research to be included. They argue that competitiveness may not be an important dimension for entrepreneurs in newly established SMEs. So, it should not be included. However, on the other hand, the autonomy dimension also failed to load as a separate factor. These contradictory results call for further scientific attention from researchers in this field. In conclusion, in all this research, it is assumed that the autonomy and competitive aggressiveness dimensions are still considered important in IEO studies. However, the empirical results obtained do not meet expectations.

In some explanations of the failure of these two dimensions, it is claimed that the need for autonomy and need for achievement may appear inconsistent because these factors are also important in other jobs besides entrepreneurship, and thus creating insignificant differences. To support this view, an example may be a person with strong competitiveness who chooses a managerial career and does not become an entrepreneur (Cromie, 2000). Similarly, a person with a strong need for autonomy may choose to be an employee within an organisation or even do voluntary work (Bidee et al., 2013).

***Hypothesis H2: Entrepreneurs in general have significantly different Individual  
Entrepreneurial Orientation to non-entrepreneurs***

## 2.10. Entrepreneurial Performance

This study analyses the individual IEO characteristics of top managers that influence the performance of their company. There is considerable support for the suggestion that an entrepreneur is the essential factor in determining a firm's success or failure (Baum & Locke, 2004; Cao et al., 2012). However, some scholars argue that the impact of the leader is overshadowed by other factors, such as organisational strategies and environmental factors (Lieberson & O'Connor, 1972). Furthermore, McCarthy

(2003) also supports the idea that a company's strategic choice is not a natural phenomenon, but is influenced by the top manager's attitudes in catalysing external threats and internal resources. This belief is in line with Upper Echelon Theory (Hambrick & Mason, 1984) that top managers, through their knowledge, experience and values, influence not only all decisions regarding policies and directions, but also the assessments and preferences of the environment (Davis et al., 2010, p. 42). In the case of SMEs with top management being the owner/leader, it can be inferred that entrepreneurs' attitudes and personalities influence the decisions. This leads to the question: does IEO of the entrepreneur contribute to increasing entrepreneurial performance?

Lumpkin and Dess (1996) define entrepreneurial performance as activities or processes that may, at times, lead to favourable outcomes. Yet, these outcomes can also become less favourable in other dimensions. In this research, performance will be measured in three forms of self-assessment based on personal perceptions. The first consists of an informant's commitment to business growth in the form of assets and employment (Cromie, 2000). This study uses venture growth to measure entrepreneurial performance, since organisational-level outcomes can reflect the effective functions of the entrepreneur within a business venture (Baum & Locke, 2004). This is crucial to note because venture growth is the essence of the entrepreneurship function, which is measurable and important (Covin et al., 1997). Along with entrepreneurial performance, the study will also take into account other types of individual subjective performances, such as personal satisfaction and perceptions of company performance in relation to competitors. These factors will differentiate between entrepreneurs with high entrepreneurial capabilities and good performance, and those who only make minimal entrepreneurial efforts (Cromie, 2000). Differentiating these performances from other research clusters will contribute to researchers' understanding of the various contexts of IEO dimensions.

According to Zhao et al. (2010), to attain entrepreneurial status, there are two critical conditions to fulfill, the intention to establish and manage one's own business. The intention has been widely used as a main step as entrepreneur. Other scholars proposed requirements to entrepreneurial status using an individual's ability to continue being an entrepreneur (Bird, 1988; Krueger Jr et al., 2000). In this sense, the entrepreneur's performance can be measured in relation to nascent or pre-nascent status, as well as

retiring entrepreneurs. Lumpkin and Dess (1996) suggest that the performance of a small business may consider its continuing existence as a satisfactory performance indicator, even if it has not gained a significant increase in assets or market share.

Measuring entrepreneurial success in small and medium enterprises is quite a complex task. For example Wiklund and Shepherd (2005) used a combination of measurement of business growth and financial measurement. They operated these approaches based on the fact that there may be a trade off between financial profit for long time business growths. Hence, subjective business growth may be more suitable for small and medium enterprises. Furthermore, previous SMEs studies encountered several limitations in the use of objective measures. For instance, Wiklund (1999) experienced limitations in variation of success according to industries and sizes measurement when obtaining information about the level of performance in financial measures. Runyan, Droge, and Sweeney (2008, p. 573) stated that typically only a third of the respondents were willing to answer questions about objective measures of entrepreneurial performance.

Based on these facts, the measurement of entrepreneurial performance in this thesis, carried out using a subjective approach considered more giving results rather than financial measurements. Specifically, the subjective evaluation of entrepreneurs with regard to their businesses and achievement or success targets was employed. Even though entrepreneurial success has been extensively studied at a global level, it is widely acknowledged that every individual has their own interpretation of success (Katongole et al., 2013), which is mostly determined by organisational performance. However, in the past these indicators were largely economic, considering return on investment, profitability, sales and employment as measures of success (Wiklund & Shepherd, 2005). Based on these discussions, it is hypothesised that:

***Hypothesis H3: Individual Entrepreneurial Orientation is significantly correlated to entrepreneurial performance.***

## 2.11. Antecedents and Consequences of IEO

One of the main objectives of IEO studies is to highlight the existence of IEO and its contributions toward performance. Therefore, it is important to discuss the theoretical relationships between variables based on the existing entrepreneurship theories

(Cronbach & Meehl, 1955). IEO in this study is based on the theoretical deductions of the relationships between variables considered in the existing hypotheses. By using the entrepreneurship domain that has been specified in the previous section, the thesis proposes the idea that the existing theoretical entrepreneurial frameworks influence and have contributed to, entrepreneurial performance. Therefore, it is critical to select a certain entrepreneurship framework that can accommodate the contribution of individual entrepreneurial psychology or personality towards entrepreneurial performance and success. However, there are few theories that specifically address the connection between personal entrepreneurial differences and entrepreneurial success. Anderson et al. (2015) argue that the differences in ontological assumptions and inconsistency of the measurements have limited the development of nomological networks of EO. This situation also happens in IEO theory, because researchers do not agree on the scale to test IEO, be it in the models of behavioural, attitudinal, philosophical or dispositional characteristics.

However, in moving the theory forward, the thesis considers that entrepreneurs are the main contributors to entrepreneurship, whose psychological differences will influence entrepreneurship performance (Cunningham & Lischeron, 1991). Hofer and Sandberg (1987) proposed a model of new venture performance, specifying that entrepreneurial performance was the consequence of eminent business attributes. These attributes are the accumulation of several factors such as entrepreneurs, strategy selections and industrial structures in the respective business. Other studies have developed the model based on the research of Sandberg and Hofer (1987). Among these studies is that of Herron and Robinson (1993), which extended the model by specifying individual variables such as the entrepreneur's previous experiences and skills. These variables can provide empirical evidence for the entrepreneur's paramount importance within a new venture. However, these models of entrepreneurship performance are lacking important business dynamics because they do not take into account the business processes of organisations. It is widely accepted that business strategies include the responses from entrepreneurs when facing the business environment. However, such strategies are also highly dependent on resources and organisational structures (Covin & Slevin, 1989).

Addressing the drawbacks of previous studies, Chrisman et al. (1998) posit that the variables do not only consist of entrepreneurs, strategies and industrial structures, but

should also include resources and organisational structures. Furthermore, their study specifies the variables in relation to the entrepreneur, including personality characteristics, values and beliefs, skills and decision-making, as well as behaviours. These suggested multi-variables reflect the individual's psychological domain, which is important for business processes. Even though this model incorporated the multi-variables existing in business, the study objectives did not cover the interrelationships between the constructs. As Chrisman et al. (1998) advise, more empirical studies to confirm or refute this model are needed, as research gaps are emerging with regards to the influence of models of individual characteristics on entrepreneurial performance.

Baum and Locke (2004) state that individual personality traits measured with persistence and tenacity variables only show an insignificant correlation with entrepreneurial performance. Their findings support those of Baum et al. (2001), who suggest that the relationships should be mediated by other variables. These mediating variables are very important for entrepreneurship education study; specifically, many intended models of entrepreneurship studies have stressed the importance of entrepreneurship skills and personalities for entrepreneurial success (Matlay, 2008; Thompson, 2009). This is the starting point of the theoretical framework in this research.

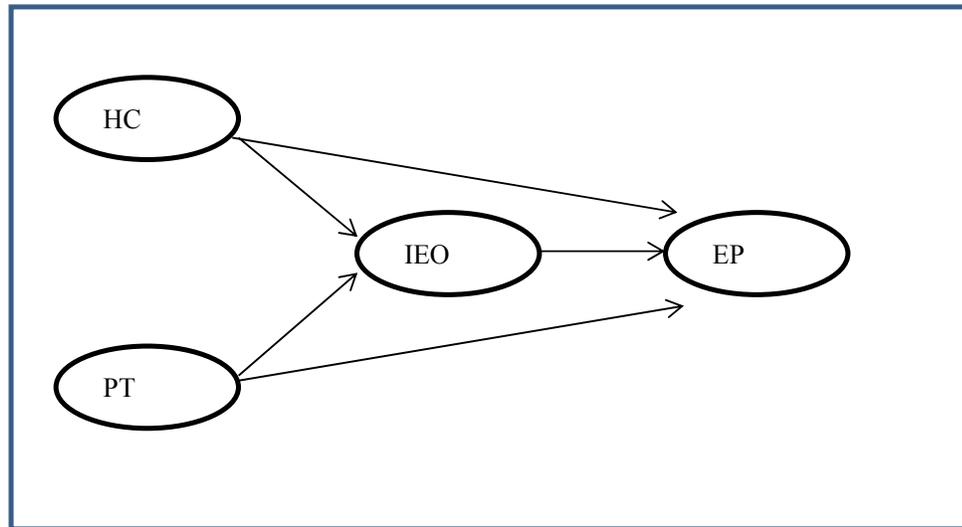
Furthermore, the Giessen-Amsterdam model of entrepreneurial success, as cited by Rauch and Frese (2000), shows that entrepreneurial orientation is the mediating variable between personality traits and entrepreneurship performance. This theory can bridge the relationship between personality traits and business performance. Furthermore, the model also becomes the theoretical lens through which the relationship between variables in this research is viewed. However, as has often happened in previous entrepreneur and entrepreneurship performance studies, the Giessen-Amsterdam model was conceptualised without empirically testing the relationships. As a result, the model of entrepreneurial success does not focus on any quantitative analysis and its practical implications are also controversial (Chattopadhyay & Ghosh, 2008). On the other hand, there are some limitations of the Giessen-Amsterdam model; for example, it omits the variables of motivations and values suggested by the previous models. These theoretical lenses are important as a starting point to analyse the antecedents and consequences of the IEO construct in this study.

## 2.12. Theoretical Framework

The current study specifically targets the relationship between individual entrepreneur and venture performance, as suggested by Hofer and Sandberg (1987), Chrisman et al. (1998), Baum and Locke (2004), and also the Giessen-Amsterdam model (see Rauch & Frese, 2000). All of these models propose that psychological characteristics that differ between individual entrepreneurs make contributions toward entrepreneurial success. In addition, there are limitations in the models that should be acknowledged in order to move toward developing this focus on IEO. How does IEO correlations with other individual domains relate to performance?

One of the current research objectives is to probe the conceptualisation of the IEO model in the entrepreneurial literature. After testing the construct validity and reliability, this study will continue to put together a model in the theoretical networks by operating the Giessen-Amsterdam model, as conceptualised in Rauch and Frese (2009). The Giessen-Amsterdam model fits the current research because it accommodates small business success from an individual-level analysis. This model argues that in a small-sized company, the entrepreneur's attitude influences the goals and strategies implemented. This differs from other models concerning a venture's success, in which the Giessen-Amsterdam model also proposes that the actions and goals of the entrepreneur are contributing factors. Incorporating the goals and strategies is needed because entrepreneurship success can only be achieved by motivated entrepreneurs, by actively using specific strategies in addressing the business environment. According to this model, the strategy selections are measured by the extent to which the venture implemented EO. In implementing this model at the individual level, logically the IEO serves as the mediating variable between personality traits plus human capital, and the entrepreneurial performance.

As discussed in the previous sections, this study is centred on the three constructs in addressing contributions of individual characteristics toward entrepreneurial performance. These variables include personality traits, human capital and IEO as the independent variables, while entrepreneurial performance is the dependent variable. The following sections describes the dimensions of each construct. Drawing from the descriptions from the previous section, the configurations of each construct will be hypothesised as shown by Figure 2.1.



HC=Human Capital, PT=Personality Traits, IEO=Individual Entrepreneurial Orientation, EP=Entrepreneurial Performance

**Figure 2.1 Theoretical Frameworks**

In analysing these hypotheses, this study refers to the entrepreneurship theories regarding the specified variables, as described by Figure 2.1. These variables have already been tested and used by previous entrepreneurship studies. Specifically, the thesis discusses the venture performance (Hofer & Sandberg, 1987), personality traits (Rauch & Frese, 2000; Utsch & Rauch, 2000) and human capital (Becker, 1994). These variables have been empirically tested in various contexts of entrepreneurship, such as education, business and other psychological characteristics. The variables of human capital (Becker, 1994) and personality traits will be mostly used in the current study. This is because these variables have more relevance to entrepreneurship compared to the need for achievement, locus of control and tolerance of ambiguity. Detailed descriptions and relationships between these variables are discussed in the following sections.

**Hypothesis H4: Individual Entrepreneurial Orientation mediates the relationship between corporate human capital, personality traits and entrepreneurial performance**

## 2.13. Human Capital

Human capital is a resource-based capability of an entrepreneur in context, that contributes positively to venture growth by helping entrepreneurs execute their

objectives (Chandler & Hanks, 1994). Human capital is defined as “person productive attributes to gain economic returns”, as well as accumulated work and habits (Becker, 1994). These achieved attributes include education levels achieved, previous experience as manager in other companies, previous experience in the same industry, or experience to kick start a company (Ottosson & Klyver, 2010). Indeed, such attributes may provide either a positive or a negative impact on outcome. Moreover, Alvarez and Busenitz (2001) also took into account the cognitive characteristics of entrepreneurs as a component that builds human capital. Applying human capital theory (Becker, 1994) to SME entrepreneurs, a positive association can be expected between SME entrepreneurs' human capital (both human capitals of general and specific industries) and their performance. The environment surrounding an entrepreneur may also become a source of opportunities (Kirzner, 1973; Gratner, 1985). The interaction between the entrepreneur and environment may result in the opportunity identification (Shane and Venkataraman, 2000).

Human capital literature provides several arguments for human capital contribution to entrepreneurial success (Unger et al., 2011, p. 343). First, human capital increases a person's capability to perform entrepreneurial tasks related to discovering and optimising business opportunities (Shane & Venkataraman, 2000). Prior knowledge will increase the entrepreneurs' capability to discover specific opportunities that are not visible to non-entrepreneurs. Additionally, human capital will also influence an entrepreneurs approach to optimising opportunities (Chandler & Jansen, 1992). Second, human capital is also positively related to venture planning and strategising which will increase the possibility of success (Baum et al., 2001). Third, knowledge will help acquire other resources, such as financial and physical capital, which are very important for company operation (Chandler & Jansen, 1992). In summary, an entrepreneur with higher human capital should be more effective and efficient in running their business (Unger et al., 2011, p. 344).

Individuals with a higher level of human capital commonly occupy a better position when identifying and optimising opportunities. Venkataraman (1997) asserts that opportunity identification may reflect the individuals' capability for processing information, which may respectively reflect the level of human capital. Acquired knowledge affects the ability of individuals when identifying opportunities (Shane, 2000). Furthermore, the level of human capital is essential to make use of existing

social, financial, physical and organisational resources, in order to scan the environment and exploit the opportunities. Human capital factors that have been commonly identified as factors influencing entrepreneurial performance and career success include:

- Formal education (general human capital) (Rauch & Frese, 2000)
- Prior industry experience (industry-specific) (Gartner, 1989; Rauch & Frese, 2000)
- Entrepreneurial experience (role-specific) (Unger et al., 2011)

In addition, many studies have concluded that human capital is related to the development and the success of entrepreneurial endeavour (Cooper et al., 1994; Unger et al., 2011).

A number of entrepreneurship studies have claimed that entrepreneurs are homogeneous, whilst, in fact, they are heterogeneous. Novice entrepreneurs who have not had previous experience owning a business do not have the same knowledge as habitual entrepreneurs. Becker (1993) points out a critical finding in human capital theory, which is the division between general and specific knowledge. Commonly, human capital is conceptualised as the manifestation of various skills and knowledge that are highly transferable across industries and firms. General human capital consists of the development of certain elements of individual human capital, for example: formal education, start-up experiences, industry specific experience, and previous employment experiences (Unger et al., 2011, p. 349). Further, Cooper et al. (1994) posited that general human capital may provide capabilities towards important decision making and increasing the business relationships of an individual entrepreneur.

The human capital possessed by entrepreneurs also varies in the decisions an entrepreneur makes in ways of exploiting an opportunity, and decisions around which the opportunity is taken. Indeed, it influences the initial decision to exploit an opportunity. Moreover, Harvey and Evans (1995) further suggest that entrepreneurs should adjust their 'exploiting mode' to suit for their capital endowment. The motivations of entrepreneurs may also affect the way they exploit an opportunity. Those who are motivated by the challenge have a higher possibility to develop a start-

up rather than purchasing any franchises of existing business. These processes can also lead to various positive outcomes.

In human capital studies, Unger et al. (2011) conducted meta analyses that showed a significant, but rather low overall, relationship between human capital and entrepreneurial success. Regarding the factors influencing human capital, Kingsley Akuetteh (2009) suggests that the relationship between entrepreneurial activity and education is still inconclusive. There is an idea that educated people are more likely to be successful (Fairlie & Meyer, 1996). Cooper et al. (1994), for example, maintain that an educated individual has higher attributes obtained from their higher education which enables them to deal with problems more effectively. By contrast, several other studies found that this was not the case. However, a study conducted by Ucbasaran (2004) did not report a significant difference between higher education and serial and portfolio entrepreneurs.

Human capital in management contexts and modes is the centre of entrepreneurial survival and success. Gimeno et al. (1997) suggest that managerial human capital can be indicated by two alternative indicators. The first indicator measures an individual's exposure to full-time jobs in the past. The second measures an individual's proxy level of work experience, in which different experiences are acquired. The second indicator is considered to relate more to the entrepreneurial achievement level. Therefore, individuals with a higher number of previous jobs, either holding managerial status or self-employed, may obtain a higher level of managerial human capital compared to those with less previous jobs, or holding a lower position. Results from Ucbasaran (2004) indicated that habitual entrepreneurs have higher managerial human capital, since they have higher experience in full-time jobs than do novice entrepreneurs. As for serial and portfolio entrepreneurs, there is no significant difference regarding the number of their previous jobs.

The extent to which an entrepreneur possesses human capital can be measured from their knowledge of buyers, vendors, goods and services (Gimeno et al., 1997). However, this knowledge will only be suitable in the respective context or field of each entrepreneur. The entrepreneur's background knowledge acquired from running a similar business domain will determine the success of the entrepreneurial venture. Prior investments and routine repertoire of an entrepreneur also dictates their behaviours in the future (Minniti & Bygrave, 2001). The habitual entrepreneurs

involved in Ucbasaran's (2004) study was consulted to determine the similarity of their current business, specifically in many aspects of business. Although these entrepreneurs were having no significant similarity between their skills or abilities, they have significantly higher environment similarity tasks scores. In addition, there is no significant difference regarding the dimensions of domain similarity between serial and portfolio entrepreneurs.

To measure human capital, gender and age serve as control variables that cannot be developed or changed. Cooper et al. (1994) argue that woman entrepreneurs are commonly not exposed to many opportunities that can provide them with the required resources for business ownership. This leads to the traditional view that women possess lower human capital than male entrepreneurs. Furthermore, it is expected that age contributes to human capital (Bates, 1995). In addition, Cooper et al. (1994) suggests human capital can also be obtained from copying parents' responses to specific matters. Thus, the parent entrepreneurs might indirectly influence the children's managerial and entrepreneurial cognitions. Therefore, these children are more likely to become entrepreneurs, following their parents' example. Ucbasaran (2004) found a significantly higher proportion of those expert entrepreneurs with parents who were involved in entrepreneurship, as compared to the novice entrepreneurs. There is no significant difference regarding parental business ownership between serial and portfolio entrepreneurs.

Attitude refers to the aspect that an individual considers important or not important. Meanwhile, motivation refers to an individual's liking. Attitudes and motivations shape an individual's preferences when they make choices (Delmar et al., 2003) . According to Ucbasaran (2004), there is no significant difference in terms of opportunity identification between novice and habitual entrepreneurs. In addition, the study also found there is no significant difference in terms of opportunity identification between serial and portfolio entrepreneurs. Portfolio entrepreneurs possess better attitude toward business and have higher alertness towards opportunities compared to serial entrepreneurs.

The motivation of entrepreneur can be distinguished into two types: intrinsic and extrinsic (Carsrud & Brännback, 2011). Intrinsic motivation is associated with the activities a person finds interesting or enjoyable. By contrast, extrinsic motivation is related to activities that are undertaken to access a reward. Persons might actually do

a particular activity, not because they consider it to be interesting, but because they aim to reap the reward. Therefore, individuals with extrinsic motivation usually when doing something are far less well compared to those with intrinsic motivation.

Intrinsic motivations for entrepreneurship that are commonly found include personal development and autonomy; while extrinsic motivations include financial rewards, a recognition received from other people, and gaining social status (Carsrud & Brännback, 2011). Autonomy is believed to be the key motivation for novice entrepreneurs, although not as much for habitual entrepreneurs. It is argued that intrinsic motivation is found to be dominant in expert entrepreneur as compared to novice entrepreneurs. Habitual entrepreneurs who are experienced in doing business tend to consistently continue with their entrepreneurial careers.

A study conducted by Ucbasaran (2004, p. 161) identified six components of motivation. Among them were personal development, independence, approval, welfare, tax, and wealth. Personal development and independence belong to intrinsic motives; while the rest are considered extrinsic motives. Novice and habitual entrepreneurs differ in one of these components, that is, in the way that they are likely to emphasise individual development-related attitudes in a business startup, as compared to novice entrepreneurs. In addition, serial entrepreneurs place more importance on an extrinsic 'approval' motive than portfolio entrepreneurs.

## 2.14. Personality Traits

The theoretical relationship between variables in this model has been suggested in previous entrepreneurship studies. However, many studies have arrived at contradictory findings. For example, Personality traits was found to have a low insignificant relationship with business performance (Zhao et al., 2010). This weak relationship is caused by, according to psychological studies, the problematic conceptualisation, measurements or statistical methods (Utsch & Rauch, 2000). One criticism directed toward this study was that the researchers approached entrepreneurship with more general traits that may not directly influence entrepreneurs' behaviours, such as big global personality traits, while the more specific behaviours or actions are preferred (Brandstätter, 1997).

Personality traits considered within the broader spectrum of activities will lose efficacy in measuring specific behaviours expected to be conducted by entrepreneurs (Robinson, Stimpson, et al., 1991). Acknowledging these constraints, the study look for other, more proximal, personality traits to account for entrepreneurial actions by selecting those traits that match with the entrepreneurial personalities and tasks (Vinchur et al., 1998).

Many researchers have attempted to measure the influence of specific personalities for business performance. For instance, a study by Rauch and Frese (2007b) examined narrow personality traits in relation to entrepreneurial tasks in the form of: the need for achievement, innovativeness, proactive personality, generalised self-efficacy, stress tolerance, need for autonomy, internal locus of control and risk taking. The findings only identified a small and moderate amount of connection between personality traits, plus human capital and entrepreneurial success. These results are in line with the suggestion from Baum and Locke (2004) for researchers to operate mediating variables as a catalyst between personality traits and venture performance. Therefore, it is important for the current study to apply IEO as the mediating variable, as suggested by Rauch and Frese (2000).

Another problem is that studies on personality traits might also have constructed models that were not developed specifically for measuring entrepreneurship behaviours (Robinson, Stimpson, et al., 1991). There are some researchers argued for the use of psychological scales that were not purported to measure personality in entrepreneurship research (Gartner, 1988). Utsch and Rauch (2000) argued that the problem with the trait approach is that the traits investigated do not directly link to the entrepreneurial tasks. In turn, it would mean that researchers are studying the wrong personality. For example, the personality important for the process of founding a business stage may be different from business development stage, and this difference has often been ignored (Rauch & Frese, 2000). Therefore, researchers argue for entrepreneurship studies to consider specific personality for the specific entrepreneurial task and work situation (Utsch & Rauch, 2000).

One aspect of interest in entrepreneurship research is finding the determinants of new venture success (Sandberg & Hofer, 1987). This topic is relevant in entrepreneurship studies, specifically in small and medium ventures, because of its barring high risk of failures (Hayton, 2003). In small business operations, an entrepreneur holds the

leading role in decision-making and other strategic decisions in critical time, with powerful personality traits driving the decisions (McCarthy, 2003). In small and medium companies, the decision maker/founder/manager position is usually occupied by one individual; thus, usually the decision made was more based more on instinct or vision, rather than detailed planning. This is quite different from the existing knowledge that entrepreneurs function only to maximise profit from entrepreneurial strategies (Covin, 1991). Therefore, relevant to the current study, entrepreneur aggregated personality traits are expected to influence goals and strategic decisions as the response to business environment dynamics.

However, studies exploring the relationship between personality traits and business performance yield mixed results. Indeed, researchers eventually abandoned personality studies due to inconsistent findings (Robinson, Stimpson, et al., 1991). Nevertheless, to completely abandon the personality traits' correlation toward performance seems premature. This leads many researchers supporting this view to suggest refinement of the model of measurement (Zheng et al., 2008) and research methods (Robinson, Stimpson, et al., 1991), as well as operating different sets of personality traits that differ from the general studies (Baum & Locke, 2004).

As the previous sections described the theoretical model in approaching this research, personality traits and human capital are viewed as leaning more towards an individual's nature compared to other variables (Chrisman et al., 1998; Zhao et al., 2010). Even though it might be challenging with regard to the mixed findings for the contributions of personality traits, it is the task of entrepreneurship researchers to identify which of these personality traits are most important to advance knowledge in this field (Pinho & Sa, 2014). In entrepreneurship research, it is not new to find assertions suggesting that personality characteristics or competencies build up an individual's predisposition, which contributes to the entrepreneurship performance (Zhao et al., 2010). It is important to uncover the personality traits that enable entrepreneurs to perform in business. Among these characteristics, entrepreneurship studies have linked the need for achievement, creativity and initiative, risk propensity, self-confidence and locus of control, independence and autonomy, motivation energy and commitment, values and attitudes, as well as personal objectives (Pinho & Sa, 2014).

According to Rauch and Frese (2007b), specific entrepreneurial traits significantly correlate with entrepreneurial behaviours (business creation and business success). These traits include the need for achievement, generalised self-efficacy, innovativeness, stress tolerance, need for autonomy, and proactive personality. It is also important to note that many scholars propose that these personality traits mostly affect entrepreneurs' actions. Furthermore, the most important traits widely studied in entrepreneurship literature are the need for achievement, locus of control, risk-propensity (Busenitz et al., 2000; Rauch & Frese, 2000) and tolerance of ambiguity (Lumpkin & Erdogan, 2004). There are many traits that have pointed toward entrepreneurial success. However, a number of studies on this topic found that these traits showed contradictory results empirically (Rauch & Frese, 2000; Zhao & Seibert, 2006). Therefore, many researchers start searching for other variables, other than personality traits, to predict entrepreneurial performance.

Even though these personality traits are perceived as important by many researchers for entrepreneurial actions and success, there are inconsistencies found in the empirical findings. Some researchers conclude that there is indeed a positive relationship between personality traits and both business creation and business success (Chell et al., 1991; Rauch & Frese, 2000). However, other literature reviews argue that this relationship does not exist (Gartner, 1989; Low & MacMillan, 1988). For example, Zainol and Ayadurai (2011) assert that this relationship is not mediated by EO in Malaysian enterprises, while Lumpkin and Erdogan (2004) discovered that the locus of control has a negative correlation with EO. Still, other researchers (Safari et al., 2014) found that personality traits influence the intention to start a business but are not related to EO.

With regards to these inconsistencies, Baum and Locke (2004) state that researchers might have considered the wrong personality traits. Thus, they suggest considering other kinds of personality traits, such as entrepreneurial passions and tenacity. However, the direct effect of these different personality traits toward performance was not found either. Their conclusions assured other researchers that the low, or insignificant, correlation may exist because there are no explanatory powers, but rather these variables are mediated by specific individual drivers or motivations (Baum et al., 2001). It is the objective of the current study to find some other mediating variable that can operate as the missing connector between personalities and entrepreneurial

performance. Furthermore, IEO is believed to serve as a catalyst for the relationship between entrepreneurship personalities and performance. Thus, to differentiate and guarantee no overlap of these personality traits with the IEO variables, the current research implemented a specific set. The personality set implemented are the tolerance of ambiguity, internal locus of control and need for achievements.

Among the personality traits strongly believed to connect with entrepreneurship is the need for achievement (McClelland, 1961, 1965; Rauch & Frese, 2007b; Stewart & Roth, 2007). This trait is defined as the desire to achieve a significant goal. Thus, it resonates with the nature of the entrepreneurs who are usually highly motivated to pursue and exploit opportunities (Frese et al., 2000). This is consistent with the theoretical perspective that entrepreneurs are often found to be highly concerned about their performance (McClelland, 1965; Rauch & Frese, 2000). High achievers will most likely run successful ventures by more actively seeking the ways to success.

However, need achievement produced varying findings for its contributions toward entrepreneurial success. For example Begley and Boyd (1987) found significant differences between entrepreneur and non entrepreneurs individuals. However on the other hand, Hull et al. (1980) found this comparison not significant, and suggested that need of achievement is not a suitable predictor to distinguish these differences. Researchers then compared the high performing and low performing business founders. Supporting this view, Shane et al. (2003) found significant correlations between need of achievement and having business success. In meta-analysis study, Collins et al. (2004) tested the need for achievement in its correlation with entrepreneurial behaviours. They found that correlation between the two is insignificant and thus concluded that it is not associated with entrepreneurial behaviour.

Internal locus of control has frequently been suspected of being associated with entrepreneurial tendencies (Decker et al., 2012). Individuals with a high internal locus of control excel to take actions because they strongly believe that success is a result of their action (Korsakiene & Diskiene, 2015). A high internal locus also will enable entrepreneurs to have more courage to make business decisions.

Furthermore, many empirical studies provide direction that locus of control shows the statistical difference between the entrepreneurs and non-entrepreneurs group are not

significant (Shane et al., 2003). For example, Begley and Boyd (1987)'s empirical research also produced a similar conclusion which supported that there is no statistical differences on the locus of control between entrepreneurs and non-entrepreneurs.

In other research, Lumpkin and Erdogan (2004) defined tolerance of ambiguity as the tendency to perceive ambiguous situations as sources of threat. This definition depicts a person who would perceive unstructured and uncertain conditions, such as discomfort, and try very hard to avoid them. Uncertain conditions in entrepreneurship with high dynamics and hostile competition would be perceived as a threat for a low-ambiguity-tolerance person. Therefore, it is believed that an individual with a high tolerance for ambiguity will be more comfortable in entrepreneurship.

There are high expectations for studies in personality traits to discover significant traits with strong influence for entrepreneurial success. However, researchers issue a stern warning about the statistical issues that might occur. They suggest that if a high correlation was obtained in this area, it may be an indicator of a poorly designed study (Rauch & Frese, 2000). Still, other researchers refuse to abandon the model of personality traits in entrepreneurial success predictions by proposing an aggregated model or orientation toward personality (Utsch & Rauch, 2000).

## 2.15. Conclusion

In the IEO theory, many critical points have been proposed, but there are several points addressed in this thesis. Specifically, these are about the IEO applications, conceptualisation, dimensions and their nomological networks in the theory. In the next paragraphs, these critiques are elaborated and then addressed in the current research.

The first critique is regarding the application of scale, as most IEO studies have stretched EO from the organisation scale and applied it at the individual level. These applications are deemed inappropriate due to the EO being specifically developed and needing to be applied in organisational contexts (Miller, 2011; Slevin & Terjesen, 2011). Second, in the absence of a validated IEO scale, researchers tend to operate the IEO in many ways and using different conceptualisations (Jelenc et al., 2016). For example, there are some researchers who operated with a set of personality traits that were perceived as IEO (Goktan & Gupta, 2013; Vantilborgh et al., 2015). Although

this approach is empirically supported by some research, however as the results show, the influence of individual entrepreneurs' personality traits on business performance is shown to be low or insignificant (Rauch & Frese, 2007b).

In addressing the lack of a specific scale for the individual level, Bolton and Lane (2012) developed the Individual Entrepreneurial Orientation scale model based on the five dimensions EO model by Lumpkin and Dess (1996), which proved to be valid in the students sample. Ten items were loaded successfully into three dimensions and claimed to be significantly correlated to entrepreneurial intentions. Yet, other researchers argued that the other two dimensions are still worth studying (Al Mamun et al., 2017; Lei, 2014; Pisapia et al., 2016). However, empirical results were still unable to provide consistent links on these last two dimensions. This lack of research regarding these last two dimensions warrant the current study to establish the IEO scale with five dimensions.

To conclude the research on IEO, researchers also call for more research specifically into the nomological network of IEO in entrepreneurship literature (Krauss et al., 2005). This thesis proposed New Venture Performance (Chrisman et al., 1998; Sandberg & Hofer, 1987) as a theoretical lens to study the model for nomological network in entrepreneurs' individual domain. These characteristics include traits, task motivations, human capital and typological approaches. In this research, it is believed that these factors can support and explain IEO (Bolton, 2012) contributions toward performance. The study attempts to propose a model for mediating variables in between personality characteristics and business performance. However, it is also important to note that, from this perspective, there are other contributing factors, such as business environments (Covin & Slevin, 1989) and organisational strategies (Covin, 1991). The active entrepreneurs model (Frese et al., 2000) provides theoretical relationship among these factors. Therefore in testing the nomological network, the current research uses the theoretical model of action characteristics as suggested in the literature (Frese & Gielnik, 2014). These variables are personality traits and human capital as the dependent variables, and IEO as a mediating variable, the independent one. IEO is seen as a catalyst for the relationship between entrepreneurs' personalities and their business performance.

In order to address the previously discussed gaps, this study focuses on revisiting the individual entrepreneurial orientation theory, while identifying whether

entrepreneurship is a result of nature model or nurture model in the entrepreneurship education. Subsequently, it will examine the approaches used by previous studies in order to propose a better conceptualisation model and better dimensionality. The study also aims to examine SME entrepreneurs' influence on performance in a developing country. Since previous studies have involved the respondents from developed countries, this is expected to enrich the variables and diversities. This study also measures individuals' preference levels within entrepreneurial efforts. After the variables and theoretical models are explained, the next chapter will discuss the methodology employed in the study.

# Chapter 3 Small Medium Enterprises in the Indonesian context

## 3.1. Introduction

The previous chapters have discussed the research background, problem formulations, research objectives, and the theoretical framework. The current chapter explores the development of Small and Medium Enterprises in the Indonesian context. This chapter begins with discussions on the Indonesian economic development and SME characteristics as background for the current research. Furthermore, this section also elaborates on the growing number of Indonesian SMEs and discusses the emergence of entrepreneurship education in Indonesia. Education as the source of Human Capital development brings important contributions to the Individual Entrepreneurial Orientation. The later sections focus on the differences between entrepreneurship definitions across studies in Asian countries, and the major challenges faced by Indonesian SMEs development. The chapter ends with concluding remarks.

## 3.2. SMEs activities: Indonesian SME context

In this globalisation era, SMEs are expected to have strong dynamic capabilities and strategies to capture market opportunities and seek competition advantages. Indeed, the pressures of global competition are affecting SMEs in every aspect of business. These effects are not only in the form of technological improvements, demographics, social changes, and the ability to innovate and find full support for funds, but also the opportunity to develop entrepreneurial mindsets (Lal & Clement, 2005). Moreover, the open economy and global competition have made a large impact on SMEs in developing countries. The development of the economic sector is one of the aims of many developing countries (Bhasin & Venkataramany, 2010). It has already been widely acknowledged that small businesses contribute to economic development in most countries. This contribution leads to an increase in policies and regulations designed to support entrepreneurship, which is becoming increasingly important

(Ogbo & Nwachukwu, 2012). Many governments provide support for entrepreneurship development through training, counselling, increasing information and awareness in the latest technologies, business linkages and financial supports (Abonyi, 2005).

**Table 3.1 Contributions of Micro Small and Medium Enterprises (MSMEs) to the Total Enterprises and Workforce in Selected Asia and Pacific Countries, 2001-2009**

Country	MSMEs % of total enterprises	MSMEs % share of total workforce
China	99.0	74.5
Malaysia	99.2	59.0
Republic Korea	99.9	87.7
Singapore	91.5	51.8
Taiwan	97.8	77.2
Thailand	99.6	69.0
Vietnam	99.9	77.3
Pakistan	97.9	78.5
Micronesia	>90.0	20.0

Source: (Abe et al., 2012)

Table 3.1 shows that MSMEs dominated the number of enterprises in most of the Asia and Pacific countries. In the growing Asian context, specifically, SMEs are also dominating the number of total enterprises created, averaging more than 90% (Abe et al., 2012; Tambunan, 2009). However, from the list, it can be inferred that in several countries, the larger enterprises are about only 1 to 4 percent of total enterprises but provide more than 40% jobs. It can be inferred that MSMEs are not creating jobs as many as the large enterprises in these countries. This can be seen in such countries as Micronesia, Singapore, Malaysia and Thailand. The existence of SMEs in the developing countries, therefore, should be nourished to support the national productivity. Based on these results, other countries should have a high number of SMEs and support these enterprises so that they can become larger.

In the case of Indonesia, there are mixed results with regards to entrepreneurship studies. Indonesia is known as a rich country whose national growth in the previous years was mainly led and driven by its natural resources. However, with the depletion of many of its resources, the government encourages entrepreneurship and entrepreneurial capability to lead the next period of national growth. SMEs are widely

believed to serve as the national development agents to provide employment and thus contribute to national growth. Furthermore, the resilience of SMEs is that they also support national stability. For example, during the time of the Indonesian recession circa 1998, SMEs proved to be flexible, agile and quick in adapting to market changes, while many larger companies fell into bankruptcy (Purwadaria et al., 2014).

**Table 3.2 The number of Indonesian enterprises based on the category and its contribution to National GDP**

Categories	Number of units	Percentage	Income total (in trillion rupiah annually)	Contribution to 2017 GDP (around 13,600 trillion rupiah)
Micro	62,106,900	98.60%	4,727.99	34.12%
Small	757,090	1.20%	1,234.21	8.91%
Medium	58,627	0.11%	1,742.44	12.57%
Big	5,460	0.01%	5,136.22	37.07%
Total	62,928,077	100.00%	12,841.00	92.67%

\* AUD\$1 = Rp. 10.500,-

Source: (Kemenkop UKM, 2018)

The table 3.2 shows that the number of Indonesian business unit based on the business scales. There are four divisions on these scales, Micro, Small, Medium and Large Enterprises. As stated before, these categories following the Cooperation and Industrial Ministry. The number of all Indonesian business in 2017 counted for 62,928,077 businesses unit. However, of all these businesses, the Micro, Small and Medium Enterprises (MSME) in Indonesia having dominantly about 62,922,617 or 99.99% of total number of Indonesian businesses unit, and the other 0.01% is Large companies or about 5,460 unit.

However, on its contributions to Indonesian GDP, these numbers may provide different expressions. That when the number combined these micro, small and medium scale enterprises contributed for about 62.93% on overall the nation GDP. It can be said contrary to the Large companies, that with almost only 0.01%, it contributed for almost 37.07% of total GDP. This is a concerning fact that should be worked out by its government. This fact calls for the government support to provide inherent and structured assistance so that Micro, Small and Medium Enterprises can increase production efficiency, productivity and resilience in facing competition. Much government supports would be needed for these endeavours to gain success. Nevertheless, MSME's-entrepreneurs also need to be open to technological novelty,

especially in utilizing various digital solutions that can expand markets while reducing various production costs.

Researchers also discovered that SMEs contributed to the development of more than 90% of the economic growth (Van Praag & Versloot, 2007). In Indonesia, the national economic growth, as recorded by Biro Pusat Statistik (2013), were led by 41.3 million SMEs, while there were only about 61,000 units of medium enterprises and 22,000 units of large enterprises. This indicates that SMEs made a major contribution to addressing the problems of poverty and unemployment.

The current business environment can be demanding for the development of SMEs (Dobbs, 2014), particularly as external factors are not under the control of the business and may pose significant challenges. However, it has been widely known that external factors in business provide not only challenges but also opportunities. In capitalising these factors for the benefit of the company, the leader has to ensure the realisation of the business strategic missions and objectives. Contrary to the internal factors, the external ones cannot be controlled by the company without the right capacity and capabilities in accordance with the situation of environmental change. The strategy formulated by the company is concerned with strengthening of the organisation's position. Moreover, strategies serve as an important internal factor in the planning and decision-making.

Indarti and Langenberg (2004, p. 1) studied factors which are related to the success of SMEs' in Indonesia, specifically the characteristics of business owners and contextual variables, like marketing, technology, information, and capital access. The results revealed that business success is determined by the capital access, marketing and technology. In addition, the study demonstrated that, in Indonesia, business owners supported by family investments are more likely to enjoy a higher level of success compared to those supported by other financial sources, such as bank loans.

Traditional small business owners in Indonesia, particularly in the household manufacturing industries, rely on the use of traditional methods and resources in the production process. With insignificant level of innovation in conducting their business, this may show the business owners characteristics (Indarti & Van Geenhuizen, 2005). Innovation refers to the 'newness' of the products instead of the processes, organisational structures, and logistics (Covin & Slevin, 1989). Similarly, Kuncoro

(2000) argues that SME owners in Indonesia do not have sufficient human resources in anticipating the risks involved which could therefore have a negative effect on venture sustainability. As a consequence, when this happens, unskilled entrepreneurs may determine whether contemplating an exit would be likely to occur, particularly in the case that exiting is logical choices for allowing the business owners maximize the value from their business.

Focusing on small businesses in Makassar, Indonesia, Turner (2005) distinguished the behaviours of entrepreneurs related to their different orientations in business. The results indicate that the characteristics of small business operators with a certain ethnic background are still heavily bound by values and beliefs that are traditionally oriented. For example, the definition of success for Indonesian entrepreneurs may include a multifaceted concept which is affected by factors beyond economic growth (cf Indarti & Langenberg, 2004). For some business owners, particularly traditional ones, success is when they are able to give back and nurture others, such as providing support for workers, family and community members, as well as undertaking philanthropic actions. This suggests that, for some, profit may not always be an indicator of success. On the other hand, other business owners perceive success as a significant amount of return from investments they made or other financial measures (Kristiansen et al., 2003).

Furthermore, Kristiansen and Indarti (2004) studied the determinants of Norwegian and Indonesian youth intentions to be involved in entrepreneurship. The study reveals that the entrepreneurial intentions of Indonesian students were much higher than those of the Norwegian students. The study also argues that the conditions in Indonesia as a less developed country resulted in a higher unemployment rate. The economic development of such a country is based on start-up businesses and small-scaled enterprises. By contrast, Norway as a much more developed country demonstrates a low unemployment rate. Hence, economic development is likely to occur within established and large-scale firms. The fact that Norway has the lowest level of unemployment among the European countries may have significantly contributed to the situation (Kristiansen & Indarti, 2004; Reynolds, 2001).

With regard to gender-based entrepreneurship, Indonesian women only take part in a relatively low number of entrepreneurial activities (Tambunan, 2007). This is firstly triggered by the low level of education and training opportunities for women

entrepreneurs in Indonesia. Secondly, women are confined in their traditional roles as homemakers and bearers of children. Thus, their focus is divided between household responsibilities and work responsibilities (Mazzarol et al., 1999) Thirdly, there are possible legal, traditional, customary, cultural or religious constraints that govern the extent to which women can start their own ventures. Fourthly, women tend to be less fortunate regarding the access to financial institutions, partly because of ownership issue. This becomes a hindrance for women when attempting to own property and provide collateral (Rametse & Huq, 2015).

The city of Surakarta, Indonesia, as an administrative region, has a strategic role in the regional development of Central Java Province. Geographically, the city lies at the intersection point of the inter-provinces highway, which highlights the city's vitality for production, as well as tourism destinations (Marimin, 2017). With its cultural attractions and festivities, tourism in Surakarta provides business opportunities that can eventually lead to the creation of SMEs. Surakarta has a high level of rapid urban development which is evidenced by rapid economic and physical development growth (BPS, 2016). The high economic growth that exceeds the average population development will be able to guarantee the welfare of its population. This is characterised by the increase of per capita income of the people. With regard to business ventures, the number of SMEs in Surakarta is substantial. It clearly deserves attention from all parties who believe that small and medium industries play a big role in supporting the national economy. This could happen with the increasing the number of small industries, medium and large enterprises, as well as the absorption of the workforces.

### **3.3. Government supports for the SME development**

One of the strategies implemented to create resilient SMEs is empowering the existing ones by giving coaching and training (Fitrianti, 2012). It is expected that SMEs are able to be self-reliant, both in terms of business and financial management (Marino et al., 2008). The efforts to empower and develop the SMEs in Indonesia are conducted by improving the system, minimising operational costs, and developing marketing

areas so that maximum profit can be achieved (Tambunan, 2011). Indeed, mentoring SMEs is undertaken to regulate financial stability and sustainability from the planning. In addition, mentoring is required for the management of cash flow to obtain additional capital allocated, either for investment or working capital.

Indonesian government's support for SMEs dates back to the new order era (1965-1997), which was implemented through the national development policy (Hill, 2001). In 2006, the Ministry for Cooperatives Small and Medium Enterprises (MCSME) in Central Java set the target to raise around 4000 new SMEs within a period of five years (2007-2012). This effort was carried out to lower unemployment and open new jobs in Surakarta. Furthermore, the government's support expands the SMEs contributions towards the Indonesian economy. Thee (2006) reports that SMEs have demonstrated resilience during the crisis in Indonesia compared to the larger enterprises. However, there are also numerous less viable SMEs that actually had a hard time and finally perished. However, a larger number of SMEs survived and shifted to export markets.

The government support for SMEs is also in line with the program of the Ministry of Industry and Trade in the Central Java Province. The development of SMEs is directed to introducing diversification, strengthening the capital structure, increasing business quality, developing business-oriented studies, technologies and superior products, as well as developing business partnerships. The SMEs are also directed to increasing local content, securing the process of industrialisation, increasing the utilisation and creation of competitive excellence, as well as incorporating promotion and integration of the institution builder, business and society. This development program targets SMEs in Central Java, specifically those focusing on wood industries and wood products, food industries and textile products. Tambunan (2005) also mentioned the attempts by the Indonesian government to assist these SMEs. Among the attempts are subsidising credit; developing and training human resources to increase the quality of product and managerial issue; facilitating marketing and strategy implementation; provide partnership programs; and establishing entrepreneurial incubators to develop new entrepreneurs. Nevertheless, according to Turner (2005), the support distribution from the government is still dispersed between regions.

There is, however, a contradictory view related to the effectiveness and guidance in the development and empowerment of Indonesian SMEs. Hill (2001) probed the government policies for Indonesian SME development and proposed that in increasing the efficient and growing SMEs, the critical point is to make these firms prosper without long-term dependence on government support. In fact, the capital support and start-up programs from the government have benefited the growth of Indonesian SMEs. However, insufficient information available regarding whether the government assistance is effective for SME development (Berry et al., 2001). A study by Sato (2000), for example, discovered that, in a number of cases, SMEs have successfully developed without significant support from the government. Furthermore, the success of training programs has not been proven since these programs may not provide actual skills required by the business owners.

### 3.4. The Source of Entrepreneurship Education in Indonesia

Global entrepreneurship education has gained much attention in the last decade. In entrepreneur literature, there are many studies focusing specifically on entrepreneurship education development, curriculum, centres and student trends, as well as, most importantly, the contribution of individual differences to entrepreneurship success (Gaglio & Katz, 2001; Kuratko, 2005; Matlay, 2005, 2008; Neck & Greene, 2011). Entrepreneurship education plays a vital role in assisting all learners in becoming more entrepreneurially-minded (Ghina et al., 2014). Many empirical studies acknowledged entrepreneurship as the driver of economy, and it is also essential for both macro and micro developments in many nations (Alberti et al., 2004). This increasing trend also signifies the need for educators to realise the possibilities of successful entrepreneurial activities (Kuckertz, 2013). Entrepreneurship education is broadly defined by Fayolle et al. (2006, p. 702) as “any pedagogical programmes or education processes to enhance the entrepreneurial attitudes and skills, which involves developing certain personal qualities”. This definition shows that entrepreneurship education covers a wide range of personal development, increasing attitudes and skills in creating business ventures, and overseeing the success of the venture.

The literature shows that there has been an increasing demand for Entrepreneurship Education and Programmes (EEP) since the early 19th century, and soon after it became one of the most prominent majors in business and engineering schools across the US, which spread to many universities around the world (Kuratko, 2005). However, it also shows that there are inconsistencies in the specific processes for delivering this, as there are many models and formal structures for teaching the concepts, skills and mental awareness in new venture creations to obtain the best achievements (Alberti et al., 2004). Most of these programs place a high degree of emphasis on the development of small businesses to provide academic training for increasing entrepreneurial ability to sense, act and exploit opportunities (Matlay, 2005).

Significantly contributing to the social economy, entrepreneurship studies have attracted many fields of study to contribute to entrepreneurship research. However, one specific gap that is still considered to be underdeveloped in the teaching of entrepreneurship is the way the teaching processes might help to develop future entrepreneurs, as well as the way they should be modelled (Kirby, 2004). Even though extensive studies have been undertaken, most of the entrepreneurship education research is still diverse in nature, highly individualistic and employs fragmented theories (Wang & Chugh, 2013).

Finding an entrepreneurship development model that can be accepted widely is not an easy task, as many researchers suggest approaches that are sometimes intertwined and contradictory. However, this problem is understandable, as although entrepreneurship education is spreading throughout the world, entrepreneurship studies are still facing inconsistencies with regard to definitions. Moreover, the boundaries of the field of study remain under discussion by many researchers (Shane & Venkataraman, 2000). This is also partly caused by the fact that entrepreneurship has been studied and discussed from the perspective of many theories, points of view, backgrounds and even disciplines. The gap in modelling entrepreneurship education is also brought about by the fact that many empirical studies yield inconsistent results on the differences of individual characteristics and resources, such as personality traits or human capital toward entrepreneurship success (Baum & Locke, 2004; Unger et al., 2011).

In addressing this gap, the current study suggests a new approach by proposing a conceptual framework with regards to the contribution of human differences toward

entrepreneurship success. EEPs aim to create an entrepreneur/founder/manager who is able to generate his/her own business growth and wealth (Solomon et al., 2002). These EEP programs are gaining popularity since they enrich students with an integrative entrepreneurship education, real case simulations of entrepreneurship and a first-hand experience approach to business and economic studies (Charney & Libecap, 2000).

Entrepreneurship education is different in nature to traditional education when preparing students with the skills and knowledge needed to succeed in business. Traditional business education has focused more on the transfer of knowledge and abilities, while entrepreneurship education emphasises the changing attitudes and motives in business (Hansemark, 1998). However, in their conceptual research, Raposo and Paco (2011, p. 455) showed that there are three distinctive objectives of EEPs. First, entrepreneurship education in most undergraduate or postgraduate programmes places emphasis on developing students' business awareness and exposing the career choices of running a business from a theoretical perspective. The second focus is encouraging students toward a career in self-employment through developing business plans and starting business ventures. In addition, the third focus deals more with training the established or nascent entrepreneurs with regard to their attitudes, skills and knowledge, aiming at the expansion and growth of the business.

In contrast to most entrepreneurship education studies that aim at increasing the intention to become entrepreneurs, the current study pays more attention to established, or active entrepreneurs to gain more successful entrepreneurship (Brockhaus, 2001). It is imperative for entrepreneurs to be successful and developing, because if these new ventures fail or are closed within a few year after being established, they would not contribute significantly to the social-economic developments (Chaston & Sadler-Smith, 2012). However, the focus of this research is still very rare. Therefore entrepreneurship studies and entrepreneurial knowledge are still needed, specifically about the contributions of specific programs to the development of successful entrepreneurs, which becomes more important for the future growth of the field (Buller & Finkle, 2013). In this sense, the current research will contribute to entrepreneurship education studies, which have been producing contradictory findings on the specific education and curriculum that can increase entrepreneurial skills, knowledge and abilities (Martin et al., 2013).

The current research is different from previous studies, which focuses on the dynamics of entrepreneurs, since the focus of education is dynamism (Fayolle et al., 2006). This is consistent with the research frameworks in the entrepreneurial stages that differ across studies (Frese, 2009). Entrepreneurial education in its post-launching phase is directed at increasing the chance of success by intensifying growth and avoiding stagnation. Meanwhile, the general consensus about entrepreneurial education in higher education is aimed at developing the awareness of start-up knowledge and skills (Lubis, 2015).

A study by Utami (2017) concluded that an entrepreneurship education model in each university in Indonesia has its own unique value and local wisdom. For example Fitrianti (2012) found that Universitas Indonesia (UI) applied an entrepreneurship education model using five different methods, including shaping the curriculum favouring entrepreneurship studies, initiating a business incubator unit, establishing a Center for Entrepreneurship Development and Studies, conducting competitions aimed at building students' interest in generating entrepreneurship ideas, and nurturing entrepreneurship skills and characteristics by integrating entrepreneurship education into the subject or extracurricular activity (Rauch et al., 2009a). There are three steps to student learning (Fitrianti, 2012, p. 693): (1) exercising the concept through the project, (2) theorising the experience, and (3) running their own businesses.

Subsequently, building holistic approaches that can be applicable across various universities in a dispersed area such as Indonesia, subsequently is not easy. The challenges and the conditions faced by entrepreneurs in different regions vary greatly.

### 3.5. The differences between entrepreneurship definitions across studies

There is currently no unanimous definition of SMEs and small businesses due to the different contexts of each country. In Indonesia, there are some definitions of SMEs that are widely used. According to the *Kementerian KUKM/MCSME* (or Ministry of Cooperatives and Small and Medium Enterprise in *Bahasa Indonesia*), through the Law on Micro, Small and Medium Enterprises, a small enterprise refers to a business unit with initial assets of up to IDR 500 million (around 50,000 \$AUD on the time of the study), excluding land and buildings, or with an annual sales value of a maximum IDR 1 billion (around 100,000 \$AUD on the time of the study). Meanwhile, a medium

enterprise is a business unit with an annual sales value of more than IDR 1 billion and less than IDR 50 billion (around 5 million \$AUD on the time of the study). Subsequently, the Indonesian Central Bureau of Statistics defines MSMEs by the number of full time employees: 1-4 workers for micro enterprises, 5-19 for small enterprises and 20-99 for medium enterprises (Tambunan, 2007, p. 69).

In Australia, the Australian Bureau of Statistics (ABS) defines a micro enterprise as a venture with less than five employees, small enterprise as a venture with less than 20 employees, and medium-sized enterprise as a venture with 20 or more but less than 200 employees (ABS, 2001). Sometimes scholars use the terms SME and small business interchangeably since medium-sized business and small business share the same characteristics (Schaper & Volery, 2007). Therefore, both of these perspectives in defining the SMEs are related to quantitative measures, which in the forms of number of employees or financial reports and asset.

In developing countries, including Indonesia, there are characteristics that distinct between the micro, small and medium-sized enterprises mostly in terms of market orientation, business owners' profiles, sources capital as well as link to external supports. In terms of legal aspects, most micro-enterprises perform without any of these (Tambunan, 2005). Such enterprises do not have a structural hierarchy and are operated by the owners themselves, who commonly are poorly educated and only motivated only by survival of the business. Furthermore, staff members mostly consist of the owners' family members. Micro-enterprises perform at a very low degree of production mechanisms and technology. The sources of production and capital are mainly local materials and self-financing, and the market orientation is focused locally for low-income consumers. However, the main problem with these micro enterprises was that they do not get enough access to government support and programs.

With regard to small enterprises, Tambunan (2007) also asserts that only a few operate within legal terms. This is partly due to the owners' self-management and lack of structural hierarchy in the organisational system. However, small businesses are usually run by well-educated owners with profit/business orientation, and not all of the small business owners employ paid workers. As for the sources and processes of production and capital, several small businesses use imported materials and new technology and acquire access to financing institutions. In addition, small businesses target the domestic market, but also export for mid- to high- income consumers. This

kind of enterprise obtain better access of the government supports and capable of establishing relations with the larger and foreign enterprises.

According to Tambunan (2007), medium-sized enterprises mostly employ legal terms in running their ventures. The managerial structure is operated by professional management with clear organisational hierarchy. Medium-sized businesses are characterised by well-educated owners who are motivated to gain wealth. With regard to employment, this kind of enterprise hires paid workers through formal recruitment. Another characteristic is that the production process is carried out through a high degree of mechanisms with high technology. Similar to small enterprises, the medium-sized counterparts domestically market and export their products for mid- and high-income consumers. Medium-sized businesses also have external linkage to government programs and larger enterprises, including foreign ones.

In contrast, small enterprises in developed countries are commonly family-based businesses owned by single person or several individuals who manage all entrepreneurial endeavours. The owners provide all of the capital needed and have minimal access to external financial institutions. Small enterprises possess very limited market shares since the capacity and resources are lacking. Most of the time, small enterprises in developed countries have a relatively high business closure rate. These enterprises operate in the private sector and are home-based businesses on a part-time basis where it is restricted to operate multi-branch activities. In terms of financial performance, if the net profit is low, it will limit the potential earnings for owners (Schaper & Volery, 2007).

According to the definitions and characteristics, there are similarities between MSMEs in the developing and developed countries in terms of ownership type and market orientation. The differences lie in certain characteristics and aspects that are dependent on the economic conditions of each country. Among these aspects are the sources of production and capital, nature of production process, and external linkage.

### **3.6. Major Challenges for Indonesian SMEs Development**

Tambunan (2005) asserts that there are some aspects and characteristics associated with the issues in the development of Indonesian SMEs. Although this has contributed

to develop and nurture SME's growth, the issue of a start-up business is still a key problem to the Indonesian government, compared to other member countries in APEC (Asia-Pacific Economic Cooperation) (Mourougane, 2012). Furthermore, registering the establishment of a company is also a significant issue hampering the process. Although it is a daunting task in registering process, but it is important to obtain operating licence in establishing limited liability company. It is also a requirement for these businesses to fulfil minimum capital requirements. In addition to legal requirements, another problem that might arise in the development of SMEs is financing issues. Obtaining bank credit access for SMEs might be stricter in terms and conditions compared to larger enterprises. This circumstance may be triggered by inadequate SME collateral. In addition, the bank credit access is not easy to obtain, but leasing and micro-financing can also serve as means to obtain venture capital and financing (Mourougane, 2012).

Whilst they are developing, strong entrepreneurship firms can also face many problems when maintaining their performance and survive. The most common triggers are the limited resources of the firms that will significantly increase their vulnerability to 40% after five years of surviving in the face of the competition (Saravathy et al., 2013, p. 417). Kuncoro (2000) states that the problem faced by the majority of SMEs (referring to small businesses later on) in Indonesia is caused by low quality resources that hinder growth. Some of the problems include internal problems, such as low-quality human resources, which are characterised by the lack of skill, lack of entrepreneurial orientation, low mastery of technology and management, lack of information and low market-orientation.

In Indonesia, the main problems toward private investing were that the lacks of leadership capability and institutional supports resulted in the limited number of venture capitalists in the market (Scheela et al., 2012). The venture-capital industry is still underdeveloped because corrupt behaviour and lack of professionalism perpetuated by the investors, bankers, government officials and business owners persist. This also contributes to the hindering of venture capitalists from making deals and seeking bank financing (Scheela et al., 2012). Moreover, not many people are willing to become venture capitalists, even though the government provides privileges for this industry, such as tax exemption. The main reasons of the limited interests on becoming venture capitalists may be because of prohibition on foreign ownership, low

stock markets, and a small number of IPO's providing exit opportunities for venture capitalists (Jeng & Wells, 2000).

To address these problems, it is asserted that leasing is suitable for firms that do not have a credit history or collateral. During the Asian crisis, however, leasing via multi-financing companies only played a limited role for Indonesia. This resulted in the failure of financing companies having a greater reliance on bank loans to provide competitive rates (World Bank, 2006). This represents major challenges faced by the Indonesian SMEs, particularly when there seems to be no solution for these SMEs to gain credit access. Therefore, it becomes inevitable that the SMEs still rely on government support. Policy improvement is needed to further support SME development so that the improvement of Indonesian macro-economic conditions can be achieved.

### 3.7. Conclusion

With the growing contributions towards economic development, SMEs in Indonesia have proven their resilience and support for national stability. A study from Kristiansen and Indarti (2004) showed that Indonesian youths have more interest in becoming entrepreneurs than Norwegian youths. This condition encouraged the Indonesian government to implement a national development policy for ensuring SME development (Thee, 2006). The policy is realised through a number of programs directed at the local content, industrialisation process, utilisation and creation of competitive excellence, as well as promotion and integration of an institution builder, business and society.

However, the effectiveness of government support is still often questioned (Thoha, 2000). One of the ways to increase entrepreneurial proclivity is to incorporate the entrepreneurial attitudes, entrepreneurship skills and entrepreneurial knowledge into the curriculum of higher education for the young (Mourougane, 2012). Most universities in Indonesia have applied entrepreneurship education, even by using their own different and unique methods (Fitrianti, 2012). Nevertheless, there are still problems related to administrative requirements to confirm all the legal requirements for SMEs in order to obtain funding from venture capital. The main reason for this condition may be due to strict terms and conditions of bank credit access regulations

that bind the venture companies, which subsequently produces a heavy reliance of financing companies on bank loans. Indeed, there is still a need to improve the entrepreneurial orientation in supporting government policy for national welfare.

# Chapter 4 Research Methods

## 4.1. Introduction

This chapter begins with an introductory section containing descriptions of approaches used in the research strategy. It then proceeds with an explanation of the population, sample and procedures in the Population and Sample section, focusing on sample selection and sampling method, leading to the sampling procedures used in this thesis. The procedures section contains information regarding the procedures used to gather data. The measures section explains the selection of the variables and includes some examples of the items used to collect the data. The relationships between the variables are then explained in order to help develop the Structural Equation Modelling (SEM) for the research. Following the explanation of the variables, the next section describes the methods of analysis and the steps taken. The translation and back translation process used to develop the questionnaires is then explained prior to presenting the conclusion.

In the current research, Individual Entrepreneurial Orientation (IEO) functions as an individual's driver and can be defined as the willingness to act for growth orientation in business. This definition differs from that seen in other IEO research purposes in order to differentiate between entrepreneurs and non-entrepreneurs (Robinson, Stimpson, et al., 1991) or the individual's inclination to undertake business (Bolton & Lane, 2012). Furthermore, the current research distinguishes between the attitudes of high growth-/low growth-oriented entrepreneurs and as such will propose a new measurement for IEO.

Stewart Jr et al. (1999) differentiated between entrepreneurs and small business owners. However, their view is different from the dominant view in entrepreneurship studies that all entrepreneurs aim to obtain a high profit (Eckhardt & Shane, 2003). In many cases, specifically in developing countries, there are many small business owners who are happy to earn a steady income, as opposed to those entrepreneurs who target growth (Runyan et al., 2006). It is possible that a failure to specifically address these differences is the reason why previous research into entrepreneurial characteristics has failed to identify a clear relationship between personality traits and

entrepreneurship performance (Rauch & Frese, 2007b). Many of the researchers within the entrepreneurship literature concur that an entrepreneur should be defined as an individual who creates a new venture (Gartner, 1988). The purpose and objective of the current research are based on the view that small business owners are different from entrepreneurs. The present study adopts a ‘post-positivist’ research paradigm, attenuating the ontological frame while adopting epistemological objectivity assumptions.

The formulation of the research paradigm can help to lay the foundation for scientific inquiry. The research also defines the researcher’s beliefs and assumptions behind the research inquiry. The context and constructs of the current research have been discussed in the previous chapters; therefore, the current chapter presents the methods and strategies used in the research. Next section describes the selection of the population, sample and sampling methods.

## 4.2. Research Design

The research approach is the highest level of hierarchy in a research and becomes the foundation of scientific inquiries (Hair et al., 2003). The approach defines the researcher’s beliefs and assumptions behind the research inquiry. The present study adopts a scientific approach research paradigm in which the objectives of the research were to approach statistically significant and generalizable results. In this perspective, the research looks into the methodology of the research paradigm.

Ontology refers to the philosophical study of the nature or reality researched (Maylor & Blackmon, 2005). The current research uses objectivist ontology, which means that the object under study are provided information freely independent from the researchers interpretation and interference.

The epistemological assumption for this research considers that the positivism related to scientific methods of the data collected and analyses used formalized, standard structured questioning practices where the respondents’ answer options had been predetermined by the researchers. Hence, this study was largely quantitative with deductive logic (Saunders et al., 2009). The descriptive research model is useful for gaining a better understanding of the relationship between the independent variables

(Individual Entrepreneurial Orientation, Personality Traits and Human Capital) and the dependent variable (Entrepreneurial Performance).

### 4.3. Population and Sample

This study comprises three stages. The first stage involves developing the pool of items for the IEO scale. The aim of the second stage is to develop the validity and reliability of the scale, while the third stage involves the application of the scale to larger samples. The specific purpose in the third stage is to test the robustness of the scale to discriminate between groups in the sample according to the research objectives.

The current research used four different sample groups for the three research stages. The first stage involved the collection of data from nine experts, including one Professor in Entrepreneurship and eight PhD in Management students from a local university, with the aim of obtaining construct validity for the items created. In this stage, the respondents rated the items according to their approval and judgements regarding the appropriateness of the items for use in measuring the construct. Following this validation of the items in the construct, the subsequent procedures involved the students in the development stages and experienced entrepreneurs and managers in the validation of the scale (Bolton & Lane, 2012).

In the second stage, which comprised the rating exercises, Master's students from the business programme of Sebelas Maret University (a local state university) were invited to participate. The involvement of Master's programme students is acceptable as the students participating in the exercise did not make decisions that require the abilities of self-employed or entrepreneurial experts; rather, they act merely to compare statements and concepts (Robinson, Huefner, et al., 1991). The sample included final-semester Masters' students in business and business education classes. A total of four classes in business management and business education contained around 120 respondents, specifically students who were taking business or management as their main study subjects. All of the students' responses were given voluntarily, with an explanation provided to the students that their responses would not relate to their study.

All of the Master's students were deemed capable of differentiating items and various definitions of theoretical constructs (Hinkin et al., 1997).

In the third stage, the goal of the research sampling was to obtain information regarding the personality and disposition influences in action on the execution of small- and medium-sized businesses, in addition to non-diversified and new-entrant firms. The use of this criterion was suggested by Lumpkin and Dess (2001, p. 440). A non diversified firm refers to operations within a single industry sector (Runyan, Droge, & Swinney, 2008)

The definition of a small-to-medium-sized business used in the current research is that given by the Indonesian Bureau of Statistics, which defines a small-to-medium-sized enterprise as one that has between ten and one hundred employees (Tambunan, 2011). For the current research, the data on entrepreneurs were gathered from the Central Java Industrial and Trade Office (*Disperindag Jateng*) and the Central Java Cooperatives and SMEs Office (*Dinas Koperasi dan UKM Jateng*). All entrepreneurs were offered the same opportunity to be respondents in the current research. Although the entrepreneur lists contain around 2,000 registered members from various business types, it is widely known that entrepreneurs have a low response rate. In order to overcome this issue, the researcher contacted the founders/owners/managers of the businesses prior to distributing out the questionnaire (Bolton, 2012).

However, to suit the research purposes and in order to make it more convenient for data collection, the researchers firstly removed all of the subsidiaries, international companies and limited liability companies from the lists. The rest of the companies were included in the list of contacted entrepreneurs. The researcher, aided by a team of enumerators, then contacted these companies prior to the data collection stage using the telephone numbers provided in the lists. The researcher/enumerator enquired as to the entrepreneurs' willingness to participate in the research. When the owner/managers/founders agreed to participate, the enumerator then delivered the questionnaires. The respondents were then given time to complete them, with the enumerators promising to return after two days. Following this first contact, a total of over 150 questionnaires were delivered; however, only 87 of these were returned. The researcher thus opted to conduct a second stage data collection, with 100 questionnaires. This time, however, the enumerators waited for the entrepreneurs to

fully complete the questionnaire. Thus, overall, this stage delivered a total of 187 respondents for the research analyses.

The researcher then grouped the data that had been gathered based on the following criteria. First, the data were screened to obtain information about the entrepreneurs' tendencies with regard to business exploitation. The two aspects that differentiated these companies were as follows: 1) the number of years that the company has been in operation, and 2) the number of employees. It is posited that entrepreneurs tend to target and exploit business ventures to obtain high growth during their early stages, in contrast small business owners target only low or no such growth. Furthermore, the number of employees is used to differentiate the grouping of companies between small, medium or large businesses. Other information regarding the businesses' industry grouping will explain the dynamics of the business environment. This is also important as it demonstrated that groups of businesses facing hostile or high competition have to show more optimising business.

Second, there is the need to obtain information regarding the entrepreneurs to show that they have fulfilled all three roles as the owner, founder and manager, and perform all three roles. Additionally, a separate item has been included for the managers in the event that the respondents were not the owners/founders of the business. The characteristics of entrepreneurs will be different after many years in the business; as such, their past experience as an entrepreneur is important. Multiple experiences as the owners of other businesses are also important for the research, since serial or multiple business owners/founders/managers are likely to demonstrate more in the way of entrepreneurial tendency.

Third, questions were asked concerning the development of the business in terms of whether it was started as a completely new company, was acquired as a family company or if it operates under a franchise model of business. The way in which a business was created also has a bearing on the entrepreneurial personalities, since businesses run as a franchise or which are acquired businesses likely to show less innovation in business

## 4.4. Procedures

In order to validate the concept of IEO with regard to entrepreneurial success, three stages were conducted, each of which had a different purpose.

### 4.4.1 Stage 1: Item Generation

Stage 1 focused on generating the pool of items for the IEO scales and assessing its adequacy with entrepreneurs and student samples. Both inductive and deductive approaches were employed in this stage (Hinkin, 1995). There were three notable activities that required thorough attention in order to develop a proper measurement of IEO.

First, the items were generated by consulting the extant literature on existing measurements, potential measurements and theoretical measurements. Existing IEO measurements have been put forward by Bolton and Lane (2012), Pisapia et al. (2016) and Stone and Good (2004) and Gupta et al. (2015). However, since these studies did not accommodate all of the dimensions targeted, there was a need to consult further measurements in the form of five dimensions of Entrepreneurial Orientation from Zang et al. (2014), Jambulingam et al. (2005) and Hughes and Morgan (2007), Eggers et al. (2013), Zehir et al. (2015) and Bönnte and Jarosch (2010). These items were then subjected to screening by a team of experts through in-depth interviews (Hinkin, 2005). Entrepreneurship experts and experienced entrepreneurs were contacted for their comments on the appropriateness of these items for every dimension.

Second, regarding the adequacy of items in the initial set, the elimination of items used the principal components extraction and oblique factor rotation. Two separate exploratory factor analysis (EFA) was carried out to produce the questionnaire for trait dimension and human capital dimension. Following Davis et al. (2016, p. 6), the criteria for retaining and eliminating the factors are as follows: only factors with an eigenvalue greater than 1.0 will be retained, and will be eliminated that (a) did not load at least .40 on any factor, or (b) loaded .40 or higher on more than one factor. These steps reduced the number of questionnaires and it will be ready to proceed for the next step.

#### 4.4.2 Stage 2: Validation of IEO

The first stage of the research is scale development, for which a survey was conducted to confirm the dimensions of IEO. In this first stage, the purposive non-probability sampling method for choosing respondents, a judgement sampling method, was applied. Before continuing to the target samples, the researcher contacted the Chamber of Commerce in the Surakarta region.

It was decided that the interviews would be conducted at mutually suitable locations for both the researcher and the respondents. Based on the existing literature review and interviews, the IEO constructs posed were around the following dimensions of entrepreneurial orientations and how the respondents perceived these dimensions (Bolton, 2012): autonomy, innovativeness, risk-taking, proactiveness, competitive aggressiveness.

#### 4.4.3 Stage 3: Implementation

In this stage, the data gathered were analysed using Structural Equation Modelling (SEM).

### 4.5. Measures

#### 4.5.1 Dependent Variable: Entrepreneurial Performance

Entrepreneurial Performance was operationalised as a second order with the following two dimensions: Satisfaction with Current Business and Subjective Performance. These items were based on research by Dess et al. (1997), Wiklund and Shepherd (2003), Utsch and Rauch (2000), Sadler-Smith et al. (2003), Dorsa (2007), Solymossy and Hisrich (1998) and Bolton (2012).

The following is a sample of the statements that were used: 'I am personally satisfied with my life and business' (Business Satisfaction), and 'My Level of income of the business in the last year is very high' (Business Performance). All of the items were measured using a five-point Likert-type scale, with the responses ranging from 1=Strongly disagree to 5=Strongly agree.

## 4.5.2 Individual Entrepreneurial Orientation

Individual Entrepreneurial Orientation is defined as the degree to which an individual's psychological orientations and propensity fit with the environmental requirements in optimising business by favouring innovative activities to take business-related risks and compete proactively with other firms, and it has been previously developed and validated by Bolton and Lane (2012, p. 221). In development of the scale, Bolton and Lane (2012) adapted from the EO scale developed by Lumpkin et al. (2009) and the result was loaded into three dimensions. Each component is represented by three to four items respectively. In order to obtain the other two components of IEO, competitive aggressiveness and autonomy, a further measurement in this area of research was consulted and combined with the existing components.

All of these items are built based on previous research measuring IEO, including Bolton and Lane (2012), Jambulingam et al. (2005), Hughes and Morgan (2007), Zehir et al. (2015), Eggers et al. (2013), Zang et al. (2014), Davis et al. (2010), Spreitzer (1995) and Lumpkin and Dess (2001). All the items were measured using a five-point Likert-type scale, with possible responses ranging from 1=Strongly disagree to 5=Strongly agree.

A sample of the items included in this set of questions is as follows: 'I usually act in anticipation of future problems, needs or changes' (Proactiveness); 'I favour experimentation and original approaches to problem-solving rather than using methods others generally use for solving their problems' (Innovativeness); 'I like to take bold action by venturing into the unknown' (Risk-taking); 'If I see an opportunity, I am very aggressive and intensely competitive' (Competitive Aggressive); and 'I believe that the best results occur when individuals and/or teams decide for themselves what business opportunities to pursue' (Autonomy).

## 4.5.3 Personality Traits

All of the variables were measured using five-point Likert scales, with the responses ranging from 1=completely disagree to 5=completely agree. The items measuring the internal locus of control used the measure developed by Heywood et al. (2016) and Okhomina (2010) which consisted of a shortened version of the Rotter's scale (1966). The items measuring the need for achievement were extracted from Steers and

Braunstein (1976) which Which have been used in various works, including Cools and Van den Broeck (2007); Lumpkin and Erdogan (2004); Miller and Toulouse (1986). The items measuring tolerance for ambiguity were adopted from Entrialgo et al. (2000), which in turn used items based on Lorsch and Morse (1974) and Gupta and Govindarajan (1984).

The sample of the items includes the following responses: ‘The fact that people do things correctly depends on their own skill, luck has very little to do with it’ (Locus of Control); ‘I make a great effort to improve my results at work’ (Need for Achievement); ‘I think that doing the same things in the same places for a long period of time leads to a happy life’ (Tolerance of Ambiguity); and ‘When facing difficult tasks, I am certain that I will accomplish them’ (General Self-efficacy).

#### **4.5.4 Human Capital**

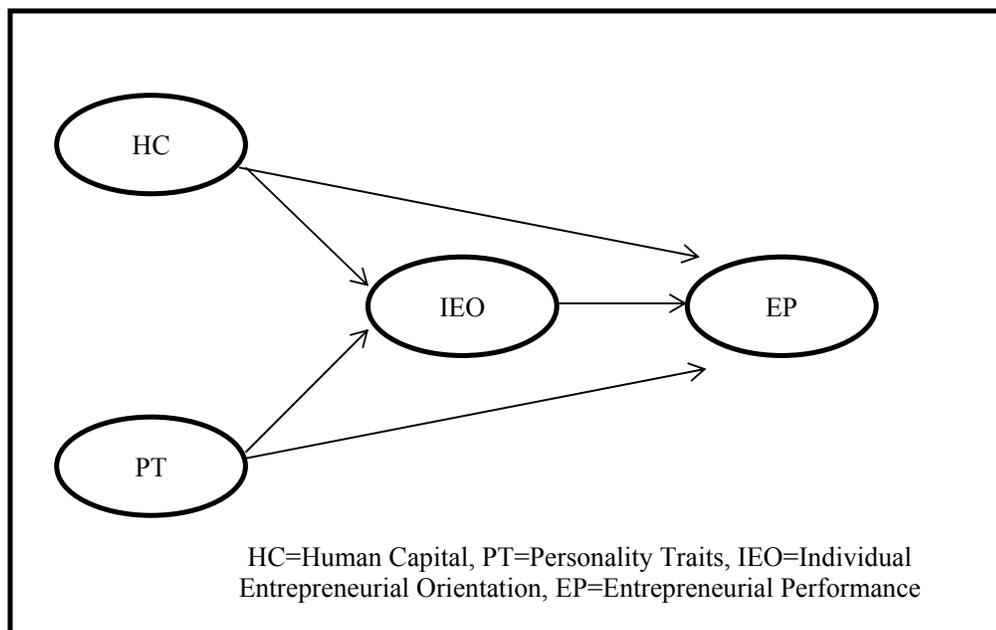
This research contains a measurement of human capital based on Kungwansupaphan and Siengthai (2014), who adopted scales based on studies by Becker (1962), Manolova et al. (2002), Reuber and Fischer (1997), Eriksson et al. (1997), and Chandler and Hanks (1994). Examples of these items are: ‘My ability to accurately perceive unmet consumer needs’ (Entrepreneurial Competence), ‘My ability to make resource allocation decisions that achieve maximum results’ (Managerial Competence), ‘Having foreign subsidiaries or representative companies in this business’ (Business Knowledge), ‘Having many business experiences’ (Business Capability).

### **4.6. Relationships between Variables (SEM Modelling)**

To address the IEO theoretical framework, this research employs a framework based on a model that has previously been proposed within the extant literature in the field. In its search for a conceptual model, the current research begins with the Action-Characteristics Model of Entrepreneurship, or ACM, as modelled by Frese and Gielnik (2014), that developed from the Giessen-Amsterdam model (Rauch & Frese, 2000). This model was perceived to be most suitable for the current research since it specifically addresses active behaviour orientation that is not elaborated by other models of venture performance.

With regard to venture performance, Robinson and Herron (2001) also proposed a model for entrepreneur active contribution as the source of entrepreneurship performance; however, this model is not suitable for the current research. In the researcher's opinion, the ACM model (Frese & Gielnik, 2014) is better suited to the current research owing to the fact that it focuses on the individual entrepreneur rather than venture performance. The heart of the model is the individual action-characteristics as the main active element in the prediction of venture performance. The model also accommodates multiple levels of analysis; for example, the individual level of the entrepreneur, organisational level and national level. The model can be used to assess entrepreneurial performance based on the psychological state of the entrepreneurs.

Based on the model, the relationships between the variables can be determined and further developed into a structural model. In the literature review, the relationships between the variables of interest were demarcated. Hence, the theoretical frameworks of the current research were developed based on those relationships. The model that is further proposed is depicted in Figure 4.1 Relationships between variables.



**Figure 4.1 Relationships between variables**

Figure 4.1 explains the theoretical relationship between research variables in this study. As the focus of research, IEO construct is at the centre of this theoretical model. The hypotheses of this research were formulated based on the literature review

focusing on IEO. The first hypothesis predicted that IEO significantly contains five factors. The five dimensions in line with Entrepreneurial Orientation (Lumpkin & Dess, 1996) consist of proactiveness, risk taking, innovativeness, competitive aggressive and autonomy.

In the literature review, previous studies indicated that IEO may contribute to entrepreneurial status of the general population (Bolton & Lane, 2012; Vantilborgh et al., 2015). Therefore, the second hypothesis stated that the IEO level between entrepreneurs and non-entrepreneurs is different, thus able to discriminate entrepreneurial status of the group members. It was posited that entrepreneurs have an IEO level which is higher than that of the other group.

Previous research also found that IEO empirically having a high correlation on the success of entrepreneurs (Bolton, 2012; Feltnhofer et al., 2016; Gupta et al., 2016; Jelenc et al., 2016). Based on those findings, it also inferred that the IEO level hypothetically influence entrepreneurial success. Hence, that theoretical foundation is developed as the third hypothesis of this study, that IEO influences entrepreneurial success.

In the literature, entrepreneurial success has been linked with so many individual factors. For example, Brandstätter (2011, p. 228) argued that in order for an individual to be able to establish a business, the personality traits and human capitals contribute significantly for the successful of the endeavor. However these relationships assumed contribute to entrepreneurial success through action-related characters, such as entrepreneurial orientation (Frese & Gielnik, 2014). Mirroring these relationships, this thesis used these variables to test the nomological network for IEO in entrepreneurship study. Therefore the hypothesis four posited that IEO mediated the relationship between Personality Traits and Human Capital toward entrepreneurial success.

## 4.7. Data Analysis Methods

Several methods applied to test the hypotheses developed in Chapter 2. The main statistical method employed was factor analysis to test whether or not a construct is a dimension of the IEO construct. The method of analysis used in this study was SEM which combined multiple regression and factor analysis to estimate a series of dependence relations simultaneously (Hair et al., 1998). Hypothesis testing was

performed using PLS software. To analyse the causality relationship in the structural model, the SEM modelling was done with the following steps. The relationships between variables as shown in Figure 4.1 Relationships between variables.

The structural equation model is based on the causality relationship, whereby a change in one variable is assumed to result in a change in another variable. The strong causality between the two variables assumed by the researcher lies not in the chosen analytical method but in the theoretical justification used to support the analysis (Latan & Ghozali, 2012). Once a theoretical model is developed and depicted in a flow chart, the researcher can then begin to convert the model specification into a series of equations.

In SEM analysis, there is no single statistical test tool to test hypotheses about the model (Hair et al., 1998); instead, various fit indices are used to measure the degree of conformity between the models presented in Table 4.1 Goodness of Fit Model Index References.

This research is conducted with the following two approaches: 1) factor analysis statistics through SPSS, and 2) EFA and confirmatory factor analysis (CFA) through SEM. The fit of the models developed will be analysed using the chi-square statistical test, p-value, RMSEA (Root Mean Square Error of Approximation), GFI (Goodness of Fit Index) and AGFI (Adjusted GFI).

**Table 4.1 Goodness of Fit Model Index References**

No	Items	References
1.	$\chi^2$	Small
2.	Probability level	$\geq 0,05$
3.	Df	Positive
4.	CMIN/DF	$\leq 2,0 / \leq 3,0$
5.	GFI	$\geq 0,90$
6.	AGFI	$\geq 0,90$
7.	CFI	$\geq 0,90$
8.	RMSEA	$\leq 0,08$
9.	RMR	$\leq 0,03$
10.	TLI	$\geq 0,90$
11.	NFI	$\geq 0,90$

Source: (Hair et al., 1998)

## 4.8. Translation and Back Translation

The use of back translation has been a common practice in management studies (Brislin, 1970). The current thesis used back translation with the aim of achieving more validity in the questionnaire Compared to one-way translation.

In the back-translation process, the English version of the questionnaire was translated into *Bahasa Indonesia* by a bilingual PhD student. After revising the wording and typos, the *Bahasa Indonesia* version was then retranslated by another bilingual student into English. This result was then compared to search for any misunderstanding or ambiguous meaning in the process. Finally, the questionnaire was then reviewed and revised by another Indonesian scholar in the Management field for final consensus. The final version of the questionnaire was then distributed. The full questionnaire for the Indonesian sample is presented in Appendix 2.

## 4.9. Research Ethics

The current research obtained approval from Curtin University's Human Research Ethic committee, with the condition of approval including the confidentiality procedures and data handling. The clearance also emphasized on the lower risk studies hence the guidelines for conducting the research complies with the National Statement on Ethical Conduct in Human Research have been followed accordingly.

The research has also maintained the confidentiality of the respondents and handled this matter very carefully. All of the responses and information were kept in discrete places and data protection was maintained to assure anonymity and confidentiality. The data were transferred to the University's central R drive storage to limit access to the files. The respondents were asked to participate voluntarily and could withdraw anytime from the survey. The ethical clearance also provided the contact details of the researchers and supervisors responsible for the study. The complete ethical clearance is provided on the appendix.

## 4.10. Summary

This chapter has outlined the research design, sample, the selection procedures and data analysis methods. The study was designed using the structural equation modelling

for data analysis. The respondents in this study were entrepreneur experts, students, entrepreneurs and managers.

Using the questionnaires developed, the data collection was done in Surakarta, Central Java Province. In order to be applied to business, the scale needs to be translated and adapted into an Indonesian-language scale prior to being distributed to the sample. Then the data was recorded and tabulated to analysed using the statistical software. The next chapter presents the findings and analysis of the data collected based on the responses of the participants.

# Chapter 5 Results

## 5.1 Introduction

This chapter contains several subsections. The first presents a discussion of the descriptive statistics of the background and conditions of the respondents based on the nature of their involvement in the company. Section 5.2 explains the descriptive analyses and provides the mean statistics of the responses, with the data analysed using normality and confirmatory factor analyses for all sampling groups. The data are then analysed for their capability to discriminate between groups. The variables are then analysed using Structural Equation Modelling (SEM) with the aim of determining the relationships between the variables. These relationships are analysed in order to obtain answers to the hypotheses as stated in the previous chapter 2. The final subsection concludes the chapter.

## 5.2 Descriptive Statistics

The data in this study comprise primary data obtained from the questionnaires. The research sample contains a total of 381 respondents, consisting of 146 respondents (38.3%) from entrepreneurs and 235 from non-entrepreneurs (61.6%). The descriptions of the respondents are based on their current positions within the company, age, education level, marital status, industry type, marketing coverage, duration of business operations, assistance from the government and ease of accessing credit agencies and sales revenue which are provided on Table 5.1.

It can be seen that the majority of the respondents are the founder, owner and manager within their respective company, and they accounted for 76 respondents or 52.05% of the sample of entrepreneurs. The other 70 respondents or 47.85%, answered that they simply own the venture. In the non-entrepreneur group, 210 respondents or 89.36% of the sample answered that they are only managers, while the other 25 respondents indicated that they also share ownership of the ventures. This question is actually only targeted to directly compare the groups of entrepreneurs to those of the non-entrepreneurs. However, to overcome several difficulties in selecting the respondents in the current research, the combination of ownership and management position is not

automatically used for the respondents included in the entrepreneur group, but just as the founder of the venture among those respondents grouped as the entrepreneurs.

**Table 5.1 Descriptive Statistics**

		Entrepreneurs (N =146)		Non-Entrepreneurs (N=235)	
		Count (No.)	Percentage (%)	Count (No.)	Percentage (%)
Position in the company	1. Owners	70	47.95	25	10.64
	2. Managers	76	52.05	210	89.36
Age:	1. Less than 15	2	1.37	6	2.55
	2. 15–24	21	14.38	23	9.79
	3. 25–34	32	21.92	109	46.38
	4. 35–44	42	28.77	87	37.02
	5. 45–54	37	25.34	10	4.26
	6. 55 or over	12	8.22	0	0
Level of education:	1. Not attended	0	0	1	0.43
	2. Elementary	1	0.68	1	0.43
	3. High School	41	28.08	7	2.98
	4. Diploma	38	26.03	66	28.09
	5. Bachelor's degree	62	42.47	136	57.87
	6. Master's	4	2.74	23	9.79
	7. Other	0	0.68	1	0.43
Marital Status	1. Married	114	78.08	205	87.23
	2. Not Married	28	19.18	29	12.34
	3. Widower/Widow	4	2.74	1	0.43
Type of Industry	1. Agriculture	3	2.05	1	0.43
	2. Transportation	7	4.79	8	3.40
	3. Electronics and Telco	3	2.05	7	2.98
	4. Manufacturing	48	32.88	145	61.70
	5. Creative industries	53	36.30	43	18.30
	6. Other	32	21.92	31	13.19
Business operation	1. Less than 5 years	70	47.95	55	23.40
	2. 5–10 years	37	25.34	25	10.64
	3. 11–20 years	26	17.81	52	22.13
	4. above 21 years	13	8.90	103	43.83
Business Income (in IDR)	1. 0–50 million (up to AUD\$5.000)	57	39.04	49	20.85
	2. 56–100 million (AUD\$5.001-AUD\$10.000)	36	24.66	39	16.60
	3. 101–500 million (AUD\$10.001- AUD\$50.000)	31	21.23	74	31.49
	4. 501–1.000 million (AUD\$50.001- AUD\$100.000)	11	7.53	38	16.17
	5. above 1.000 million (above AUD\$100.000)	11	7.53	35	14.89

Source: Survey data (2018)

\*AUD\$1= 10.000 IDR

When examined in terms of age, the largest number of respondents from companies are aged between 35 and 44 years, with 42 respondents or 28.77%, while the largest number among the non-entrepreneur respondents is in the 25–34 age group, with 109 respondents (46.38%). The respondents' answers indicated that most respondents in the non-entrepreneur group can be categorised as entry level managers. This is an interesting finding because at this age, they are categorized as young and they might have minimal or insignificant experience. This group of respondents can be a starting point for future research.

The highest education level of the respondents from a company is a bachelor's degree, with 62 respondents (42.47%). The same applies in the case of the respondents from non-companies, with a total of 136 respondents (57.87%) having attained a bachelor's degree. The most dominant marital status among the respondents for both the entrepreneurs and non-entrepreneurs is married which accounted for 114 respondents (78.08%) and 205 respondents (87.23%), respectively.

The most common types of industries among the entrepreneurs are creative companies, accounting for 53 respondents (36.30%), while for the non-entrepreneurs, the most common types are manufacturing industries with a total of 145 respondents (61.70%). The majority of the respondents (70 respondents or 47.95%), stated that the business had been in operation less than 5 years, while for non-entrepreneurs the majority of answers regarding the length of operation was more than 21 years, with 103 respondents (43.83%) mentioning this. The most frequent level of business income among the entrepreneurs was less than 50 million IDR (equal to AUD\$5,000), with 39.04% (57 respondents). This is different from the corresponding figure for the non-entrepreneurs, which is in the range of 101 to 500 million IDR (AUD\$50,000), with 31.49% (74 respondents). For information, in 2019 one Australian Dollar (AUD\$) is equal to approximately 10.000 Indonesian Rupiah (IDR).

### 5.3 Descriptive Analyses

This section contains a detailed description of each of the research variables. The descriptive statistics used in this study were minimum value, maximum value, mean

value and standard deviation. The descriptive results of each research variable are shown in Table 5.2.

**Table 5.2: Descriptive Analyses**

Variable		Mean	St. Dev	Min	Max
IEO	Proactive	4.141	0.49	2.738	5.032
	Innovative	4.118	0.465	2.786	5.084
	Risk taking	3.459	0.767	1.496	5.423
	Autonomy	3.752	0.684	1.816	5.238
	Competitive	3.542	0.666	1.667	5.26
PERSONALITY TRAITS	Locus of control	3.898	0.636	2.100	5.696
	Need Achievemt	3.973	0.564	2.337	5.077
	Tolerance	3.825	0.611	2.228	5.331
	Self Efficacy	3.879	0.521	2.411	5.091
HUMAN CAPITAL	Entrep Skill	3.986	0.447	2.705	5.043
	Manag Knowledge	3.950	0.493	2.548	5.028
	Knowledge	3.896	0.588	2.364	5.34
	Capability	3.569	0.752	1.885	5.253
PERFORMANCE	Subjective	3.772	0.569	2.185	5.225
	Financial	3.812	0.615	2.215	5.196

Source: data (2018)

Based on the results in Table 5.2 it can be inferred that the average value of the IEO variable consists of five indicators, namely proactiveness, risk-taking, innovation, autonomy and competitive aggressiveness. All these items have the lowest average value of about 3.459 for risk-taking item and the highest average value is 4.141 for proactiveness. A total of four indicators make up the variable personality traits, namely locus of control, need for achievement, tolerance of ambiguity and self-efficacy, with the lowest average value of 3.825 for tolerance of ambiguity and the highest average value of 3.973 for need for achievement. Meanwhile the human capital variable consists of four indicators: entrepreneur competence, managerial competence, business knowledge and business capability, with the lowest average value for these items is 3.569 and the highest is 3.986.

The performance variable loaded into two indicators; namely, subjective measure and financial measure. These dimensions were with the subjective dimension having the lowest average value of 3.772 and the financial measurement dimension having the highest average value of 3.812.

Based on the descriptive results of the indicators of the research variables, it can be concluded that the average assessment of the respondents to the research variables are good enough for the analysis. In addition, normality test was performed.

## 5.4 Normality Test

Normality test was conducted to determine whether the data are distributed normally. The types of normality test used in this study are skewness and kurtosis. The research variables are said to be normally distributed if the p-value is greater than  $\alpha = 0.05$ .

As shown on Table 5.3, drawing on all the indicators of research variables, the lowest p-value for skewness and kurtosis is 0.848, while the highest value is 0.999. Since the p-values for skewness and kurtosis across all the indicators is above 0.05, it can be concluded that all the indicators of the research variables are normal.

**Table 5.3: Normality Test Results**

Variable	Skewness		Kurtosis		Skewness and Kurtosis	
	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
PROAC	-0.324	0.746	-0.424	0.672	0.285	0.867
INNO	-0.160	0.873	0.211	0.833	0.070	0.966
RISK	-0.026	0.979	-0.026	0.979	0.001	0.999
AUTO	-0.243	0.808	0.004	0.997	0.059	0.971
COMP	-0.158	0.874	0.136	0.891	0.044	0.978
LOCUS	-0.058	0.954	0.315	0.753	0.103	0.950
NEED	-0.364	0.716	0.444	0.657	0.329	0.848
TOLE	-0.214	0.830	0.351	0.725	0.169	0.919
SELF	-0.140	0.888	0.162	0.871	0.046	0.977
ENTRE	-0.137	0.891	0.449	0.653	0.221	0.896
MANAG	-0.112	0.911	0.113	0.910	0.025	0.988
KNOW	-0.197	0.844	0.292	0.770	0.124	0.940
CAPA	-0.071	0.943	-0.329	0.742	0.113	0.945
SUBJ	-0.036	0.971	0.042	0.966	0.003	0.998
FINAN	-0.200	0.841	0.032	0.975	0.041	0.980

Data collected (2018)

## 5.5 IEO Confirmatory Factor Analysis

Additionally, confirmatory factor analyses (CFA) were also performed. In the first step, the following five dimensions were used: Taking Risk, Proactiveness,

Innovativeness, Autonomy and Competitive Aggressiveness. For references of the results benchmark, this research follows cut-off values recommended for confirmatory factors by Hair et al. (2006).

**Table 5.4 Cut-off Values for Model**

<i>Goodness of Fit</i>	<i>Cut-off Value</i>
$\chi^2$ ( <i>Chi-Square</i> )	Preferably small
Probability	$\geq 0.05$
RMSEA	$\leq 0.08$
NFI	$\geq 0.90$
NNFI	$\geq 0.90$
CFI	$\geq 0.95$
IFI	$\geq 0.90$
GFI	$\geq 0.90$
AGFI	$\geq 0.90$

Source: (Hair et al., 2006, p. 753)

Based on the suggested scores, it is affirmed that the scores for CFI should be above 0.90 and for RSMEA, they should be below 0.08 (Hair et al., 1998). This would mean that the CMIN score divided by DF should be below 2.0 for a very good fit, while the accepted fit score should be between 2.0 and 5.0.

**Table 5.5 Confirmatory Factor Analysis for IEO on Students sample**

Items	A	B	C	D	E
A8	0.646	-	-	-	-
A10	0.754	-	-	-	-
A12	0.689	-	-	-	-
A13	0.684	-	-	-	-
A15	0.733	-	-	-	-
B9	-	0.655	-	-	-
B10	-	0.684	-	-	-
B11	-	0.730	-	-	-
B13	-	0.629	-	-	-
B17	-	0.716	-	-	-
B18	-	0.695	-	-	-
B26	-	0.728	-	-	-
C3	-	-	0.723	-	-
C12	-	-	0.771	-	-
C13	-	-	0.809	-	-
C14	-	-	0.752	-	-
C15	-	-	0.717	-	-
C16	-	-	0.733	-	-

C19	-	-	0.632	-	-
C20	-	-	0.621	-	-
D4	-	-	-	0.790	-
D5	-	-	-	0.787	-
D7	-	-	-	0.662	-
D8	-	-	-	0.756	-
E2	-	-	-	-	0.714
E6	-	-	-	-	0.623
E8	-	-	-	-	0.690
E9	-	-	-	-	0.665
E18	-	-	-	-	0.764
E19	-	-	-	-	0.683

Source: Data (2018)

### 5.5.1 CFA on Students Sample

The instrument validity test used in this research is the CFA test for the items of the questionnaire. Although a factor loading of  $\pm 0.30$  to  $\pm 0.40$  is minimally acceptable, values greater than  $\pm 0.50$  are required for practical significance. The results of the validity test from the student subjects are given in Table 5.5 and Figure 5.1. It can be seen that the lowest factor loading of all of the research questionnaire items is 0.621, with the highest one being 0.809. The value of the loading factor for all the questionnaires is above 0.50, which indicates that all the items of the research questionnaire have passed the CFA analysis. Therefore, it is appropriate to use for further analysis.

The analysis in the development of the instrument aims to determine the validity and reliability using CFA. Determining the reliability of the instrument was done by calculating construct reliability. The criteria used to determine instrument reliability is the construct reliability value (CR)  $\geq 0.6$  provided that other indicators have high reliability values (Hair et al., 2010).

**Table 5.6 Entrepreneurs sample CFA results**

Item	PROAC	INNOVA	RISK	AUTO	COMP
A3	0.622	-	-	-	-
A4	0.511	-	-	-	-
A5	0.693	-	-	-	-
B5	-	0.647	-	-	-

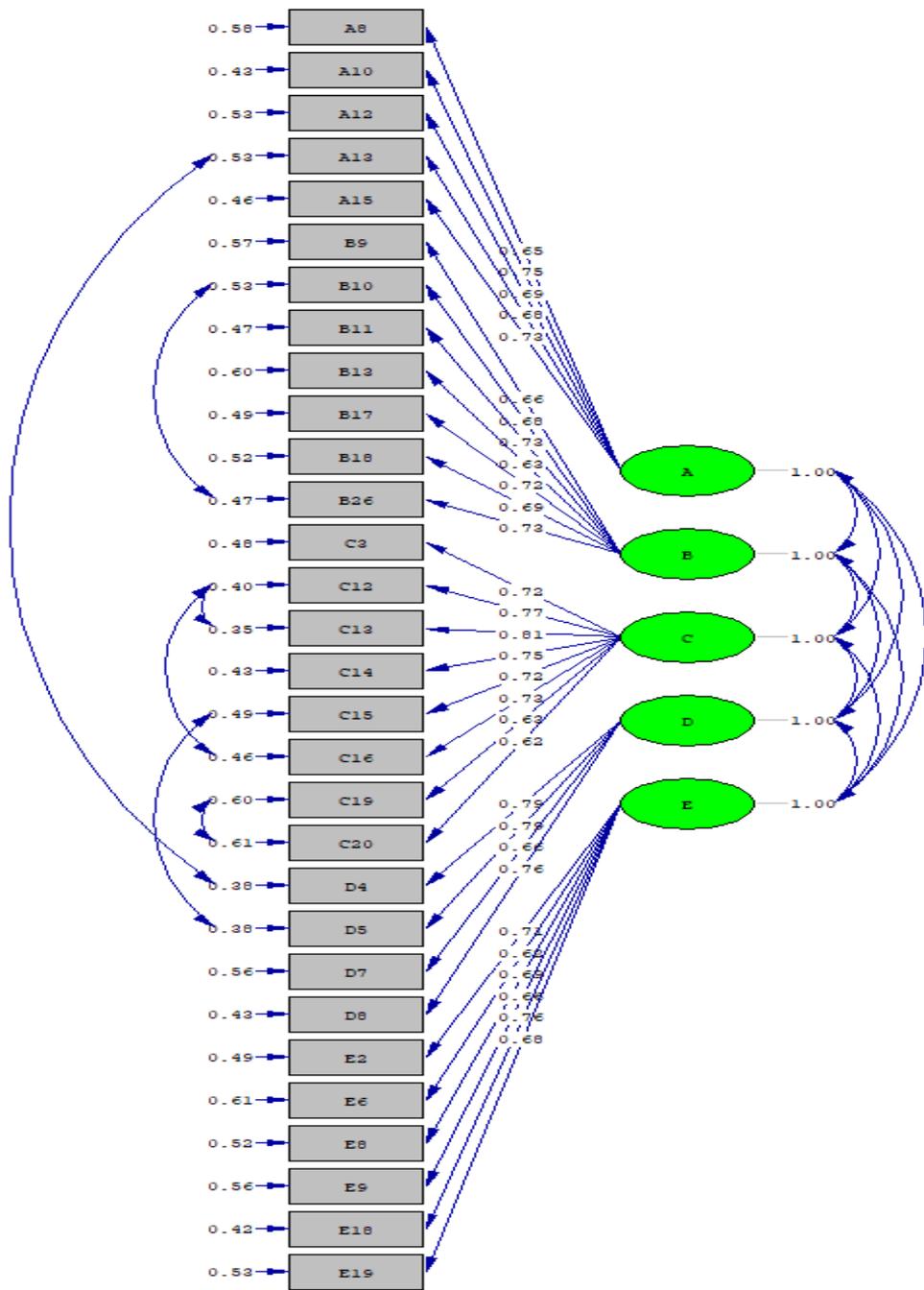
B7	-	0.545	-	-	-
B8	-	0.679	-	-	-
B9	-	0.616	-	-	-
C1	-	-	0.520	-	-
C2	-	-	0.607	-	-
C3	-	-	0.643	-	-
C4	-	-	0.876	-	-
C5	-	-	0.915	-	-
C9	-	-	0.603	-	-
D1	-	-	-	0.594	-
D6	-	-	-	0.783	-
D7	-	-	-	0.578	-
E1	-	-	-	-	0.667
E2	-	-	-	-	0.672
E3	-	-	-	-	0.585
E7	-	-	-	-	0.658

Source: Data (2018)

## 5.5.2 CFA on Entrepreneurs Sample

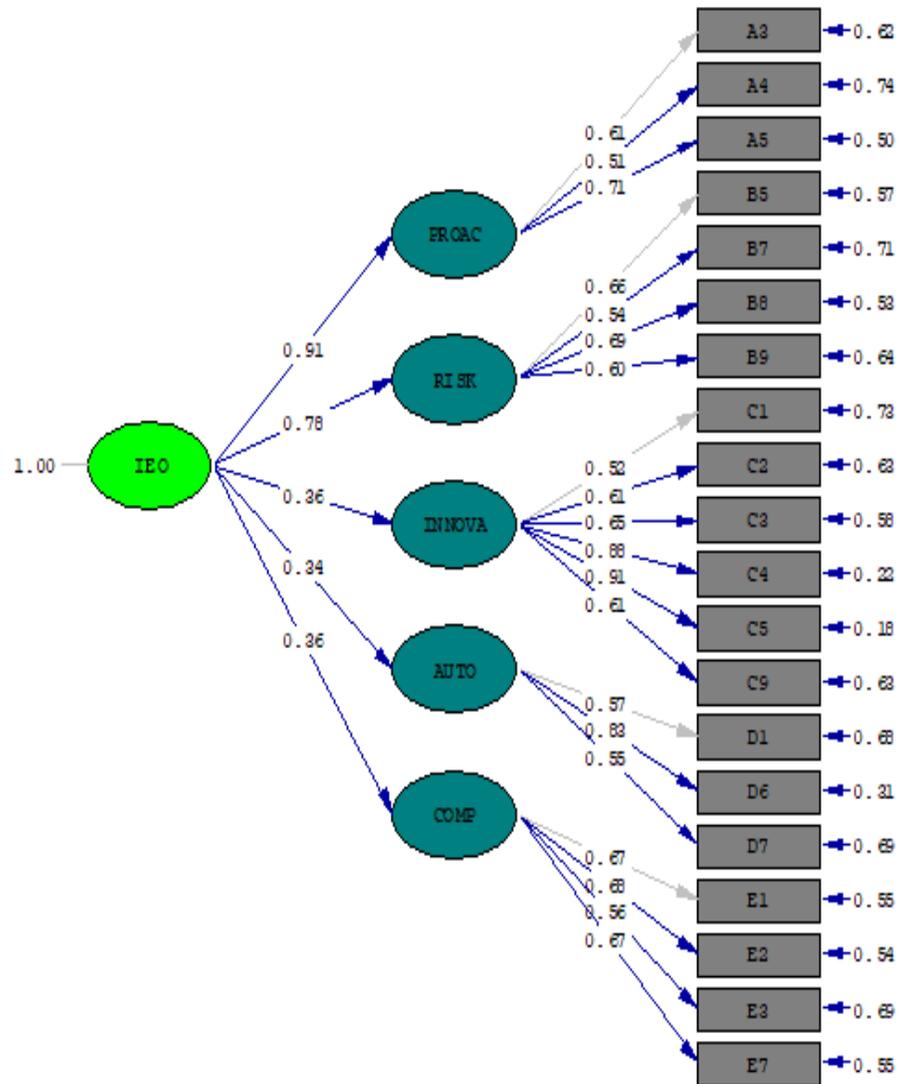
CFA is also used as an instrument analysis test for the questionnaire items for the entrepreneurs. Although a factor loading of  $\pm 0.30$  to  $\pm 0.40$  is minimally acceptable, values greater than  $\pm 0.50$  are required for practical significance. The results of the validity testing for each research variable on the subject of entrepreneurs are presented on the Table 5.6.

From Figure 5.3 and Table 5.6, it can be seen that the lowest factor loading of all of the research questionnaire items is 0.511, while the highest is 0.915. The value of the loading factor of the questionnaire total, which is above 0.50, indicates that all items of the research questionnaire have passed the CFA analysis. This means the items of the IEO questionnaire are feasible to be used for further analysis.



Chi-Square=427.58, df=389, P-value=0.08633, RMSEA=0.029

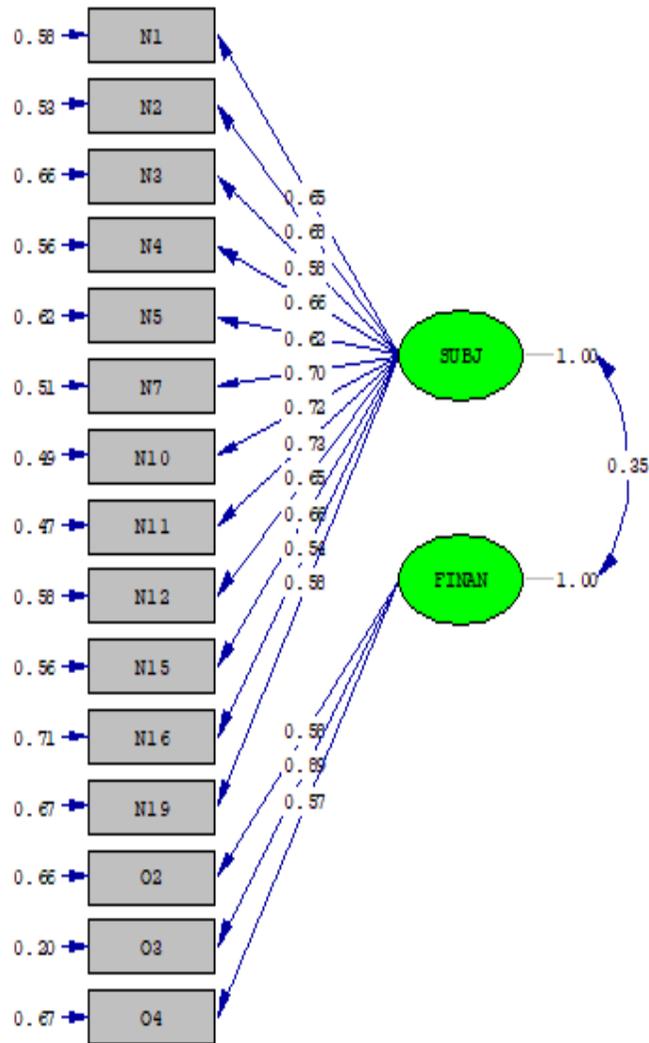
Figure 5.1 Confirmatory Factor Analysis Students sample



Chi-Square=366.96, df=165, P-value=0.00000, RMSEA=0.092

**Figure 5.2 CFA for IEO on Entrepreneurs Sample**

After all the IEO questionnaires had been confirmed, the performance was also tested for the CFA. From the Figure 5.3 and Table 5.7, it can be seen that lowest factor loading for all of the Entrepreneurial Performance questionnaire items was 0.539, while the highest value was 0.892. The value of the loading factor for all the questionnaires is above 0.50, which indicates that all items of the research questionnaire have passed the CFA analysis. This means the Performance questionnaire item is feasible to be used for further analysis.



Chi-Square=182.91, df=89, P-value=0.00000, RMSEA=0.085

**Figure 5.3 Performance CFA of Entrepreneurs sample**

**Table 5.7 Results for Performance CFA on Entrepreneurs Sample**

Item	SUBJ	FINAN
N1	0.647	-
N2	0.684	-
N3	0.580	-
N4	0.663	-
N5	0.617	-
N7	0.701	-
N10	0.716	-
N11	0.730	-
N12	0.651	-
N15	0.664	-
N16	0.539	-
N19	0.578	-
O2	-	0.583
O3	-	0.892
O4	-	0.574

Source: Data (2018)

### 5.5.3 CFA on Structural Modelling

Based on Figure 5.4 and Table 5.8 CFA on Personality traits of the Entrepreneurs below, that the lowest factor loading of all the research questionnaire items is 0.450, with the highest value at 0.776. Although the value of item loading factor is below 0.50, it is still above 0.30, thus indicating that the entire set of research questionnaire items has passed the CFA analysis. This means the Personality Traits questionnaire item is suitable for further analysis.

**Table 5.8 CFA on Personality traits of the Entrepreneurs**

Item	LOCUS	NEED	TOLER	SELF
F3	0.559	-	-	-
F7	0.450	-	-	-
F8	0.556	-	-	-
F9	0.671	-	-	-
G1	-	0.700	-	-
G2	-	0.732	-	-
G5	-	0.644	-	-
H1	-	-	0.490	-
H2	-	-	0.725	-
H3	-	-	0.535	-

I3	-	-	-	0.546
I4	-	-	-	0.776
I5	-	-	-	0.591
I6	-	-	-	0.684
I8	-	-	-	0.590

Source: Data (2018)

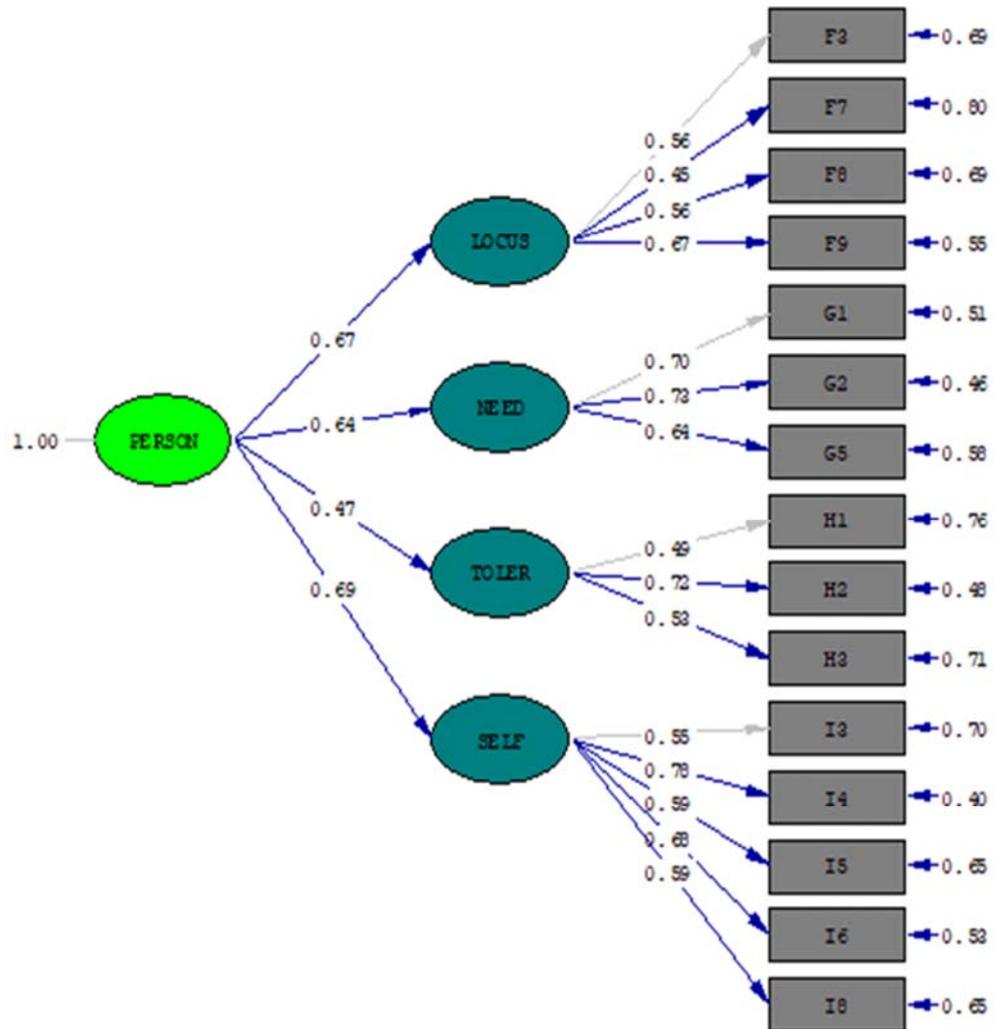
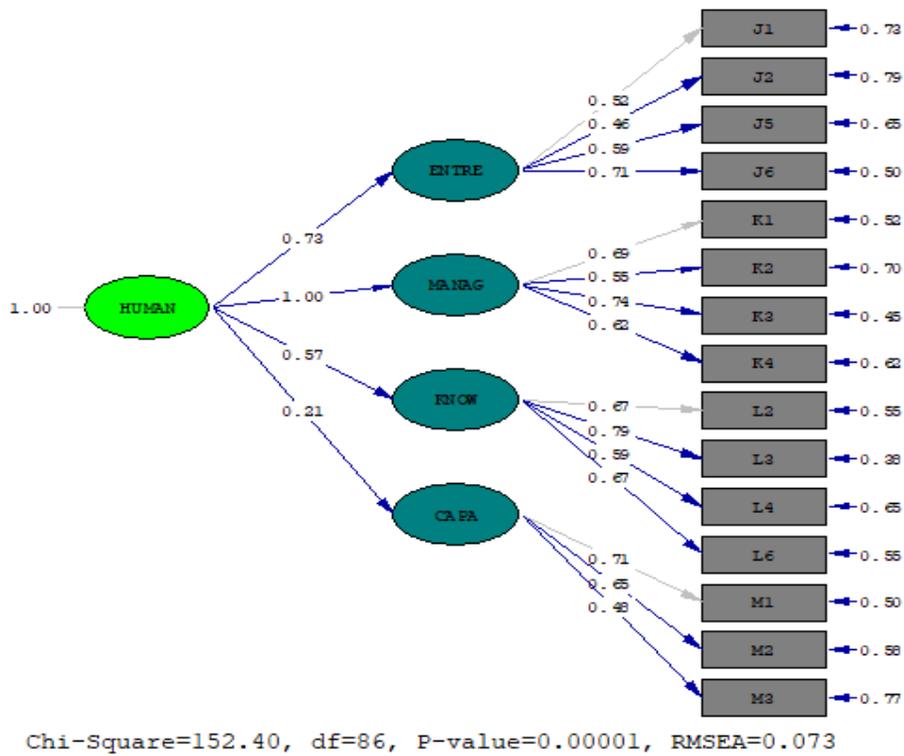


Figure 5.4 CFA results of Personality Traits on Entrepreneurs



**Figure 5.5 CFA of Human Capital of Entrepreneurs**

**Table 5.9 Human Capital CFA results for Entrepreneurs**

Item	ENTRE	MANAG	KNOW	CAPA
J1	0.520	-	-	-
J2	0.459	-	-	-
J5	0.591	-	-	-
J6	0.710	-	-	-
K1	-	0.691	-	-
K2	-	0.552	-	-
K3	-	0.742	-	-
K4	-	0.616	-	-
L2	-	-	0.670	-
L3	-	-	0.790	-
L4	-	-	0.594	-
L6	-	-	0.673	-
M1	-	-	-	0.707
M2	-	-	-	0.651
M3	-	-	-	0.483

Source: Data (2018)

## 5.6 Discriminant Analyses

Discriminant analysis is a multivariate statistical technique used to help measure the relationship between variables where it is possible to distinguish between the respondent variables and the explanatory variables (Hair et al., 2010). Discriminant analysis is an important tool for analysis where the total sample can be grouped into known variable characteristics. As the research objective is to predict the likelihood of individuals based on entrepreneurship characters, this tool is suitable (Moreno & Casillas, 2007).

**Table 5.10 Discriminant analyses between groups**

Variable	Mean		F	Sig	Classification Results
	Entrepreneur	Non-Entrepreneur			
PROAC	4.141	4.109	.404	.526	63.8%
INNO	4.118	4.004	5.349	.021	
RISK	3.459	3.245	6.934	.009	
AUTO	3.752	3.627	3.481	.063	
COMP	3.542	3.103	28.383	.000	

Source: Data (2018)

As Table 5.10 indicates, the average entrepreneur on the Proactive variable had a mean score of 4.141, while the average non-entrepreneur had a mean score of 4.109. The Proactive variable has an F value of 0.404 with a significance of 0.516. The value is greater than 0.05, which indicates that there is no significant difference between the entrepreneur and non-entrepreneur groups in terms of the PROAC variable.

For the INNO variable, the entrepreneurs have an average value of 4.118, while the non-entrepreneurs have an average value of 4.004. The INNO variable has an F value of 5.346. Its significance, at 0.021, is less than 0.05, indicating that there is a significant difference between the entrepreneurs and non-entrepreneurs in relation to the INNO variable.

For the RISK variable, the entrepreneurs have an average value of 3.459, while the non-entrepreneurs have an average value of 3.245. The RISK variable shows an F value of 6.934 with a significance of 0.009, lower than 0.05, indicating that there is a significant difference between the entrepreneurs and non-entrepreneurs with regard to the RISK variable.

In the case of the AUTO variable, the entrepreneurs have an average value of 3.752, while the non-entrepreneurs have an average value of 3.627. The AUTO variable has an F value of 3.481 and a significance of 0.063, which is greater than 0.05, meaning that there is no significant difference between the entrepreneurs and non-entrepreneurs in the AUTO variable.

Related to the COMP variable, the entrepreneurs have an average value of 3.542, while the non-entrepreneurs have an average value of 3.103. The COMP variable has an F value of 28.383 with a significance of 0.000, which is lower than 0.05, meaning that there is a significant difference between the entrepreneurs and non-entrepreneurs for the COMP variable.

**Table 5.11 Canonical Test of Discriminant**

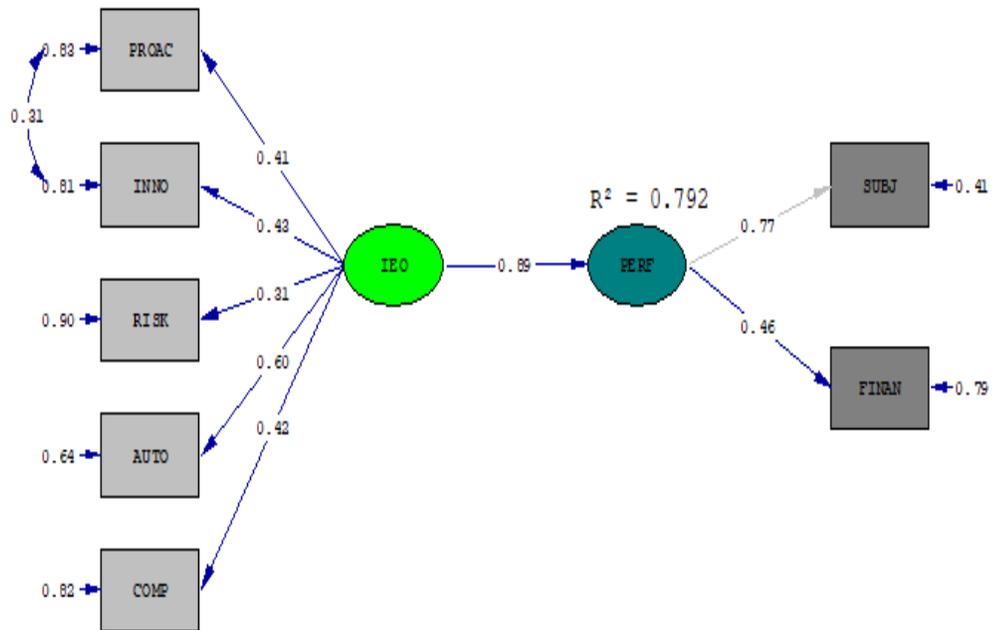
Wilks' Lambda	Chi-square	Sig.	Canonical Correlation	Classification Result
.909	35.799	.000	.301	63.8%

Source: Data

Based on Table 5.11 Canonical Test of Discriminant, it is known that the value of Wilks' Lambda is 0.909, and the chi-square value is 35.799 with a significance of 0.000. The significance value which is less than 0.05 indicates that there is a relationship between the PROAC, INNO, RISK, AUTO and COMP variables. This is also shown by the value of canonical correlation of 0.301 and the classification result of 63.8%. The classification result value of 63.8% indicates that the classification of the entrepreneurs and non-entrepreneurs in true level of the research's reached 63.8%.

## 5.7 Contributions of IEO to Entrepreneurial Performance

The data analysis technique used in this research is Structural Equation Modelling (SEM) with the help of LISREL 8.50 software. The pattern of the relationships between the variables of IEO Performance in this study are described is shown:



Chi-Square=19.11, df=12, P-value=0.08580, RMSEA=0.064

**Figure 5.6 Contributions of IEO toward Performance**

Based on the results of the analysis shown in Figure 5.6, the following estimation results can be obtained:

**Table 5.12 IEO Contribution to Performance**

Variabel	Coefficient	T-Value	R <sup>2</sup>
IEO→PER	0.890	6.793***	0.792

Source: Data

These results will answer the following hypotheses:

Ho: IEO has no effect on performance

Ha: IEO has an effect on performance

Based on the results of the above estimation, the value of the IEO coefficient has a performance of 0.890, with a t-count of 6.793. Since the t-count value is greater than that shown in the t table ( $6.793 > 1.96$ ),  $H_0$  is rejected, and  $H_a$  is accepted. Therefore, it is significantly proven that IEO has an effect on performance. The above results also indicate that  $R^2$  has a value of 0.792, indicating that performance influenced IEO to the amount of 79.2%, while the remainder ( $100 - 79.2 = 20.8\%$ ) is influenced by other variables outside the scope of the research model.

## 5.8 IEO Goodness of Fit Estimation Model

The model fit assessment was conducted to find out how far the hypothesised model matches the sample data. The results of the analysis using the LISREL 8.50 program for SEM generated goodness of fit by the indices provided in Table 5.13.

**Table 5.13 Results of Goodness of fit of the IEO on Performance**

<i>Goodness of Fit</i>	<i>Results</i>	<i>Cut-off Value</i>	<i>Remarks</i>
$\chi^2$ (Chi-Square)	19.243	Preferably small	<i>Good Fit</i>
Probability	0.083	$\geq 0.05$	<i>Good Fit</i>
RMSEA	0.064	$\leq 0.08$	<i>Good Fit</i>
NFI	0.877	$\geq 0.90$	<i>Marginal Fit</i>
NNFI	0.906	$\geq 0.90$	<i>Good Fit</i>
CFI	0.947	$\geq 0.95$	<i>Good Fit</i>
IFI	0.950	$\geq 0.90$	<i>Good Fit</i>
GFI	0.964	$\geq 0.90$	<i>Good Fit</i>
AGFI	0.915	$\geq 0.90$	<i>Good Fit</i>

Source: Data (2018)

Based on Table 5.13, it is known that most of the goodness of fit criteria are in accordance with the recommended terms (cut-off value). Thus, it can be concluded from the overall model assessment that the model matches with the sample or that the model has good fit.

## 5.9 Theoretical Structural Equation Modelling

SEM was carried out using LISREL 8.50 software for analyzing the relationships between the variables targeted in the research. Modelling using the theoretical relationship can be inferred based on the structural analyses as depicted in Table 5.14 Theoretical Structural Modelling. In this first model, the results show that the relationships between the variables are varied.

**Table 5.14 Theoretical Structural Modelling**

Variable	Beta value	T-Value	R <sup>2</sup>
PERSON → IEO	0.344	0.709	0.498
HUMAN → IEO	0.376	0.749	0.498
IEO → PER	0.622	2.563**	0.748
PERSON → PER	- 0.418	-0.692	0.748
HUMAN → PER	0.693	1.099*	0.748

Source: Data (2018)

The relationships between the equations can be inferred from this first testing on the structural model. However, the cut-off points in this theoretical model prove insignificant, as shown in Table 5.15. The levels of the cut-off values are not suitable for the model to be accepted. As such, the model is subsequently calculated using the suggestions from the software. Then the analyses continued to the empirical model analyses.

**Table 5.15 Goodness of Fit of the Theoretical Model**

<i>Goodness of Fit</i>	<b>Results</b>	<i>Cut-off Value</i>	<i>Remarks</i>
$\chi^2$ ( <i>Chi-Square</i> )	204.230	Preferably small	<i>Not suitable</i>
Probability	0.000	≥ 0.05	<i>Not suitable</i>
RMSEA	0.106	≤ 0.08	<i>Not suitable</i>
NFI	0.676	≥ 0.90	<i>Not suitable</i>
NNFI	0.714	≥ 0.90	<i>Not suitable</i>
CFI	0.771	≥ 0.95	<i>Not suitable</i>
IFI	0.780	≥ 0.90	<i>Not suitable</i>
GFI	0.831	≥ 0.90	<i>Not suitable</i>
AGFI	0.759	≥ 0.90	<i>Not suitable</i>

Source: Data (2018)

## 5.10 Empirical Model Analyses

In the second step of the analyses, the relationships between the variables are manipulated and revised. The analyses show that these relationships are different from those obtained with the first conceptual model. Firstly, the analyses are conducted based on the relationship of IEO and Performance. Human Capital and, finally, Personality Traits were then added to these relationships. All these relationships were iterated on the suggestions from the software until they all attained the preferred values. The first is checking the cut off values to accept the model, described on Table 5.16 Results and Cut-off points on Empirical Model.

**Table 5.16 Results and Cut-off points on Empirical Model**

<i>Goodness of Fit</i>	<i>Analysis Result</i>	<i>Cut-off Value</i>	<i>Remarks</i>
$\chi^2$ ( <i>Chi-Square</i> )	134.662	<i>Small preferable</i>	Less suitable
Probability	0.000	$\geq 0.05$	Less suitable
RMSEA	0.068	$\leq 0.08$	<i>Good Fit</i>
NFI	0.786	$\geq 0.90$	<i>Marginal Fit</i>
NNFI	0.850	$\geq 0.90$	<i>Marginal Fit</i>
CFI	0.890	$\geq 0.95$	<i>Marginal Fit</i>
IFI	0.896	$\geq 0.90$	<i>Marginal Fit</i>
GFI	0.895	$\geq 0.90$	<i>Marginal Fit</i>
AGFI	0.836	$\geq 0.90$	<i>Marginal Fit</i>

Source: Data analysis

The suggested relationships had reached the maximum; however, the results of the cut-off points were insufficient to achieve the best maximum values. Although the majority of these results could not meet the cut-off point, the numbers, on average, were only slightly off the values. These are the best values in the model suggested. In the empirical model, the relationships of the variables used to analyse the relationships will contribute to increasing the IEO level.

As suggested in Table 5.17 Empirical Structural Equation Model, the contributions of personality and human capital are mediated by the IEO. In the final results, these relationships provide answers to research question 3 and are also in line with previous research in the field.

**Table 5.17 Empirical Structural Equation Model**

Variables	Coefficient	t-value	R <sup>2</sup> value
IEO→PERF	0.621	2.906	0.698
PERSON → IEO			
HUMAN → IEO	0.715	4.486	0.512
PERSON→PERF	0.286	1.742	0.698
HUMAN→PERF			
PERSON→HUMAN	0.904	6.724	0.512

Source: Data

Based on the results of the analysis in accordance with the model equation above, the SEM estimation results obtained are described in the structural equations summary. Based on these results, it can be inferred that the relationships of the variables under research are significantly correlated with each other. These relationships therefore open up the opportunity to answer the hypotheses on these variables. The results on table Table 5.17 Empirical Structural Equation Model), are explained in next sections.

$R^2$  is indicating the variance explained by the factors in the model.  $R^2$  is calculated by fraction of which the variance of the errors is less than the variance of the dependent variable. The results of  $R^2$  ranges from 0 to 1, which the higher levels mean that the model accurately explaining the variance. As a rule of thumb, the values 0.75 is considered substantial, while 0.5 considered moderate and less than 0.25 considered weak (Hair et al., 2011).

### 5.10.1 Human Capital Influence on IEO

The following hypotheses are posited:

Ho: Human capital has no effect on IEO

Ha: Human capital affects IEO

Based on the above estimation, the value of the coefficient of human capital to IEO is 0.715, with a t-count of 4.846. Since the value of the t-count is greater than that given in the t table ( $4.846 > 1.96$ ), Ho is rejected and Ha is accepted, meaning that human capital is proven to have a significant effect on IEO.

Based on the above results, it can also be seen that there is an  $R^2$  value of 0.512, which means that IEO influenced human capital by 51.2%, with the remainder ( $100 - 51.2 = 48.4\%$ ) influenced by other variables outside the scope of the research model.

### 5.10.2 The Influence of Personality Traits on Human Capital

The following hypotheses are posited:

Ho: Personality traits have no effect on human capital

Ha: Personality traits affect human capital

Based on the equations summary, the coefficient of personality traits to human capital is 0.904, with a t-count of 6.724. Because the t-count value is greater than that shown in the t table ( $6.724 > 1.96$ ), Ho is rejected and Ha is accepted, meaning that personality is proven to have a significant effect on human capital.

Based on the above result, it is also known that the value of  $R^2$  is equal to 0.512, which means that human capital influenced problem traits to an amount equal to 51.2%, while

the remainder ( $100 - 51.2 = 48.4\%$ ) is influenced by other variables beyond the scope of the research model.

### 5.10.3 Influence of Personality Traits on Performance

The following hypotheses are posited:

Ho: Personality traits have no effect on performance

Ha: Personality traits affect performance

Based on the above estimation, the coefficient of personality traits to performance is 0.286, with a t-count value of 1.742. Since the t-count is lower than that given in the t table ( $1.742 < 1.96$ ), Ho is accepted and Ha is rejected, meaning that personality traits have no significant effect on performance.

The  $R^2$  value of .698 indicates that performance is influenced by IEO and personality traits to the degree of 69.8%, while the remainder ( $100 - 69.8 = 30.2\%$ ) is influenced by other variables beyond the scope of the research model.

### 5.10.4 IEO's Influence on Performance

The following hypotheses are posited:

Ho: IEO has no effect on performance

Ha: IEO has an effect on performance

Based on the results of the above estimation, the value of the IEO coefficient with regard to performance is 0.621, with a t-value of 2.906. Since the t-value is greater than that given in the t table ( $2.906 > 1.96$ ), Ho is rejected and Ha is accepted, indicating that IEO has a significant effect of performance.

The  $R^2$  value of 0.698 indicates that performance is influenced by IEO and personality traits to the degree of 69.8%, while the remainder ( $100 - 69.8 = 30.2\%$ ) is influenced by other variables beyond the scope of the research model.

## 5.11 Conclusion

The aim of this quantitative research is to explore how Individual Entrepreneurial Orientation (IEO) operates in the context of Indonesian entrepreneurs, in effort to provide an integrated view of contributions related to their nomological network. This was done through the development and validation of IEO constructs, which was by

considering its relationship toward antecedents and consequences in the theory of entrepreneurship. Specifically, this was done by testing the effect of IEO in the relationship between human capital, personal traits and entrepreneurial activities among entrepreneurs in Indonesia. By using a combination of instruments that were strictly validated, analyses using Structural Equation Modelling were performed. All data were calculated to answer research questions and hypotheses. As data were collected from entrepreneurs and non-entrepreneurs in Indonesia, the findings of this study should not be generalized outside the sample. Nevertheless, this study has produced useful information explaining the relationship between IEO and entrepreneurial activities among Indonesian entrepreneurs.

Data were collected from 381 respondents which consisted of 146 entrepreneurs (38%) and 235 non-entrepreneurs (62%). Most of the entrepreneurs were founders, owners and managers (in one person) in their respective companies, totalling 76 respondents (52.05%), while the remaining 47.85%, worked only as business owners. From their responses, the data were then calculated by statistical methods

First, the data were tested for normality test and were found to be normally distributed. Next, with the CFA method, IEO construct produced factor loading values ranging from 0.511 to 0.915, which resulted in 21 items scattered in 5 dimensions. Thus, it provided a validation for the IEO construct into 5 factors. Further, the IEO construct was also capable of discriminating about 63% between entrepreneurs and non-entrepreneurs. This means the IEO levels between the two groups have differences.

In the IEO construct validity results regarding its nomological networks, structural analysis (RMSEA = 0.64) produced various interesting findings. First, IEO has a correlation of 79% with entrepreneurial performance. This means that IEO does have a close relationship with performance. Whereas in relation to antecedent variables, IEO significantly mediated the relationship between Human Capital and Personality Traits. This provided confirmation to the relationship among each of the variables.

However, each of these results needs to be given a theoretical reason that underlies the results of this study. Therefore, the next chapter provides the theoretical basis for the results obtained from the statistical analysis.

# Chapter 6 Discussion

## 6.1 Introduction

The purpose of this quantitative study is to develop and validate IEO in entrepreneurship in the Indonesian context and build its nomological network to enhance entrepreneurial success. In the previous chapter, results of the analyses using statistical methods have been presented. In this chapter, the results obtained are elaborated using the theoretical framework. The chapter starts with descriptions of the flow and discussion based on the statistical results. The major findings section in the thesis presents the summary of significant findings based on the statistical analyses. The next sections discuss the results of the hypotheses testing results, followed by discussion on Entrepreneurs and Non-entrepreneurs differences in IEO level among Indonesian sample. The next section focused on the nomological networks of IEO in the theory. The chapter is closed with the conclusion.

## 6.2 Major findings in the thesis

The interest in specific individual models of Entrepreneurial Orientation scale was gaining popularity when Bolton and Lane (2012) developed their IEO scale. They used Lumpkin et al. (2009) scale and adopted it to individual level. Although it gained popularity and had often been studied, the IEO study still needs more research for making it a solid theory in entrepreneurship study due to the conflicting findings in various situations, for example the dimensionality of the scale. In the development of the scale, Bolton and Lane (2012) proposed IEO to obtain five dimensions. However, the autonomy and competitive aggressiveness dimensions failed to load into specific dimensions. Three dimensions of IEO have been used in most research in this field, as described in the previous chapter. Although this scale has been suggested for consistency across studies, it raises questions in relation to the autonomy and competitive aggressiveness dimension which are still under studied. While most of the applications of IEO research using the Bolton and Lane (2012) scale employs three dimensions, researchers still believe that the other two dimensions may be valuable to research (Al Mamun et al., 2017; Lei, 2014; Pisapia et al., 2016). Several attempts to

include competitive aggressive and autonomy had been conducted. However, this research yielded almost similar results for the competitive aggressiveness and autonomy, which failed to hold its validity and reliability (Al Mamun et al., 2017; Pisapia et al., 2016). Some researchers called for more research to study the IEO with the five dimensions (Bolton & Lane, 2012; Vantilborgh et al., 2015). In order to fill the gap, it is important to depart from existing research and elaborate the scale from extant research. Therefore, in the preparation of this thesis, the researcher used many sources of EO scales in addition to providing variations and references used in the preparation of each dimension. Also, in the initial study of literature, it was found that previous studies have limitations in composing the IEO (Bolton & Lane, 2012), which this thesis attempts to address.

The limitation of the previous research is primarily was that the approach used the personality traits model whereby the IEO is perceived as broad human traits that will lead to entrepreneurship (Bilsky & Schwartz, 1994). However, precaution should be taken if IEO should be operated with personality traits model. The personality traits may be different in the implementation of one's work. The personality traits approach considers that all batches of activities will have the similar responses (Ajzen, 1987). For example, individuals with a strong need for achievement, are willing to compete with other colleagues to be the best in the group. Using this basis as the IEO approach, all the activities of the entrepreneurs will provide the same path. For example in business, taking risk in risky activities, researchers argued for the need to avoid using tendencies and disposition (Jelenc et al., 2016). Therefore, people turn from personality traits to attitude models. In the TPB model (Ajzen, 1991), the tendency of someone to perform something (behaviour) will be influenced by attitude towards the object. So, one can have the nature of not being a risk taker, but if one's positive attitude towards the expected return is greater, then that person will dare to take a high-risk business because s/he expects a higher rate of return.

Secondly, the existing IEO scale with autonomy and competitive aggressiveness is considered under-researched. Therefore, in developing the scale on the specific dimensions, more scales into five dimensions of EO scale (further abbreviated FDEOS) were consulted. The source of IEO, for example autonomy, was taken from Al Mamun et al. (2017) and competitive aggressiveness comes from Lei (2014). For

generalisation purposes, all FDEOS scales available from the study of Eggers et al. (2013) and Zang et al. (2014) were also used as consulted references.

Thirdly, the involvement of students in the preparation of a certain scale provides efficiency (Robinson, Stimpson, et al., 1991), but needs to be considered critically as the scale requires knowledge and policy experience in decision-making as in the preparation of this IEO; the involvement of students as a sample therefore does not provide the desired results (Robinson, Huefner, & Hunt, 1991). In this study, the scale development is also done on the sample of entrepreneurs to produce a scale closer to the conditions in the business world. Therefore, in this thesis, Masters students are used as a sample to test readability and pilot testing only. Therefore, it differs from previous research that is built by using student samples (Robinson, Huefner, et al., 1991). It is expected that the results obtained from this research will generate an IEO scale that is more appropriate to the condition of Indonesian entrepreneurs.

Fourth, the thesis also delves further into the IEO theory networks on the entrepreneurship study. Specifically, it tries to fill the gap calling for more research on the nomological network on the IEO theory (Krauss et al., 2005). It draws on several theories on individual entrepreneurial contribution toward entrepreneurial performance, theories of Person Fit theory (Markman & Baron, 2003), Entrepreneurs contribution on new venture performance (Herron & Robinson, 1993) and active personality model (Frese & Gielnik, 2014). The relationship of IEO with other individual-specific variables contributions toward entrepreneurial performance is established. The literature review suggests that there is no specific research that addresses the IEO nomological networks (Krauss et al., 2005). Borrowing from the mentioned theory, there are several research findings which are considered as the major findings of this thesis.

There are six findings, of which three are IEO-specific findings and the other three are nomological network findings. The first finding related to the scale development results of all the variables loaded into the five dimensions. The second finding is about the results of the IEO scale in highlighting the differences between the entrepreneurs and non-entrepreneurs. The third finding is about the IEO correlation with performance in the entrepreneurs.

The nomological network-related findings are also important for entrepreneurship theory. The fourth finding is that the human capital variable does not directly influence entrepreneurial performance, while personality has a direct but insignificant relationship with entrepreneurial performance, which is the fifth finding. Finally, the sixth finding was that IEO can mediate the relationship between personality traits, human capital and entrepreneurial performance. The major research findings are presented Table 6.1. The explanation of each findings is elaborated in the next sections.

**Table 6.1 Major Research Findings**

Research Findings	
Finding 1	Proactiveness, Innovativeness, Risk Taking, Autonomy and Competitive Aggressiveness significantly predict IEO
Finding 2	Entrepreneurs and non-entrepreneurs are significantly different in IEO level of Indonesian sample
Finding 3	IEO significantly correlated to entrepreneurial performance in Indonesian entrepreneurs
Finding 4	Human Capital does not significantly influence the entrepreneurial performance
Finding 5	Personality Traits show only low and insignificant influence on entrepreneurial performance
Finding 6	IEO significantly mediates the relationship between Human Capital and Personality Traits and the entrepreneurial performance.

Source: Research Findings

### 6.3 Proactiveness, Innovativeness, Risk Taking, Autonomy and Competitive Aggressiveness as a predictor of IEO

The entrepreneurship orientation is conceptualised to assess a person's attitude to business activities that will drive superior success of the firm. IEO is predicted to have contributed to the intentions in entrepreneurial activities and thus business success (Bolton, 2012). This thesis is important for the development of entrepreneurial success in developing countries such as Indonesia. For this specific purpose, the scale development and testing of its nomological network for antecedents and consequence

will provide invaluable contributions to the study of entrepreneurship. However, the findings in this study should be interpreted with caution.

First of all, the statistical results show that Individual Entrepreneurial Orientation has five dimensions related to individual differences. The use of the five dimensions is an accumulation of some previous research that gives inconsistent results. This support for the hypothesis 1, which predicts that IEO yields significant validity and reliability. It also sets the expectation that these five dimensions will drive the individual entrepreneurial orientation, which leads to entrepreneurial actions and thus entrepreneurial performance. Using confirmatory analysis, the results indicated that IEO dimensions indeed is a multidimensional and may vary independently (Lumpkin & Dess, 1996). The results indicate that, on a different context, the set dimensions combining the IEO may also be different. The results also indicated that to entrepreneurship literature specifically on the autonomy and competitive aggressiveness dimensions which have been less studied (Bolton & Lane, 2012).

In revisiting IEO dimensions applicable to the Indonesian context, there are several steps taken for validating the scale. Firstly, the literature study conducted to initially identify the constructs was tabulated Table 2.3 Studies focused on IEO theory. Then, the researcher reviewed articles to pool items from existing IEO scales and grouped them into five dimensions as mentioned earlier. The researcher then discussed with an expert (Professor in Entrepreneurship) the pool of items consisting 125 items in the IEO scale. These items were derived from related articles suitable for the current research. These items were grouped into five different groups (1) risk taking, (2) proactiveness, (3) innovativeness, (4) autonomy and (5) competitive aggressiveness.

In step 1, the first step was the preparation of items that fit the dimensions and then adopted to measure individual levels. The first validation step was to involve 10 PhD students in business and economics. These PhD students and the expert in entrepreneurship completed the questionnaire using rating scales and from this, 42 items emerged. The involvement of PhD students was to gain insights to be able to smooth the items construct validity yet, be understandable to the respondents. It was also to minimize respondent fatigue in providing answers (Podsakoff et al., 2003).

In step two, the results obtained were then arranged and reworded to make it easier for the respondents to rate the questionnaire based on their opinions. These items were

then pilot tested with 120 Masters students in economics and management. There were several items that did not load and reach the validity threshold. Finally, it was found that 32 items generated into the 5 dimensions - risk taking, proactive, innovative, autonomy and competitive aggressive. Confirmatory factor analysis procedures were then applied using structural equation modeling (SEM) with AMOS software. These tests produced significant chi-square statistics that required the researcher to reject the null hypothesis for model conformity.

The next step, Step 3, was to validate the scale on entrepreneurs and non-entrepreneurs sample for a total sample of 187 entrepreneurs and 298 managers. Testing the scale with Confirmatory Factor Analysis, the items that loaded into five dimensions consisted of 20 items of parsimony that meet the objectives in a specific sample of the target population. This result was obtained from a five-point Likert-type scale, using three steps to validate IEO as described in Chapter 4. Results that meet the criteria of validity and reliability were then tested on the main sample using employers and non-entrepreneurs. The results of the final questioner are presented in Table 6.2.

**Table 6.2 IEO Items Loading**

No	Coding	Items	Loading
1.	A3	prefer to step up to get things going rather than sit	0,622
2.	A4	acting to anticipate future demands	0,511
3.	A5	likes to shape business to enhance market presence	0,693
4.	B5	prefer a creative way in productions method	0.647
5.	B7	likes to give attentions to innovative ideas	0.545
6.	B8	prefer a creative new solution to problem solving	0.679
7.	B9	likes to be an innovative person	0.616
8.	C1	like to take bold action into the unknown	0.520
9.	C2	willing to invest time/money on something with high return	0.607
10.	C3	act boldly in risky situation	0.643
11.	C4	strong proclivity for high risk project	0.876
12.	C5	likes to take high risk project	0.915
13.	C9	willing to engage in risky investment	0.603
14.	D1	likes employee initiatives to play a major role business	0.594
15.	D6	likes to give authority and responsibility to act alone for the best of business	0.783
16.	D7	prefer to decide autonomously in doing business	0.578
17.	E1	prefer to competitive posture in business	0.667
18.	E2	likes the challenge posture	0.672
19.	E3	likes an aggressive action to win	0.585
20.	E7	likes aggressive stance and intensely competitive	0.658

Source: Questioner

From the results of the CFA presented in Table 6.2 IEO Items Loading, it can be seen that the factors were loaded in the range of 0.514 until 0.927 that were above the threshold value of 0.50. This indicates that all of the items are feasible for analysis. In the case of the descriptive fit index, the comparative comparison index (CFI = 0.915) falls below the 0.95 standard. This model has an average mean root error of approximation (RMSEA = .078), falling between good (0.05) and adequate (0.08) which results in a less than adequate match (Hair et al., 2010).

Table 6.2 about the IEO results on factor loadings, presents the final items of IEO variable. Only 21 items can be significantly loaded between the threshold more than 0.4. All these items represent five factors namely Proactiveness (A), Innovativeness (B), Risk Taking (C), Autonomy (D) and Competitive Aggressive (E). Specifically, the items loaded into five factors with the lowest was “I prefer to try my own unique way’ (loading score 0.505) and the highest was “I like to take high risk project” (loading score 0.927).

The example of items that have the highest loading on each specific IEO factor is interesting to mention. For example, on Proactiveness item loaded highest was “I like to shape my business to enhance market presence’. This item shows that being proactive can be seen on entrepreneurs who likes to enhance the market presence. He will do everything in advance for making sure his business will be on the top. Other example of Innovativeness factor, the “I like to give attention to innovative ideas” also put the entrepreneurs attention to innovative ideas also important for the successful of the business endeavour. The capability to provide attention for out-of-the-box ideas and innovative ways to produce, also particularly important for entrepreneurial success. While the most important factor for entrepreneurs that of Risk Taking, the example is “I like to take high risk project”. This is also important to note that entrepreneurs always breaking the new ideas that would bring risks.

The other factors, Autonomy and Competitive Aggressiveness, brought new insight for entrepreneurs’ attitude toward business activities. For example, the “I prefer to decide autonomously in doing business” perceived that entrepreneurs like to have freedom in deciding the course of the business. With freedom to act upon a specific idea, entrepreneurs can pursue bigger opportunities that not many people can see. This also goes with the Competitive Aggressive example, that is “I like the challenge posture” that entrepreneurs will dare to challenge the existing competition if he sees

there is a big opportunity. Combined, these IEO describing the entrepreneur's attitudes toward business as the important aspects for entrepreneurial success.

Based on the final scale development as suggested in the Table 6.2, the most important dimension is the Risk Taking.

### 6.3.1 Proactiveness

#### **H1a : Proactiveness is a dimension of Individual Entrepreneurial Orientation**

The first hypothesis relates to proactiveness which is defined as someone who proactively anticipates or chooses to act before a problem, or something occurs. In this case the entrepreneur will tend to have a proactive attitude towards the changes and the implementation of his business. In accordance with some existing theories, an entrepreneur has a tendency to excel in anticipation of changes in his business (Kohli et al., 1993). Every time there is a change of market demand, he also will excel in doing something about turning the condition into an opportunity (Bolton, 2012). A businessman will move immediately when he finds an opportunity. According to table 6.2 , the items that loaded into this factor are in accordance with the definition of being proactive.

### 6.3.2 Innovative

#### **H1b: Innovativeness is a dimension of Individual Entrepreneurial Orientation**

The next hypothesis is that Innovation is one of the important dimensions for IEO. Based on the literature review, innovation is one of the main components in enhancing success and entrepreneurial drive (Al Mamun et al., 2017). A person who has a tendency to innovate will make his company grow and make more improvements in his business.

With the desire to always innovate, the entrepreneur will be able to propose a new use for a product and make improvements necessary in order to increase the commercial value of a product (Al Mamun et al., 2017). This is the reason that the drive to innovate is considered an important entrepreneurial activity because it involves a combination

that can radically alter the basis of competition within an industry, or that individuals can drive their creativity to form a truly new industry (Al Mamun et al., 2017; Cuervo et al., 2007).

To be able to change the competition within an industry, the entrepreneur needs to have the creative ability to improve the method of production (Eggers et al., 2013), by always providing innovative ideas (Zehir et al., 2015) and prioritising new solutions for business problem-solving (Zehir et al., 2015). This can only be done by someone who has a desire to always be an innovative person (Eggers et al., 2013).

### 6.3.3 Risk Taking

#### **Hypothesis H1c: Risk taking is a dimension of Individual Entrepreneurial Orientation**

Risk-taking is widely recognised as the main scale for approaching entrepreneurial orientation (Bolton & Lane, 2012). This construct was also proved to be significant at firm-level, which is measured by the managers' responses in regard to the firms' inclination to engage in risky projects and bold actions to achieve organisation objectives (Lumpkin & Dess, 1996; Miller, 1983). This is also true when implemented at the individual level. The list of potential factors in predicting risk taking include the results of previous risk -taking, and willingness to accept risks (Al Mamun et al., 2017). A manager who has the courage to take risks and accept failure will tend to prefer to introduce new products to respond to changes in consumer demand.

Although it is not surprising that risk-taking is a significant factor for IEO, it is also important to note that the result serves as somekind of reliability check with previous IEO constructs.

### 6.3.4 Autonomy

#### **Hypothesis H1d: Autonomy is a dimension of Individual Entrepreneurial Orientation**

Autonomy means action-independent individual or team which aims to produce business concept or vision and implement it all the way to the desired destination. According to Lumpkin and Dess (1996) the autonomy dimension in IEO means that the entrepreneur is willing to support development of ideas and executes the ideas freely without any intervention, any control or supervision from other entities. There is a common understanding that entrepreneurs are different from managers in their

agreeableness (Zhao et al., 2010). The entrepreneur will prefer having high independence, therefore, autonomy is also considered to be an important factor in entrepreneurship

### 6.3.5 Competitive Aggressiveness

#### **Hypothesis H1e: Competitive aggressiveness is a dimension of Individual Entrepreneurial Orientation**

Competitive Aggressiveness is the willingness of individuals to have positive attitudes to directly and intensively challenging competitors in an effort to market and improve their position in the market. Competitive aggressiveness is another form of responsiveness in frontal competition (Lumpkin & Dess, 1996).

### 6.3.6 Overall

The result of this first hypothesis is that Individual Entrepreneurial Orientation significantly affected all five factors, which would mean that a manager who possesses IEO has the courage to take risks and accept failure, and will tend to prefer to introduce new products to respond to changes of consumer demand (Kohli et al., 1993). Proactiveness in the context of entrepreneurship is related to the perspective of looking ahead and tendency to take the initiative by anticipating and pursuing new opportunities and by participating in seizing the market (Lumpkin & Dess, 1996). The proactivity dimension in entrepreneurship is believed to encourage the identification of new market opportunities (Miller & Friesen, 1982).

These results signify the contributions of IEO in the form of positive attitude, having courage to take business risks, always making changes and innovations, competing more aggressively in the market, having freedom to act and competing aggressively in the market. Furthermore, the ability of individuals to have high entrepreneurial orientation is needed specifically for managerial positions of small and medium industries in carrying out to expand the business.

Lumpkin and Dess (2001) stated that the concept of EO (Entrepreneurial Orientation) includes five dimensions, namely: autonomy, innovation, taking risk, proactive and aggressive in competition. In the field of entrepreneurship research, entrepreneurial orientation has become an important construct. The proposition that underlies the importance of individual entrepreneurial orientation is that individuals with a higher level of entrepreneurial attitude are more likely to have higher levels of performance

and growth, because they are able to deal with environmental dynamics more successfully (Krauss et al., 2005).

However, the nature of contribution for each of the dimensions of IEO and performance are still not consistent. Some studies have shown positive significant effects with three dimensions (Bolton, 2012; Bolton & Lane, 2012), while other research showed significance with five dimension model (Vantilborgh et al., 2015). It is believed that there is still relatively little research on developing Individual Entrepreneurial Orientation and developing its nomological network related to the entrepreneurial literature. This thesis is among the pioneers on that perspective. It is expected that this research will be able to provide some insights into the application of entrepreneurial orientation in improving organizational performance. This study also contributes to explaining the effect of developing entrepreneurial orientation in the form of idea-finding orientation, orientation toward opportunities and risky courage, and the development of human capital and personality traits contribution toward organizational performance.

## 6.4 Differences between Entrepreneurs and Non-entrepreneurs in IEO

The second hypothesis deals with the results on the significant differences in IEO properties from the entrepreneurs sample and the non-entrepreneurs sample. Using two predefined samples of entrepreneurs and non-entrepreneurs, a discriminant analysis was conducted. This analysis aims to examine differences over IEO dimensions that characterizes these groups. The results of the discriminant analysis are presented in Table 6.3 Results on Discriminant. The discriminant analysis shows that there are three factors that made up the differences of the two groups, while the other two dimensions are not much different. Based on the test in Table 5.10, the analysis showed that two variables have no significant difference because the significance value is above the 0.05 threshold value. Variable Proactive (0.521) and Autonomy (0.063) have no significant difference between the two groups. This study found that IEO is able to provide significant results in discriminating employers and non-entrepreneurs as much as 63%. Therefore there are only three factors supported the differences between entrepreneurs and non entrepreneurs.

**Table 6.3 Results on Discriminant**

	<i>Dimensions</i>	<i>Result</i>
H21	Proactive	Unsupported
H22	Innovative	Support
H23	Risk-taking	Support
H24	Autonomy	Unsupported
H25	Competitive aggressiveness	Support

Source: Data

The results of this Table 6.3 indicate that in the case of Indonesian entrepreneurs, the dimensions of autonomy and proactiveness are not significantly different from managers. This study confirms three important findings:

First, competitive aggressiveness is the most significantly different factor between employers and managers in these groups. This indicates that the competitiveness level of entrepreneurs characterizes their business attitudes with respect to aggressiveness. It is understandable that managers expect more steady job positions (Twenge et al., 2010). This result also shows that competitive characteristics may influence the drive to make himself able to compete in business (Lei, 2014). However, the interpretation of the result should consider the differences in the entrepreneurs classification. In the current research, the entrepreneurs are from many industrial backgrounds. The competition in these industries can also make a difference on the attitudes deemed important to survive (Covin & Slevin, 1989). In a more severe competition, business owners are required to be more aggressive and vice versa. However, the business environment is not the focus of the current study.

The second finding is on the important differences in the risk-taking dimensions. In extant studies, many theories and empirical research have already expressed the relationship between risk taking and entrepreneurship (Rauch & Frese, 2007b). The results of this study also support previous results. Even risk taking has become an important dimension to becoming an entrepreneur (Bolton & Lane, 2012). In the case of Indonesian entrepreneurship, it can be stated that entrepreneurs and managers have

different levels of risk taking. This is consistent with previous research regarding risk taking.

The third finding is on innovativeness. Based on the references presented in the literature review, it can be seen that innovativeness is an important element in supporting an entrepreneur. In fact, innovativeness is a major attitude that has been proposed by previous researchers (Schumpeter, 1934), in accordance with research that states that an entrepreneur is able to change things in a more innovative way. As for a manager, providing a less significant result in innovation is reasonable. One reason is that managers are not required to always seek alternative solutions. Instead, a manager tends to adjust to orders given by the superior (or business owner), sometimes without exercising creativity, although some managers actually do.

Nevertheless, the results of this study also indicate that autonomy and proactiveness between employers and managers are not much different. Proactiveness may not provide a reliable picture because most of the respondents were SME entrepreneurs. For these results, the previous research in IEO literature that seeks to examine these differences was also consulted.

Extant studies in IEO that also tested dimensions affecting entrepreneurial status include Vantilborgh et al. (2015) who adapted the IEO using the personality traits approach. The study showed that IEO has significant results in differentiating entrepreneurial and non-entrepreneurial statuses using logit regression. The model was statistically significant of total variance in statuses. On the other hand, the results from this thesis, using the discriminant analysis, showed different outcomes, which states that the significant dimension of the differences between the two groups is the proactive, risk-taking and innovative dimensions. However, it is important to realise that in Vantilborgh et al. (2015) study, autonomy and competitive aggressiveness were not studied. Therefore, it is difficult to compare the two studies. Other explanations of the differences are also likely because autonomy and competitive aggressiveness variables are tested using variable personality traits which rarely used (Bolton & Lane, 2012).

The results of this thesis, using EO research adapted at the individual level, found that competitive, risk taking, innovative and autonomy contributed significantly in the differences of IEO level between the groups, while proactive and autonomy did not

differ significantly. Vantilborgh et al. (2015) study provided support for competitive, risk-taking, innovative subjects. However, other studies that specifically studied the EO differences between entrepreneurs based trichotomy grouping (macro-entrepreneurs, micro-entrepreneurs and entrepreneurs statuses), such as Josien (2008) found that the dimensions affecting the groups of entrepreneurs are also different. Hence, he suggested that inferring the entrepreneurs from one group only would be incorrect. Therefore, these differences have to be interpreted more cautiously.

## 6.5 Individual Entrepreneurial Orientation significantly influence the performance

Research at the organisational level on the effect of EO on firm performance much research has been done; however, the relationship between the EO and company performance remains inconsistent (Lumpkin & Dess, 1996). At the organisational level, EO is essential for business because it has a positive impact on company performance which is necessary for venture success (Lumpkin & Dess, 2001; Rauch et al., 2009a; Wiklund & Shepherd, 2005). This view occurs because EO is an important tool for finding and optimising business opportunities.

Much empirical research has supported the correlations between IEO and propensity to be an entrepreneur (Bolton & Lane, 2012) and the success of entrepreneurial activities (Bolton, 2012). In other research, IEO was also influenced by gender which is shown to correlate significantly (Goktan & Gupta, 2013) with entrepreneurial statuses (Vantilborgh et al., 2015). Josien (2008) argued that many studies have been conducted on this topic, yielding conflicting results. Measured in terms of mean-score analysis, participants that scored less than 32 were regarded as having poor IEO, while the participants should obtain a score above 39 to be considered as having a High IEO category. Further, in the research, he found that macro-entrepreneurs have detrimental effects on performance although it was only significant effects are only significant on the entrepreneurs sample. Indeed, his analysis showed a significant relationship between entrepreneurial orientation and performance for macro entrepreneurs but not for micro-entrepreneurs or entrepreneurs.

Unlike research at the organisational level, research on IEO's impact on corporate performance is still relatively limited. The results of this study contribute to the discussions and at the same time provide evidence that the dimensions of EO that exist

at the individual level also affect the company's performance. The results in this study indicate that, in general, IEO has an impact on company performance. As hypothesised in this study, IEO dimensions, such as innovativeness, risk-taking, proactiveness, autonomy and competitive aggressiveness, have a positive impact on performance improvement.

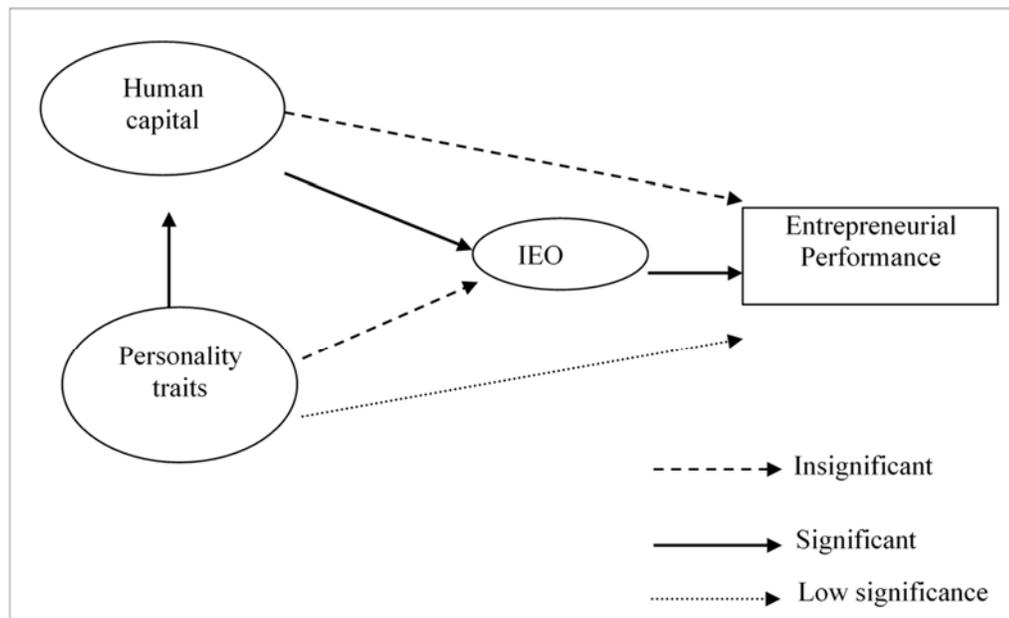
This study shows that the three dimensions of IEO, innovation, proactiveness, and risk-taking, have a stronger influence than the other two IEO dimensions. These results are in line with the setting of this study which has more samples on small entrepreneurs. For many small businesses, business owners are both managers as well as decision makers. When the owner is flexible and can adapt quickly to changing environments, then the performance of the developed effort will also increase. The results of this study indicate that improving creativeness, proactiveness, and risk-taking behaviours will also encourage individuals to seek innovative information, and then utilize information to understand consumers. Individuals who tend to find innovative information, will better understand customers, such as their buying habits and psychological makeup and lifestyle. For individuals who tend to be proactive in seeking information, it will be easier to predict the trend that will occur in the future and hence to strategize. Individuals who proactively seek information will have a good performance, because they can use that information to win the competition.

This study shows that individuals who tend to be proactive, such as individuals who always step up to get something rather than wait, are individuals who tend to try to meet market demand; and individuals who are able to identify market opportunities are more likely to succeed as entrepreneurs. These results are in line with Lumpkin and Dess (1996) research which concluded that individuals who tend to look forward and always pursue new opportunities and participate in the market will perform better when becoming entrepreneurs. The finding that the IEO had an impact on performance implies that educational institutions should develop a training that could motivate IEO behaviour. Educational institutions need to create training models to improve proactiveness, innovativeness, and risk-taking.

## 6.6 Results regarding the nomological networks

The nomological validity test carried out in this research should be positioned as an initial conceptualisation of IEO's constructive relations in theory rather than the final

conceptualisation. When a new construct is formed, there may be some associations that can be specified to describe the concept. In the review of literature, it was found that the IEO construct can relate to several constructs at individual level, an important direction in attaching it to more facts or other constructs (Cronbach & Meehl, 1955). The current study seeks to construct a nomological net by assessing the relationship between individual dimensional constructs that are thought to have theoretical relationships with constructions in the entrepreneurship literature. It is hoped that the theoretical model formed can lead to further deduction and provide conclusions so that the nomological nets can gradually be built with more extensive variables.



**Figure 6.1 Empirical Results**

In this thesis, using the relationships in the New Venture Performance theory (Chrisman et al., 1998), four variables were identified as the basis for establishing the nomological network formation (nomological validity) in relation to IEO. Nevertheless, this thesis is limited only to testing primarily for examination of relationships among variables that are essential for building theory. Moreover, it is not the current research's objective to investigate causation among theoretically constructed constructs of the relationship. In this research, the nomological study was conducted by examining the IEO relationship with three other constructs used in this study. Based on the study of the literature, the selection of these factors were based on

the establishment of the constructions in research and availability of reference materials; thus, Human Capital (Becker, 1962) and several important factors of Entrepreneurial Personality Traits (Frese Gielnik 2014) were selected. The results of the Structural Equation Modelling are presented in Figure 6.1.

It is also important to note that if there is a theoretical relation, even if the result is small, it can provide evidence of nominal validity or discriminant validity. For example, small and significant relationships between IEOs with other measures can then be interpreted as providing evidence of nomological and discriminant validity. What is important to note is that the test of nomological and discriminant validity ultimately contributes to strengthening the nomological network for constructs tested, unless the constructs of completely unrelated domains are used to test validity. However, it must be noted that the current study provides only initial evidence of nomological validity. The order in the results discussions are only based on the theoretical model presented in the previous chapter.

### **6.6.1 Insignificant influence of Human Capital to Entrepreneurial Performance**

In the current research Human Capital consisted of business and managerial competence, business knowledge and business experiences (Kungwansupaphan & Siengthai, 2014). It is hypothesised that basic knowledge in the form of managerial skills and business skills, business competence and previous experiences will influence the overall entrepreneurship performance. However, the hypothesis is not supported by the empirical results, showing that human capital only indirectly influences entrepreneurial performance. There are two possible reasons for this.

A previous study suggested that management competence, business knowledge and competence are contributing factors toward entrepreneurship performance (Kungwansupaphan & Siengthai, 2014). Following these suggestions, the results of the study do not support the relationship. Looking into the demographic composition of the entrepreneurs, it was found that most of the respondents have college degrees. As Table 5.1 indicates that the level of education of entrepreneur respondents is quite high, with the majority having bachelor's degrees or diploma degrees (71%), which may have significant relationship with their ability to do logical thinking. It is likely that the diplomas or college degrees may contribute to the management or business

skills and knowledge. On the other hand, Stuart and Abetti (1990) found that the educational level of entrepreneurs have a negative impact on entrepreneurs' performance. It can be said that, when most of the respondents have the same basic human capital, it is possible to find insignificant variances in the responses.

Another research from Cao et al. (2012) also suggested that in the long term, CEOs with higher lengths of business involvement will also possess similar human capital level, despite having different human capital backgrounds. It is also shown in Table 5.1 Descriptive Statistics that the respondents have similar lengths in their business involvement. For instance, respondents having zero to five years of experience counted for 70 (or 48%), which means that respondents with five or more years of experience constituted the rest or 52% sample. This finding is also in line with Cho and Honorati (2014) study which found that human capital investment in the forms of business training significantly influenced young entrepreneurs. This would mean that the human capital influence may have less impact on the current research because there are no significant differences in terms of the length of business experiences between samples. These demographic facts can be factors underline the findings of human capital insignificance.

Another possible answer is that suggested by previous researchers using more proximal human capital factors in the business environment. However, it is also known that knowledge, skills and experiences in business and management may not be sufficient to explain entrepreneurship performance. Although many researchers concluded that human capital is related to success (Bosma et al., 2004; Cooper et al., 1994), yet some researchers thought that these relationships are commonly over-emphasized (Baum & Silverman, 2004). The view from previous research also supported the finding of these insignificance relationship. This result is similar to the study of Unger et al. (2011) which using meta-analytical research and produce empirical findings from three decades of research on studies of the contribution of human capital on entrepreneurship performance, which found a significant but only small relationship between human capital and success ( $r_c=0.098$ ). In that research, the authors also found that the relationship is higher on the relationship of the human capital to the outcome of capital investment (knowledge/skills), compared to the human capital investment (education/experience). However, the current thesis does not explore and differentiates these two approaches.

In developing countries, the insignificant correlation between human capital and entrepreneurship performance is not surprising. Here, many entrepreneurs have college degrees, which in concept, have prepared them to have managerial capability. For example, a study on Indonesian traditional medicine entrepreneurs by Ngatno et al. (2016) using in-depth analyses on 32 owners of SME's of traditional herbal industries in Central Java, Indonesia, showed that there is an indirect relationship between human capital and entrepreneurial capital affecting SMEs' performance. They argued that insignificant relationships of human capital and entrepreneurs' performance may have occurred through a hidden mediating variable. The indirect relationship between human capital and entrepreneurship performance is also in line with Hayton (2003) and Unger et al. (2011). They suggested that human capital influences entrepreneurship performance through some cognitive channelling. This may be some attitudinal systems that are more proximal to the business activities, which are the focal construct to analyse in the current thesis.

## 6.6.2 Insignificant influence of Personality traits to Entrepreneurial Performance

The results of this thesis showed that the relationship between Personality Traits and Entrepreneurial Performance is small and insignificant. This insignificant relationship is not strange in a study that attempts to explain the contribution of personality traits in their relation to performance. It should be noted that in this nomological network, personality traits are considered as higher order factors. So variations between these dimensions are not critical in this relationship. The correlation result show low and insignificant between personality traits and entrepreneurship performance or growth, are also similar to the result of Baum et al. (2001), which suggest that although personality traits are important contributors to entrepreneurial success, they worked primarily through competency or motivational variables.

Classical economic theory has emphasised personality traits in describing entrepreneurs; such as creativity (Kirzner, 1999) and risk-taking (Schumpeter, 1934). One major study is on the need for achievement to provide support for the assumption that entrepreneurs tends to have higher achievement needs than managers, making it at the same time a significant contribution to success (McClelland, 1965). However, in the development of research on personality traits, there are some doubts regarding

whether personality plays any role in the start-up phase or for business success. According to Gartner (1989), entrepreneurs are a very heterogeneous group of people and difficult to adapt to common predictors; in other words, 'ordinary employers' do not exist and therefore, the average personality profile of an entrepreneur cannot be determined appropriately. A similar opinion was also expressed by Low and MacMillan (1988) who argued that descriptive research using the problem-trait approach did not provide satisfactory results to explain entrepreneurial theory (page 148). Therefore, researchers in many fields have suggested to stop search for personality traits in entrepreneurial research (Aldrich, 1999).

Hunter and Schmidt (2004) stated that in meta-analytical studies on the contribution of personality traits to success, many only produce small or sometimes insignificant results, because they are aggregated with insignificant but important relationships. This means that the results produced a smaller relationship than it supposed to be, because it was an aggregation between the significant and insignificant variables relationships. This is also driven by the fact that personality traits is a more distal domain of business behaviour that empirical results in small or weak correlation (Rauch & Frese, 2007b). Similar to the current research, personality traits show low correlation to entrepreneurship performance. However, it can be inferred that personality traits influence human capital, specifically skills selection, which in turn drives the entrepreneurial action, and subsequently entrepreneurial performance (Baum et al., 2001).

### **6.6.3 IEO significantly mediated the relationship between Human Capital and Personality Trait toward Entrepreneurial Performance**

In terms of the relationship between variables, explanation of action theory presented in Frese (2009)'s study, describes the influence of personality characteristics of entrepreneurs and human capital on entrepreneurial success that is assumed to be mediated by personality measures such as entrepreneurship or strategy orientation (Rauch & Frese, 2007a). The relationships that occur in this nomological network research are in accordance with the scheme presented by Frese (2009, p. 459) and Brandstätter (2011). According to these researchers, the model conceptualisation is organized in such a way that constructs on the left side are more distal constructs,

farther away from the action and more distant from entrepreneurial success. Thus, it can be explained that the constructs near the right then will be closer to the action of entrepreneurship. Similarly, the relationship will be closer to success. For example, an action style like goal orientation and specific cognition in certain environment may serve these purpose (Frese, 2009). In this case the Individual Entrepreneurial Orientation is perceived as a potential factor.

As indicated, the model presented by Frese and Gielnik (2014) still provides several factors that are included IEO as a double conceptualisation since the relationship between these variables can still be developed and modified (p 430). For example, the Self-Efficacy construct (Chen et al., 1998; Chen et al., 2001) also can be regarded as a personality trait or as an attitude factor. However, it should also be noted that the double conceptualisations have unclear positions whether its an IEO or EO. Therefore, in this research, IEO has the position as a motivation (attitudinal model) and not a personality trait or EO company. However, given certain limitations and the research objectives, the environmental aspect is characterised by the stage of enterprise development (life cycle), speed of change (dynamism), adverse economic conditions such as high competition and lack of resources (hostilities), and business (industrial). National culture is not a factor studied in this research.

The results of this thesis also support the hypothesis that there is an indirect relationship between personality traits and human capital toward entrepreneurial performance, which might suggest that entrepreneur performance is influenced by the ability of the essential psychological characteristics for entrepreneurship endeavour but only through cognitive factors (Lumpkin & Erdogan, 2004). This result is also in line with Baum and Locke (2004) research results that aggregated personality traits may have an indirect effect on entrepreneurial performance. Furthermore, Rauch and Frese (2000), who combined several personality traits and human capital factors, found small but significant correlations toward entrepreneurial performance, which may suggest that these relationships operated through several potential moderators.

This research supports the position of IEO as a potential moderator of these relationships. However, there is still limited research on the study of Individual Entrepreneurial Orientation contributions related to development of organizational performance. So, this thesis will provide insights into the application of IEO as a focal study in improving organizational performance. This research explains the effect of

developing entrepreneurial orientation in the form of idea-finding orientation, orientation toward opportunities and risky courage, as a mediator of personality traits and the development of human capital in organizational performance.

## 6.7 Conclusion

This thesis found several interesting findings, with some supported relationships and some unsupported results. There are seven findings perceived to contribute to IEO research. First, that the results supported the five dimensions of the IEO model in the Indonesian entrepreneurs' context. This is different from previous research in this stream (Bolton & Lane, 2012). Second, the scale tested in both entrepreneurs and non-entrepreneurs in the Indonesian context and found that the five dimensions of these groups can distinguished by their IEO level. However, more research in the future needs to be employed to test this construct further. Although it is an interesting finding, applying this construct in different settings may be inconclusive.

Thirdly, result shows IEO significantly influence entrepreneurial performance, thus supporting the third hypotheses which posits that the five-dimensional IEO predicts the performance. However, in regarding to the nomological network, there are several interesting findings. In relation to Human Capital, the finding does not support the hypothesis regarding its independently relationship toward Entrepreneurial performance. This result might be due to two probable reasons; firstly, previous research found that the education level above the diploma level, may cause a negative effect toward performance (Stuart & Abetti, 1990). Thus, it also possible that due to respondents similar education level, which caused insignificant results on entrepreneurship performance. While the second probable reason was that there is a hidden mediating variable existing in between these variabls relationship (Hayton, 2003; Unger et al., 2011).

In relation to Personality traits relationship toward entrepreneurial performance, the finding supported such relationship. However, in the empirical analysis, this contribution only provides positive but insignificant relationship. This result inline with the Baum et al. (2001) argument that personality traits contribute to performance through specific skills set or business selection, which in this case, the personality of an individual may not directly influence performance.

The findings in this current thesis converge to one conclusion - that the relationships of human capital and personality traits have indirect relationships toward entrepreneurial performance which is consistent with Baum et al. (2001) and Unger et al. (2011). Thus, supporting the IEO as attitudinal model significantly mediated these relationships. This would indicate that the attitudinal model of prediction of entrepreneurial behaviour may have better prediction capability toward performance Ajzen (1987), as compared to the human capital or personality traits model.

The result finding also supported the nomological network for Individual Entrepreneurial Orientation and void the call to study relationships to entrepreneurship theory (Krauss et al., 2005). Although it should be noted this relationship should be regarded as theoretical construct rather than the final model. The results indicate that the construct of IEO may have a better theoretical construct in the entrepreneurship theory.

# Chapter 7 Conclusion

This chapter outlines the conclusions of the study, the implications, limitations and suggestions for future research. The implications, providing suggestions for entrepreneurial education specialists, fund managers and also entrepreneurs, are given. Furthermore, the limitations of the research findings are discussed, together with ways of overcoming the limitations. Finally, the chapter ends with some suggestions for future research, providing directions for future researchers interested in this field.

## 7.1 Introduction

This thesis uncovered several interesting findings, with some supported relationships and some unsupported results.

First, in relation to the theoretical model in IEO research, there are significant differences among researchers in defining the dimensions approaches and applications. Some researchers also called for IEO nomological networks in the entrepreneurship theory to validate the concept in the theory (Krauss et al., 2005). In this sense, it can be said that IEO theory is still underdeveloped (Gupta et al., 2015) and more works should be proposed for theory maturity. The current research contributes to this void.

As stated in Section 6.2 (Major findings in the thesis), there are six findings which contribute to IEO research. First, the results support the five dimensions of the IEO model in the contexts of Indonesian entrepreneurs. This is different from previous research in this stream (Bolton & Lane, 2012). It is argued that these difference may be due to the differences in sample groups that are more proximal to business contexts (Robinson, Huefner, et al., 1991). Using both entrepreneurs and non-entrepreneurs in the Indonesian context, the results found support for three dimensions: Innovativeness, Risk Taking and Competitive Aggressiveness

However, due to the sample size and generalisability limitations, the results should be taken with caution. More research in the future needs to be conducted to test this construct.

Second, the results also support the consistencies of the IEO model in predicting entrepreneurial status. The significantly different dimensions between the

entrepreneurs and non-entrepreneurs groups, respectively, are competitive aggressiveness, risk taking and innovativeness. This finding also indicates that autonomy and proactiveness are not significantly different among the groups. The finding is slightly different from Vantilborgh et al. (2015) study, which did not include competitive aggressiveness. In this sense, studying from previous research, Josien (2008) found that among groups of entrepreneurs based on the trichotomy model (Stewart Jr et al., 1999), there are different psychological dimensions that affect entrepreneurial performance. Although it is an interesting finding, the information for these significantly different dimensions may be inconclusive.

Thirdly, IEO significantly influences entrepreneurial performance, thus supporting the third hypotheses. This result is consistent with the result of Lumpkin and Dess (1996), which proposed the five-dimensional IEO.

Regarding the nomological network, there are three important findings. These are the findings regarding the relationship between Human Capital and Entrepreneurship performance, relationship between personality traits and entrepreneurial performance and. The relationship results between Human Capital, Personality Traits, IEO and Entrepreneurial Performance is also important to discuss.

In relation to Human Capital, the findings of the hypothesis testing do not support the relationship with Entrepreneurial performance. This result may be due to two probable reasons; first, the similarity of the education level of the respondents. Extant research found that the education level above the diploma level may cause a negative effect toward performance (Stuart & Abetti, 1990). It is also possible that the respondents have similar education level, which may have caused insignificant results on entrepreneurship performance. The second plausible reason is that there is a hidden mediating variable existing in this relationship (Hayton, 2003; Unger et al., 2011). This mediating effect is also in line with the proposed IEO construct mediating the relationships of human capital indirectly to influence entrepreneurial performance.

In relation to Personality traits relationship toward entrepreneurial performance, the finding supported such a relationship. However, in the empirical analysis, this contribution only provides a positive but insignificant relationship. The low positive and insignificant relationship toward entrepreneurial performance is also supported by Baum et al. (2001), who argued that the personality traits dimension worked through

motivational or competency variables. This finding also supports previous researchers in entrepreneurship streams to stop searching for entrepreneurial personality traits as they may be inconclusive (Aldrich, 1999).

Baum et al. (2001) also supported the next finding that the personality traits have a positive and significant relationship with human capital. This result supports the hypothesis that personality traits contribute to entrepreneurship performance through the selection of business or specific skills that drives entrepreneurial action. While these relationships also indirectly influence entrepreneurial performance, it is also revealed that the personality of an individual may not directly influence performance. This is also important for the research in this stream which seems to emphasise individual personality traits for determining entrepreneurship performance (Vantilborgh et al., 2015). For example, Cools and Van den Broeck (2007) found that only tolerance of ambiguity significantly influences EO, while other personality traits were either negative or insignificant. Therefore, it can be concluded that personality traits may have different contributions to entrepreneurship performance

This is inline with Unger et al. (2011, p. 341) that the low variance between sample may explain the lack of relationship between Human Capital and Success. This is also may be the case with the current research. The majority of the entrepreneur respondents were attained elementary to higher degree education and counted for almost 80% of the sample. The entrepreneurs length of business also showed similar results, that most of the entrepreneurs had experience of less than 10 years and counted for almost 70% of the respondents. These little variance between sample may influence the results.

The findings in this current thesis converge to one conclusion - that the relationships between human capital and personality traits have indirect relationships toward entrepreneurial performance which is consistent with Baum et al. (2001) and Unger et al. (2011). In the case of having low and insignificant correlations toward entrepreneurship performance, Human Capital and Personality Traits may have been mediated by other constructs in the correlations toward performance. The IEO as attitudinal model significantly mediated these relationships. This indicates that the attitudinal model of prediction of entrepreneurial behaviour may have a better prediction capability toward performance (Ajzen, 1987), as compared to the human capital or personality traits model.

This finding also tested the nomological network for Individual Entrepreneurial Orientation and the call to study relationships to entrepreneurship theory (Krauss et al., 2005), although this relationship should be regarded as theoretical construct rather than the final model. The results indicate that the construct of IEO may have a better theoretical construct in the entrepreneurship theory.

Research on entrepreneurial careers has increased dramatically in the last few decades (Chattopadhyay & Ghosh, 2008). This increase is inevitable as a consequence of the important role of entrepreneurs in improving the economy. This thesis seeks to answer whether individual entrepreneurship orientation is valid for entrepreneurship in the context of a developing country, specifically, Indonesia. Analysis of the problem addressed in this study was targeted at contributing to knowledge that may assist in increasing the number of entrepreneur alumni from Indonesian higher education. The current study contributes to the field of IEO study by examining the relationships between IEO, its antecedents and entrepreneurial performance. The findings related to the research questions, as provided in the problem formulation sections are summarized in the following paragraphs.

***RQ1: Does the 5 dimensions model measure IEO better in Indonesian entrepreneurs***

The first result of this thesis validating the IEO scale provide support for the five dimensions of Proactive, Innovative, Risk Taking, Autonomy and Competitive Aggressiveness, producing significant reliability and validity. Further, the findings related to the first hypothesis support the inclusion of Autonomy and Competitiveness in the IEO scale, which have been neglected due to lack of support by other empirical research (Bolton & Lane, 2012; Lei, 2014; Pisapia et al., 2016). Twenty items were produced from the final results and loaded into five dimensions, which correspond to the model used in the existing EO literature (Lumpkin & Dess, 1996).

This validated scale provides a new research path in the study of Autonomy and Competitive Aggressiveness dimensions specifically related to the individual domain, which previously had received little attention within this field of research due to being empirically insignificant (Bolton, 2012; Goktan & Gupta, 2013). These two dimensions have brought a new perspective to IEO research because they are supported by other theoretical concepts (Lumpkin & Dess, 1996). These additions

provide empirical ground for IEO in the theory and application of entrepreneurship studies. This finding also answers the call to extend the research from student samples into business ones (Hubbard et al., 1998) in supporting the consistency of the five IEO dimensions as conceptualised by Lumpkin and Dess (1996).

The valid IEO scale was found to be significant in describing the orientation of an individual in optimising business. The significant value for the scale to be able to discriminate between groups of entrepreneurs and non-entrepreneurs based on IEO level leads to the next question.

***RQ2: Can IEO distinguish between entrepreneurs and non-entrepreneurs consistently in the Indonesian context?***

The study found that the sample of entrepreneurs had a different IEO from the non-entrepreneurs in three of the dimensions except for Proactiveness and Autonomy. Using both entrepreneurs and non-entrepreneurs in the Indonesian context, the results found that only three dimensions out of the five dimensions that supported the discrimination between these two groups. The three dimensions are Innovativeness, Risk Taking and Competitive Aggressiveness. The result supports the work of Vantilborgh et al. (2015) that IEO has significant differences between entrepreneurs and non-entrepreneurs in the dimensions of Innovativeness, and Risk Taking, but not Proactiveness.. The difference in the dimension results may indicate the differences in the style of business of the samples in different studies. Other than that, the current thesis also focuses on a different set of dimensions than has been found in previous research (Vantilborgh et al., 2015), with the additions of Competitive Aggressiveness and Autonomy.

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***RQ3. To what extent can IEO contribute to entrepreneurial performance in Indonesia?***

The orientation of entrepreneurship, indicated by the indicators of innovative ability, proactiveness, courage in taking risks, competitiveness and autonomy, have proven to have a significant positive effect on entrepreneurial performance. This means that for entrepreneurs to be successful in a venture, they need to develop positive attitudes towards these dimensions. This study has demonstrated that IEO does indeed have an adequate relationship ( $r= 0.72$ ) to influence entrepreneurial performance in Indonesia.

***RQ4. Does IEO mediate or moderate the personality traits and human capital relationship in entrepreneurial performance?***

The empirical model in the research provides two interpretations for the theoretical contribution to the literature. First, the results show that the IEO concept and its contribution to entrepreneurial performance can be justified by the literature. The empirical model provides support for the entrepreneurship Action-Characteristic Model (Frese, 2009), which focuses on the entrepreneur as the active element in interactions between variables. The results show that the relationships between these three factors in the individual domain are not linear, which confirms the suggestions by Baum and Locke (2004).

In the structural model, the personality traits and human capital relationship are mediated by IEO to influence the entrepreneurial performance. This would imply that instead of personality traits, human capital is more proximal to decisions in entrepreneurial activities as proposed by the ACM (Frese, 2009). The proximity of human capital to entrepreneurial performance implies that entrepreneurial education and other investment, for example entrepreneurship training, significantly contribute to individual performance in entrepreneurship. Thus, for the individual to succeed in entrepreneurial endeavours, it is important to pay more attention to entrepreneurial training or education. This finding provides new insights into entrepreneurial education, as existing entrepreneurship education only focuses on human capital and personality traits (Ghina, 2014).

The thesis also specifically addresses the calls to fill the gaps in empirical research on the ACM model (Frese & Gielnik, 2014) in supporting the pathways of the psychological characteristics of entrepreneurs toward their entrepreneurial success.

## 7.2 Research Implications

This research is important for understanding the differences in the psychological nature of entrepreneurs and non-entrepreneurs and their relation to entrepreneurship performance. Entrepreneurship and management researchers may be interested in the results of the study in particularly in the predictions of entrepreneurial engagements between entrepreneurs and non-entrepreneurs in practice. Understanding these phenomena has several practical and theoretical implications which are important for educators and entrepreneurship practitioners.

### 7.2.1 Theoretical Implications

This research contributes to discussions on establishing empirical grounds for Individual Entrepreneurial Orientation. IEO research has highlighted the significant contribution of IEO to entrepreneurial performance. This also supports and validates the approach to studying IEO at the individual level (Bolton & Lane, 2012; Koe, 2016). The results indicate interesting theoretical implications, such as the scale development, dimensionality and measurement of IEO, specifically in developing countries such as Indonesian. This is an important contribution, as the research results confirm differences in entrepreneurial personality in the form of attitudes, beliefs and behaviours of the entrepreneurs, which then contribute significantly to entrepreneurial performance (Frese & Gielnik, 2014).

This research has developed the five-dimensional IEO scale, specifically building on the conceptual and empirical framework for IEO in the literature in the context of an Indonesian entrepreneur sample. Before the current research, the IEO scale provided wording and idiosyncratic contexts for developed countries. With many variations of previous IEO scales that mainly operating within a three dimensional model, has open up more research gaps for replication and extension of the scale in other contexts and seeks variation in the dimension configuration applied in different contexts (Bolton & Lane, 2012). This thesis moves from the current three dimensions to five dimensions

with the addition of autonomy and competition dimensions. This thesis also tests these configuration's relationship with entrepreneurial performance.

The research also contributes to the literature specifically by answering the call in the literature to test the newly developed construct within a nomological network (Nunnally & Bernstein, 1994). In this thesis, IEO is the focal construct and also conceptualised in an attitudinal approach on the structural modelling within entrepreneurship studies in the individual domain (Frese & Gielnik, 2014). The results of the empirical testing on this nomological network provide two interesting findings.

First, the results support the relationships of IEO as antecedents and parts of the individual concept that influence performance of the firm, confirming the previous view provided by the active personality model (Rauch & Frese, 2000). It is believed that this research is the first to empirically test this model. The lack of research in this field is due to inconsistencies in the concept and independent conceptualisation of IEO theories (Covin & Miller, 2014). Departing from the existing scale of three dimensions and the conceptual model in current research, the five-dimensional IEO scale provides a solid model to test the theoretical modelling.

Second, the results of the empirical structural modelling in this work also support important research in the individual psychological domain. Predominantly, the relationship between personal factors has been conceptualised as having a direct relationship with performance (Baum, 1994). Inconsistencies of personality contributions in entrepreneurial activities have led several researchers to study other factors outside the individual (Basso et al., 2009).

From the results of the structural modelling, this research contributes to the literature as the initial ground model for the development of entrepreneurial success from individual factors. Thus, it supports the positive relationship between IEO and firm performance and acts as a mediating variable between personality traits and human capital. This also supports the calls from Baum et al. (2001) and Unger et al. (2011) to test these variables through a mediating or moderating variable in the relationship with performance.

## 7.2.2 Practical implications

Generally, practitioners in entrepreneurship studies believe that personality, beliefs, values and behaviour of entrepreneurs are important factors in directing a venture's

path to success (Vantilborgh et al., 2015). These specific factors proposed in the IEO model can be an important instrument for entrepreneurship practitioners and trainers to detect individuals with entrepreneurial quality. The valid IEO scale is valuable for developing teaching methods, member grouping and selections, or even development of the curriculum (Bolton & Lane, 2012). These would lead to collaborations between group members with interesting variations based on IEO scores, and bring cohesion, which in turn would improve understanding in this field of study (DeRue et al., 2010).

In addition the valid IEO scale also brings new perspectives for business owners, entrepreneurial incubators and angel investors in seeking the right candidates to invest in (Bolton & Lane, 2012). Knowledge from this research can contribute to tailoring of special training for the development of entrepreneurial education for nascent entrepreneurs. Previously, entrepreneurship training only focused on the development of human capital investments in the form of business knowledge and business management (Ghina, 2014; Unger et al., 2011). With the new insight into the systematic frameworks of active entrepreneurs (Rauch & Frese, 2000), practitioners in entrepreneurship education should put more focus on the business attitudes of entrepreneurs.

Entrepreneurship educators interested in the development of future entrepreneurs and seeking to enhance the entrepreneurial spirit of their students could promote the inclusion of individual entrepreneurial orientation in the form of entrepreneurial attitudes specifically in each dimension (Padilla-Meléndez et al., 2014). Entrepreneurship educators could include this attitude in the development of curriculum. These steps can then be elaborated within the curriculum, accommodating the entrepreneurial experience in developing students' entrepreneurial orientations and intentions (Fairlie & Holleran, 2012). This is an important addition to the current entrepreneurship education, especially for the development of entrepreneurship training (Kuratko, 2005). Inclusion of the entrepreneurial experience in the curriculum would bring new perspectives into the literature and contribute towards increasing entrepreneurial orientation, and thus entrepreneurial performance.

The differences between entrepreneurs and non-entrepreneurs in IEO bring new prospects to the selection of suitable individuals in business; for example, for business at the developmental stage indicated by a high dynamic business environment, which requires individuals with high IEO (Dimov, 2010). This would also become more

important when the business is led by a board of management; the IEO scale can help in the selection of suitable individuals to achieve targeted business (Kollmann et al., 2016).

## **7.3 Limitations of the study**

There are several notable limitations of the current study as outlined in the next Subsection.

### **7.3.1 Low response rate**

Only a small percentage of those approached responded to the survey. From the total of 2850 entrepreneurs contacted, only 152 completed the survey, or 18.7% response rate. This rate is relatively low and small for testing the full model of the relationship between variables; a higher sample number would have given better and fuller results. As such, the findings should be interpreted cautiously.

The research involved entrepreneurs in the Surakarta Area of Central Java Province, who were registered with the Chamber of Commerce in that area. Due to the low response rate and voluntary nature of participants, the external validity of the research may be affected; in other words, the number of entrepreneurs who responded may not represent of the entire population (Cook et al., 1990). A low rate of response from entrepreneurs is common in entrepreneurship studies, specifically from the small to medium entrepreneurship groups (Lyon et al., 2000).

### **7.3.2 Common method bias**

In the research the measure of performance consisted of questionnaires and self-reports, which would contribute towards the common method bias (Rauch et al., 2009a). Although self-reporting has not been reported to pose a serious threat to the validity of the IEO scale, there has been no research that tested this fully (Bolton, 2012).

## **7.4 Recommendations for Future Research**

The validation of the concept in this thesis provides new insights for theoretical development, which will be useful for researchers, practitioners and policymakers in

the field, specifically in Indonesia. However, there are some limitations which need to be considered in interpreting the results and suggestions made for future research.

The first suggestion is to test the concept with a larger sample size for more generalisability of the results. Unlike many other countries, Indonesia is spread over a vast area and encompasses many diverse cultures. It would be an interesting avenue to test the applicability of these results over a wider area, including remote regions.

Replication of the research with larger sample groups could bring new insights and improve the generalisability of the concept. These could provide solid information regarding dimension consistency across the provinces in the country. Although the development of the scale is consistent among the entrepreneur sample, the literature shows that wider groups of entrepreneurs exist (Carland et al., 1984; Josien, 2012). While this research is limited to the dichotomy between entrepreneurs and non-entrepreneurs, the application of the concept to more specific groups of entrepreneurs would provide additional theoretical contributions. Although this research results provide preliminary theoretical generalizability, however it should be read with caution. In this sense, although the Autonomy could be loaded significantly, this can only be done in lower significant level. Had a larger sample size been used this research, it may be that Autonomy could load better and thus bring new insight for its significant contributions.

Second, as suggested in the literature concerning several theoretical antecedents of IEO, this thesis is limited only to human capital and personality traits. This research applied three factors out of five factors which influence venture performance (Chrisman et al., 1998), specifically for the factors in individual domains. With the results showing that IEO influences entrepreneurial performance, this broadens the study perspective into new areas of entrepreneurial studies. However, the results also raise new questions; for example, what are other contributing factors which influence IEO? Therefore, it is suggested that the other three factors related to new venture performance (i.e. the values and behaviours of entrepreneurs) should be tested. This study focused on individual entrepreneur personality to better understand the process and behaviour of firm performance (Baron, 2004; Gartner, 1989). However, it would be interesting to examine the overall individual factors which lead to higher IEO.

Third, the theoretical conceptualisation shows that national culture is also influential in entrepreneurial performance and success (Frese & Gielnik, 2014). Culture may be an interesting avenue for future research in the entrepreneurship literature on IEO, as culture could make a significant contribution to entrepreneurial success (Kreiser et al., 2010; Stephan & Uhlaner, 2010). Research that controls the variables in question, while exploring new variables beyond them, would bring a better understanding of the IEO construct. If these variables can be detected and their number increased, the development of entrepreneurial functions and success in the national interest can be achieved.

The fourth suggestion is that the study of IEO with a longitudinal design may allow examination of the extent to which the variation in dimensions in the constructs affects entrepreneurial performance. This research is limited to nascent and prenascent entrepreneurs (Kollmann et al., 2007). There have been reports that these dimensions may affect firm performance differently based on the entrepreneurial stages (Covin & Lumpkin, 2011; Wiklund & Shepherd, 2005; Zahra & Neubaum, 1998). It would be interesting to study the combination of the importance of IEO at specific stages.

Another future area of research is the influence of gender on IEO. Gender diversity in this study area is still under researched (Goktan & Gupta, 2013). Many researchers have demonstrated that compared to women, men have a higher entrepreneurial intention and are therefore more successful (Goktan & Gupta, 2013; Mueller & Thomas, 2001). However, other researchers have found that in other cultural contexts, women have a higher orientation towards entrepreneurship (Runyan et al., 2006). While this research does not specifically aim to establish the relationship between gender and IEO, it would be an interesting avenue for future research to test the configuration of IEO in entrepreneurship success between genders.

Finally, further studies are needed to test the relationships between these dimensions and entrepreneurial performance. The construct is naturally free of measurement interpretation, whether it is reflective or formative (Covin & Wales, 2012). Therefore, researchers' conceptualisation and research objectives will provide a theoretical base for approaching the model. However, George (2011) warned of the consequences if there is inconsistency between the definition and construct measurement, which in turn may inflate the structural parameter. Therefore, it is important for future research

to formulate the conceptualisation of IEO consistently and then provide the relevant measurement.

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# References

- Abe, M., Troilo, M., Juneja, J., & Narain, S. (2012). *Policy guidebook for SME development in Asia and the Pacific*: United Nations ESCAP.
- Abonyi, G. (2005). Integrating SMEs into global and regional value chains: implications for subregional cooperation in the Greater Mekong Sub region. *UNESCAP: Bangkok*.
- Ajzen, I. (1987). Attitudes, traits and actions: Disposition prediction of behavior in personality and social psychology. *Advances in Experimental Social Psychology*, 20, 1-57.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Al Mamun, A., Kumar, N., Ibrahim, M. D., & Bin, M. N. H. (2017). Validating the Measurement of Entrepreneurial Orientation. *Economics & Sociology*, 10(4), 51-66.
- Alberti, F., Sciascia, S., & Poli, A. (2004). *Entrepreneurship Education: Notes on an Ongoing Debate*. Paper presented at the 14th Annual IntEnt Conference, Napoli, Italia.
- Aldrich, H. (1999). *Organizations evolving*: Sage.
- Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of management*, 27, 755-775.
- Ames, M., & Runco, M. A. (2005). Predicting entrepreneurship from ideation and divergent thinking. *Creativity and Innovation Management*, 14(3), 311-315.
- Anderson, B. S., Kreiser, P. M., Kuratko, D. F., Hornsby, J. S., & Eshima, Y. (2015). Reconceptualizing entrepreneurial orientation. *Strategic Management Journal*, 36(10), 1579-1596.
- Antonic, B., & Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10, 7-24.
- Åstebro, T., & Thompson, P. (2011). Entrepreneurs, Jacks of all trades or Hobos? *Research Policy*, 40, 637-649.
- Audretsch, D. (2012). Entrepreneurship research. *Management Decision*, 50, 755-764.
- Barbat, V., Rispal, M. H., & Randerson, K. (2014). Disentangling the roles of international entrepreneurial orientation and networking in the internationalisation process of SESBs. *International journal of entrepreneurship and small business*, 23(3), 363-384.
- Baron, R. A. (2004). The cognitive perspective: a valuable tool for answering entrepreneurship's basic "why" questions. *Journal of Business Venturing*, 19, 221-239.
- Basso, O., Fayolle, A., & Bouchard, V. (2009). Entrepreneurial Orientation: the Making of a Concept. *The International Journal of Entrepreneurship and Innovation*, 10, 313-321.
- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of organizational behavior*, 14(2), 103-118.
- Bates, T. (1995). Self-employment entry across industry groups. *Journal of Business Venturing*, 10(2), 143-156.

- Baum, J. A., & Silverman, B. S. (2004). Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology startups. *Journal of Business Venturing*, 19(3), 411-436.
- Baum, R. (1994). *The relation of traits, competencies, vision, motivation, and strategy to venture growth*. (9526175 Ph.D.), University of Maryland College Park, Ann Arbor. ProQuest Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global database.
- Baum, R., & Locke, E. A. (2004). The Relationship of Entrepreneurial Traits, Skill, and Motivation to Subsequent Venture Growth. *Journal of applied psychology*, 89, 587-598.
- Baum, R., Locke, E. A., & Smith, K. G. (2001). A Multidimensional Model of Venture Growth. *The Academy of Management Journal*, 44, 292-303.
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of political economy*, 70(5, Part 2), 9-49.
- Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (3rd ed.). Chicago: University of Chicago Press.
- Becker, G. S. (1994). *Human Capital : A Theoretical and Empirical Analysis, with Special Reference to Education*. Chicago, IL, USA: University of Chicago Press.
- Begley, T. M., & Boyd, D. P. (1987). Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses. *Journal of Business Venturing*, 2, 79-93.
- Berry, A., Rodriguez, E., & Sandee, H. (2001). Small and Medium Enterprise Dynamics in Indonesia. *Bulletin of Indonesian Economic Studies*, 37, 363-384.
- Bhasin, B. B., & Venkataramany, S. (2010). Globalization of Entrepreneurship Policy Considerations for SME Development in Indonesia. *International Business & Economic Research Journal* 9(4).
- Bidee, J., Vantilborgh, T., Pepermans, R., Huybrechts, G., Willems, J., Jegers, M., & Hofmans, J. (2013). Autonomous motivation stimulates volunteers' work effort: A self-determination theory approach to volunteerism. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 24(1), 32-47.
- Bilsky, W., & Schwartz, S. H. (1994). Values and Personality. *European Journal of Personality*, 8, 163-181.
- Bird, B. (1988). Implementing Entrepreneurial Ideas: The Case for Intention. *The Academy of Management Review*, 13, 442-453.
- Bird, B., & Schjoedt, L. (2009). Entrepreneurial Behavior: Its Nature, Scope, Recent Research and Agenda for Future Research. *Understanding the Entrepreneurial Mind : Opening the Black Box / edited by Alan L. Carsrud, Malin Brännback*, 327-358.
- Bird, B., Schjoedt, L., & Baum, R. (2012). Editor's Introduction. Entrepreneurs' Behavior: Elucidation and Measurement. *Entrepreneurship Theory and Practice*, 36, 889-913.
- Biro Pusat Statistik. (2013). *Gross Domestic Products by Industrial Origin*. Retrieved from <http://www.bps.go.id/eng/menutab.php>.

- Bolton, D. L. (2012). Individual Entrepreneurial Orientation: Further Investigation Of A Measurement Instrument. *Academy of Entrepreneurship Journal*, 18, 91-98.
- Bolton, D. L., & Lane, M. D. (2012). Individual Entrepreneurial Orientation: Development of a Measurement Instrument. *Education + Training*, 54, 219-233.
- Bönte, W., & Jarosch, M. (2010). Mirror, mirror on the wall, who is the most entrepreneurial of them all? *Schumpeter Discussion Paper (No.2010-009)*.
- Bosma, N., Van Praag, M., Thurik, R., & De Wit, G. (2004). The value of human and social capital investments for the business performance of startups. *Small Business Economics*, 23(3), 227-236.
- BPS. (2016). Launching Publikasi Ekonomi Kreatif 2016. Retrieved from <https://bps.go.id/KegiatanLain/view/id/171>
- Brandstätter, H. (1997). Becoming an entrepreneur — A question of personality structure? *Journal of Economic Psychology*, 18, 157-177.
- Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51, 222-230.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of cross-cultural psychology*, 1(3), 185-216.
- Brockhaus, R., & Brockhaus. (1980). Psychological and Environmental Factors Which Distinguish the Successful from the Unsuccessful Entrepreneur: A Longitudinal Study. *Proceedings - Academy of Management*, 1980, 368-372.
- Brockhaus, R. H. (2001). *Entrepreneurship education: A global view*: Ashgate.
- Bull, I., & Willard, G. E. (1993). Towards a theory of entrepreneurship. *Journal of Business Venturing*, 8, 183-195.
- Buller, P. F., & Finkle, T. A. (2013). The Hogan Entrepreneurial Leadership Program: An Innovative Model of Entrepreneurship Education. *Journal of Entrepreneurship Education*, 16, 113-132.
- Burger, N., Chazali, C., Gaduh, A., Rothenberg, A. D., Tjandraningsih, I., & Weiland, S. (2015). *Reforming Policies for Small Medium-Sized Enterprises in Indonesia*. Retrieved from Jakarta:
- Busenitz, L. W., & Barney, J. B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing*, 12, 9-30.
- Busenitz, L. W., Gomez, C., & Spencer, J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. *Academy of Management journal*, 43(5), 994-1003.
- Cao, Q., Simsek, Z., & Jansen, J. J. P. (2012). CEO Social Capital and Entrepreneurial Orientation of the Firm: Bonding and Bridging Effects. *Journal of management*.
- Carland, J. A. C., & Carland, J. W. (1992). Managers, small business owners and entrepreneurs: The cognitive dimension. *Journal of Business & Entrepreneurship*, 4, 55.
- Carland, J. W., Carland, J. C., & Ensley, M. D. (2001). Hunting The Heffalump: The Theoretical Basis and Dimensionality of The Carland Entrepreneurship Index. *Academy of Entrepreneurship Journal*, 7, 51-84.
- Carland, J. W., Hoy, F., Boulton, W. R., & Carland, J. A. C. (1984). Differentiating Entrepreneurs from Small Business Owners: A Conceptualization. *Academy of Management Review*, 9, 354-359.

- Carland, J. W., Hoy, F., & Carland, J. A. C. (1988). "Who is an Entrepreneur?" Is a Question Worth Asking. *American Journal of Small Business*, 12, 33-39.
- Carsrud, A., & Brännback, M. (2011). Entrepreneurial Motivations: What Do We Still Need to Know? *Journal of Small Business Management*, 49, 9-26.
- Casillas, J. C., & Moreno, A. M. (2010). The relationship between entrepreneurial orientation and growth: The moderating role of family involvement. *Entrepreneurship and Regional Development*, 22(3-4), 265-291.
- Chandler, G. N., & Hanks, S. H. (1994). Founder Competence, the Environment, and Venture Performance. *Entrepreneurship: Theory & Practice*, 18(3), 77-89.
- Chandler, G. N., & Jansen, E. (1992). The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, 7, 223-236.
- Charney, A., & Libecap, G. D. (2000). The impact of entrepreneurship education: an evaluation of the Berger Entrepreneurship Program at the University of Arizona, 1985-1999. Available at SSRN 1262343.
- Chaston, I., & Sadler-Smith, E. (2012). Entrepreneurial Cognition, Entrepreneurial Orientation and Firm Capability in the Creative Industries. *British Journal of Management*, 23, 415-432.
- Chattopadhyay, R., & Ghosh, A. K. (2008). Entrepreneurial Intention Model-Based Quantitative Approach to Estimate Entrepreneurial Success. *Journal of Small Business & Entrepreneurship*, 21(1), 1-21.
- Chell, E., Haworth, J. M., & Brearley, S. (1991). *The entrepreneurial personality: Concepts, cases and categories*: Routledge London.
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13, 295-316.
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational research methods*, 4(1), 62-83.
- Cho, Y., & Honorati, M. (2014). Entrepreneurship programs in developing countries: A meta regression analysis. *Labour Economics*, 28, 110-130.
- Chrisman, J. J., Bauerschmidt, A., & Hofer, C. W. (1998). The Determinants of New Venture Performance: An Extended Model. *Entrepreneurship: Theory & Practice*, 23, 5-29.
- Collins, C. J., Hanges, P. J., & Locke, E. A. (2004). The Relationship of Achievement Motivation to Entrepreneurial Behavior: A Meta Analysis. *Human Performance*, 17(1), 95-117.
- Cook, T., Campbell, D., & Peracchio, L. (1990). Quasi experimentation. In MD Dunnette & LM Hough, (Eds.) *Handbook of industrial and organizational psychology*: 491-576. Alto: CA: Consulting Psychologists Press.
- Cools, E., & Van den Broeck, H. (2007). The Hunt for the Heffalump Continues: Can Trait and Cognitive Characteristics Predict Entrepreneurial Orientation? *Journal of Small Business Strategy*, 18(2), 23-41.
- Cooper, A., Gimeno-Gascon, J., & Woo, C. Y. (1994). Initial Human and Financial Capital as Predictors of New Venture Performance. *Journal of Business Venturing*, 9, 371-395.
- Covin, J. G. (1991). Entrepreneurial Versus Conservative Firms: A Comparison of Strategies and Performance. *Journal of Management Studies*, 28, 439-462.
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial Orientation Theory and Research: Reflections on a Needed Construct. *Entrepreneurship Theory and Practice*, 35(5), 855-872.

- Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice*, 38(1), 11-44.
- Covin, J. G., & Slevin, D. P. (1988). THE INFLUENCE OF ORGANIZATION STRUCTURE ON THE UTILITY OF AN ENTREPRENEURIAL TOP MANAGEMENT STYLE. *Journal of Management Studies*, 25, 217-234.
- Covin, J. G., & Slevin, D. P. (1989). Strategic Management of Small Firms in Hostile and Benign Environments. *Strategic Management Journal*, 10, 75-87.
- Covin, J. G., Slevin, D. P., & Schultz, R. L. (1997). Top management decision sharing and adherence to plans. *Journal of Business Research*, 40(1), 21-36.
- Covin, J. G., & Wales, W. (2012). The Measurement of Entrepreneurial Orientation. *Entrepreneurship: Theory & Practice*, 36, 677-702.
- Crant, J. M. (1995). The Proactive Personality Scale and Objective Job Performance Among Real Estate Agents. *Journal of applied psychology*, 80, 532-537.
- Cromie, S. (2000). Assessing entrepreneurial inclinations: Some approaches and empirical evidence. *European journal of work and organizational psychology*, 9, 7-30.
- Cromie, S., Callaghan, I., & Jansen, M. (1992). The Entrepreneurial Tendencies of Managers: a Research Note. *British Journal of Management*, 3, 1-5.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological bulletin*, 52(4), 281.
- Cuervo, A., Ribeiro, D., & Roig, S. (2007). *Entrepreneurship Concept Theory and Perspective* Springer Science & Business Media
- Cunningham, J. B., & Lischeron, J. (1991). Defining entrepreneurship. *Journal of Small Business Management*, 29, 45.
- Dacin, P. A., Dacin, M. T., & Matear, M. (2010). Social Entrepreneurship: Why We Don't Need a New Theory and How We Move Forward From Here. *Academy of Management Perspectives*, 24, 37-57.
- Davis, J., Bell, R. G., Payne, G. T., & Kreiser, P. M. (2010). Entrepreneurial Orientation and Firm Performance: The Moderating Role of Managerial Power. *American Journal Of Business*, 25(2), 41-54.
- Davis, M. H., Hall, J. A., & Mayer, P. S. (2016). Developing a new measure of entrepreneurial mindset: Reliability, validity, and implications for practitioners. *Consulting Psychology Journal: Practice and Research*, 68(1), 21.
- Day, D. V. (2001). Leadership development:: A review in context. *The Leadership Quarterly*, 11(4), 581-613.
- Day, D. V., Fleenor, J. W., Atwater, L. E., Sturm, R. E., & McKee, R. A. (2014). Advances in leader and leadership development: A review of 25years of research and theory. *The Leadership Quarterly*, 25(1), 63-82.
- Decker, W. H., Calo, T. J., & Weer, C. H. (2012). Affiliation motivation and interest in entrepreneurial careers. *Journal of Managerial Psychology*, 27(3), 302-320.
- Delmar, F., Davidsson, P., & Gartner, W. B. (2003). Arriving at the high growth firm. *Journal of Business Venturing*, 18, 189-216.
- DeRue, D. S., Hollenbeck, J., Ilgen, D., & Feltz, D. (2010). Efficacy dispersion in teams: Moving beyond agreement and aggregation. *Personnel Psychology*, 63(1), 1-40.

- Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial Strategy making and Firm Performance: Tests of Contingency and Configurational Models. *Strategic Management Journal*, 18(9), 667-695.
- Dimov, D. (2010). Nascent Entrepreneurs and Venture Emergence: Opportunity Confidence, Human Capital and Early Planning. *Journal of Management Studies*, 47(6), 1123-1153.
- Dobbs, M. E. (2014). Guidelines for applying Porter's five forces framework: a set of industry analysis templates. *Competitiveness Review*, 24(1), 32-45.
- Domke-Damonte, D., Faulstich, J. A., & Woodson, W. (2008). Entrepreneurial Orientation in a Situational Context: Comparisons Between Germany and the United States. *Journal of Business Strategies*, 25, 15-30.
- Dorsa, P. R. (2007). *Orientation of Attitudes found in Businesspeople: A Review of Entrepreneurial Attitude Found in Entrepreneurs and Nonentrepreneurs*. Graduate School of Education and Psychology. Pepperdine University.
- Eckhardt, J. T., & Shane, S. A. (2003). Opportunities and Entrepreneurship. *Journal of management*, 29, 333-349.
- Eggers, F., Kraus, S., Hughes, M., Laraway, S., & Snyckerski, S. (2013). Implications of customer and entrepreneurial orientations for SME growth. *Management Decision*, 51(3), 524-546.
- Elenurm, T. (2012). Entrepreneurial orientations of business students and entrepreneurs. *Baltic journal of management*, 7, 217-231.
- Elenurm, T., Ennulo, J., & Laar, J. (2007). Structures of Motivation and Entrepreneurial Orientation in Students as the Basis for Differentiated Approaches in Developing Human Resources for Future Business Initiatives. *EBS Review*, 50-61.
- Elenurm, T., & Moisala, A. (2007). *Comparative analysis of entrepreneurial orientations among Estonian and Finnish business students*. Paper presented at the The International Council of Small Business (ICSB) 52 World Conference Proceedings, Turku, Finland.
- Entrialgo, M., Fernández, E., & Vázquez, C. J. (2000). Characteristics of Managers as Determinants of Entrepreneurial Orientation: Some Spanish Evidence. *Enterprise & Innovation Management Studies*, 1.
- Eriksson, K., Johanson, J., Majkgard, A., & Sharma, D. D. (1997). Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies*, 337-360.
- Fairlie, R. W., & Holleran, W. (2012). Entrepreneurship training, risk aversion and other personality traits: Evidence from a random experiment. *Journal of Economic Psychology*, 33, 366-378.
- Fairlie, R. W., & Meyer, B. D. (1996). Ethnic and racial self-employment differences and possible explanations. *Journal of human resources*, 757-793.
- Fayolle, A. (2013). Personal views on the future of entrepreneurship education. *Entrepreneurship & Regional Development*, 25(7-8), 692-701.
- Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training*, 30(9), 701-720.
- Felgueira, T., & Rodrigues, R. G. (2012). Entrepreneurial Orientation, Market Orientation and Performance of Teachers and Researchers in Public Higher Education Institutions. *Viesoji Politika ir Administravimas*, 11(4).

- Fellnhöfer, K., Puumalainen, K., & Sjögrén, H. (2016). Entrepreneurial orientation and performance – are sexes equal? *International Journal of Entrepreneurial Behavior & Research*, 22(3), 346-374.
- Fitrianti, R. (2012). *Entrepreneurship Education: Toward Models in Several Indonesia's University*. Paper presented at the The 4th International Conference on Indonesia Studies: "Unity, Diversity and Future", Bali.
- Frese, M. (2009). Toward a psychology of entrepreneurship: An action theory perspective. *Foundations and Trends in Entrepreneurship*, 5(6), 435-494.
- Frese, M., & Gielnik, M. M. (2014). The Psychology of Entrepreneurship. *Annual Review Organizational Psychology and Organizational Behavior*, 11(1), 413-438.
- Frese, M., & Rauch, A. (2001). Psychology of Entrepreneurship. *International Encyclopedia of the Social & Behavioral Sciences*, 4552-4556.
- Frese, M., Van Gelderen, M., & Ombach, M. (2000). How to plans as a small scale business owner: Psychological process characteristics of action strategies and success. *Journal of Small Business Management*, 38, 1-18.
- Gaglio, C. M., & Katz, J. A. (2001). The Psychological Basis of Opportunity Identification: Entrepreneurial Alertness. *Small Business Economics*, 16, 95.
- Gartner, W. B. (1988). "Who is an Entrepreneur?" Is the Wrong Question. *American Journal of Small Business*, 12, 11-32.
- Gartner, W. B. (1989). Some Suggestions for Research on Entrepreneurial Traits and Characteristics. *Entrepreneurship: Theory & Practice*, 14, 27-37.
- Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing*, 5, 15-28.
- George, B. A. (2011). Entrepreneurial Orientation: A Theoretical and Empirical Examination of the Consequences of Differing Construct Representations. *Journal of Management Studies*, 48, 1291-1313.
- George, B. A., & Marino, L. (2011). The Epistemology of Entrepreneurial Orientation: Conceptual Formation, Modeling, and Operationalization. *Entrepreneurship Theory and Practice*, 35, 989.
- Gerry, C., Marques, C. S., & Nogueira, F. (2008). Tracking student entrepreneurial potential: personal attributes and the propensity for business start-ups after graduation in a portuguese university. *Problems and Perspectives in Management*, 6, 45-53.
- Ghina, A. (2014). Effectiveness of Entrepreneurship Education in Higher Education Institutions. *Procedia - Social and Behavioral Sciences*, 115, 332-345.
- Ghina, A., Simatupang, T. M., & Gustomo, A. (2014). A Systematic Framework for Entrepreneurship Education within a University Context. *International Education Studies*, 7(12), 1-19.
- Gimeno, J., Folta, T., Cooper, A., & Woo, C. (1997). Survival of the Fittest? Entrepreneurial Human Capital and the Persistence of Underperforming Firms. *Administrative science quarterly*, 42(4 (Dec. 1997)), 750-783.
- Goktan, A. B., & Gupta, V. K. (2013). Sex, gender, and individual entrepreneurial orientation: evidence from four countries. *International Entrepreneurship and Management Journal*, 1-18.
- Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management journal*, 27(1), 25-41.

- Gupta, V. K., Niranjana, S., Goktan, B. A., & Eriskon, J. (2015). Individual entrepreneurial orientation role in shaping reactions to new technologies. *International Entrepreneurial Management Journal*, 1-27.
- Gupta, V. K., Niranjana, S., Goktan, B. A., & Eriskon, J. (2016). Individual entrepreneurial orientation role in shaping reactions to new technologies. *International Entrepreneurship and Management Journal*, 12(4), 935-961.
- Hair, J. F., Babin, b., Money, A. H., & Samouel, P. (2003). *Essentials of Business Research Methods*: Wiley.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. (2006). *Multivariate Data Analysis* (6 ed.). Upper Saddle River: Pearson Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis* (Vol. 5): Prentice hall Upper Saddle River, NJ.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis*: Pearson.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–151.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-206.
- Hansemark, O. C. (1998). The effects of an entrepreneurship programme on need for achievement and locus of control of reinforcement. *International Journal of Entrepreneurial Behavior & Research*, 4(1), 28-50.
- Hansen, J. D., Deitz, G. D., Tokman, M., Marino, L., & Weaver, K. M. (2011). Cross-national invariance of the entrepreneurial orientation scale. *Journal of Business Venturing*, 26, 61-78.
- Haynie, J. M., Shepherd, D., Mosakowski, E., & Earley, P. C. (2010). A situated metacognitive model of the entrepreneurial mindset. *Journal of Business Venturing*, 25, 217-229.
- Haynie, J. M., Shepherd, D. A., & Patzelt, H. (2012). Cognitive Adaptability and an Entrepreneurial Task: The Role of Metacognitive Ability and Feedback. *Entrepreneurship: Theory & Practice*, 36, 237-265.
- Hayton, J. C. (2003). STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMEs: AN EMPIRICAL STUDY OF ENTREPRENEURIAL PERFORMANCE. *Human Resource Management*, 42(4), 375-391.
- Hebert, R. F., & Link, A. N. (1989). In search of the meaning of entrepreneurship. *Small Business Economics*, 1, 39-49.
- Herron, L., & Robinson, R. (1993). A structural model of the effects of entrepreneurial characteristics on venture performance. *Journal of Business Venturing*, 8, 281-294.
- Heywood, J. S., Jirjahn, U., & Struewing, C. (2016). Locus of Control and Performance Appraisal.
- Hill, H. (2001). Small and medium enterprises in Indonesia: Old policy challenges for a new administration. *Asian Survey*, 41(2), 248-270.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of management*, 21(5), 967-988.
- Hinkin, T. R. (2005). Scale Development Principles and Practices. In R. A. S. E. F. H. III (Ed.), *Research in Organizations*. San Francisco, California: Berrett-Koehler Publisher, Inc.

- Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale Construction: Developing Reliable and Valid Measurement Instruments. *Journal of Hospitality & Tourism Research*, 21(1), 100-120.
- Hisrich, R., Langan-Fox, J., & Grant, S. (2007). Entrepreneurship Research and Practice. *The American psychologist*, 62, 575-589.
- Hofer, C. W., & Sandberg, W. R. (1987). Improving new venture performance: some guidelines for success. *American Journal of Small Business*, 12(1), 11-25.
- Hormiga, E., Hancock, C., & Valls-Pasola, J. (2013). The Relationship between Employee Propensity to Innovate and their Decision to Create a Company. *Management Decision*, 51(5), 938-953.
- Hubbard, R., Vetter, D. E., & Little, E. L. (1998). Replication in Strategic Management: Scientific Testing for Validity, Generalizability, and Usefulness. *Strategic Management Journal*, 19(3), 243-254.
- Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management*, 36, 651-661.
- Hull, D. L., Bosley, J. J., & Udell, G. G. (1980). Renewing the hunt for the heffalump: identifying potential entrepreneurs by personality characteristics. *Journal of Small Business Management (pre-1986)*, 18(000001), 11.
- Hunter, J. E., & Schmidt, F. L. (2004). *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings* (2nd ed.). Thousand Oaks, CA: Sage.
- Indarti, N., & Langenberg, M. (2004). Factors affecting business success among SMEs: Empirical evidences from Indonesia. *second bi-annual European Summer University*, 19.
- Indarti, N., & Van Geenhuizen, M. (2005). KNOWLEDGE AS A CRITICAL RESOURCE IN INNOVATION AMONG SMALL FURNITURE COMPANIES IN INDONESIA. *Gadjah Mada International Journal of Business*, 7(3).
- Jambulingam, T., Kathuria, R., & Doucette, W. R. (2005). Entrepreneurial orientation as a basis for classification within a service industry: the case of retail pharmacy industry. *Journal of Operations Management*, 23, 23-42.
- Jelenc, L., Pisapia, J., & Ivanusic, N. (2016). Demographic Variables Influencing Individual Entrepreneurial Orientation and Strategic Thinking Capability. *Journal of Economic and Social Development*, 3(1), 3-16.
- Jeng, L. A., & Wells, P. C. (2000). The determinants of venture capital funding: evidence across countries. *Journal of corporate Finance*, 6(3), 241-289.
- Joardar, A., & Wu, S. (2011). Examining the Dual Forces of Individual Entrepreneurial Orientation and Liability of Foreignness on International Entrepreneurs. *Canadian Journal of Administrative Sciences (John Wiley & Sons, Inc.)*, 28, 328-340.
- Josien, L. (2008). *Antecedents of entrepreneurial orientation: a contingency approach*.
- Josien, L. (2012). Entrepreneurial Orientation: An Empirical Study Of The Risk-Propensity Dimension Of Entrepreneurs. *Academy of Entrepreneurship Journal*, 18, 21-34.
- Kao, R. W. Y. (1993). Defining Entrepreneurship: Past, Present and? *Creativity and Innovation Management*, 2, 69-70.
- Katongole, C., Ahebwa, W. M., & Kawere, R. (2013). Enterprise Success and Entrepreneurs Personality Traits: An Analysis or Micro and Small Scale

Women Owned Enterprises in Uganda Tourism Industry. *Tourism and Hospitality Research*, 13(3), 166-177.

- Kemenkop UKM. (2018). *PERKEMBANGAN DATA USAHA MIKRO, KECIL, MENENGAH (UMKM) DAN USAHA BESAR (UB)*. Jakarta Retrieved from [http://www.depkop.go.id/uploads/laporan/1580223129\\_PERKEMBANGAN%20DATA%20USAHA%20MIKRO,%20KECIL,%20MENENGAH%20\(UMKM\)%20DAN%20USAHA%20BESAR%20\(UB\)%20TAHUN%202017%20-%202018.pdf](http://www.depkop.go.id/uploads/laporan/1580223129_PERKEMBANGAN%20DATA%20USAHA%20MIKRO,%20KECIL,%20MENENGAH%20(UMKM)%20DAN%20USAHA%20BESAR%20(UB)%20TAHUN%202017%20-%202018.pdf).
- Kickul, J., & Gundry, L. (2002). Prospecting for Strategic Advantage: The Proactive Entrepreneurial Personality and Small Firm Innovation. *Journal of Small Business Management*, 40(2), 85-97.
- Kingsley Akuetteh, C. (2009). *Entrepreneurship and bank credit rationing in Ghana*. Durham University.
- Kirby, D. (2004). Entrepreneurship Education Can Business Schools Meet the Challenge. *Education + Training*, 46, 510-519.
- Kirzner, I. M. (1999). Creativity and/or alertness: A reconsideration of the Schumpeterian entrepreneur. *The Review of Austrian Economics*, 11(1), 5-17.
- Koe, W.-L. (2016). The relationship between Individual Entrepreneurial Orientation (IEO) and entrepreneurial intention. *Journal of Global Entrepreneurship Research*, 6(1), 13.
- Koh, H. C. (1996). Testing hypotheses of entrepreneurial characteristics: A study of Hong Kong MBA students. *Journal of Managerial Psychology*, 11(3), 12-25.
- Kohli, A. K., Jaworski, B. J., & Kumar, A. (1993). MARKOR: A Measure of Market Orientation. *Journal of marketing research*, 30, 467-477.
- Kollmann, T., Christofor, J., & Kuckertz, A. (2007). Explaining individual entrepreneurial orientation: conceptualisation of a cross-cultural research framework. *International journal of entrepreneurship and small business*, 4, 325.
- Kollmann, T., Stöckmann, C., Meves, Y., & Kensbock, J. M. (2016). When members of entrepreneurial teams differ: linking diversity in individual-level entrepreneurial orientation to team performance. *Small Business Economics*, 1-17.
- Korsakiene, R., & Diskiene, D. (2015, 2015/11// Nov 2015). *Personality Traits of Managers and Success of Firms: A Case of Lithuanian SMEs*, Kidmore End.
- Krauss, S. I., Frese, M., Friedrich, C., & Unger, J. M. (2005). Entrepreneurial orientation: A psychological model of success among southern African small business owners. *European journal of work and organizational psychology*, 14, 315-344.
- Kreiser, P. M., Marino, L., Dickson, P., & Weaver, M. K. (2010). Cultural Influences on Entrepreneurial Orientation: The Impact of National Culture on Risk Taking and Proactiveness in SMEs. *Entrepreneurship: Theory & Practice*, 34, 959-983.
- Kreiser, P. M., Marino, L., & Weaver, K. M. (2002). Assessing the Psychometric Properties of the Entrepreneurial Orientation Scale: A Multi-Country Analysis. *Entrepreneurship: Theory & Practice*, 26, 71.
- Kristiansen, S., Furuholt, B., & Wahid, F. (2003). Internet cafe entrepreneurs: pioneers in information dissemination in Indonesia. *The International Journal of Entrepreneurship and Innovation*, 4(4), 251-263.

- Kristiansen, S., & Indarti, N. (2004). Entrepreneurial intention among Indonesian and Norwegian students. *Journal of Enterprising Culture*, 12(01), 55-78.
- Kropp, F., & Lindsay, N. J. (2001). South African Business Dynamics: Measuring Entrepreneurship. *Journal of African Business*, 2, 23-45.
- Krueger Jr, N. F. (2007). What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship Theory and Practice*, 31(1), 123-138.
- Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15, 411-432.
- Kuckertz, A. (2013). Entrepreneurship Education: Status Quo and Prospective Developments. *Journal of Entrepreneurship Education*, 16, 59-70.
- Kuncoro, M. (2000). *Usaha Kecil Di Indonesia: Profil, Masalah Dan Strategi Pemberdayaan*. Paper presented at the Strategi Pemberdayaan Usaha Kecil di Indonesia, Jogjakarta.
- Kungwansupaphan, C., & Siengthai, S. (2014). Exploring entrepreneurs' human capital components and effects on learning orientation in early internationalizing firms. *International Entrepreneurship and Management Journal*, 10(3), 561-587.
- Kuratko, D. F. (2005). The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship Theory and Practice*, 29, 577.
- Lal, A. K., & Clement, R. W. (2005). Economic development in India: the role of individual enterprise (and entrepreneurial spirit). *Asia Pacific Development Journal*, 12(2), 81.
- Landström, H., Harirchi, G., & Åström, F. (2012). Entrepreneurship: Exploring the knowledge base. *Research Policy*, 41, 1154-1181.
- Latan, H., & Ghozali, I. (2012). Partial Least Square: Konsep, Teknik, dan Aplikasi SmartPLS 2.0 M3. *Semarang: Badan Penerbit Universitas Diponegoro*.
- Lei, H. S. (2014). Does a business plan really matter for a small or medium-sized new venture?: three types of new ventures in Taiwan. *International journal of entrepreneurship and small business*, 22(1), 89-105.
- Lieberson, S., & O'Connor, J. F. (1972). Leadership and organizational performance: A study of large corporations. *American sociological review*, 117-130.
- Lorsch, J. W., & Morse, J. J. (1974). *Organizations and their members: A contingency approach*. HarperCollins Publishers.
- Low, M., & MacMillan, I. C. (1988). Entrepreneurship: past research and future challenges. (Yearly Review of Management). *Journal of management*, 14, 139.
- Lubis, R. L. (2015). THE "TRIPLE-I" LEARNING MODEL OF ENTREPRENEURSHIP EDUCATION IN INDONESIA: WHERE DO WE GO FROM HERE? *International Journal of Arts & Sciences*, 8(7), 233-264.
- Lumpkin, G. T., Cogliser, C. C., & Schneider, D. R. (2009). Understanding and Measuring Autonomy: An Entrepreneurial Orientation Perspective. *Entrepreneurship: Theory & Practice*, 33, 47-69.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172.
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16, 429-451.

- Lumpkin, G. T., & Erdogan, B. (2004). If Not Entrepreneurship, Can Psychological Characteristics Predict Entrepreneurial Orientation? -- A Pilot Study. *the ICFAI Journal of Entrepreneurship Development*, 1, 21-33.
- Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: operationalizing and measuring a key strategic decision making process. *Journal of management*, 26, 1055-1085.
- MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *Journal of applied psychology*, 90(4), 710.
- Madhoushi, M., Sadati, A., Delavari, H., Mehdivand, M., & Mihandost, R. (2011). Entrepreneurial orientation and innovation performance: The mediating role of knowledge management. *Asian Journal of Business Management*, 3(4), 310-316.
- Manolova, T. S., Brush, C. G., Edelman, L. F., & Greene, P. G. (2002). Internationalization of small firms: personal factors revisited. *International Small Business Journal*, 20(1), 9-31.
- Marimin, M. (2017). Cultural Heritage as a Tourist Destination: A Focus on Surakarta Kasunanan Palace in Indonesia. *Journal of Environmental Management and Tourism*(4), 723-732.
- Marino, L., Lohrke, F. T., Hill, J. S., Weaver, K. M., & Tambunan, T. (2008). Environmental Shocks and SME Alliance Formation Intentions in an Emerging Economy: Evidence from the Asian Financial Crisis in Indonesia. *Entrepreneurship Theory and Practice*, 32, 157-183.
- Markman, G. D., & Baron, R. A. (2003). Person-entrepreneurship fit: why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, 13, 281-301.
- Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28, 211-224.
- Matlay, H. (2005). Researching entrepreneurship and education: Part 1: what is entrepreneurship and does it matter? *Education + Training*, 47, 665-677.
- Matlay, H. (2008). The impact of entrepreneurship education on entrepreneurial outcomes. *Journal of Small Business and Enterprise Development*, 15(2), 382-396.
- Matthews, R. B., Stowe, C. R. B., & Jenkins, G. K. (2011). *Entrepreneurs- Born or Made?* Paper presented at the Allied Academics International Conference, Orlando, Florida.
- Maylor, H., & Blackmon, K. (2005). *Researching Business and Management*. New York: Palgrave MacMillan.
- Mazzarol, T., Volery, T., Doss, N., & Thein, V. (1999). Factors influencing small business start-ups: A comparison with previous research. *International Journal of Entrepreneurial Behaviour & Research*, 5, 48-63.
- McCarthy, B. (2003). Strategy is personality-driven, strategy is crisis-driven: insights from entrepreneurial firms. *Management Decision*, 41, 327-339.
- McClelland, D. (1961). The achieving society.
- McClelland, D. (1965). N achievement and entrepreneurship: A longitudinal study. *Journal of personality and social psychology*, 1, 389-392.

- McKenzie, B., Ugbah, S. D., & Smothers, N. (2007). "Who is an entrepreneur?" Is it still the wrong question?(Statistical table)(Report). *Academy of Entrepreneurship Journal*, 13, 23.
- McMullen, J. S. (2011). Delineating the Domain of Development Entrepreneurship: A Market-Based Approach to Facilitating Inclusive Economic Growth. *Entrepreneurship Theory and Practice*, 35, 185-215.
- Miles, M. P., Covin, J. G., & Heeley, M. B. (2000). The relationship between environmental dynamism and small firm structure, strategy, and performance. *Journal of Marketing Theory and Practice*, 63-78.
- Miller, D. (1983). The Correlates of Entrepreneurship in Three Types of Firms. *Management science*, 29, 770-791.
- Miller, D. (2011). Miller (1983) Revisited: A Reflection on EO Research and Some Suggestions for the Future. *Entrepreneurship: Theory & Practice*, 35, 873-894.
- Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3(1), 1-25.
- Miller, D., & Toulouse, J.-M. (1986). Chief executive personality and corporate strategy and structure in small firms. *Management science*, 32(11), 1389-1409.
- Minniti, M., & Bygrave, W. (2001). A Dynamic Model of Entrepreneurial Learning. *Entrepreneurship Theory and Practice*, 25(3), 5-16.
- Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P. P., Morse, E. A., & Smith, J. B. (2002). Toward a Theory of Entrepreneurial Cognition: Rethinking the People Side of Entrepreneurship Research. *Entrepreneurship: Theory & Practice*, 27, 93.
- Moreno, A. M., & Casillas, J. C. (2007). High Growth SMEs versus non-high growth SMEs: Discriminant Analysis. *Entrepreneurship and Regional Development*, 19, 69-88.
- Moruku, R. K. (2013). DOES ENTREPRENEURIAL ORIENTATION PREDICT ENTREPRENEURIAL BEHAVIOUR? *International Journal of Entrepreneurship*, 17, 41-60.
- Mount, I. (2010). Nature vs. Nurture: Are Great Entrepreneurs Born... or Made. *Fortune Small Business*, 25-26.
- Mourougane, A. (2012). *Promoting SME development in Indonesia*. OECD Economics Department Working Papers. OECD Publishing. Paris, France.
- Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing*, 16, 51-75.
- Neck, H. M., & Greene, P. G. (2011). Entrepreneurship Education: Known Worlds and New Frontiers. *Journal of Small Business Management*, 49, 55-70.
- Ngatno, Apriatni, E., & Widayanto. (2016). Human Capital, Entrepreneurial Capital and SMEs Performance of traditional herbal industries in Central Java, Indonesia: The mediating effect of competitive advantage. *Archives of Business Research*, 3(4), 9-25.
- Niess, C., & Biemann, T. (2014). The role of risk propensity in predicting self-employment. *Journal of applied psychology*, 99(5), 1000.
- Nunnally, J. C., & Bernstein, I. (1994). *Psychometric theory* (3rd ed.).
- Obschonka, M., Silbereisen, R. K., Schmitt-Rodermund, E., & Stuetzer, M. (2011). Nascent entrepreneurship and the developing individual: Early

- entrepreneurial competence in adolescence and venture creation success during the career. *Journal of Vocational Behavior*, 79, 121-133.
- OECD/Economic Research Institute for ASEAN. (2018). *SME Policy Index: ASEAN 2018*.
- Ogbo, A., & Nwachukwu, A. C. (2012). The role of entrepreneurship in economic development: The Nigerian perspective. *European Journal of Business and Management*, 4(8), 95-96.
- Okhomina, D. (2010). Does Level of Education Influence Psychological Traits? Evidence from used car entrepreneurs. *Journal of Management and Marketing Research*, 3, 2-14.
- Osigweh, C. A. B. (1989). Concept Fallibility in Organizational Science. *Academy of Management Review*, 14(4), 579-594.
- Ottosson, H., & Klyver, K. (2010). The Effect of Human Capital on Social Capital Among Entrepreneurs. *Journal of Enterprising Culture*, 18(4), 399-417.
- Padilla-Meléndez, A., Fernandez-Gamez, M., & Monila-Gomez, J. (2014). Feeling the Risks: Effects of the Development of Emotional Competences with Outdoor Training on the Entrepreneurial Intent of University Students. *International Entrepreneurship Management Journal*, 10(4), 861-884.
- Perry, C. (1990). After further sightings of the Heffalump. *Journal of Managerial Psychology*, 5(2), 22-31.
- Pinho, J. C., & Sa, E. S. d. (2014). Personal Characteristics, Business Relationships and Entrepreneurial Performance: Some Empirical Evidence. *Journal of Small Business and Enterprise Development*, 21(2), 284-300.
- Pisapia, J., Feit, K., Morris, J., & Jelenc, L. (2016). Strengthening the Link between Entrepreneurial Proclivities and Entrepreneurial Outcomes: A Confirmatory Factor Analysis of the Entrepreneurial Dispositions Scale (EDS).
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879.
- Pownall, I. A. N., & Lawson, V. (2005). A REGIONAL ENTREPRENEURIAL ORIENTATION (REO) MODEL FOR A NORTHERN ENGLISH TOWN? *Journal of Enterprising Culture*, 13, 295-331.
- Pradhan, R. K., & Nath, P. (2012). Perception of entrepreneurial orientation and emotional intelligence a study on India's future techno-managers. *Global Business Review*, 13(1), 89-108.
- Prodan, I., & Drnovsek, M. (2010). Conceptualizing academic-entrepreneurial intentions: An empirical test. *Technovation*, 30, 332-347.
- Purwadaria, H. K., Firdaus, M., & Purwanti, N. (2014). Policies and Strategies for the Development of Small and Medium Scale Food Processing Enterprises in Indonesia. In R. S. Rolle (Ed.), *Policy Measures for Micro, Small and Medium Food Processing Enterprises (MSMFES) in the Asian Region*. Bangkok: FAO.
- Rametse, N., & Huq, A. (2015). Social influences on entrepreneurial aspirations of higher education students: Empirical evidence from the University of Botswana women students. *Small Enterprise Research*, 22(1), 1-16.
- Raposo, M., & Paco, A. d. (2011). Entrepreneurship education: Relationship between education and entrepreneurial activity. *Psicothema*, 23(3), 453-457.
- Raposo, M., Paco, A. d., & Ferreira, J. (2008). Entrepreneur's profile: a taxonomy of attributes and motivations of university students. *Journal of Small Business and Enterprise Development*, 15, 405-418.

- Rauch, A., & Frese, M. (2000). Psychological approach to entrepreneurial success. A general model and an overview of findings. *International Review of Industrial and Organizational Psychology*, 101-142.
- Rauch, A., & Frese, M. (2007a). Born to be an entrepreneur? Revisiting the personality approach to entrepreneurship. *The psychology of entrepreneurship*, 41-65.
- Rauch, A., & Frese, M. (2007b). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European journal of work and organizational psychology*, 16, 353.
- Rauch, A., & Frese, M. (2009). *Entrepreneurial Orientation* A. Bausch & B. Schwenker (Eds.), *Handbook Utility Management*
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009a). Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestions for the Future. *Entrepreneurship Theory and Practice*, 33(3), 761-787.
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009b). Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future.(Report). *Entrepreneurship Theory and Practice*, 33, 761.
- Renko, M., Tarabishy, A., Carsrud, A., & Brannback, M. (2013). Understanding and Measuring Entrepreneurial Leadership Style. *Journal of Small Business Management*.
- Reuber, A. R., & Fischer, E. (1997). The influence of the management team's international experience on the internationalization behaviors of SMEs. *Journal of International Business Studies*, 807-825.
- Reynolds, P. D. (2001). National panel study of US business startups: Background and methodology *Databases for the Study of Entrepreneurship* (pp. 153-227): Emerald Group Publishing Limited.
- Robinson, P. B., Huefner, J. C., & Hunt, H. K. (1991). Entrepreneurial Research on Student Subjects Does Not Generalize to Real World Entrepreneurs. *Journal of Small Business Management*, 29, 42-50.
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., & Hunt, H. K. (1991). An Attitude Approach to the Prediction of Entrepreneurship. *Entrepreneurship: Theory & Practice*, 15, 13-31.
- Robinson, R., & Herron, L. (2001). The Impact of Strategy and Industry Structure on the Link between the Entrepreneur and Venture Performance. *Academy of Entrepreneurship Journal*, 7, 31-50.
- Robinson, S., & Stubberud, H. A. (2014). Elements of Entrepreneurial Orientation and Their Relationship to Entrepreneurial Intent. *Journal of Entrepreneurship Education*, 17(2), 1-11.
- Runyan, R., Droge, C., & Swinney, J. (2008). Entrepreneurial orientation versus small business orientation: what are their relationships to firm performance? *Journal of Small Business Management*, 46(4), 567-588.
- Runyan, R., Ge, B., Dong, B., & Swinney, J. (2012a). Entrepreneurial orientation in cross-cultural research: assessing measurement invariance in the construct. *Entrepreneurship Theory and Practice*, 36(4), 819-836.
- Runyan, R., Huddleston, P., & Swinney, J. (2006). Entrepreneurial orientation and social capital as small firm strategies: A study of gender differences from a

- resource-based view. *International Entrepreneurship and Management Journal*, 2, 455-477.
- Runyan, R. C., Droge, C., & Sweeney, J. C. (2008). Entrepreneurial Orientation versus Small Business Orientation: What are their relationships to firm performance? *Journal of Small Business Management*, 46(4), 567-588.
- Runyan, R. C., Ge, B., Dong, B., & Swinney, J. L. (2012b). Entrepreneurial Orientation in Cross-Cultural Research: Assessing Measurement Invariance in the Construct. *Entrepreneurship: Theory & Practice*, 36(4), 819-836.
- Sadler-Smith, E., Hampson, Y., Chaston, I., & Badger, B. (2003). Managerial behavior, entrepreneurial style, and small firm performance. *Journal of Small Business Management*, 41, 47-67.
- Safari, A., Jafari, S., Tabayean, S. R., & Ansari, A. (2014). Evaluation of Background Characteristics Affecting Entrepreneurial Intentions and Orientation among Graduate Students in the University of Isfahan. *Asian Journal of Research in Social Sciences and Humanities*, 4(4), 591-597.
- Sandberg, W. R., & Hofer, C. W. (1987). Improving new venture performance: The role of strategy, industry structure, and the entrepreneur. *Journal of Business Venturing*, 2(1), 5-28.
- Sarasvathy, S. D., Menon, A. R., & Kuechle, G. (2013). Failing Firms and successful entrepreneurs serial entrepreneurship as a temporal portfolio. *Small Business Economics*, 40, 417-434.
- Sato, Y. (2000). HOW DID THE CRISIS AFFECT SMALL AND MEDIUM-SIZED ENTERPRISES? FROM A FIELD STUDY OF THE METAL-WORKING INDUSTRY IN JAVA. *The Developing Economies*, 38(4), 572-595.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students : LIVRE ANGLAIS*.
- Schaper, M., & Volery, T. (2007). Entrepreneurship and Small Business. 2nd Pacific Rim Edition. *Australia: Wiley*.
- Scheela, W., Isidro, E., Jittrapanun, T., Trang, N. T. T., & Gunawan, J. (2012). Business Angel Investing in Emerging Economies: Policy Implications for Southeast Asia. *Submitted to: Kauffman Foundation's International Research and Policy Roundtable, Liverpool UK*.
- Schumpeter, J. A. (1934). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*. Cambridge: Harvard University Press.
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology*, 54(4), 845-874.
- Shane, S. (2000). Prior Knowledge and the Discovery of Entrepreneurial Opportunities. *Organization Science*, 11, 448-469.
- Shane, S., Locke, E. A., & Collins, C. J. (2003). Entrepreneurial motivation. *Human Resource Management Review*, 13, 257-279.
- Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review*, 25, 217-226.
- Shepherd, D., Patzelt, H., & Haynie, J. M. (2010). Entrepreneurial Spirals: Deviation-Amplifying Loops of an Entrepreneurial Mindset and Organizational Culture. *Entrepreneurship Theory and Practice*, 34, 59-82.
- Slevin, D., & Terjesen, S. A. (2011). Entrepreneurial orientation: reviewing three papers and implications for further theoretical and methodological development. *Entrepreneurship Theory and Practice*, 35, 973.

- Solomon, G. T., Duffy, S., & Tarabishy, A. (2002). The state of entrepreneurship education in the United States: A nationwide survey and analysis. *International Journal of Entrepreneurship Education*, 1(1), 65-86.
- Solyomossy, E., & Hisrich, D. R. (1998). Entrepreneurial Dimensions the relationship of individual venture and environmental factors to success *Marketing and Policy* (Vol. Doctor of ). USA: Case Western Researve University.
- Spiegel, H. (1950). Who is the Entrepreneur? *Review of social economy*, 8, 20-29.
- Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management journal*, 38(5), 1442-1465.
- Steers, R. M., & Braunstein, D. N. (1976). A Behaviorally-Based Measure of Manifest Needs in Work Settings. *Journal of Vocational Behavior*, 9, 251-256.
- Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies*, 41(8), 1347-1364.
- Stevenson, H. H., & Jarillo, C. J. (1990). A Paradigm of Entrepreneurship: Entrepreneurial Management. *Strategic Management Journal* (1986-1998), 11, 17.
- Stewart Jr, W. H., & Roth, P. L. (2001). Risk propensity differences between entrepreneurs and managers: a meta-analytic review. *Journal of applied psychology*, 86(1), 145.
- Stewart Jr, W. H., Watson, W. E., Carland, J. A. C., & Carland, J. W. (1999). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business Venturing*, 14, 189-214.
- Stewart, W. H., & Roth, P. L. (2007). A Meta-Analysis of Achievement Motivation Differences between Entrepreneurs and Managers. *Journal of Small Business Management*, 45, 401-421.
- Stone, R. W., & Good, D. J. (2004). Measuring Entrepreneurial Orientation in an Individualized Technology Context. *Journal of Business and Entrepreneurship*, 16(2), 1.
- Stuart, R. W., & Abetti, P. A. (1990). Impact of entrepreneurial and management experience on early performance. *Journal of Business Venturing*, 5(3), 151-162.
- Sulistiyo, H. S. (2012). JUMLAH WIRAUSAHA RI naik jadi 1,56% *Bisnis Indonesia Online* (Vol. Minggu, 04). Jakarta: Bisnis Indonesia.
- Taatila, V., & Down, S. (2012). Measuring entrepreneurial orientation of university students. *Education & Training*, 54, 744-760.
- Tambunan, T. (2005). Promoting small and medium enterprises with a clustering approach: A policy experience from Indonesia. *Journal of Small Business Management*, 43(2), 138-154.
- Tambunan, T. (2007). Entrepreneurship development: SMES in Indonesia. *Journal of Developmental Entrepreneurship*, 12(01), 95-118.
- Tambunan, T. (2009). Export-oriented Small and Medium Industry Clusters in Indonesia. *Journal of Enterprising Communities People and Places in Global Economy*, 3(1), 25-58.
- Tambunan, T. (2011). Development of small and medium enterprises in a developing country: The Indonesian case. *Journal of Enterprising Communities*, 5, 68-82.

- Tang, J., Tang, Z., & Lohrke, F. (2008). Developing an entrepreneurial typology: the roles of entrepreneurial alertness and attributional style. *International Entrepreneurship and Management Journal*, 4, 273-294.
- Thee, K. W. (2006). Policies for Private Sector Development in Indonesia *Asian Development Bank Discussion Paper, No. 46 March*.
- Thoha, M. (2000). *Pengembangan Ekonomi Kerakyatan: Kekuatan, Kelemahan, Tantangan dan Peluang, dalam Indonesia Menapak Abad 2000, Kajian Ekonomi Politik*. Jakarta: Dyatama Milenia.
- Thompson, E. R. (2009). Individual Entrepreneurial Intent: Construct Clarification and Development of an Internationally Reliable Metric. *Entrepreneurship Theory and Practice*, 33, 669-694.
- Todorovic, Z. W., McNaughton, R. B., & Guild, P. (2011). ENTRE-U: An entrepreneurial orientation scale for universities. *Technovation*, 31(2), 128-137.
- Turner, S. (2005). Nascent market capitalism under question: interpretations of success among Makassar entrepreneurs. *Tijdschrift voor economische en sociale geografie*, 96(3), 264-274.
- Twenge, J. M., Campbell, S. M., Hoffman, B. J., & Lance, C. E. (2010). Generational differences in work values: Leisure and extrinsic values increasing, social and intrinsic values decreasing. *Journal of management*, 36(5), 1117-1142.
- Ucbasaran, D. (2004). *Business Ownership Experience, Entrepreneurial Behaviour and Performance: Novice, Habitual, Serial and Portfolio Entrepreneurs*. (Doctor of Philosophy), University of Nottingham, Nottingham.
- Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26(3), 341-358.
- Utami, C. W. (2017). Attitude, Subjective Norms, Perceived Behavior, Entrepreneurship Education and Self-Efficacy toward Entrepreneurial Intention University Student in Indonesia. *European Research Studies Journal*, 20(2A), 475-495.
- Utsch, A., & Rauch, A. (2000). Innovativeness and initiative as mediators between achievement orientation and venture performance. *European journal of work and organizational psychology*, 9, 45-62.
- Van Praag, M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics*, 29, 351-382.
- Vantilborgh, T., Joly, J., & Pepermans, R. (2015). Explaining Entrepreneurial Status and Success from Personality: An Individual Level Application of the Entrepreneurial Orientation Framework. *Psychologia Belgica* 55(1), 32-56.
- Vinchur, A. J., Schippmann, J. S., Switzer III, F. S., & Roth, P. L. (1998). A meta-analytic review of predictors of job performance for salespeople. *Journal of applied psychology*, 83(4), 586.
- Wales, W., Gupta, V. K., & Mousa, F.-T. (2013). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal*, 31(4), 357-383.
- Wang, C. L., & Chugh, H. (2013). Entrepreneurial Learning: Past Research and Future Challenges. *International journal of management reviews*, n/a-n/a.
- Weaver, K. M., Dickson, P. H., Gibson, B., & Turner, A. (2002). BEING UNCERTAIN: THE RELATIONSHIP BETWEEN ENTREPRENEURIAL

ORIENTATION AND ENVIRONMENTAL UNCERTAINTY. *Journal of Enterprising Culture*, 10(2), 87.

- Wiklund, J. (1999). The sustainability of the entrepreneurial orientation--performance relationship. *Entrepreneurship: Theory & Practice*, 24, 39-50.
- Wiklund, J., Davidsson, P., Audretsch, D. B., & Karlsson, C. (2011). The Future of Entrepreneurship Research. *Entrepreneurship: Theory & Practice*, 35, 1-9.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based Resources, Entrepreneurial Orientation and The Performance of Small and Medium-sized Business. *Strategic Management Journal*, 24, 1307-1314.
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing*, 20(1), 71-91.
- Zahra, S. A., Kuratko, D. F., & Jennings, D. F. (1999). Guest Editorial: Entrepreneurship and the Acquisition of Dynamic Organizational Capabilities. *Entrepreneurship: Theory & Practice*, 23(3), 5-10.
- Zahra, S. A., & Neubaum, D. O. (1998). Environmental adversity and the entrepreneurial activities of new ventures. *Journal of Developmental Entrepreneurship*, 3(2), 123-140.
- Zainol, F. A., & Ayadurai, S. (2011). Entrepreneurial Orientation and Firm Performance: The Role of Personality Traits in Malay Family Firms in Malaysia. *Int J of Business and Soc Sci*, 2(1), 59-71.
- Zang, H., Zhang, T., Cai, H., & Li, Y. (2014). Proposing and Validating a five-dimensional scale for measuring Entrepreneurial Orientation, An Empirical Study. *Journal of Entrepreneurship in Emerging Economies*, 6(2), 102-121.
- Zehir, C., Köle, M., & Yıldız, H. (2015). The mediating role of innovation capability on market orientation and export performance: An implementation on SMEs in Turkey. *Procedia-Social and Behavioral Sciences*, 207, 700-708.
- Zhao, H., & Seibert, S. E. (2006). The Big Five Personality Dimensions and Entrepreneurial Status: A Meta-Analytical Review. *Journal of applied psychology*, 91, 259-271.
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review. *Journal of management*, 36, 381-404.
- Zheng, L., Goldberg, L. R., Zheng, Y., Zhao, Y., Tang, Y., & Liu, L. (2008). Reliability and concurrent validation of the IPIP Big-Five factor markers in China: Consistencies in factor structure between Internet-obtained heterosexual and homosexual samples. *Personality and Individual Differences*, 45, 649-654.

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# Apendices

# Appendix 1. Ethics Clearance

<b>to</b>	Feri Setyowibowa, CBS	Office of Research and Development Human Research Ethics Committee
<b>From</b>	Dr Naomi Segal Acting Coordinator (Research Operations), School of Management, CBS	Telephone 9266 2784 Facsimile 9266 3793 Email hrec@curtin.edu.au
<b>Subject</b>	Protocol Approval <b>SOM—32-12- 2012</b>	
<b>Date</b>	12 November 2020	
<b>Copy</b>		

Dear Feri

Thank you for your “Form C Application for Approval of Research with Low Risk (Ethical Requirements)” for the project titled “Development of Individual Entrepreneurial Orientation Theory.” On behalf of the Human Research Ethics Committee, I am authorised to inform you that the project is approved.

Approval of this project is for a period of twelve months 17/12/2012 to 17/12/2013.

The approval number for your project is **SOM—32-12-2012**. *Please quote this number in any future correspondence.* If at any time during the twelve months changes/amendments occur, or if a serious or unexpected adverse event occurs, please advise me immediately.

Please Note: The following standard statement must be included in the information sheet to participants:  
*This study has been approved under Curtin University's process for lower-risk Studies (Approval Number SOM 32-12-2012). This process complies with the National Statement on Ethical Conduct in Human Research (Chapter 5.1.7 and Chapters 5.1.18-5.1.21).*  
*For further information on this study contact the researchers named above or the Curtin University Human Research Ethics Committee. c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth 6845 or by telephoning 9266 9223 or by emailing hrec@curtin.edu.au.*

Kind regards and good luck with your study

Dr Naomi Segal acting on behalf of  
**Dr Htwe Htwe Thein**  
**Coordinator (Research Operations)**

**Senior Lecturer in International Business, School of Management  
Curtin Business School (CBS)  
Curtin University  
GPO Box U1987 Perth. W.A. 6845,  
Australia  
Tel | +61 8 9266 1295  
Fax: +61 8 9266 7897**

**Email | [V.Thein@curtin.edu.au](mailto:V.Thein@curtin.edu.au)  
Web | <http://curtin.edu.au>**



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Please Note: The following standard statement must be included in the information sheet to participants:  
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Research Ethics Committee. c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth  
6845 or by telephoning 9266 9223 or by emailing hrec@curtin.edu.au.*

## Consent form Information sheet

**Title of Project** : Revisiting Individual Entrepreneurial Orientation Theory: A Study of Indonesian Entrepreneurs  
**Investigator** : Feri Setyowibowo  
**Position** : PhD Student of Management School, Curtin Business School

### **Purpose of Study**

In Indonesia, under the government support, many universities have begun to offer academic programs to develop a student's entrepreneurial capacity and even to help students start their own ventures. However, there is a critical limitation in the current effort in designing entrepreneur training and education programs. That is, a lack of an understanding of individual entrepreneurial orientation theory which explains how an individual's skills, knowledge, ability shapes the individual's entrepreneurial mind-set and desire for entrepreneurial actions. More researchers urge for a better understanding and knowledge of entrepreneurial mind-set, individual entrepreneurial orientation (IEO), for effective entrepreneur training and teaching programs. Unfortunately the extant entrepreneurship literature is deficient on this very critical issue. This proposed study aims to fill these gaps in the literature from an Indonesian perspective.

### **Procedures**

By signing the confirmation letter stating you agree to be involved in this study, you will participate in an interview that will last up to one hour. The interview will be recorded and you will be asked questions about how you perceived the entrepreneurship activities.

### **Confidentiality**

All recorded data will be transcribed into a word document on a Curtin School of Management computer using identification numbers only, no names will be used. Access to the stored data will be restricted by a password known only by the investigator. All data collected and consent forms will be stored safely in a locked cupboard at the Curtin School of Management. On completion of the study, all data will be stored in a secure and confidential location with the project supervisor for five years. After this time, all data will be destroyed. This is a Curtin University requirement.

### **Refusal or Withdrawal**

You may refuse to participate in the study and if you do consent to participate then you will be free to withdraw from the study at any time without fear or prejudice. If you do decide to withdraw from the study at any time, please contact me or my supervisor at the earliest possible convenience. All data will be destroyed if you do decide to withdraw.

### **Contact Details**

Student: Feri Setyowibowo Supervisor: Prof. Fay Rola-Rubzen  
+628157908227 +61892664627  
[Feri.setyowibowo@postgrad.curtin.edu.au](mailto:Feri.setyowibowo@postgrad.curtin.edu.au)  
[T.Miyamoto@curtin.edu.au](mailto:T.Miyamoto@curtin.edu.au)

### **Approval**

*This study has been approved under Curtin University's process for lower-risk Studies (Approval Number SOM-32-12-2012). This process complies with the National Statement on Ethical Conduct in Human Research (Chapter 5.1.7 and Chapters 5.1.18-5.1.21).*

*For further information on this study contact the researchers named above or the Curtin University Human Research Ethics Committee. c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth 6845 or by telephoning 9266 9223 or by emailing [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au).*

## CONSENT FORM

**Title of research project:**

Development of Individual Entrepreneurial Orientation Theory: Experiences of Commercial and Social Entrepreneurs in Indonesia

**Name and position of researcher:**

Feri Setyowibowo, PhD Student of Management School, Curtin Business School

*Please initial box*

1. I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.

3. I agree to take part in the study.

*Please tick box*

*Yes*

*No*

4. I agree to the interview being recorded.

--	--

5. I agree to the use of anonymised quotes in publications.

--	--

*I \_\_\_\_\_ (participant's name) agree to participate. I consent to my interview being audio recorded and understand that all content remains confidential. I understand I can withdraw at any time. If so, I undertake to contact Feri Setyowibowo (Telephone +628157908227) at the earliest opportunity.*

Signature: \_\_\_\_\_

Participant: \_\_\_\_\_ Date: \_\_\_\_\_

I have explained to the subject the procedures of the study to which the subject has consented their involvement and have answered all questions. In my appraisal, the subject has voluntarily and intentionally given informed consent and possesses the legal capacity to give informed consent to participate in this research study.

Researcher: _____ Date: _____
-------------------------------

## Appendix 2. Questioners

## Appendix 3. Statistics Analysis Results

## Appendix 3.1 Statistical Results Discriminant Analysis

### Discriminant

**Analysis Case Processing Summary**

Unweighted Cases		N	Percent
Valid		381	100.0
	Missing or out-of-range group codes	0	.0
	At least one missing discriminating variable	0	.0
Excluded	Both missing or out-of-range group codes and at least one missing discriminating variable	0	.0
	Total	0	.0
Total		381	100.0

**Group Statistics**

Group		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
Entrepreneur	PROAC	4.1407	.49043	146	146.000
	INNO	4.1182	.46535	146	146.000
	RISK	3.4594	.76663	146	146.000
	AUTO	3.7517	.68428	146	146.000
	COMP	3.5420	.66603	146	146.000
Non Entrepreneur	PROAC	4.1092	.45697	235	235.000
	INNO	4.0043	.46854	235	235.000
	RISK	3.2451	.77554	235	235.000
	AUTO	3.6270	.60178	235	235.000
	COMP	3.1028	.84616	235	235.000
Total	PROAC	4.1213	.46968	381	381.000
	INNO	4.0479	.46999	381	381.000
	RISK	3.3272	.77815	381	381.000
	AUTO	3.6748	.63668	381	381.000
	COMP	3.2711	.80985	381	381.000

### Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
PROAC	.999	.404	1	379	.526
INNO	.986	5.349	1	379	.021
RISK	.982	6.934	1	379	.009
AUTO	.991	3.481	1	379	.063
COMP	.930	28.383	1	379	.000

## Analysis 1

### Box's Test of Equality of Covariance Matrices

#### Log Determinants

Group	Rank	Log Determinant
Entrepreneur	5	-5.600
Non Entrepreneur	5	-5.674
Pooled within-groups	5	-5.489

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

#### Test Results

Box's M	59.299
Approx.	3.893
F	15
df1	380712.693
df2	.000
Sig.	

Tests null hypothesis of equal population covariance matrices.

## Summary of Canonical Discriminant Functions

#### Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.100 <sup>a</sup>	100.0	100.0	.301

a. First 1 canonical discriminant functions were used in the analysis.

**Wilks' Lambda**

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.909	35.799	5	.000

**Standardized Canonical Discriminant Function****Coefficients**

	Function	
	1	
PROAC		-.068
INNO		.495
RISK		.193
AUTO		.123
COMP		.809

**Structure Matrix**

	Function	
	1	
COMP		.866
RISK		.428
INNO		.376
AUTO		.303
PROAC		.103

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

**Functions at Group Centroids**

Group	Function	
	1	
Entrepreneur		.400
Non Entrepreneur		-.248

Unstandardized canonical discriminant functions evaluated at group means

## Classification Statistics

### Classification Processing Summary

Processed		381
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	0
Used in Output		381

### Prior Probabilities for Groups

Group	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Entrepreneur	.383	146	146.000
Non Entrepreneur	.617	235	235.000
Total	1.000	381	381.000

### Classification Results<sup>a</sup>

		Group	Predicted Group Membership		Total
			Entrepreneur	Non Entrepreneur	
Original	Count	Entrepreneur	52	94	146
		Non Entrepreneur	44	191	235
	%	Entrepreneur	35.6	64.4	100.0
		Non Entrepreneur	18.7	81.3	100.0

a. 63.8% of original grouped cases correctly classified.

## Appendix 3.2 Statistical Result Structural Equation Theoretical Model

DATE: 1/25/2018

TIME: 21:20

L I S R E L 8.50

BY

Karl G. Jöreskog & Dag Sörbom

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146.psf'

Sample Size = 146

Latent Variables IEO PERSON HUMAN PERF

Relationships

Path Diagram

PROAC RISK INNO AUTO COMP = IEO

SUBJ = PERF

FINAN = PERF

LOCUS NEED TOLE SELF = PERSON

ENTRE MANAG KNOW CAPA = HUMAN

IEO = HUMAN PERSON

PERF = IEO HUMAN PERSON

Iterations = 250

Method of Estimation: Maximum Likelihood

Options: SC

Number of Decimal: 3

End of Problem

Sample Size = 146

Covariance Matrix

SUBJ	PROAC	INNO	RISK	AUTO	COMP
PROAC	0.241				
INNO	0.111	0.217			
RISK	0.078	0.065	0.588		
AUTO	0.080	0.041	0.106	0.468	
COMP	0.053	0.053	0.114	0.133	0.444
SUBJ	0.077	0.092	0.056	0.174	0.091
0.323					
FINAN	0.042	0.089	0.062	0.082	0.068
0.123					
LOCUS	0.057	0.060	-0.053	0.012	0.074
0.033					
NEED	0.096	0.041	-0.048	0.048	0.014
0.020					
TOLE	0.069	0.048	-0.010	0.045	0.018
0.051					
SELF	0.102	0.117	0.025	0.066	0.117
0.120					
ENTRE	0.051	0.073	0.020	-0.012	0.063
0.043					
MANAG	0.065	0.090	0.010	0.023	0.102
0.075					
KNOW	0.021	0.070	0.022	0.134	0.086
0.159					
CAPA	0.127	0.084	0.013	0.149	0.036
0.150					

Covariance Matrix

ENTRE	FINAN	LOCUS	NEED	TOLE	SELF
FINAN	0.378				
LOCUS	0.088	0.404			
NEED	0.039	0.081	0.318		
TOLE	0.090	0.068	0.096	0.374	
SELF	0.114	0.112	0.097	0.069	0.271
ENTRE	0.079	0.055	0.050	0.034	0.124
0.200					
MANAG	0.085	0.077	0.042	0.024	0.178
0.113					
KNOW	0.117	0.066	-0.014	0.038	0.151
0.067					
CAPA	0.039	-0.010	0.122	0.158	0.089
0.042					

Covariance Matrix

	MANAG	KNOW	CAPA
MANAG	0.243		
KNOW	0.120	0.345	
CAPA	0.059	0.086	0.565

Number of Iterations = 22

LISREL Estimates (Maximum Likelihood)

Measurement Equations

PROAC = 0.294*IEO, Errorvar.= 0.154 , R <sup>2</sup> = 0.360	(0.0223)	6.900	
INNO = 0.317*IEO, Errorvar.= 0.116 , R <sup>2</sup> = 0.464	(0.0566)	(0.0195)	5.947
RISK = 0.204*IEO, Errorvar.= 0.546 , R <sup>2</sup> = 0.0710	(0.0761)	(0.0657)	8.306
AUTO = 0.262*IEO, Errorvar.= 0.400 , R <sup>2</sup> = 0.146	(0.0707)	(0.0497)	8.042
COMP = 0.264*IEO, Errorvar.= 0.374 , R <sup>2</sup> = 0.157	(0.0692)	(0.0467)	7.998
SUBJ = 0.375*PERF, Errorvar.= 0.183 , R <sup>2</sup> = 0.434	(0.0361)	5.073	
FINAN = 0.327*PERF, Errorvar.= 0.271 , R <sup>2</sup> = 0.283	(0.0703)	(0.0388)	6.998
LOCUS = 0.222*PERSON, Errorvar.= 0.355 , R <sup>2</sup> = 0.122	(0.0532)	(0.0422)	8.416
NEED = 0.189*PERSON, Errorvar.= 0.282 , R <sup>2</sup> = 0.113	(0.0472)	(0.0335)	8.428
TOLE = 0.139*PERSON, Errorvar.= 0.354 , R <sup>2</sup> = 0.0518	(0.0515)	(0.0417)	8.487
SELF = 0.509*PERSON, Errorvar.= 0.0123 , R <sup>2</sup> = 0.955	(0.0420)	(0.0286)	0.430
ENTRE = 0.265*HUMAN, Errorvar.= 0.130 , R <sup>2</sup> = 0.351	(0.0361)	(0.0167)	7.768

MANAG = 0.374\*HUMAN, Errorvar.= 0.103 , R<sup>2</sup> = 0.576  
 (0.0378) (0.0167)  
 9.883 6.156

KNOW = 0.331\*HUMAN, Errorvar.= 0.236 , R<sup>2</sup> = 0.317  
 (0.0479) (0.0299)  
 6.910 7.887

CAPA = 0.209\*HUMAN, Errorvar.= 0.521 , R<sup>2</sup> = 0.0777  
 (0.0653) (0.0619)  
 3.209 8.414

#### Structural Equations

IEO = 0.344\*PERSON + 0.376\*HUMAN, Errorvar.= 0.502 , R<sup>2</sup> =  
 0.498  
 (0.485) (0.502) (0.178)  
 0.709 0.749 2.821

PERF = 0.622\*IEO - 0.418\*PERSON + 0.693\*HUMAN, Errorvar.= 0.252  
 , R<sup>2</sup> = 0.748  
 (0.226) (0.243) (0.603) (0.630)  
 2.563 -0.692 1.099 1.112

#### Reduced Form Equations

IEO = 0.344\*PERSON + 0.376\*HUMAN, Errorvar.= 0.502, R<sup>2</sup> = 0.498  
 (0.485) (0.502)  
 0.709 0.749

PERF = - 0.204\*PERSON + 0.927\*HUMAN, Errorvar.= 0.446, R<sup>2</sup> =  
 0.554  
 (0.604) (0.625)  
 -0.337 1.483

#### Correlation Matrix of Independent Variables

	PERSON -----	HUMAN -----
PERSON	1.000	
HUMAN	0.919 (0.064) 14.409	1.000

#### Covariance Matrix of Latent Variables

	IEO -----	PERF -----	PERSON -----	HUMAN -----
IEO	1.000			
PERF	0.814	1.000		
PERSON	0.690	0.648	1.000	

HUMAN 0.692 0.740 0.919 1.000

Goodness of Fit Statistics

Degrees of Freedom = 84

Minimum Fit Function Chi-Square = 204.230 (P = 0.00)

Normal Theory Weighted Least Squares Chi-Square = 220.846 (P = 0.00)

Estimated Non-centrality Parameter (NCP) = 136.846

90 Percent Confidence Interval for NCP = (96.633 ; 184.731)

Minimum Fit Function Value = 1.408

Population Discrepancy Function Value (F0) = 0.944

90 Percent Confidence Interval for F0 = (0.666 ; 1.274)

Root Mean Square Error of Approximation (RMSEA) = 0.106

90 Percent Confidence Interval for RMSEA = (0.0891 ; 0.123)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.000

Expected Cross-Validation Index (ECVI) = 2.020

90 Percent Confidence Interval for ECVI = (1.742 ; 2.350)

ECVI for Saturated Model = 1.655

ECVI for Independence Model = 4.551

Chi-Square for Independence Model with 105 Degrees of Freedom = 629.874

Independence AIC = 659.874

Model AIC = 292.846

Saturated AIC = 240.000

Independence CAIC = 719.628

Model CAIC = 436.256

Saturated CAIC = 718.033

Normed Fit Index (NFI) = 0.676

Non-Normed Fit Index (NNFI) = 0.714

Parsimony Normed Fit Index (PNFI) = 0.541

Comparative Fit Index (CFI) = 0.771

Incremental Fit Index (IFI) = 0.780

Relative Fit Index (RFI) = 0.595

Critical N (CN) = 84.111

Root Mean Square Residual (RMR) = 0.0361

Standardized RMR = 0.0937

Goodness of Fit Index (GFI) = 0.831

Adjusted Goodness of Fit Index (AGFI) = 0.759

Parsimony Goodness of Fit Index (PGFI) = 0.582

The Modification Indices Suggest to Add the

Path to	from	Decrease in Chi-Square	New Estimate
PROAC	PERF	8.8	-0.46

The Modification Indices Suggest to Add an Error Covariance

Between	and	Decrease in Chi-Square	New Estimate
AUTO	INNO	9.0	-0.07
SUBJ	AUTO	17.5	0.11

NEED	PROAC	11.7	0.06
KNOW	PROAC	10.1	-0.06
KNOW	AUTO	11.4	0.09
KNOW	SUBJ	14.4	0.08
KNOW	NEED	10.0	-0.07
CAPA	SUBJ	7.9	0.08
CAPA	NEED	8.3	0.09
CAPA	TOLE	13.7	0.13

Standardized Solution

LAMBDA-Y

	IEO	PERF
	-----	-----
PROAC	0.294	- -
INNO	0.317	- -
RISK	0.204	- -
AUTO	0.262	- -
COMP	0.264	- -
SUBJ	- -	0.375
FINAN	- -	0.327

LAMBDA-X

	PERSON	HUMAN
	-----	-----
LOCUS	0.222	- -
NEED	0.189	- -
TOLE	0.139	- -
SELF	0.509	- -
ENTRE	- -	0.265
MANAG	- -	0.374
KNOW	- -	0.331
CAPA	- -	0.209

BETA

	IEO	PERF
	-----	-----
IEO	- -	- -
PERF	0.622	- -

GAMMA

	PERSON	HUMAN
	-----	-----
IEO	0.344	0.376
PERF	-0.418	0.693

Correlation Matrix of ETA and KSI

	IEO	PERF	PERSON	HUMAN
	-----	-----	-----	-----
IEO	1.000			
PERF	0.814	1.000		
PERSON	0.690	0.648	1.000	
HUMAN	0.692	0.740	0.919	1.000

PSI

Note: This matrix is diagonal.

IEO	PERF
0.502	0.252

Regression Matrix ETA on KSI (Standardized)

	PERSON	HUMAN
IEO	0.344	0.376
PERF	-0.204	0.927

Completely Standardized Solution

LAMBDA-Y

	IEO	PERF
PROAC	0.600	- -
INNO	0.681	- -
RISK	0.266	- -
AUTO	0.382	- -
COMP	0.397	- -
SUBJ	- -	0.659
FINAN	- -	0.532

LAMBDA-X

	PERSON	HUMAN
LOCUS	0.349	- -
NEED	0.336	- -
TOLE	0.228	- -
SELF	0.977	- -
ENTRE	- -	0.592
MANAG	- -	0.759
KNOW	- -	0.563
CAPA	- -	0.279

BETA

	IEO	PERF
IEO	- -	- -
PERF	0.622	- -

GAMMA

	PERSON	HUMAN
IEO	0.344	0.376
PERF	-0.418	0.693

Correlation Matrix of ETA and KSI

IEO	PERF	PERSON	HUMAN
-----	------	--------	-------

IEO	1.000			
PERF	0.814	1.000		
PERSON	0.690	0.648	1.000	
HUMAN	0.692	0.740	0.919	1.000

PSI

Note: This matrix is diagonal.

IEO	PERF
-----	-----
0.502	0.252

THETA-EPS

	PROAC	INNO	RISK	AUTO	COMP
SUBJ	-----	-----	-----	-----	-----
-----					
0.566	0.640	0.536	0.929	0.854	0.843

THETA-EPS

FINAN
-----
0.717

THETA-DELTA

	LOCUS	NEED	TOLE	SELF	ENTRE
MANAG	-----	-----	-----	-----	-----
-----					
0.424	0.878	0.887	0.948	0.045	0.649

THETA-DELTA

KNOW	CAPA
-----	-----
0.683	0.922

Regression Matrix ETA on KSI (Standardized)

	PERSON	HUMAN
	-----	-----
IEO	0.344	0.376
PERF	-0.204	0.927

Time used: 0.031 Seconds

## Appendix 3.3 Empirical Structural Model

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L I S R E L 8.50

BY

Karl G. Jöreskog & Dag Sörbom

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146.psf'

Sample Size = 146

Latent Variables IEO PERSON HUMAN PERF

Relationships

Path Diagram

SUBJ = PERF

FINAN = PERF

PROAC RISK INNO AUTO COMP = IEO

LOCUS NEED TOLE SELF = PERSON

ENTRE MANAG KNOW CAPA = HUMAN

HUMAN = PERSON

IEO = HUMAN

PERF = IEO PERSON

SET THE ERROR COVARIANCE AUTO and KNOW

SET THE ERROR COVARIANCE NEED and TOLE

SET THE ERROR COVARIANCE SUBJ and AUTO

SET THE ERROR COVARIANCE CAPA and AUTO

SET THE ERROR COVARIANCE SUBJ and CAPA

SET THE ERROR COVARIANCE SUBJ and KNOW

SET THE ERROR COVARIANCE RISK and KNOW

SET THE ERROR COVARIANCE KNOW and CAPA

SET THE ERROR COVARIANCE PROAC and CAPA

Iterations = 250

Method of Estimation: Maximum Likelihood

Options: SC

Number of Decimal: 3

End of Problem

Sample Size = 146

Covariance Matrix

	PROAC	INNO	RISK	AUTO	COMP	
ENTRE	-----	-----	-----	-----	-----	-
-----						
PROAC	0.241					
INNO	0.111	0.217				
RISK	0.078	0.065	0.588			
AUTO	0.080	0.041	0.106	0.468		
COMP	0.053	0.053	0.114	0.133	0.444	
ENTRE	0.051	0.073	0.020	-0.012	0.063	
0.200						
MANAG	0.065	0.090	0.010	0.023	0.102	
0.113						
KNOW	0.021	0.070	0.022	0.134	0.086	
0.067						
CAPA	0.127	0.084	0.013	0.149	0.036	
0.042						
SUBJ	0.077	0.092	0.056	0.174	0.091	
0.043						
FINAN	0.042	0.089	0.062	0.082	0.068	
0.079						
LOCUS	0.057	0.060	-0.053	0.012	0.074	
0.055						
NEED	0.096	0.041	-0.048	0.048	0.014	
0.050						
TOLE	0.069	0.048	-0.010	0.045	0.018	
0.034						
SELF	0.102	0.117	0.025	0.066	0.117	
0.124						

Covariance Matrix

	MANAG	KNOW	CAPA	SUBJ	FINAN	
LOCUS	-----	-----	-----	-----	-----	-
-----						
MANAG	0.243					
KNOW	0.120	0.345				
CAPA	0.059	0.086	0.565			
SUBJ	0.075	0.159	0.150	0.323		
FINAN	0.085	0.117	0.039	0.123	0.378	
LOCUS	0.077	0.066	-0.010	0.033	0.088	
0.404						
NEED	0.042	-0.014	0.122	0.020	0.039	
0.081						
TOLE	0.024	0.038	0.158	0.051	0.090	
0.068						
SELF	0.178	0.151	0.089	0.120	0.114	
0.112						

Covariance Matrix

NEED	TOLE	SELF
------	------	------

NEED	0.318		
TOLE	0.096	0.374	
SELF	0.097	0.069	0.271

Number of Iterations = 13

LISREL Estimates (Maximum Likelihood)

Measurement Equations

PROAC = 0.297\*IEO, Errorvar.= 0.150 , R<sup>2</sup> = 0.370  
(0.0223)  
6.725

INNO = 0.327\*IEO, Errorvar.= 0.110 , R<sup>2</sup> = 0.493  
(0.0586) (0.0197)  
5.581 5.573

RISK = 0.207\*IEO, Errorvar.= 0.544 , R<sup>2</sup> = 0.0731  
(0.0764) (0.0657)  
2.711 8.292

AUTO = 0.214\*IEO, Errorvar.= 0.424 , R<sup>2</sup> = 0.0975  
(0.0690) (0.0518)  
3.102 8.192

COMP = 0.258\*IEO, Errorvar.= 0.377 , R<sup>2</sup> = 0.150  
(0.0692) (0.0470)  
3.732 8.013

ENTRE = 0.272\*HUMAN, Errorvar.= 0.126 , R<sup>2</sup> = 0.370  
(0.0162)  
7.773

MANAG = 0.382\*HUMAN, Errorvar.= 0.0971 , R<sup>2</sup> = 0.600  
(0.0530) (0.0154)  
7.198 6.318

KNOW = 0.321\*HUMAN, Errorvar.= 0.249 , R<sup>2</sup> = 0.293  
(0.0577) (0.0311)  
5.575 8.002

CAPA = 0.204\*HUMAN, Errorvar.= 0.529 , R<sup>2</sup> = 0.0732  
(0.0682) (0.0624)  
2.999 8.473

SUBJ = 0.341\*PERF, Errorvar.= 0.206 , R<sup>2</sup> = 0.361  
(0.0357)  
5.761

FINAN = 0.310\*PERF, Errorvar.= 0.282 , R<sup>2</sup> = 0.255  
(0.0721) (0.0392)  
4.304 7.179

LOCUS = 0.216\*PERSON, Errorvar.= 0.357 , R<sup>2</sup> = 0.116  
(0.0528) (0.0423)  
4.099 8.442

NEED = 0.186\*PERSON, Errorvar.= 0.283 , R<sup>2</sup> = 0.109  
(0.0468) (0.0335)  
3.977 8.451

TOLE = 0.132\*PERSON, Errorvar.= 0.356 , R<sup>2</sup> = 0.0468  
(0.0509) (0.0419)  
2.600 8.503

SELF = 0.519\*PERSON, Errorvar.= 0.00185, R<sup>2</sup> = 0.993  
(0.0427) (0.0308)  
12.165 0.0602

Error Covariance for KNOW and RISK = -0.008  
(0.0291)  
-0.284

Error Covariance for KNOW and AUTO = 0.102  
(0.0295)  
3.475

Error Covariance for CAPA and PROAC = 0.0777  
(0.0251)  
3.089

Error Covariance for CAPA and AUTO = 0.112  
(0.0399)  
2.812

Error Covariance for CAPA and KNOW = 0.0465  
(0.0304)  
1.527

Error Covariance for SUBJ and AUTO = 0.115  
(0.0297)  
3.857

Error Covariance for SUBJ and KNOW = 0.0866  
(0.0225)  
3.843

Error Covariance for SUBJ and CAPA = 0.103  
(0.0305)  
3.393

Error Covariance for TOLE and NEED = 0.0715  
(0.0272)  
2.629

#### Structural Equations

IEO = 0.715\*HUMAN, Errorvar.= 0.488 , R<sup>2</sup> = 0.512  
(0.148) (0.168)

4.846 2.900

HUMAN = 0.904\*PERSON, Errorvar.= 0.183 , R<sup>2</sup> = 0.512  
(0.134) (0.121)  
6.724 1.516

PERF = 0.621\*IEO + 0.286\*PERSON, Errorvar.= 0.302 , R<sup>2</sup> = 0.698  
(0.214) (0.164) (0.219)  
2.906 1.742 1.380

#### Reduced Form Equations

IEO = 0.647\*PERSON, Errorvar.= 0.582, R<sup>2</sup> = 0.418  
(0.125)  
5.187

HUMAN = 0.904\*PERSON, Errorvar.= 0.183, R<sup>2</sup> = 0.817  
(0.134)  
6.724

PERF = 0.688\*PERSON, Errorvar.= 0.527, R<sup>2</sup> = 0.473  
(0.133)  
5.177

#### Correlation Matrix of Independent Variables

PERSON  
-----  
1.000

#### Covariance Matrix of Latent Variables

	IEO	HUMAN	PERF	PERSON
IEO	1.000			
HUMAN	0.715	1.000		
PERF	0.806	0.703	1.000	
PERSON	0.647	0.904	0.688	1.000

#### Goodness of Fit Statistics

Degrees of Freedom = 77  
Minimum Fit Function Chi-Square = 134.662 (P = 0.000)  
Normal Theory Weighted Least Squares Chi-Square = 127.984 (P = 0.000237)

Estimated Non-centrality Parameter (NCP) = 50.984  
90 Percent Confidence Interval for NCP = (23.745 ; 86.116)

Minimum Fit Function Value = 0.929  
Population Discrepancy Function Value (F0) = 0.352  
90 Percent Confidence Interval for F0 = (0.164 ; 0.594)  
Root Mean Square Error of Approximation (RMSEA) = 0.0676  
90 Percent Confidence Interval for RMSEA = (0.0461 ; 0.0878)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.0845

Expected Cross-Validation Index (ECVI) = 1.476  
90 Percent Confidence Interval for ECVI = (1.288 ;  
1.718)

ECVI for Saturated Model = 1.655  
ECVI for Independence Model = 4.551

Chi-Square for Independence Model with 105 Degrees of Freedom =  
629.874

Independence AIC = 659.874  
Model AIC = 213.984  
Saturated AIC = 240.000  
Independence CAIC = 719.628  
Model CAIC = 385.280  
Saturated CAIC = 718.033

Normed Fit Index (NFI) = 0.786  
Non-Normed Fit Index (NNFI) = 0.850  
Parsimony Normed Fit Index (PNFI) = 0.577  
Comparative Fit Index (CFI) = 0.890  
Incremental Fit Index (IFI) = 0.896  
Relative Fit Index (RFI) = 0.708

Critical N (CN) = 118.125

Root Mean Square Residual (RMR) = 0.0299  
Standardized RMR = 0.0779  
Goodness of Fit Index (GFI) = 0.895  
Adjusted Goodness of Fit Index (AGFI) = 0.836  
Parsimony Goodness of Fit Index (PGFI) = 0.574

The Modification Indices Suggest to Add an Error Covariance			
	Between and	Decrease in Chi-Square	New Estimate
KNOW	PROAC	8.7	-0.05
NEED	KNOW	10.2	-0.07
TOLE	CAPA	8.9	0.10

Standardized Solution

LAMBDA-Y

	IEO	HUMAN	PERF
PROAC	0.297	- -	- -
INNO	0.327	- -	- -
RISK	0.207	- -	- -
AUTO	0.214	- -	- -
COMP	0.258	- -	- -
ENTRE	- -	0.272	- -
MANAG	- -	0.382	- -
KNOW	- -	0.321	- -
CAPA	- -	0.204	- -
SUBJ	- -	- -	0.341
FINAN	- -	- -	0.310

LAMBDA-X

	PERSON
LOCUS	0.216
NEED	0.186
TOLE	0.132
SELF	0.519

BETA

	IEO	HUMAN	PERF
IEO	- -	0.715	- -
HUMAN	- -	- -	- -
PERF	0.621	- -	- -

GAMMA

	PERSON
IEO	- -
HUMAN	0.904
PERF	0.286

Correlation Matrix of ETA and KSI

	IEO	HUMAN	PERF	PERSON
IEO	1.000			
HUMAN	0.715	1.000		
PERF	0.806	0.703	1.000	
PERSON	0.647	0.904	0.688	1.000

PSI

Note: This matrix is diagonal.

	IEO	HUMAN	PERF
	0.488	0.183	0.302

Regression Matrix ETA on KSI (Standardized)

	PERSON
IEO	0.647
HUMAN	0.904
PERF	0.688

Completely Standardized Solution

LAMBDA-Y

	IEO	HUMAN	PERF
PROAC	0.608	- -	- -
INNO	0.702	- -	- -
RISK	0.270	- -	- -
AUTO	0.312	- -	- -
COMP	0.388	- -	- -

ENTRE	- -	0.608	- -
MANAG	- -	0.775	- -
KNOW	- -	0.542	- -
CAPA	- -	0.271	- -
SUBJ	- -	- -	0.601
FINAN	- -	- -	0.505

LAMBDA-X

	PERSON	
	-----	
LOCUS	0.340	
NEED	0.330	
TOLE	0.216	
SELF	0.997	

BETA

	IEO	HUMAN	PERF	
	-----	-----	-----	
IEO	- -	0.715	- -	
HUMAN	- -	- -	- -	
PERF	0.621	- -	- -	

GAMMA

	PERSON	
	-----	
IEO	- -	
HUMAN	0.904	
PERF	0.286	

Correlation Matrix of ETA and KSI

	IEO	HUMAN	PERF	PERSON	
	-----	-----	-----	-----	
IEO	1.000				
HUMAN	0.715	1.000			
PERF	0.806	0.703	1.000		
PERSON	0.647	0.904	0.688	1.000	

PSI

Note: This matrix is diagonal.

	IEO	HUMAN	PERF	
	-----	-----	-----	
	0.488	0.183	0.302	

THETA-EPS

	PROAC	INNO	RISK	AUTO	COMP	
	-----	-----	-----	-----	-----	-
ENTRE						
	-----					
PROAC	0.630					
INNO	- -	0.507				
RISK	- -	- -	0.927			
AUTO	- -	- -	- -	0.902		
COMP	- -	- -	- -	- -	0.850	
ENTRE	- -	- -	- -	- -	- -	
0.630						

MANAG	- -	- -	- -	- -	- -
KNOW	- -	- -	-0.018	0.252	- -
CAPA	0.211	- -	- -	0.216	- -
SUBJ	- -	- -	- -	0.295	- -
FINAN	- -	- -	- -	- -	- -

THETA-EPS

	MANAG	KNOW	CAPA	SUBJ	FINAN
	-----	-----	-----	-----	-----
MANAG	0.400				
KNOW	- -	0.707			
CAPA	- -	0.104	0.927		
SUBJ	- -	0.257	0.241	0.639	
FINAN	- -	- -	- -	- -	0.745

THETA-DELTA

	LOCUS	NEED	TOLE	SELF
	-----	-----	-----	-----
LOCUS	0.884			
NEED	- -	0.891		
TOLE	- -	0.207	0.953	
SELF	- -	- -	- -	0.007

Regression Matrix ETA on KSI (Standardized)

	PERSON
	-----
IEO	0.647
HUMAN	0.904
PERF	0.688

Time used: 0.094 Seconds