The influence of organizational culture on the entrepreneurial capital of employees.

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Abstract

The increased competition in the business environment requires organizations to be innovative and dynamic in order to survive. Entrepreneurial behaviour holds the enabling forces for such innovative and dynamic behaviour and could also become a strategic advantage for an organization. The purpose of this research is to investigate the influence of organizational culture on entrepreneurial capital of employees. A quantitative research methodology was followed to collect the research data. The organizational culture of 185 respondent's organizations was measured with the organizational culture assessment instrument and was classified according to the competing values model. The entrepreneurial intent, a proxy for entrepreneurial capital, of these respondents was measured with the theory of a planned behaviour instrument. Sequential multiple regression analysis was used to analyse the relationship between entrepreneurial intent and organizational culture. The results confirm that an organization's culture indirectly influences entrepreneurial capital through the antecedent of planned behaviour. This research contributes to explaining why certain organizations are more entrepreneurial than others.

Keywords

Organizational culture, entrepreneurial capital, theory of planned behaviour, entrepreneurial intent

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Johan Christo Lötter

10 November 2014

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To my wife Lydia Lötter, for your support that made this possible…

To my supervisor Andee Deverell, for your guidance and commitment…

To my fellow MBA classmates and "The One Club"…who made this worth it!

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Chapter 1: Introduction to research problem

1.1   Introduction

The increased competition in the business environment due to accelerated economic change, technological advances and globalisation promote a need for organizations to be flexible, robust and innovative (Jaén & Liñán, 2013). Changes in an organization's workforce toward more entrepreneurial behaviour are required for the organization to respond to these external challenges in the business environment. There is an increasing need for the workforce to be innovative and entrepreneurial within organizations (Huse, Neubaum, & Gabrielsson, 2005). Such innovative and entrepreneurial behaviour is referred to as entrepreneurial capital (Krueger Jr. & Reilly, 2000). Employees who exhibit high levels of entrepreneurial capital are the enabling forces required for dynamic operation of an organization and could also be regarded as a strategic advantage for the organization (Audretsch & Keilbach, 2005). Empirical research has shown that entrepreneurial activities could enrich the performance of organizations (Castrogiovanni, Urbano, & Loras, 2011).

Although the entrepreneurial behaviour of owners or top managers has received a lot of attention (Jaén & Liñán, 2013), the majority of past research has been conducted on actions required to transform an organization to a more entrepreneurial venture. The key distinguishers of an entrepreneurial venture are innovation, venturing and strategic renewal (Jaén & Liñán, 2013). Innovation refers to incremental or radical organizational improvements that ultimately substantially improve the organization's competitive advantage (Lee, Peris-Ortiz, & Fernández-Guerrero, 2011). Venturing is the formation of a new organization or organizational unit through acquisition or by partnering with another organization (Dal Zotto & Gustafsson, 2008). Strategic renewal is the process whereby the organization's key ideas are renewed towards a more entrepreneurial approach and is typically the result of organizational transformation (Dal Zotto & Gustafsson, 2008).

The influence of regional culture on entrepreneurial capital has been researched by many scholars and there is general agreement that culture does influence entrepreneurial capital (Castrogiovanni et al., 2011; Jaén & Liñán, 2013; Lee et al., 2011).

The gap left by past research is that very little attention was given to the culture and social environment within an organization as an enabler for such desired entrepreneurial behaviour (Bonet, Armengot, & Martín, 2011).

The objective of this research is to determine the influence of an organization's culture on the entrepreneurial capital of its employees. An understanding of the influence of the organization's culture will assist organizations to adapt their culture to be more conducive to entrepreneurial activity. An organizational culture that advocates high levels of entrepreneurial capital could improve organizational performance and potentially become a competitive advantage for the organization (Castrogiovanni et al., 2011; Jaén & Liñán, 2013; Wennekers & Thurik, 1999) .

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Chapter 2: Literature review

2.1   Entrepreneurial capital

Audretsch and Keilbach (2005, p. 459) stated that "entrepreneurship capital, by its very definition, must foster entrepreneurial activity". The authors further described entrepreneurial capital as "a society's capacity to generate entrepreneurial activity". Other scholars stated that entrepreneurial capital is reflected in the number of new businesses started, the development of innovative behaviour and the level of intention to start a venture (Krueger Jr. & Reilly, 2000; Wennekers & Thurik, 1999). It is further argued that the capacity to generate entrepreneurial capital is reflected in the reinforcement of innovative behaviours within extant organizations (Jaén & Liñán, 2013).

It is important to note that it is not organizations but rather individuals within these organizations who become more entrepreneurial and innovative (Krueger Jr., 2000). From this statement it can be deduced that an organization's entrepreneurial potential could be improved by expanding the quality and quantity of entrepreneurs in the organization (Krueger Jr., 2000) and, as a result, increase the organization's entrepreneurial capital. This increased entrepreneurial capital will assist the organization to better adapt to the changing business environment (Jaén & Liñán, 2013).

In their research, Liñán and Chen (2009, p. 595) stated that "Intention is the single best predictor of behaviour". They further argued that entrepreneurial intent could be used as a proxy for measuring entrepreneurial capital because, according to Krueger and Carsrud (1993), entrepreneurial behaviour is regarded as a form of planned behaviour. In addition, research that is more recent supports the argument that the entrepreneurial capital of an organization could be measured by the level of entrepreneurial intent of its employees (Jaén & Liñán, 2013).

The theory of planned behaviour presents a theoretical structure to study entrepreneurial intentions that take personal and social factors into account (Ajzen, 1991; Jaén & Liñán, 2013).

Other research has supported the use of this theory to measure entrepreneurial intent despite the fact that certain conflicts among these studies were noted (Liñán & Chen, 2009). These conflicts could be attributed to differences in measurements and lack of sufficient data (Chandler & Lyon, 2001; Jaén & Liñán, 2013).

2.2   Corporate entrepreneurship

For organizations to remain competitive in the business environment they operate in, they need to constantly innovate and be faster and better than the competition (Solberg & Olsson, 2010). According to Castrogiovanni, Urbano and Loras (2011), organizations must be flexible, reactive and competitive to remain successful.

Corporate entrepreneurship (CE) or intrapreneurship, as defined by Zahra (1995), involves increasing an organization's ability to innovate by fostering an entrepreneurial organizational culture (Castrogiovanni *et al.*, 2011). Corporate entrepreneurship focuses on rejuvenating the ability of an organization to amass innovative skills and capabilities (Hornsby, Kuratko, & Zahra, 2002).

An organization's ability to implement a corporate entrepreneurship game plan effectively is dependent on employees with lofty levels of entrepreneurial demeanour (Castrogiovanni et al., 2011; Jaén & Liñán, 2013; McFadzean, O'Loughlin, & Shaw, 2005).

Other scholars have identified corporate entrepreneurship as "a method to offer an organization a strategic option to refine its business concept, to meet changing customer needs and expectations, and to enhance its competitive position" (Castrogiovanni *et al.*, 2011, p. 35). These scholars have generally agreed on classifying corporate entrepreneurship into three dimensions: new

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business venturing (corporate venturing), innovativeness and strategic renewal (Castrogiovanni *et al*., 2011).

Research in this field has proved a positive interrelationship between corporate entrepreneurship and organizational performance which encouraged further investigation into the factors that influence corporate entrepreneurship (Castrogiovanni et al., 2011; Zahra, Nielsen, & Bogner, 1999).

Models used in earlier research such as Bird's (1988) model of entrepreneurial intention and Gartner's (1985) model for venture creation, emphasized that corporate entrepreneurial behaviour is driven by the relationship between the individual and the individual's environment. Corporate entrepreneurship is multidimensional – it does not result from events that take place in isolation but is rather the successful interaction of several events (Hornsby, Naffziger, Kuratko, & Montagno, 1993).

Building on existing research, Zahra (1991) proposed a structure that identified environmental, strategic and organizational antecedents that could influence corporate entrepreneurship.

Figure 1. Structure for corporate entrepreneurship, adapted from Zahra (1991)
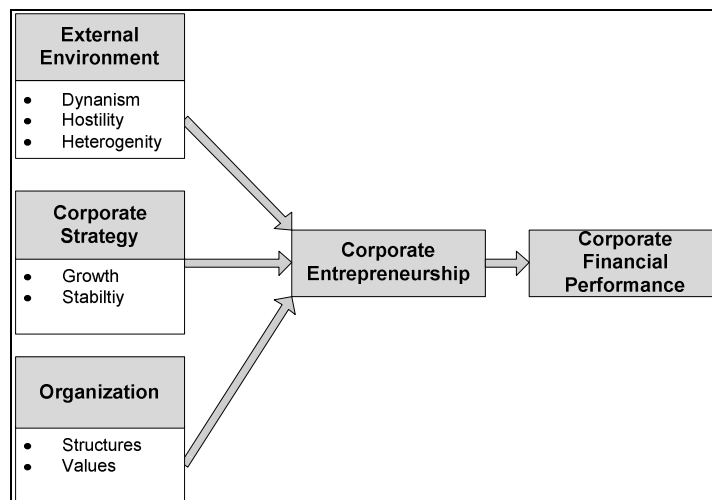
The model illustrated in figure 1 breaks down the three antecedents, external environment, corporate strategy and organization, into a component level as detailed in table 1.

In his research, Zahra (1991) found a positive interrelation between the three antecedents and corporate entrepreneurship. He also found a similar interrelation between corporate entrepreneurship activities and the organization's financial performance. These positive interrelations are supported by other research (Felício, Rodrigues, & Caldeirinha, 2012; Hornsby et al., 1993; Zahra, 1991).

Table 1. Component level of corporate entrepreneurship model, adapted from Zahra (1991)

External Environment				
Dynamism	**Hostility**	**Heterogeneity**		
Conducive to CE due to opportunities created in the market	Conducive to CE by differentiating products from the competitors	Conducive to CE by encouraging the adoption of entrepreneurial ventures or creative ways to reduce complexity in the environment		
Corporate Strategy				
Growth (Internal & External)	**Stability**			
Conducive to CE as growth calls for innovation, venturing and expansion	Conducive to CE by requiring maintenance on past competitive patterns and resource allocations			
Organization				
Communication	**Scanning**	**Integration**	**Differentiation**	**Control**
Quality and quantity of communication conducive to CE as it introduces new ideas and opportunities	Collection and analysis of data about the external environment is conducive to CE as it alerts to new opportunities and threats	Exchange of CE ideas across different units and levels to generate support. Overemphasis on control could impede CE	Division of labour results in specialization with increased commitment from employees. Conducive to CE by encouraging innovativeness. Increased differentiation could impede formal communication and stifle CE	Formal controls required to maintain focus on CE that creates the most value. Excessive use of control or red tape could impede CE
Values (Individual centred)	**Values (Competition centred)**			
Positive values encourage risk taking and create an internal climate that integrates employee and organizational goals	Organization values that encourage agile and aggressive responses to changes in the business environment are conducive to CE			

Based on the discussion of entrepreneurial capital and corporate entrepreneurship, certain similarities can be noted. The similarities are illustrated in figure 2.

Figure 2. Similarities between entrepreneurial capital and corporate entrepreneurship
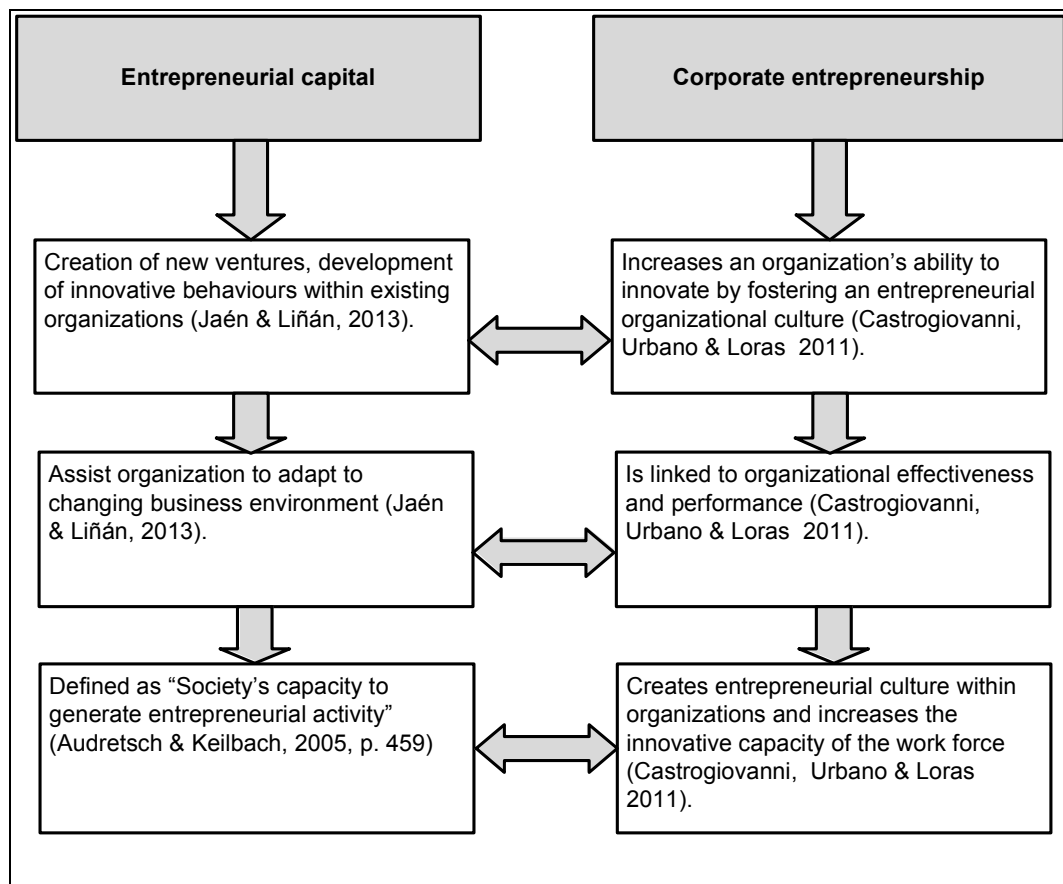
In conclusion, an organization that exhibits a lofty level of entrepreneurial capital will have more dynamic and innovative employees, which will benefit the organization through corporate entrepreneurship (Jaén & Liñán, 2013).

2.3 Theory of planned behaviour

Although various models have been used to measure entrepreneurial intent, they have not been as prominent as the theory of planned behaviour (TPB) (Jaén & Liñán, 2013). The distinguishing factor of TPB is that it provides a general

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theoretical framework to measure entrepreneurial intent by considering both personal and social factors (Jaén & Liñán, 2013; Krueger Jr. & Reilly, 2000).

TPB uses three antecedents to explain intention, namely the attitude towards entrepreneurship, the subjective norm and perceived behavioural control (PBC) (Ajzen, 1991). As illustrated in figure 3, the first antecedent attitude towards entrepreneurship, is defined as "the individual's overall evaluation (favourable or unfavourable) of the behaviour" (Jaén & Liñán, 2013, p. 942). The second antecedent, the subjective norm, is defined as "the individual's perception of social pressures to engage or not engage in the behaviour" (Jaén & Liñán, 2013, p. 942). The third antecedent, PBC, is defined as the individual's perceived ease or difficulty in performing the behaviour (Ajzen, 1991).

"According to this psychological theory, intention is affected by these three antecedents alone, and any other variable may influence it only to the extent that it modifies perceptions regarding these antecedents" (Jaén & Liñán, 2013, p. 942). Therefore, the purpose of this research is to investigate the influence of organizational culture on these three antecedents of intent.

Figure 3. The theory of planned behaviour (Ajzen, 1991)
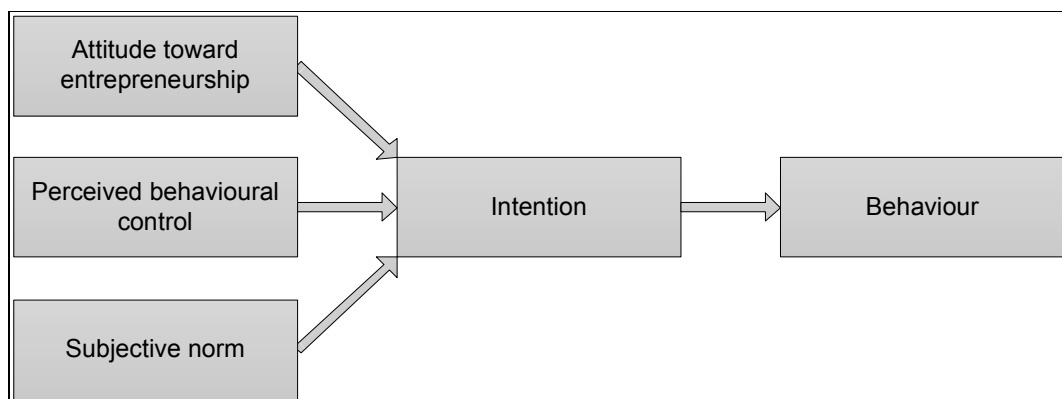
2.4   Organizational culture

Edgar Schein defined organizational culture as the "pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration" (Schein, 1992, p. 3). He further posited that

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organizational culture manifests itself on three levels, namely artefacts, values and basic underlying assumptions (Schein, 1992).

Definitions from other scholars align with the above, namely "a combination of values emphasized by an organization" (Cho, Kim, Park, & Cho, 2013, p. 754), "a complex set of values, beliefs, assumptions and symbols that define the way in which a firm conducts its business" (Barney, 1986, p. 657) and "the collective programming of the mind" (Hofstede, 1998, p. 478).

Hofstede (1998) further argued that organizational culture comprises two parts: the descriptive part and the values part. He explained that the descriptive part is what we observe from a culture such as the practices and the way people interact and dress while the values part is more deeply rooted and is learnt by individuals during their schooling and upbringing. Hofstede's descriptive and value explanation of culture supports the artefacts of culture argument by Schein (1992).

2.5 Organizational culture and the business environment

In recent years, competition in the business environment increased due to accelerated economic change, technological advances and globalisation (Jaén & Liñán, 2013). Organizations require their workforce to be more flexible, entrepreneurial and innovative in order to remain competitive (Huse et al., 2005; Jaén & Liñán, 2013). A workforce with high levels of entrepreneurial capital will contribute to such innovative behaviour (Jaén & Liñán, 2013). A problem arises when an organization's culture is in conflict with entrepreneurial behaviour and a change in the culture is required.

Such a change or paradigm shift of the organizational culture requires organizations to break with the *status quo* and change their values, beliefs and assumptions (Cameron & Quinn, 2011). Some scholars posited that a link between organizational culture and organizational effectiveness exists (Cameron & Quinn, 2011; Denison, Haaland, & Goelzer, 2004) while others argue that an organization's workforce that exhibits high levels of entrepreneurial capital could

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be regarded as a form of strategic advantage for the organization (Castrogiovanni *et al.*, 2011).

Zahra (1991) argued that the external environment influences an organization's culture. For organizations to adapt or evolve their existing culture to a more pro-entrepreneurial culture, they need to understand how certain external factors as well as the industry dynamics play a part in shaping their culture.

O'Reilly, Chatman & Caldwell (1991) hypothesized that organizational cultures tend to be similar for organizations that operate within a relatively homogeneous industry. Homogenous industries, such as the service industry or manufacturing industry, are classified by factors such as highly centralized suppliers, rate of interaction with regulatory agencies and degree of technological uncertainty (DiMaggio & Powell, 1983). Conversely, the organizational cultures of organizations in heterogeneous industries, such as the private sector/public sector or profit/not-for-profit, may be more diverse.

Research by Gordon (1991) argued that environmental factors such as the technology used or rate of industry growth, as well as the industry in which organizations operate, play an important role in shaping an organization's culture. He further supported O'Reilly's (1991) argument that within industries certain culture elements will be similar across different organizations (Gordon, 1991).

Depending on the size of an organization, certain subcultures may exist. These subcultures are typically found in different departments such as sales, production and finance (Gordon, 1991). It is further argued that these subcultures can be neutral or even in conflict with the dominant organizational culture (Gordon, 1991). Some scholars argue that these subcultures may inhibit the organization from adapting to changing environmental conditions and ultimately lead to the demise of the organizations (Boisnier & Chatman, 2003).

The number of these subcultures in an organization may also increase the complexity of changing the dominant culture (Gordon, 1991). However, if the

culture change is well planned, an organization can use these subcultures to its advantage by instilling dynamic and innovative behaviour among the workforce (Boisnier & Chatman, 2003).

2.6   Changing organizational culture

Cameron and Quinn (2011) argued that without a change in organizational culture, the organization would not change its performance. It is thus not possible for an organization to promote entrepreneurial behaviour and reap the benefits thereof if the organization's culture does not align itself to these values and assumptions (Cameron & Quinn, 2011).

Existing literature on organizational culture change can be divided into two areas: studies of natural change and culture management. The former involves the natural evolution of culture over a period of time and the latter focuses on the managed change of organizational culture (Ogbonna & Harris, 1998).

In the area of culture management, earlier scholars adopted a functionalist approach in that organizational culture is assumed to be an organizational property subject to control. This approach assumed that the organizational culture can be controlled and governed by management and is highly dependent on management's ability to align the culture attributes with the organization's strategy (Ogbonna & Harris, 1998).

Ogbonna and Harris (1998) posited that the research into organizational culture management can be further divided into three areas namely, manageable cultures, cultures that may be manipulated and cultures that cannot be intentionally changed by management.

Scholars that agree that culture is manageable, regard the organization's culture as a variable that can be changed. This pattern of thought has led to a vast amount of research relating to the directing and controlling of organizational culture (Gordon, 1991; Schwartz & Davis, 1981). Some of these research works describe different factors that could influence the susceptibility of a culture to

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change. Examples are the direction of the environmental trends that may include technology adoption or industry growth as well as the values of key leaders (Gordon, 1991; Hofstede, Neuijen, Ohayv, & Sanders, 1990).

In cultures that may be manipulated, scholars posited that culture is something that the organization is as opposed to something that the organization owns. Changes to an organizational culture cannot be managed but may be shaped during specific occasions such as times of crisis and during leadership change (Frost, Moore, Louis, Lundberg, & Martin, 1985). This argument is supported by Martin and Siehl (1983).

Finally, some scholars reject that culture can be managed and shaped. They argue that organizational culture can and does change over time, but without conscious intervention and direction from management (Ogbonna & Harris, 1998). Some of these scholars also argue that management's efforts to change the organizational culture frequently results in behavioural change seen on the artefact level (Schein, 1992) instead of on a deeper level such as values or underlying assumptions (Fitzgerald, 1988; Hofstede *et al.*, 1990; Schein, 1992).

2.7 Measurement of organizational culture

Despite some agreement by scholars on the definition of organizational culture, there had been major debate on the general theory and scepticism on how to measure culture (Denison & Mishra, 1995).

Research that incorporated both the quantitative and qualitative approaches was conducted (Hofstede et al., 1990; Jermier, Slocum Jr, Fry, & Gaines, 1991; Siehl & Martin, 1988) as well as research that relied only upon a quantitative approach to define and compare organizational cultures (Cooke & Rousseau, 1988; Denison & Mishra, 1995; Hofstede et al., 1990).

Some scholars disagreed with the notion that culture can be measured quantitatively (van Muijen *et al.*, 1999) while others such as Denison and Mishra

(1995) agreed that it can be measured quantitatively. As a result, a multitude of theories and approaches exist with regard to assessing organizational culture.

2.7.1 Qualitative measures

Historically, anthropologists studied organizational culture as a scientific research topic and based their research on ethnographic methods to understand the origins of organizational culture (van Muijen, 2005). Ethnography, the study of the social impact of symbols on a culture over a period of time (Cohen, 1976), is a qualitative method used to analyse and understand the artefacts, behavioural patterns and meanings of an organizational culture. The epistemological nature of the historical research discounted the possibility of using quantitative methods such as standardized surveys to study organizational culture (Denison, Nieminen, & Kotrba, 2014). Historical scholars also viewed culture to be unique to an organization and not comparable between organizations (Denison *et a*l., 2014).

The qualitative method of analysing culture involves a mixture of rationality, spontaneity and intuitivism in conjunction with the personal experience of the researcher. The researcher attempts to understand the context in which the behaviour takes place and then attempts to understand the behaviour from the originator's point of view (Van Maanen, 1979). The researcher requires intimate knowledge of the research setting. This involvement of the researcher could possibly lead to contamination of the data or bias and, as a result, cause problems with the validity and reliability of the research (Kwan & Walker, 2004; LeCompte & Goetz, 1982).

In his influential book, *The interpretation of cultures: Selected essays,* on the meaning of symbols, Clifford Geertz stated that

> man is an animal suspended in webs of significance he himself has spun. I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretative one in search of meaning (Geertz, 1973, p. 5).

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This symbolic perspective on organisational culture practised by Geertz and other anthropological researchers investigated how organizational members interpret their work environment and how this interpretation relates to their actions and behaviours. Barley (1983) suggested that to understand culture you need to analyse how the members of the culture structure meanings to their world.

Denison and Mishra (1995) posited that most researchers on culture advocate a phenomenological approach that emphasizes the qualitative understanding of meaning and interpretation.

2.7.2 Quantitative measures

Rooted in psychology is the notion of an organizational climate concerned with measuring the perceptions of individuals in an organization by means of quantitative questionnaires (van Muijen *et al.*, 1999). These perceptions are aggregated to an organizational level where generalizations are made by the researcher. Organizational climate had its origins in the 1970s (Reichers & Schneider, 1990) and is defined as "a set of conditions that exist and have impact on individual's behaviour" (Denison, 1990, p. 24).

Denison (1996) found surface level differences between organizational culture and organizational climate. However, upon further comparison between the individual studies he found very little distinction between the two concepts.
Denison (1996) argued that climate and culture should be viewed as differences in interpretation instead of differences in phenomenon. He further suggested that "the future study of organizational contexts can perhaps best be served if researchers more explicitly incorporate traditions of climate research with the culture literature" (Denison, 1996, p.646).

Van Muijen argued that a qualitative approach provides a deeper insight than could be obtained by a quantitative approach. He stated "Perceptions are easily measured with questionnaires, but to describe basic assumptions, decipher symbols and to unfold meanings into a richer, more complete and valid picture

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(or painting) one needs qualitative approaches" (Drenth, Thierry, Wolff, & Van Muijen, 1998, p. 125).

Kwan and Walker (2004) argued that both quantitative and qualitative methods should be used to measure the perceptions and meanings of an organization. They further argued that the criticism of partial culture analysis given to quantitative methods could also apply to qualitative methods, as both methods cannot fully analyse an organization's culture (Kwan & Walker, 2004).

In conclusion, agreement among proponents of each method is highly unlikely as both the quantitative as well as the qualitative approaches are appropriate for the study of organizational culture (Kwan & Walker, 2004). Researchers who argue in favour of quantitative methods state that the method is appropriate as long as the shortcomings thereof are considered (Kwan & Walker, 2004). The shortcomings of quantitative methodologies are "their inability to access 'deeper' cultural elements such as symbolic meaning, semiotics and fundamental assumptions" (Denison *et al.*, 2014, p. 146) and their use of predefined, standardized questions that may not be relevant to the organizational culture being researched.

2.8   Framework for organizational culture

Many scholars have proposed various dimensions and characteristics of organizational culture. The variety of these dimensions includes strength and congruence, holographic versus idiographic, participative versus non-participative and strong versus weak dimensions (Cameron & Quinn, 2011).
The reasons for such a wide variety are due to the complexity, ambiguity and interrelatedness of the attributes that describe organizational culture. As a result, it may never be possible to have an organizational culture model that is all-inclusive of attributes as one attribute could always be argued more important than the other (Cameron & Quinn, 2011). Thus, a framework is required to integrate and organize the majority of the proposed attributes.

Quinn and Rohrbaugh (1983) developed the competing values model (CVM) of organization culture. They set out to construct an empirically derived framework for organizational analysis and incorporated factors that influence organizational effectiveness. This framework has proven to be congruent with other well-established schemes that categorize organizational cultures (Cameron & Quinn, 2011).

The competing values model consists of two value dimensions and is shown in figure 4. The first dimension represents the organizational focus and contrasts internal focus and integration with external focus and rivalry. An example of an internally focussed organization contrasted with an externally focussed organization is Hewlett-Packard compared with Honda. The second dimension represents the organizational structure and contrasts flexibility and dynamism with stability and control (Cameron & Quinn, 2011). An example of a dynamic organization contrasted with a stable, predictable organization is Microsoft compared to a conglomerate such as Boeing (Cameron & Quinn, 2011).

Each of the four quadrants of the model represent competing values with the adjacent and diagonal quadrants; an example of such competing values is the clan culture type with internal and organic focus compared to the market culture type with external and control focus. The competing values model is named after the competing values in each quadrant (Cameron & Quinn, 2011).

Each of the four quadrants represents a culture type. The names of the quadrants were derived from literature that explained the evolution of organizational values and their association with the various forms of organizations (Cameron & Quinn, 2011).

Figure 4. The competing values model (Cameron & Quinn, 2011)
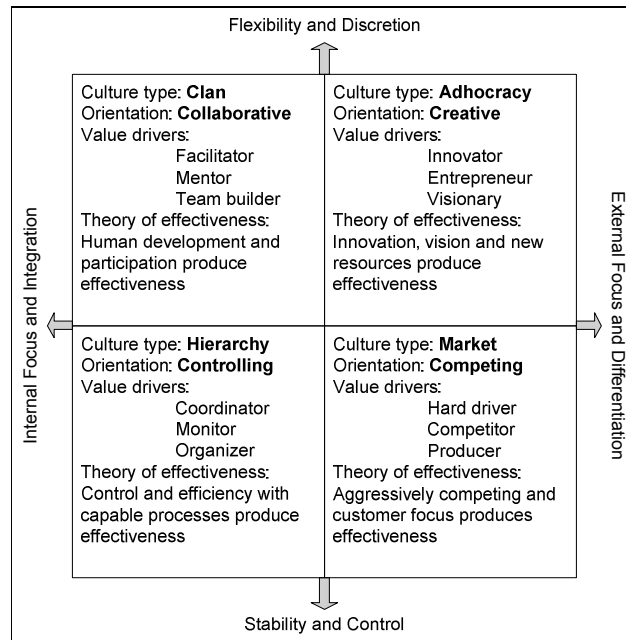
The four culture types are explained in more detail below:

- The clan culture embodies a family-type organization where the focus is on shared values and goals. The clan culture's objectives are teamwork and employee involvement where the role of management is to empower employees (Cameron & Quinn, 2011). A typical example of the clan culture is Pixar, the producer of animated movies (Cameron & Quinn, 2011).

- The adhocracy culture is typical of a dynamic organization that is responsive to ever changing conditions in the market. The adhocracy culture emphasizes vision of the future, risk-taking and individuality. The role of management is to encourage creativity and foster entrepreneurship (Cameron & Quinn, 2011). Adhocracy cultures are typical in industries such as software design, consulting and film making (Cameron & Quinn, 2011).

- The market culture (not to be confused with the marketing function) is focussed on conducting transactions with the external environment (customers, suppliers and regulators) to create a competitive advantage. The organization's primary objectives, profitability and market share, are driven by the core values of competitiveness and productivity (Cameron & Quinn, 2011).

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General Electric is a good example of an organization with a market culture (Cameron & Quinn, 2011).

- The hierarchy culture is characterized by the authority and formalized procedures that govern the way people perform their tasks. Formal rules and policies form the structure of the organization and the organization's long-term focus is stability, predictability and efficiency (Cameron & Quinn, 2011). An example of hierarchical cultures could be found in government departments or large conglomerates such as Ford and Boeing (Cameron & Quinn, 2011).

The CVM has the following underlying assumptions:

- The four culture types should be regarded as ideal cultures. This framework assumes that the general traits or dimensions of culture will remain constant across a number of organizations and it uses these general characteristics of social systems to group cultures into broad categories (Cho et al., 2013; Denison & Spreitzer, 1991).
- The CVM recognizes the importance of balance across the four culture types, should a single culture type become overemphasized it may cause the organization to become dysfunctional. On the other hand, a balance between the culture types may improve the organization's ability to respond to various environmental conditions (Armenakis, Brown, & Mehta, 2011; Denison & Spreitzer, 1991).

The adhocracy and market culture types are externally focussed while the clan and hierarchy types are internally focussed, linking the two value dimensions of the CVM back to Schein's definition of external adaptation and internal integration (Armenakis *et al.*, 2011; Schein, 1992). The CVM proved the analogy between the effectiveness literature and literature on organizational analysis. It also provided a framework for organizational culture assessment (Quinn & Rohrbaugh, 1983).

Critique against the CVM was posed by some scholars who described the CVM as a typing instrument; an instrument that classifies an organization's culture into

mutually exclusive culture types (Denison *et al.*, 2014). According to Ashkanasay (2000), this typing approach could result in an overly simplistic and stereotypical diagnosis of an organization's culture. These scholars concluded that the four culture types: clan, adhocracy, market and hierarchy, do not compete but rather work together (Denison *et al.*, 2014). They therefore advocated the use of profiling instruments where an organization's culture is assessed across a set of non-orthogonal dimensions (Denison *et al.*, 2014).

Denison *et al.* (1991) further critiqued the CVM based on the framework's underlying assumption that the general traits or dimensions of culture will remain constant across a number of organizations. Notwithstanding similar arguments by other scholars (Denison, 1990; Hofstede *et al.*, 1990), there has been very little research done from this perspective.

The CVM validity to differentiate organizations based on the four culture types has however been proven (Kwan & Walker, 2004). Howard (1998) confirmed the framework's validity for assessing organizational culture and that the CVM could be applied across very different organizations (Kwan & Walker, 2004). Further studies in organizational culture confirmed the framework's validity by using structural equation modelling techniques (Kalliath, Bluedorn, & Gillespie, 1999; Kwan & Walker, 2004).

2.9   Summary

The literature review revealed that a workforce with high levels of entrepreneurial capital would assist organizations to remain competitive in the rapidly changing business environment (Jaén & Liñán, 2013). Entrepreneurial capital is defined as "a society's capacity to generate entrepreneurial activity" (Audretsch & Keilbach, 2005, p. 459). Such entrepreneurial activities boost organizations to be more dynamic and to foster innovative behaviour among the workforce (Jaén & Liñán, 2013).

Corporate entrepreneurship increases an organization's ability to innovate by fostering an entrepreneurial organizational culture (Castrogiovanni *et al.*, 2011).

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The literature illustrated similarities between entrepreneurial capital and corporate entrepreneurship (Jaén & Liñán, 2013; Krueger Jr. & Reilly, 2000). In addition, it was argued that entrepreneurial capital has a potential competitive advantage for the organization and is linked to organizational effectiveness (Castrogiovanni et al., 2011; Jaén & Liñán, 2013).

Various authors agree that entrepreneurial behaviour is a form of planned behaviour and could be measured by using the theory of planned behaviour (Jaén & Liñán, 2013; Krueger & Carsrud, 1993; Liñán & Chen, 2009). The theory of planned behaviour provides a theoretical framework to study entrepreneurial intentions that take personal and social factors into account (Jaén & Liñán, 2013).

Despite the fact that the literature revealed various definitions for organizational culture, there is a general commonality between these definitions. The culture of an organization is described by the values and practices shared by the employees. These practices are learnt through the process of socialization whereas the values are learnt during the individual's upbringing (Hofstede, 1998; Schein, 1992; van Muijen *et al.*, 1999). External factors that shape an organization's culture are the industry in which it operates and the geographical region in which the organization is located (Jaén & Liñán, 2013; O'Reilly et al., 1991).

Some of the literature argued in favour of the qualitative measurement of organizational culture due to its ability to access deeper culture insight (van Muijen *et al.*, 1999). However, despite a few noted shortcomings of the quantitative methods, other literature suggested that organizational culture could be measured quantitatively (Denison & Mishra, 1995; Kwan & Walker, 2004). One such method of quantitative measurement is the competing values model (Quinn & Rohrbaugh, 1983). This model classifies an organization's culture into four culture types namely, clan, adhocracy, market and hierarchy (Cameron & Quinn, 2011).

The objective of this research is to investigate the influence of an organization's culture on the entrepreneurial capital of its employees. The need for an

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entrepreneurial workforce is emphasized by the need for organizations to remain competitive and innovative (Huse *et al*., 2005). By understanding which culture types are associated with high levels of entrepreneurial capital, organizations may be able to adapt their organizational culture to make it conducive to entrepreneurial behaviour.

Employees that exhibit high levels of entrepreneurial capital are the enabling forces required for the dynamic operation of an organization and could be regarded as a strategic advantage for the organization (Audretsch & Keilbach, 2005).

This research uses the competing values model to analyse organizational culture. A review of the literature confirmed that this culture analysis method is dominated by quantitative approaches (Cooke & Rousseau, 1988; Denison & Spreitzer, 1991; Kwan & Walker, 2004; Quinn & Rohrbaugh, 1983). For this reason and to obtain a broader generalisation of organizational culture than would have been possible with a qualitative approach (Kwan & Walker, 2004), this research will use a quantitative approach for the culture analysis.

Chapter 3: Hypotheses

3.1   Research hypotheses

The literature review revealed that organizations might benefit from an entrepreneurial workforce to remain flexible and dynamic in today's competitive markets. Such an entrepreneurial workforce will exhibit high levels of entrepreneurial capital, which can be measured by means of assessing the entrepreneurial intent of the workforce (Jaén & Liñán, 2013).

The review also indicated that an organization's culture could be assessed by using the competing values model (Quinn & Rohrbaugh, 1983). To answer the research objective stated earlier, this research proposes to test the hypotheses as illustrated in figure 5.

Figure 5. Hypotheses to be tested, adapted from Jaén & Liñán (2013)
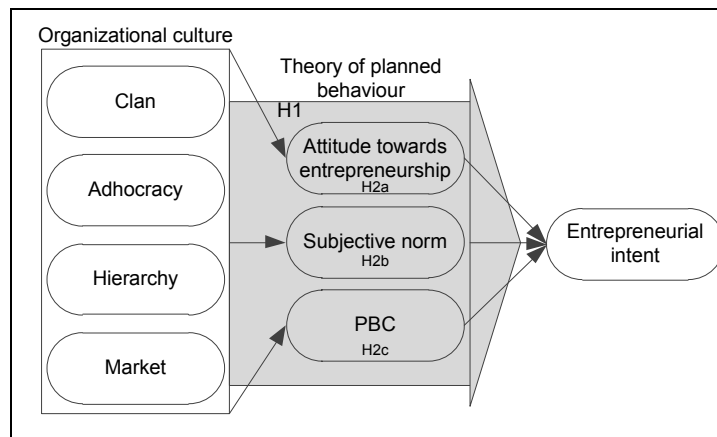
H1. The organizational culture types are related to the entrepreneurial intent of employees as follows:

> **H1a.** The clan culture type is related to entrepreneurial intent.
> **H1b.** The adhocracy culture type is related to entrepreneurial intent.
> **H1c.** The market culture type is related to entrepreneurial intent.
> **H1d.** The hierarchy culture type is related to entrepreneurial intent.

H2. The relationship between the organizational culture types and entrepreneurial intent is affected through the influence of culture types on the three TPB antecedents as follows:

> *H2a.* The relationship is affected by the attitude towards entrepreneurship.
>
> *H2b.* The relationship is affected by the subjective norm.
>
> *H2c.* The relationship is affected by the perceived behavioural control.

Chapter 4: Research Methodology

4.1   Introduction

This chapter outlines the methods that were used to conduct this research. Items such as research design, population and sampling, unit of analysis and research methodology are addressed. The consistency matrix is included in appendix 1.

4.2   Research philosophy

Saunders and Lewis (2012, p. 104) defined research philosophy as the "overall term that relates to the development of knowledge and the nature of that knowledge in relation to the research work". They further posited that there are four main strands of research philosophy: Positivism, Realism, Interpretivism and Pragmatism.

Table 2 Definitions of research philosophies (Saunders & Lewis, 2012)

Research Philosophy	Definition
Positivism	"Highly structured methods are employed to facilitate replication, resulting in law-like generalisations" (p. 104)
Realism	"a research philosophy which stresses that objects exist independently of our knowledge of their existence" (p. 105)
Interpretivism	"a research philosophy that advocates the necessity to understand differences between humans in their role as social actors" (p. 106)
Pragmatism	"a research philosophy which argues that the most important determinant of the research philosophy adopted are the research question(s) and objectives" (p. 107)

The scope of this research project was to determine the influence of organizational culture on the entrepreneurial capital of employees. For the purpose of investigating a social phenomenon such as organizational culture in its natural environment, Saunders and Lewis (2012) advised that the Interpretivism research philosophy be used.

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4.3   Research design

With the research philosophy confirmed, the next step in the research design was to determine which research approach to use. The two approaches defined in table 3 are induction and deduction (Saunders & Lewis, 2012). For the purpose of this research, project data collection of the organizational culture and entrepreneurial capital took place first. An analysis of the data followed in order to understand the influence of organizational culture on entrepreneurial capital. The theory that explains this influence was developed after the data analysis. Thus, this research project followed the induction approach (Saunders & Lewis, 2012)

Table 3. Definitions of research approaches (Saunders & Lewis, 2012)

Research approach	Definition
Deduction	"research approach that involves the testing of a theoretical proposition by using a research strategy specifically designed for the purpose of its testing" (p. 108)
Induction	"research approach which involves the development of theory as a result of analysing data already collected" (p. 109)

According to Saunders and Lewis (2012), the three main research types are exploratory, explanatory and descriptive studies (see table 4 below for definitions). A descriptive study was the most appropriate type for this research project as the researcher aimed to describe the influence of organizational culture on entrepreneurial capital.

A descriptive study involves the collection of quantifiable and measurable data (Saunders & Lewis, 2012) that is typically collected by questionnaires, interviews and the reanalysis of secondary data. For the purpose of this research project, electronic questionnaires were used to collect the data.

Table 4. Definitions of research types (Saunders & Lewis, 2012)

Research Type	Definition
Exploratory	"research that aims to seek new insights, ask new questions and to assess topics in a new light" (p. 110)
Explanatory	"research that focuses on studying a situation or a problem in order to explain the relationships between variables" (p. 110)
Descriptive	"research designed to produce an accurate representation of persons, events or situations" (p. 111)

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4.4. Research instrument

This research project used a similar approach to the one followed by Jaén and Liñán (2013) where the researchers investigated the impact of a region's culture on entrepreneurial capital. These researchers used a combination of the culture measurement instrument designed by Schwartz and Davis (1981) to measure the culture values, and the theory of planned behaviour (Ajzen, 1991) to measure entrepreneurial intent.

For the purpose of this research, organizational culture was measured based on the competing values model (Quinn & Rohrbaugh, 1983). Use was made of the organizational culture assessment instrument (OCAI), which is a non-proprietary instrument (Cameron & Quinn, 2011).

The organizational culture assessment instrument was developed by Cameron and Quinn (2011) to assess the culture of an organization based on the competing values model. This instrument took the form of a survey in which the respondents had to distribute a hundred points to six dimensions that served as the basis of the OCAI. The results obtained from this instrument indicated the dominant culture of the respondent's organization (Cameron & Quinn, 2011).

The reliability of the OCAI was confirmed by each of the other studies that used the instrument (Cameron & Quinn, 2011; Zammuto & Krakower, 1991) and further research in the field of organizational culture conducted by Cameron and Freeman (1993) confirmed the instrument's validity.

The entrepreneurial intent questionnaire was used to measure entrepreneurial capital. This instrument, developed by Jaén and Liñán (2013), is based on the theory of planned behaviour. Both the OCAI instrument and the entrepreneurial intent questionnaires were combined in an electronic survey. The survey questionnaire is included in appendix 2.

4.5 Unit of analysis

As argued by Rouseau (1985), organizational studies take place on two levels: the level of measurement and the level of analysis. The former refers to the actual source of the data, such as the individuals within the organization (Kwan & Walker, 2004) and the latter refers to the unit to which the data is assigned for statistical analysis, such as the organizational level (Kwan & Walker, 2004). Quantitative research on organizational culture typically follows the practice of aggregating the scores to organizational level. This aggregation makes it possible to explain the complex culture phenomena at the organizational level (Kwan & Walker, 2004).

For the purpose of this research, the unit of analysis was the organizational culture type as well as the entrepreneurial intent of the respondents. The analysis attempted to determine whether the individual's organizational culture type influences his/her entrepreneurial intent.

4.6 Population and sampling

Saunders and Lewis (2012, p. 132) defined the population as "the complete set of group members". The relevant population identified for this research was adult workers, both male and female, in the Gauteng province.

Saunders and Lewis (2012, p. 33) define a sampling frame as "a complete list of all members in the population". For the purpose of this research, such a sampling frame was not available. The researcher used purposive sampling, a form of non-probability sampling (Saunders & Lewis, 2012), to collect the data.

Past research concluded that a region's culture influences entrepreneurial intent (Jaén & Liñán, 2013) and that culture values differ between countries (Hofstede, 1998). To minimize such external influences on entrepreneurial capital, this research was conducted in one geographical region, the Gauteng province in South Africa.

4.6.1 Sample size

The statistical analysis detailed in section 4.7 has certain requirements regarding the sample size. According to Fidell and Tabachnick (2006), the number of independent variables determines the sample size according to the formula in figure 6. The number of independent variables is given by "m" and the minimum sample size by "N". This research study used 13 independent variables and, according to the formula, required a minimum of 154 responses. The 185 responses obtained were sufficient for a valid regression model.

Figure 6. Equation to determine minimum sample size for multiple regression (Fidell & Tabachnick, 2006)

$$N > 50 + 8m$$

4.6.2 Questionnaire pilot test

Saunders and Lewis (2012, p.149) defined a pilot test as "the trying out of a questionnaire, interview schedule or other method of data collection with a small group of respondents who are similar to those who will be used in the actual research to see if it works".

A pilot test was conducted with 15 questionnaires sent to a group of respondents similar to the respondents who would be used for the data collection. The feedback from the respondents resulted in a few numbering changes as well as better clarification on some of the questions in the questionnaire. The revised questionnaire was distributed to the respondents via an email. The email contained a brief description of the purpose of the research and a web link to the questionnaire. For the purpose of this research, Survey Monkey was used to collect the responses.

4.7   Statistical analysis

The statistical analysis performed on the research data was sequential multiple regression. Sequential multiple regression, also known as hierarchical multiple regression, is a version of standard multiple regression whereby the relationship between a dependent variable and multiple independent variables is explored (Pallant, 2001).

The difference between standard multiple regression and sequential multiple regression is that in the former, independent variables are entered into the regression equation simultaneously, while in the latter, independent variables are entered into the regression equation in a sequence determined by the researcher (Fidell & Tabachnick, 2006).

The benefit that sequential multiple regression offers compared to standard multiple regression is that the independent variables can be controlled. This means that one can use sequential multiple regression to statistically adjust the effects of some independent variables while examining the influence of specific independent variables on the dependent variable (Fidell & Tabachnick, 2006). The standard multiple regression equation is presented in figure 7. In the equation, "Y" is the dependent variable, "a" the constant or intercept and β is the coefficients for the independent variables "X"

Figure 7 The multiple regression equation (Salkind, 2012)

$$Y = a + \beta 1^*X1 + \beta 2^*X2 + ... + \beta p^*Xp$$

Multiple regressions use the β parameter as the regression coefficient. The β for an independent variable represents the change in the dependent variable associated with a single unit increase in the independent variable (Fidell & Tabachnick, 2006).

4.7.1 Control variables

According to Jaén & Liñán (2013), although demographic variables were correlated to start-up behaviour in the past, these variables had limited explanatory capacity. The authors further stated that the age, gender, ethnicity and other variables mainly determine the life circumstances to which respondents are exposed. Other research found a negative correlation between age and entrepreneurial behaviour, stating that entrepreneurial behaviour decreases with age (Levesque & Minniti, 2006).

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For this reason, a number of control variables were identified for this analysis. These variables were entered into the first model of the regression analysis and included age, gender, ethnicity, work experience, position in the company and past entrepreneurial experience.

4.7.2 Limitations of the statistical analysis

The sequential multiple regression analysis reveals the relationships among the dependent variable and multiple independent variables. This relationship does not infer causality. According to Fidell and Tabachnick (2006), a strong relationship among variables could be due to the influence of other unmeasured variables.

The regression analysis is most accurate when each independent variable is correlated to the dependent variable and not to the other independent variables (Fidell & Tabachnick, 2006). If the independent variables are highly correlated, multicollinearity exists and the accuracy of the regression model is adversely affected (Pallant, 2001).

The regression analysis assumes that independent variables are measured without error, which is practically impossible in the research of behavioural science. It further assumes that the unmeasured independent variables are uncorrelated with the measured independent variables. If this assumption does not hold true, the dependent variable could be over-or-under estimated (Fidell & Tabachnick, 2006).

4.7.3 Assumptions for multiple regression

Sequential multiple regression requires the sample data to adhere to certain assumptions for the regression to be valid (Fidell & Tabachnick, 2006). These assumptions are detailed in table 5. These assumptions relate to the various aspects of the distribution of data and the underlying relationship between the variables (Pallant, 2001). The difference between the predicted dependent variable and the obtained variable score is referred to as the residual or error (Pallant, 2001). Test results that were done to verify whether the data adheres to the assumptions are discussed in chapter five.

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Table 5. Assumptions for regression (Pallant, 2001)

Requirement	Description	Verification Method
Independence of residuals (errors)	The residuals are independent of each other.	The Durbin-Watson test result must be close to the value 2.
Linearity	Linear relationship between independent and dependent variables	Plot of studentized residuals against unstandardized predicted values
Homoscedasticity	Variance of the residuals about the predicted scores should be the same for all predicted scores.	Plot of studentized residuals against unstandardized predicted values
No multicollinearity	Independent variables correlated with each other	Correlation < 0.7 and tolerance > 0.1
No significant outliers or influential points	Standardized residuals that deviate more than 3 standard (SD) deviations from predicted value	Casewise diagnostics highlights standardized residuals with a SD>+-3
No leverage or influential points	Leverage values and influential points exert undue influence on the regression equation	Leverage values < 0.5 and Cook's distance < 1
Normality	Residuals normally distributed about the predicted dependent variable scores	Histogram with superimposed normal curve and the P-P Plot of the regression standardized residual

4.8   Data cleaning and coding

The respondent data of 222 surveys was downloaded into an Excel format where the data was cleaned before the statistical analysis was done in SPSS. The data cleansing included the removal of 37 invalid responses. These responses were incomplete and could not be used for analysis.

The organizational culture types were determined by adding the corresponding six values of each type and calculating the average score. The organizational culture type with the highest score was the dominant organizational culture in the respondent's organization (Cameron & Quinn, 2011).

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The theory of planned behaviour scores were calculated for attitude towards entrepreneurship, subjective norm, perceived behavioural control and intent. The intent variable was measured with a scale where each item assessed the perceived probability of the respondent pursuing an entrepreneurial career. The higher intent scores reflect greater entrepreneurial intentions. Table 6 provides details on the calculations that were performed.

Table 6 Calculation for TPB antecedent and intent

Measurement	Calculation
Attitude towards entrepreneurship	Average value of expected outcome multiplied by desirability
Subjective norm	Average value of expected approval by significant others multiplied by the value of their opinion
Perceived behavioural control	Average value of six scores
Intent	Average value of six scores

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Chapter 5: Results

5.1 Introduction

This chapter presents the results of the data collection process. The results include response rates, demographic information, descriptive statistics, consistency and reliability test results as well as the hypothesis tests.

5.2 Response rates

This research made use of the purposive non-probability sampling method whereby surveys were sent out to various respondents via email. A total of 222 surveys were completed from which 37 were discarded due to incompleteness. The remaining 185 surveys were used for the data analysis.

5.3 Demographic information

Section A of the survey consisted of demographic questions. The descriptive statistics are detailed in the tables below.

5.3.1 Gender

Table 7 illustrates the respondent's gender; the majority of the respondents (59.5%) were male.

Table 7 Question 1 - Gender

Gender	Frequency	Percentage
Male	110	59.5%
Female	75	40.5%
Total	185	100%

5.3.2 Ethnicity

Table 8 illustrates ethnicity; the respondents were heavily skewed towards the white race (80%). The skewed data was as a result of the purposive sampling method and reflects that the researcher's network consisted mainly of individuals within this race.

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Table 8. Question 2 - Ethnicity

Ethnicity	Frequency	Percentage
Black	17	9.2%
Coloured	4	2.2%
Indian	16	8.6%
White	148	80%
Total	185	100%

5.3.3 Age category

As illustrated in table 9, the majority of the respondents were in the 31 to 40 year old age group (44.3%). The second largest group was in the 24 to 30 year old age group (28.1%).

Table 9. Question 3 - Age

Age	Frequency	Percentage
23 and younger	1	0.5%
24–30	52	28.1%
31–40	82	44.3%
41–50	30	16.2%
50 and older	20	10.8%
Total	185	100%

5.3.4 Highest level of education

Table 10 illustrates the respondent's education; 27.6% of the respondents had an undergraduate degree. However, the majority of the respondents (45.5%) had a postgraduate degree. Qualifications listed in the "Other" category (5.4%) include the National Certificate N4/N5, CPA (SA) and various certificates such as human resources and administrative qualifications.

Table 10. Question 4 - Highest level of education

Highest level of Education	Frequency	Percentage
Matric	9	4.9%
Diploma	31	16.8%
Undergraduate Degree	51	27.6%
Postgraduate Degree	84	45.4%
Other	10	5.4%
Total	185	100%

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5.3.5 Industry

As illustrated in table 11, the largest percentage of the respondent's companies (19.5%) operated in the mining industry and a substantial number of companies in the telecom and technology industries (11.9%). This is also attributed to the sampling method. The "Other" category included industries such as automation and control, consulting, legal, education and engineering.

Table 11. Question 5 - Industry in which your company operates

Industry in which the company operates	Frequency	Percentage
Financial services & insurance	18	9.7%
Retail & consumer	12	6.5%
Telecoms & technology	22	11.9%
Energy	10	5.4%
Mining	36	19.5%
Manufacturing	13	7%
Healthcare	9	4.9%
Transport & tourism	2	1.1%
Land & agriculture	2	1.1%
Other	61	33%
Total	185	100%

5.3.6 Work experience at present company

Table 12 illustrates the respondent's work experience. The majority of the respondents (29.7%) had spent 3 to 5 years working at their present company whilst 26.5% of the respondents had spent 6 to 10 years working at their present company.

Table 12. Question 6 - Work experience at present company

Work experience at present company	Frequency	Percentage
Less than 3 years	48	25.9%
3–5 years	55	29.7%
6–10 years	49	26.5%
10–15 years	15	8.1%
More than 15 years	18	9.7%
Total	185	100%

5.3.7 Position at present company

Table 13 illustrates the respondent's position in their company. The responses include middle management (32.4%), general staff (29.2%) and junior management (16.8%) as the three largest groups.

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Table 13. Question 7 - Position at present company

Position in present company	Frequency	Percentage
General staff	54	29.2%
Junior management	31	16.8%
Middle management	60	32.4%
Senior management	27	14.6%
Executive	13	7%
Total	185	100%

5.3.8 Self-employment history

Table 14 illustrates that some respondents had past entrepreneurial activity; 21.6% had an average of four years entrepreneurial experience. The majority (78.4%) of the respondents did not have any self-employment or entrepreneurial experience.

Table 14. Question 8 - Self-employment history

Have you ever been self-employed or an entrepreneur	Frequency	Percentage	Average number of years being self-employed or an entrepreneur
No	145	78.4%	
Yes	40	21.6%	4
Total	185	100%	

5.4 Descriptive statistics

5.4.1 Organizational culture types

Table 15 illustrates the dominant organizational culture per industry. The majority of the respondents (39.5%) had a hierarchical organizational culture as the dominant culture. The market culture was dominant in 30% of the responses followed by the adhocracy and clan culture types at 16% and 13.5% respectively.

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Table 15. Frequency of culture type per industry

Industry	Clan	Adhocracy	Market	Hierarchy	Total
Energy	1	1	2	6	10
Financial services & insurance	4	2	7	5	18
Healthcare	1	5	2	1	9
Land & agriculture	1	0	1	0	2
Manufacturing	3	2	4	4	13
Mining	5	3	11	17	36
Other (please specify)	5	7	19	30	61
Retail & consumer	4	2	5	1	12
Telecom & technology	6	3	6	7	22
Transport & tourism	0	0	0	2	2
Total	30	25	57	73	185
Percentage	16%	13.5%	30%	39.5%	

Figure 8 is an organizational culture map of all the respondent data. As described by Cameron and Quinn (2011), these maps provide a visualization of the dominant culture in an organization. The hierarchy and market culture types were clearly the dominant cultures in the responses.

Figure 8 Organizational culture type of respondents
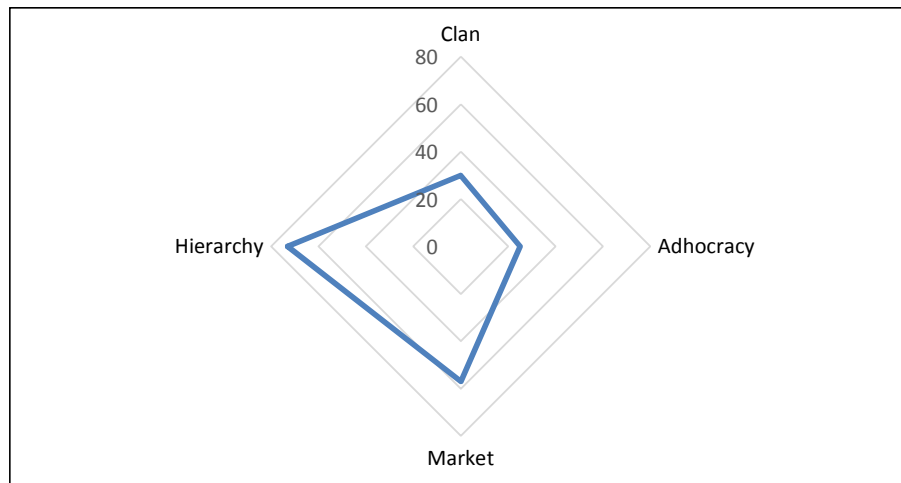
5.4.2 Entrepreneurial intent

Five scales measured entrepreneurial intent where each item assessed the perceived likelihood of the respondent to pursue an entrepreneurial venture. The third item was reversed to avoid response bias. In each response, a higher entrepreneurial intent score related to strong entrepreneurial intentions. Table 16 details the average entrepreneurial intent per organizational culture type.

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Table 16. Average intention level per culture type

Organization Culture type	Intent	Respondents
Clan	4	30
Adhocracy	3.76	25
Market	3.65	57
Hierarchy	3.6	73
Total		185

5.4.3   Antecedents of planned behaviour

The average values for antecedents of TPB per culture type are shown in table 17. The adhocracy culture type scored the highest values for all three the antecedents.

Table 17. Antecedents of TPB per culture type

Organizational culture type	Attitude towards entrepreneurship (AB)	Subjective norm (SN)	Perceived behavioural control (PBC)
Clan	20.37	16.67	4.10
Adhocracy	22.01	20.05	4.20
Market	20.70	18.42	4.19
Hierarchy	20.10	17.47	3.96

5.5   Internal consistency and reliability tests

5.5.1 OCAI

The Cronbach's alpha values for the OCAI are detailed in table 18. All four the culture types exceeded the reliability test requirement of 0.7 (DeVellis, 2011). In addition, the table provides reliability test results for three other studies that also used the OCAI. Details of reliability tests are given in Appendix 3.

Table 18. Reliability test results for the OCAI

Culture Type	Reliability coefficients for this study (α)	Reliability coefficients from past studies (Quinn & Spreitzer, 1991; Zammuto & Krakower, 1991)		
		Reliability coefficients (α)	Reliability coefficients (α)	Reliability coefficients (α)
Clan	0.78	0.74	0.79	0.82
Adhocracy	0.83	0.79	0.80	0.83
Hierarchy	0.85	0.73	0.76	0.78
Market	0.82	0.71	0.77	0.67

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5.5.2 Theory of planned behaviour

The Cronbach's alpha values for the TPB are detailed in table 19. All three the antecedents exceeded the reliability test requirement of 0.7 (DeVellis, 2011). Details of reliability tests are given in Appendix 3.

Table 19. Reliability test results for the TPB antecedents

Theory of planned behaviour Antecedents	Reliability coefficients (α)
Attitude towards entrepreneurship	0.78
Subjective norm	0.73
Perceived behavioural control	0.89

5.5.3 Entrepreneurial intent

The Cronbach's alpha value for the entrepreneurial intent scale is detailed in table 20. The reliability test exceeded the requirement of 0.7 (DeVellis, 2011). Details of reliability tests are given in Appendix 3.

Table 20. Reliability test results for entrepreneurial intent

Entrepreneurial intent	Reliability coefficients (α)
Entrepreneurial intent	0.76

5.6 Validation of assumptions for the regression analysis

As detailed in section 4.7.3, the data has to comply with certain assumptions for the regression to be valid (Pallant, 2001). Results of these tests are given below.

5.6.1 Intent as dependent variable

Table 21 provides a summary of the test results. The actual output from the SPSS is presented in Appendix 4.

Table 21. Test results for regression assumptions, intent as independent variable

Requirement	Verification	Result
Independence of residuals (errors)	Durbin-Watson test result must be close to the value 2	Durbin-Watson test result = 2.101
Linearity	Plot of studentized residuals against unstandardized predicted values	Approximate linearity for all variables confirmed
Homoscedasticity	Plot of studentized residuals against unstandardized predicted values	Homoscedasticity confirmed
No multicollinearity	Correlation < 0.7 and tolerance > 0.1	Multicollinearity corrected for hierarchy variable
No significant outliers or influential points	Casewise diagnostics highlights cases with a SD>+-3	Outliers removed from data
No leverage or influential points	Leverage values < 0.5 and Cook's distance < 1	Influential point removed from data
Normality	Histogram with superimposed normal curve	Normality of data confirmed

Multicollinearity, a near-linear dependency among the independent variables (Tabachnick & Fidell, 2007), was present in the hierarchy data. Centring is the method used to adjust the multicollinearity, also known as a zero mean transformation (Venkatraman, (1989). Centring involves subtracting the mean of the variable from each case and then squaring the values (Pinillos & Reyes, 2011). This transformation completely removed the multicollinearity that was present. Table 22 illustrates the output from SPSS indicating multicollinearity.

Table 22. SPPS Output indicating multicollinearity for the hierarchy variable

Excluded variables[a]							
Model		Beta In	t	Sig.	Partial correlation	Collinearity statistics		
						Tolerance	VIF	Minimum tolerance
1	hierarchyD	4.964[b]	.298	.766	.022	1.863E-5	53666.541	1.863E-5
a. Dependent Variable: Intent								
b. Predictors in the model: (Constant), clanA, adhocracyB, marketC								

The analysis revealed two outlier cases. These outlier cases had standardized residuals greater than three standard deviations. The SPSS output for case 42

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shown in table 23, is an example of an outlier case. Both the outlier cases were deleted from the data and the regression was computed again to confirm that no further outliers were present.

Table 23. SPPS output displaying outlier case 42

Casewise diagnostics[a]				
Case number	Std. residual	Intent	Predicted value	Residual
42	-3.106	.0	3.814	-3.8139
a. Dependent variable: Intent				

The test for leverage and influential points revealed that there was one case with a leverage value greater than 0.5. According to Fidell & Tabachnick (2006), leverage values below 0.2 are safe, values between 0.2 and 0.5 are risky and values greater than 0.5 are dangerous. The case was removed from the data and no further leverage points or influential points were found in the data. The analysis revealed no further deviation from the assumptions.

5.6.2 Attitude toward behaviour as dependent variable

Table 24 provides a summary of the test results. Actual output from SPSS is presented in Appendix 4.

Table 24. Test results for regression assumptions,
attitude towards entrepreneurship as independent variable

Requirement	Verification	Result
Independence of residuals (errors)	Durbin-Watson test result must be close to the value 2	Durbin-Watson test result = 1.912
Linearity	Plot of studentized residuals against unstandardized predicted values	Approximate linearity for all variables confirmed
Homoscedasticity	Plot of studentized residuals against unstandardized predicted values	Homoscedasticity confirmed
No multicollinearity	Correlation < 0.7 and tolerance > 0.1	No multicollinearity confirmed
No significant outliers or influential points	Casewise diagnostics highlights cases with a SD>+-3	Outliers removed from data
No leverage or influential points	Leverage values < 0.5 and Cook's distance < 1	No leverage or influential points
Normality	Histogram with superimposed normal curve	Normality of data confirmed

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The analysis revealed one outlier case. The outlier case had a standardized residual greater than three standard deviations. The SPSS output for case 33 is shown in table 25. The outlier case was deleted from the data and the regression was computed again to confirm that no further outliers were present. The analysis revealed no further deviation from the assumptions.

Table 25 SPPS output displaying outlier case 33

Casewise Diagnostics[a]				
Case Number	Std. Residual	AB	Predicted Value	Residual
33	-3.082	9.5	26.204	-16.7044
a. Dependent Variable: AB				

5.6.3 Subjective norm as dependent variable

Table 26 provides a summary of the test results. The actual output from SPSS is presented in Appendix 4.

Table 26. Test results for regression assumptions, subjective norm as independent variable

Requirement	Verification	Result
Independence of residuals (errors)	Durbin-Watson test result must be close to the value 2	Durbin-Watson test result = 2.033
Linearity	Plot of studentized residuals against unstandardized predicted values	Approximate linearity for all variables confirmed
Homoscedasticity	Plot of studentized residuals against unstandardized predicted values	Homoscedasticity confirmed
No multicollinearity	Correlation < 0.7 and tolerance > 0.1	No multicollinearity confirmed
No significant outliers or influential points	Casewise diagnostics highlights cases with a SD>+-3	No outliers identified
No leverage or influential points	Leverage values < 0.5 and Cook's distance < 1	No leverage or influential points
Normality	Histogram with superimposed normal curve	Normality of data confirmed

The analysis revealed no deviation from the assumptions.

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5.6.4 Perceived behavioural control as dependent variable

Table 27 provides a summary of the test results. The actual output from SPSS is presented in Appendix 4.

Table 27. Test results for regression assumptions, perceived behavioural control as independent variable

Requirement	Verification	Result
Independence of residuals (errors)	Durbin-Watson test result must be close to the value 2	Durbin-Watson test result = 2.004
Linearity	Plot of studentized residuals against unstandardized predicted values	Approximate linearity for all variables confirmed
Homoscedasticity	Plot of studentized residuals against unstandardized predicted values	Homoscedasticity confirmed
No multicollinearity	Correlation < 0.7 and tolerance > 0.1	No multicollinearity confirmed
No significant outliers or influential points	Casewise diagnostics highlights cases with a SD>+-3	Outliers removed from data
No leverage or influential points	Leverage values < 0.5 and Cook's distance < 1	No leverage or influential points
Normality	Histogram with superimposed normal curve	Normality of data confirmed

The analysis revealed two outlier cases. The outlier cases had standardized residuals greater than three standard deviations. The SPSS output for case 6 is shown in table 28. The outlier cases were deleted from the data and the regression was computed again to confirm that no further outliers were present. The analysis revealed no further deviation from the assumptions.

Table 28 SPPS output displaying outlier case 6

Casewise diagnostics[a]				
Case number	Std. residual	PBC	Predicted value	Residual
6	-3.163	.4	3.521	-3.1214
a. Dependent Variable: PBC				

5.7 Hypothesis tests

5.7.1 Sequential multiple regression results for hypothesis H1

As discussed in chapter three, hypothesis 1 was defined as follows:

H1. The organizational culture types are related to the entrepreneurial intent of employees as follows:

> **H1a.** The clan culture type is related to entrepreneurial intent.

> **H1b.** The adhocracy culture type is related to entrepreneurial intent.

> **H1c.** The market culture type is related to entrepreneurial intent.

> **H1d.** The hierarchy culture type is related to entrepreneurial intent.

Table 29. Regression results for hypothesis H1

Variables	Model 1 β		Model 2 β		Model 3 β	
Ethnicity	-.399	****	-.402	****	-0.182	**
Gender	0.129		0.148		0.160	
Age	-0.182	*	-0.159		-0.174	*
Work experience	-0.119		-0.102		-0.046	
Position	0.173	**	0.165	**	0.098	
Entrepreneur	-0.476	**	-0.532	**	-0.299	
Adhocracy (centered)			0.016	*	0.009	
Market			0.007		0.007	
Clan			0.013		0.022	**
Hierarchy			0.000		0.00	
AB					0.041	**
SN					0.015	
PBC					0.266	***
R2	0.202		0.239		0.388	
Adjusted R2	0.174		0.195		0.341	
ΔR2	0.202		0.038		0.149	
Notes:	*p<0.1 **p<0.05 ***p<0.01 ****p<0.001					

The sequential multiple regression results in table 29 illustrate that model 1 includes demographic variables, model 2 includes organizational culture type variables and model 3 includes the theory of planned behaviour antecedents as variables. The dependent variable in this regression analysis was entrepreneurial intent. The demographic variables were used as control variables, as discussed in chapter four. In model 1, the variables ethnicity, age, position in company and

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past entrepreneurial experience showed significant influence on entrepreneurial intent.

In the ethnicity variable, blacks showed the highest average entrepreneurial intent (4.8); Indians (4.7), coloureds (4.5) and whites (3.5). The age variable has a negative sign that indicated an indirect relationship with entrepreneurial intent. The younger the respondents, the higher their entrepreneurial intent; a similar relationship was noted for the position in company variable namely, the more senior the position, the lower the entrepreneurial intent. The lack of past entrepreneurial or self-employment experience showed an expected negative relationship with entrepreneurial intent. In other words, the respondents with past entrepreneurial experience showed higher entrepreneurial intent compared with the respondents without any self-employment experience.

In model 2, the organizational culture types were included in the regression analysis. The adhocracy culture type presented multicollinearity, which was resolved by centring the values (Venkatraman, 1989). There was a significant influence of the adhocracy organizational culture on entrepreneurial intent, thus hypothesis H1b is supported. Hypotheses H1a, H1c and H1d were not supported, as the influence by these culture types on entrepreneurial intent was insignificant.

In model 3, the TPB antecedents were included in the regression analysis. Note that the influence of the adhocracy culture became insignificant. This could suggest that the influence of organizational culture on entrepreneurial intent is affected through the three antecedents of TPB. This theory is explored in hypothesis test H2.

As the theory predicted, the TPB antecedents, attitude toward entrepreneurship and perceived behavioural control, had significant influence on entrepreneurial intent. The third antecedent, subjective norm, had insignificant influence on entrepreneurial intent. It was also observed that the β coefficients in model 3 were much lower than in model 1.

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5.7.2 Sequential multiple regression results for hypothesis H2

As discussed in chapter three, hypothesis 2 was defined as follows:

H2. The relationship between the organizational culture types and entrepreneurial intent is affected through the influence of culture types on the three TPB antecedents as follows:

H2a. The relationship is affected by the attitude towards entrepreneurship.
H2b. The relationship is affected by the subjective norm.
H2c. The relationship is affected by the perceived behavioural control.

Table 30. Regression results for hypothesis H2

Explanatory variables	Dependent variables					
	Attitude towards entrepreneurship		Subjective norm		Perceived behavioural control	
	Model A1 B	Model A2 B	Model S1 B	Model S2 B	Model P1 B	Model P2 B
Ethnicity	-2.599 ****	-2.674 ****	-.746	-.888	-.338 ****	-.355 ****
Gender	-.737	-.576	-.383	-.127 *	.069	.060
Age	.019	.014	.878	.798	.071	.053
Work experience	-.374	-.378	-1.052 *	-1.095 *	-.107	-.136 *
Position	.095	.140	1.091 **	1.161 **	.085	.143 **
Entrepreneur	-1.862 *	-2.027 **	-.839	-.891	-.390 **	-.463 **
Adhocracy (centred)		.083 *		.138 **		.002
Market		.009		-.038		.003
Clan		-.049		-.190 **		-.013
Hierarchy		-.002		-.001		-.001 ***
R2	0.188	.214	0.052	.106	.131	.196
Adjusted R2	0.16	0.168	0.02	.054	.101	.149
ΔR2	0.188	.026	0.052	.054	.131	.065
Notes:	*p<0.1 **p<0.05 ***p<0.01 ****p<0.001					

To test hypothesis H2, the new sequential regression models were analysed in SPSS. The dependent variables for this regression analysis were the antecedents of TPB namely, attitude toward entrepreneurship, subjective norm

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and perceived behavioural control. The sequential multiple regression results in table 30 consist of models A1, S1 and P1. These models include demographical variables, which explain the variance in attitude towards entrepreneurship, subjective norm and perceived behavioural control respectively.

Ethnicity and past entrepreneurial experience exerted a significant influence over the antecedents, attitude toward entrepreneurship and perceived behavioural control, whilst work experience had a significant influence on the subjective norm antecedent.

Models A2, S2 and P2 included the organizational culture type variables. The adhocracy type exerted a significant positive influence on the attitude towards entrepreneurship hence hypothesis H2a is supported. The adhocracy type had a significant positive influence and the clan type a significant negative influence on the subjective norm. Thus, hypothesis H2b is supported. The hierarchy type had a significant but negative influence on the perceived behavioural control and hence hypothesis H2c is supported.

It may therefore be concluded that hypothesis H2 is supported. In particular, the adhocracy type is consistently related to the two antecedents, attitude towards entrepreneurship and subjective norm. The clan type is significantly negatively related to the subjective norm. Similarly, the market type, although very limited, is significantly negatively related to perceived behavioural control. The clan type does not exert a significant influence on any of the antecedents.

5.7.3 Summary of results

The results obtained from the sequential multiple regression analysis are summarized in table 31.

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Table 31 Summary of hypothesis test results

Hypothesis	Result	Conclusion
H1a. The clan culture type is related to entrepreneurial intent	Not significant, H1a is not supported	The clan culture type is not related to entrepreneurial intent
H1b. The adhocracy culture type is related to entrepreneurial intent	Significant (p<0.1), H1b is supported	The adhocracy culture type is related to entrepreneurial intent
H1c. The market culture type is related to entrepreneurial intent	Not significant, H1c is not supported	The hierarchy culture type is not related to entrepreneurial intent
H1d. The hierarchy culture type is related to entrepreneurial intent	Not significant, H1d is not supported	The market culture type is not related to entrepreneurial intent
H2a. The relationship is affected by the attitude towards entrepreneurship	Significant (p<0.1), H2a is supported	The relationship is affected by the attitude towards entrepreneurship.
H2b. The relationship is affected by the subjective norm	Significant (p<0.05), H2b is supported	The relationship is affected by the subjective norm.
H2c. The relationship is affected by the perceived behavioural control	Significant (p<0.01), H2c is supported	The relationship is affected by the perceived behavioural control.

Chapter 6: Discussion of Results

6.1 Introduction

This chapter discusses the results obtained in chapter five. The results for the two hypothesis tests are discussed and analysed in detail with relation to the relevant literature in chapter two.

6.2 Hypothesis 1

Based on the evidence in chapter two and three, it was expected that an organization's culture type would influence the entrepreneurial capital of its employees. Entrepreneurial intent was measured as a proxy for entrepreneurial capital.

The methodology, as described in chapter four, was used to collect data and test this hypothesis. The organizational culture assessment instrument was used to measure the dominant organizational culture type of the respondent's organization. The reliability test for the OCAI returned Cronbach's alpha values of 0.78 for the clan type, 0.83 for the adhocracy type, 0.82 for the market type and 0.85 for the hierarchy type cultures. The data was found to be reliable for the purpose of this research.

Entrepreneurial intent was measured with the entrepreneurial intent questionnaire developed by Jaén and Liñán (2013). The five intent questions returned a Cronbach's alpha result of 0.76, which indicated that the data was reliable for the purpose of this research.

The sequential multiple regression analysis was done in SPSS. The purpose of this analysis was to determine whether the organizational culture type has an influence on the entrepreneurial intent of the employees. The regression analysis returned a statistically significant result for the adhocracy culture type, $\beta = 0.16$, $p < 0.1$. The hypothesis H1b was therefore supported.

The regression analysis returned statistically insignificant results for the influence of the three other culture types on entrepreneurial intent. Hypothesis H1a, H1c and H1d were therefore rejected.

6.2.1 Influence of the adhocracy culture type

The adhocracy culture type had its origins during the transformation from the industrial age to the information age and is the culture type best suited to respond to the turbulent and dynamic market conditions. The main differences between the adhocracy culture type and the others are that management encourages entrepreneurship, risk-taking and creativity (Denison & Spreitzer, 1991).

The literature review revealed that the core orientations of the adhocracy culture type are innovator, visionary and entrepreneur (Cameron & Quinn, 2011). Furthermore, the key value drivers for this culture type are transformation, agility and innovative outputs (Cameron & Quinn, 2011). This culture type lies in the top right quadrant of the competing values model, which makes it part of the dimension of external focus and differentiation (Quinn & Spreitzer, 1991).

Zahra (1991) argued that dynamism in the external environment and differentiation within the organization is conducive to corporate entrepreneurship as it encourages innovation and creativity. According to research by Jaén and Liñán (2013), high levels of entrepreneurial capital result in high levels of corporate entrepreneurship.

Entrepreneurial capital was reflected in the number of new businesses started, development of innovative behaviour and the level of intention to start a venture (Krueger Jr. & Reilly, 2000). Jaén and Liñán (2013) further argued that the capacity to generate entrepreneurial capital is reflected in the reinforcement of innovative behaviours within extant organizations. The parallel between corporate entrepreneurship and entrepreneurial capital supports the argument that the adhocracy culture type is conducive to entrepreneurial capital.

The support of hypothesis H1b, that the adhocracy culture type is related to entrepreneurial intent, supports the literature because

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- the adhocracy culture type exhibits characteristics similar to entrepreneurial capital namely, innovativeness, creativity, risk taking and dynamism (Cameron & Quinn, 2011) and

- in an uncertain and rapidly changing business environment, the adhocracy culture type provides an organizational structure that actively encourages entrepreneurial behaviour by means of innovativeness and risk taking.

6.2.2 Influence of the market culture type

The market culture type originated during the 1960s and emphasized the market form of an organization where an organization has external focus and functioned as a market itself (Cameron & Quinn, 2011). The insignificant influence on entrepreneurial intent by the market culture type contradicts the literature as this culture type also resides in the dimension of external focus and differentiation in the competing values model. As argued by Zahra (1991), this dimension is conducive to corporate entrepreneurship. The key value drivers for the market culture are market share, goal achievement and profitability. These are values closely aligned with entrepreneurial behaviour (McFadzean *et al*., 2005).

In addition, the manager's roles in a market culture are to promote competition, promote efficiency and encourage productivity (Cameron & Quinn, 2011) –. behaviours that are typically associated with entrepreneurial behaviour (Wennekers & Thurik, (1999). A possible reason for the insignificant influence on entrepreneurial intent may be the fact that this culture type is also associated with stability and control (Cameron & Quinn, 2011) – factors that compete with the flexible and dynamic nature of entrepreneurial behaviour (Jaén & Liñán, 2013). The stability and control in a market culture type organization is established by functional managers that tend to be directive and goal orientated (Denison & Spreitzer, 1991). While these behaviours by management may produce the desired result in terms of achieving goals, they prevent the employees from practising innovativeness and open-mindedness in their roles.

6.2.3 Influence of the clan culture type

The clan culture type originated during the late 1960s in Japan. Organizations that exhibit this culture type resemble an extended family rather than an economic entity (Cameron & Quinn, 2011). These organizations are primarily concerned with human relations and are characterized by teamwork and management's commitment to employees (Denison & Spreitzer, 1991).

The insignificant influence of the clan culture type supports the literature for the following reasons:

- The value drivers of the clan culture namely, teamwork, cohesiveness and membership, compete with the entrepreneurial values of risk-taking, innovativeness and differentiation.
- Teams are rewarded on the accomplishments as a team and not as individual members. This type of reward system discourages innovative behaviour.
- Clan type organizations are held together by employee loyalty and tradition. Both these factors are not conducive to entrepreneurial behaviour which requires risk-taking, innovativeness and flexibility.

6.2.4 Influence of the hierarchy culture type

The hierarchy culture type originated during the 1900s when the major challenges were to produce goods reliably and efficiently. The characteristics of this culture, also labelled by some as the characteristics of bureaucracy, include rules, hierarchy, meritocracy, separate ownership, accountability, impersonality and specialization (Cameron & Quinn, 2011). Formalized rules and procedures are the key value drivers of this culture type and the manager's role is that of an organizer.

The insignificant influence on entrepreneurial intent by the hierarchy culture type supports the literature for the following reasons.

- The hierarchy culture is typically found in organizations that operate in stable markets where the focus is internal towards the organization (Cameron &

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Quinn, 2011). These stable markets compete with the flexible and dynamic markets where the adhocracy culture type ensues.

- Organisations with the hierarchy culture are efficient at producing consistent products and services. In dynamic and turbulent markets, services and products continuously evolve to cater for the market's requirements. A hierarchical organization is constrained by formalized rules, procedures and authority, which prevents the organization from adapting to the changing market requirements as quickly as an adhocracy organization would. In addition, the formalized rules and procedures compete with the risky, innovative and dynamic environments that are required for entrepreneurial behaviour.

- Hierarchical organizations have a long term focus on stability and predictability within the organization (Cameron & Quinn, 2011). This focus is not conducive to entrepreneurial behaviour that requires an environment that enforces innovative behaviours (Jaén & Liñán, 2013).

6.2.5 Conclusion

The results revealed substantial support for Hypothesis H1b, the adhocracy organizational culture type having a significant influence on the entrepreneurial intent of employees. The three other culture types namely, clan, market and hierarchy, did not have a significant influence on the entrepreneurial intent of employees. It could therefore be concluded that hypothesis H1 is supported and that an organization's culture does have a significant influence on the entrepreneurial capital of the employees.

6.3   Hypothesis 2

The hypothesis 2 intended to test whether the relationship between the organizational culture types and entrepreneurial intent is affected through the influence of culture types on three antecedents. This is based on the literature that states, "According to this psychological theory, intention is affected by these three antecedents alone, and any other variable may influence it only to the extent that it modifies perceptions regarding these antecedents" (Jaén & Liñán, 2013, p.942).

The methodology, as described in chapter four, was used to collect data and test hypothesis H2. The TPB questionnaire was used to measure the three antecedents referred to namely, attitude towards entrepreneurship, subjective norm and perceived behavioural control. The reliability test for the TPB questionnaire returned Cronbach's alpha values of 0.78 for attitude towards entrepreneurship, 0.73 for subjective norm and 0.89 for perceived behavioural control. The data was found to be reliable for the purpose of this research.

The sequential multiple regression analysis was done in SPSS. The purpose of this analysis was to determine whether the influence of the organizational culture type on the entrepreneurial intent of the employees is affected through the TPB antecedents. The regression analysis (table 30, model A2) returned a statistically significant result for the influence of the adhocracy culture type on attitude towards entrepreneurship, $\beta = 0.083$, $p < 0.1$. Hypothesis H2a was therefore supported.

The sign of the β value indicates a positive relationship between the adhocracy culture type and attitude towards entrepreneurship. Jaén and Liñán (2013) defined attitude towards entrepreneurship as the individual's overall evaluation towards the behaviour. In this case, the result supports the literature because the positive relationship is consistent with the results obtained in hypothesis H1 where the adhocracy culture has a significant influence on entrepreneurial intent.

Regression model S2 (table 30) found a significant influence of the adhocracy culture type and the clan culture type on the subjective norm antecedent. The influence of the adhocracy culture was $\beta = 0.183$, $p < 0.5$ and the influence of the clan culture was $\beta = -0.19$, $p < 0.5$. Hypothesis H2b was therefore supported.

The positive relationship between the adhocracy culture type and the subjective norm supports the literature. The subjective norm was defined by Jaén and Liñán (2013) as the perceived social pressure to pursue or not to pursue entrepreneurial behaviour. The adhocracy culture encourages entrepreneurial behaviour by encouraging values such as risk-taking and innovative behaviour

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(Cameron & Quinn, 2011). The members of an adhocracy culture share the same innovative and dynamic behaviours. Thus, the adhocracy culture has a positive influence on the social pressure to conform to the entrepreneurial behaviour.

On the other hand, the clan culture has a negative relationship with the subjective norm. This could be explained by the family-like organizational style of this culture which results in a negative social connotation with entrepreneurial behaviour. Values and drivers of entrepreneurial behaviour are competing with the values of the clan culture and are therefore not approved of by the members of this culture.

Regression model P2 found significant results for the influence of the hierarchy culture type on the perceived behavioural control antecedent. The influence of the hierarchy culture was $\beta =-0.001$, $p < 0.01$. Hypothesis H2c was therefore supported.

The perceived behavioural control was defined by Jaén and Liñán (2013) as the individual's perception of their ability to perform that behaviour. The negative relationship contradicts the literature on the TPB (Ajzen, 1991). This negative relationship could possibly be attributed to the insignificant influence which the hierarchy culture had on entrepreneurial intent, hypothesis H1d. Further research is needed to verify and explain this insignificant influence.

The market culture type was found to have insignificant influence on all three antecedents. These results support the results obtained in hypothesis H1, but are contradictory to the literature. The literature review concluded that the market type culture share key values and characteristics with entrepreneurial behaviour. It was therefore expected that the market culture would have a significant influence on entrepreneurial intent, indirectly through the three antecedents. The insignificant influence may be due to the stability and control dimensions of the market culture that compete with the flexibility and discretion dimensions of the adhocracy culture. Further research is needed to verify and explain the insignificant influence of the market culture type.

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6.4 Conclusion

The variance of the TPB antecedents were much lower than in the case of entrepreneurial intent, which could be attributed to the TPB antecedents channelling some effect of the demographic variables (Jaén & Liñán, 2013). However, the regression analysis found significant support for H2a, H2b and H2c. It could therefore be concluded that hypothesis H2 is supported. Thus, the results of the analysis support the literature in chapter two, namely that the effect of organizational culture on entrepreneurial intent is only through the three antecedents of the TPB (Jaén & Liñán, 2013).

In particular, the effects of the adhocracy culture are consistently related to the attitude towards entrepreneurship and subjective norm antecedents. Both the clan and hierarchy culture types were found to have marginal influence on the subjective norm and the perceived behavioural control antecedents. The effects of perceived behavioural control and the market culture type on the antecedents may require further research to verify and explain why the results contradicted the literature.

Chapter 7: Conclusion

7.1 Introduction

This chapter concludes around the main findings of this research based on the discussion in chapter six. In addition, managerial implications, limitations of this research and future research are discussed.

7.2 Main findings

There was significant support found for the two hypotheses formulated in chapter three. These hypotheses concluded that the organization's culture does influence the entrepreneurial intent of employees, albeit indirectly through the three antecedents of the TPB. In particular, it was found that the adhocracy organizational culture type has the greatest influence on the entrepreneurial intent of employees.

These findings add to the literature by explaining the impact of an organization's culture on the entrepreneurial capital of its employees. These findings should assist organizations in adapting their organizational culture to be more conducive to entrepreneurial behaviour.

In conclusion, organizations that have the adhocracy culture type as their dominant organizational culture will exhibit high levels of entrepreneurial capital. These high levels of entrepreneurial capital will lead to innovative and dynamic behaviour, which could lead to increased financial performance and strategic advantages (Jaén & Liñán, 2013).

7.3 Managerial implications

The findings of this research have a number of managerial implications. It has been argued that there is an increasing need for an organization's workforce to be innovative and entrepreneurial (Huse *et al*., 2005). Such behaviour is required for organizations to be flexible, robust and innovative in order to succeed in the competitive business environment. Recent economic change, technological

advances and globalisation brought about increased competition among organizations (Jaén & Liñán, 2013). An innovative and entrepreneurial workforce, also defined as a workforce with lofty levels of entrepreneurial capital, will enable organizations to be more competitive and may also be regarded as a strategic advantage for the organization (Krueger Jr. & Reilly, 2000).

Other research concluded that there is a link between organizational culture and organizational effectiveness (Cameron & Quinn, 2011; Denison et al., 2004). Organizational effectiveness and improved financial performance have also been linked to corporate entrepreneurship (Zahra, 1991). If an organization can achieve an organizational culture that is conducive to entrepreneurial behaviour, the benefits in terms of financial performance and organizational effectiveness is substantial.

The results of this research confirmed that organizations with the adhocracy culture type as the dominant organizational culture will have higher entrepreneurial capital among its workforce. This knowledge has certain managerial implications that would benefit human resource (HR) practitioners and/or managers in the sense that a change in HR and/or management practices may bring about a more entrepreneurial and innovative workforce. To a certain extent, these results may also explain why some organizations outperform their competitors in the same industry.

Cameron and Quinn (2011) argued that without a change in organizational culture, an organization would not change its performance. It is thus not possible for an organization to promote entrepreneurial behaviour and reap the benefits thereof if the organization's culture does not align to these values and assumptions (Cameron & Quinn, 2011). Ogbonna and Harris (1998) argued that either culture change occurs naturally over time or it is managed through a culture change intervention. It is important for organizations to assess their dominant organizational culture, as changes in the external environment may cause the dominant culture to shift to another culture type (Cameron & Quinn, 2011). These natural culture shifts may cause an organization to lose its competitive edge in the market.

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Organizations that do not have the adhocracy organizational culture as their dominant culture type still have an opportunity to promote entrepreneurial behaviour as culture change interventions make it possible for organizations to align their culture with the values of the adhocracy culture. However, as certain industry types and external environments shape the culture of these organizations and make it difficult for them to shift to a different dominant culture (Gordon, 1991), it may be more practical for organizations that do not have the adhocracy culture as their dominant culture to introduce value drivers from an adhocracy culture incrementally. The reason for introducing these value drivers is to create a structure conducive to innovative and entrepreneurial behaviour while not abruptly changing the dominant culture.

It must be noted that as the adhocracy culture values compete with the values of the other culture types, it may be complicated for the organizations dominant in the clan and hierarchy cultures to incrementally introduce the value drivers of an adhocracy culture (Cameron & Quinn, 2011). Both these cultures are on the dimension of internal focus and integration. On the contrary, it may be less complicated for a market type organization to incorporate the value drives of the adhocracy culture.

7.4   Limitations of research

Despite the satisfactory results obtained, this research does have the following few limitations.

- The fact that multicollinearity was present and had to be corrected with the zero mean transformation might have had an effect on the results.
- The number of different responses obtained per organizational culture type might have skewed the results slightly, as some culture types were better represented than others (figure 8). Therefore, the generalizability of these results should be investigated further in future studies.
- The purposive sampling method used might have been a limitation. The data obtained were only from organizations to which the researcher had access.

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7.5　Future research

As elaborated in chapter one, very little research exists on the effect of organizational culture on entrepreneurial behaviour. Even though the main findings of this research contributed to the literature, there remains a gap of academic research on this subject.

Future research regarding the influence of organizational culture on entrepreneurial intent should consider sampling other geographical regions for comparison. A larger sample would have a better distribution of the dominant organizational cultures and might explain certain results in this research that contradicted the literature.

Research should be conducted on the different organizational cultures within the same industry to determine the effect on entrepreneurial capital. This research could explain competitive advantages of certain organizations in the same industry and shed some light on the external influences of an industry on organizational culture.

It has been proven that the adhocracy culture type influences entrepreneurial capital and thus promotes entrepreneurial behaviour. Future research should be conducted on whether these employees apply their entrepreneurial behaviour within the organization (intrapreneurship) or whether they exit from the corporate environment to start their own ventures.

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Appendix 1: Consistency Matrix

The effect of organizational culture on entrepreneurial capital

Hypotheses	Literature review	Collection tool	Analysis
H1a. The clan type is related to entrepreneurial intent	Cameron & Quinn (2011) Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression
H1b. The adhocracy type is related to entrepreneurial intent	Cameron & Quinn (2011) Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression
H1c. The market type is related to entrepreneurial intent.	Cameron & Quinn (2011) Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression
H1d. The hierarchical type is related to entrepreneurial intent.	Cameron & Quinn (2011) Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression
H2a. The relationship is affected by the attitude towards entrepreneurship	Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression
H2b. The relationship is affected by the subjective norm.	Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression
H2c. The relationship is affected by the perceived behavioural control.	Jaén & Liñán (2013)	Questionnaire – Section B & C (Appendix 2)	Sequential multiple regression

Appendix 2: Survey questionnaire

Informed Consent

I am doing research on the extent that an organization's culture influences entrepreneurial intentions of its employees. To that end, you are asked to complete a survey. This will help me better understand what type of organizational culture is conducive to entrepreneurial behaviour, and should take no more than 15 minutes of your time. Your participation is voluntary and you can withdraw at any time without penalty. Of course, all data will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact me or my supervisor. Our details are provided below.

Researcher: Christo Lötter	Research Supervisor: Andee Deverell
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Section A: Demographic Data

1. Gender:

   Male ☐   Female ☐

2. Age:

   23 and below ☐   24 – 30 ☐   31 – 40 ☐   41 – 50 ☐   51 and above ☐

3. Ethnicity:

   Black ☐   Coloured ☐   Indian ☐   White ☐   Other ☐

   If other please specify_____

4. Indicate highest level of education:

   Matric ☐   Diploma ☐   Undergraduate ☐ Postgraduate ☐ Other ☐
                                     degree   degree

   If other please specify_____

5. Industry in which your company operates:

Financial Services & Insurance ☐	Energy ☐	Healthcare ☐	Manufacturing ☐
Land & Agriculture ☐	Media & Advertising ☐	Mining ☐	Property ☐
Retail & Consumer ☐	Telecoms & Technology ☐	Transport & Tourism ☐	Other ☐

If other please specify_____

6. Work experience at present company (years)

Less than 3 years ☐   3 – 5 years ☐   6 – 10 years ☐   11 – 15 years ☐   more than 15 years ☐

7. Position in present company:

General staff ☐   Junior management ☐   Middle management ☐   Senior management ☐   Executive ☐

8. Have you ever been self-employed or an entrepreneur?

No ☐   Yes ☐

If yes please specify number of years_____

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Section B: Organizational Culture Assessment

Instructions: Please distribute 100 points among the four descriptions in each section below. The description that describes your organization the most accurate should receive the highest number of points. Conversely the description that describes your organization the least accurate should have the lowest or zero points. The points for each section must sum to 100. Below is an example of how to distribute the points.

EXAMPLE:

Dominant Characteristics (Please distribute 100 points)

10   The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.

55   The organization is very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks

25   The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement orientated.

10   The organization is a very controlled and structured place. Formal procedures generally govern what people do.

1. Dominant Characteristics (Please distribute 100 points)

_____   The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.

_____   The organization is very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.

_____   The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement orientated.

_____   The organization is a very controlled and structured place. Formal procedures generally govern what people do.

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2. Organizational Leadership (Please distribute 100 points)

_____ The leadership in the organization is generally considered to exemplify mentoring, facilitating or nurturing.

_____ The leadership in the organization is generally considered to exemplify entrepreneurship, innovation or risk taking.

_____ The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive and results-orientated focus.

_____ The leadership in the organization is generally considered to exemplify coordinating, organizing or smooth-running efficiency.

3. Management of Employees (Please distribute 100 points)

_____ The management style in the organization is characterized by teamwork, consensus and participation.

_____ The management style in the organization is characterized by individual risk taking, innovation, freedom and uniqueness.

_____ The management style in the organization is characterized by hard-driving competitiveness, high demands and achievement.

_____ The management style in the organization is characterized by security of employment, conformity, predictability and stability in relationships.

4. Organizational Glue (Please distribute 100 points)

_____ The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.

_____ The glue that holds the organization together is commitment to innovation and development. There is an emphasis on the cutting edge.

_____ The glue that holds the organization together is the emphasis on achievement and goal accomplishment.

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_____ The glue that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important.

5. Strategic Emphases (Please distribute 100 points)

_____ The organization emphasizes human development. High trust, openness, and participation persist.

_____ The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.

_____ The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.

_____ The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.

6. Criteria for success (Please distribute 100 points)

_____ The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.

_____ The organization defines success on the basis of having the most unique or newest products. It is a product leader and innovator.

_____ The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.

_____ The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.

Section C: Entrepreneurial Intent

A. For you starting a new business (being an entrepreneur) would involve…

	Totally unlikely		Moderately likely			Totally likely	
	0	1	2	3	4	5	6
A1 Facing new challenges.	☐	☐	☐	☐	☐	☐	☐
A2 Creating jobs for others.	☐	☐	☐	☐	☐	☐	☐
A3 Being creative and innovative.	☐	☐	☐	☐	☐	☐	☐
A4 Having a high income.	☐	☐	☐	☐	☐	☐	☐
A5 Taking calculated risks.	☐	☐	☐	☐	☐	☐	☐
A6 Being my own boss (independence).	☐	☐	☐	☐	☐	☐	☐

B. Now please state to what extent these are _desirable_ for you generally in your life...

	Not at all desirable		Moderately desirable			Totally desirable	
	0	1	2	3	4	5	6
B1 Facing new challenges.	☐	☐	☐	☐	☐	☐	☐
B2 Creating jobs for others.	☐	☐	☐	☐	☐	☐	☐
B3 Being creative and innovative.	☐	☐	☐	☐	☐	☐	☐
B4 Having a high income.	☐	☐	☐	☐	☐	☐	☐
B5 Taking calculated risks.	☐	☐	☐	☐	☐	☐	☐
B6 Being my own boss (independence).	☐	☐	☐	☐	☐	☐	☐

C. Please, indicate to what extent you would be _able to effectively perform the following tasks:_

	Totally ineffective		Moderately effective			Totally effective	
	0	1	2	3	4	5	6

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C1	Defining my business idea and a new business strategy.	☐	☐	☐	☐	☐	☐	☐
C2	Keeping under control the new-venture creation process	☐	☐	☐	☐	☐	☐	☐
C3	Negotiating and maintaining favourable relationships with potential investors and banks.	☐	☐	☐	☐	☐	☐	☐
C4	Recognizing opportunities in the market for new products and/or services.	☐	☐	☐	☐	☐	☐	☐
C5	Interacting with key people to raise capital to create a new venture.	☐	☐	☐	☐	☐	☐	☐
C6	Launching a new business venture	☐	☐	☐	☐	☐	☐	☐

D. Please, think now about your family and closer friends. To what extent would they agree if you decide to become an entrepreneur and start your own business?

		Totally disagree		Moderately agree			Totally agree	
		0	1	2	3	4	5	6
D1	My immediate family (parents and siblings).	☐	☐	☐	☐	☐	☐	☐
D2	My close friends.	☐	☐	☐	☐	☐	☐	☐
D3	My colleagues or mates	☐	☐	☐	☐	☐	☐	☐

E. … and how do you value the opinion of these people in this regard? I think it is...

		Not at all important		Moderately important			Very important	
		0	1	2	3	4	5	6
E1	That of my immediate family (parents and siblings).	☐	☐	☐	☐	☐	☐	☐
E2	That of my close friends.	☐	☐	☐	☐	☐	☐	☐
E3	That of my colleagues or mates.	☐	☐	☐	☐	☐	☐	☐

F. Please, state your level of intention with respect to the following statements:

		No intent	Moderately intent				Totally intent
		0	1	2	3	4	5	6

F1	It is very likely that I will start a venture someday ☐ ☐ ☐ ☐ ☐ ☐ ☐
F2	I am willing to make any effort to become an entrepreneur ☐ ☐ ☐ ☐ ☐ ☐ ☐
F3	I have serious doubts whether I will ever start a venture ☐ ☐ ☐ ☐ ☐ ☐ ☐
F4	I am determined to start a business in the future ☐ ☐ ☐ ☐ ☐ ☐ ☐
F5	My professional goal is to be an entrepreneur ☐ ☐ ☐ ☐ ☐ ☐ ☐

G. If you finally decided to create your own business, you would mainly do it due to …:

	Totally disagree	Moderately agree				Totally agree
	0	1	2	3	4	5	6

G1 Lack of a better alternative employment ☐ ☐ ☐ ☐ ☐ ☐

G2 Taking advantage of a business opportunity ☐ ☐ ☐ ☐ ☐ ☐

G3 Achieving a personal goal ☐ ☐ ☐ ☐ ☐ ☐

Appendix 3: Reliability test for questionnaire (SPSS Output)
OCAI: Clan

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.785	.785	6

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Clan1	108.15	2847.614	.346	.215	.793
Clan2	103.30	2563.919	.575	.412	.744
Clan3	97.64	2399.091	.531	.389	.755
Clan4	104.59	2398.753	.627	.455	.729
Clan5	104.08	2473.097	.614	.484	.734
Clan6	103.86	2467.958	.527	.371	.755

OCAI: Adhocracy

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.835	.843	6

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Adhocracy1	96.62	2504.401	.642	.488	.803
Adhocracy2	95.84	2368.100	.680	.543	.794
Adhocracy3	97.29	2498.445	.682	.479	.798
Adhocracy4	94.29	2237.782	.670	.511	.795
Adhocracy5	93.39	2431.327	.545	.354	.821
Adhocracy6	91.30	2409.256	.493	.304	.836

OCAI: Market

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.824	.826	6

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Market1	148.85	4193.951	.563	.373	.803
Market2	150.35	3831.227	.537	.365	.810
Market3	149.08	3588.288	.697	.542	.772
Market4	152.05	4044.492	.572	.350	.800
Market5	150.05	3738.818	.664	.506	.780
Market6	150.68	3985.164	.533	.383	.808

OCAI: Hierarchy

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.856	.857	6

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Hierarchy1	146.41	4869.167	.668	.487	.827
Hierarchy2	150.54	5475.544	.581	.374	.843
Hierarchy3	156.03	5273.048	.629	.436	.835
Hierarchy4	149.10	4718.284	.687	.507	.824
Hierarchy5	152.50	5154.273	.659	.478	.829
Hierarchy6	154.16	4926.470	.651	.471	.831

Intent:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.764	.736	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IN1	12.75	23.199	.793	.799	.623
IN2	12.79	22.871	.829	.765	.609
IN3	14.17	45.108	-.364	.140	.948
IN4	12.95	21.905	.864	.862	.590
IN5	13.26	22.074	.814	.764	.608

Attitude towards entrepreneurship

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.786	.792	12

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
AB1	48.11	69.564	.407	.392	.773
AB2	49.22	65.521	.465	.526	.767
AB3	48.29	68.912	.457	.422	.769
AB4	49.42	71.506	.251	.227	.789
AB5	48.63	67.832	.494	.398	.765
AB6	48.45	70.064	.292	.432	.785
AB7	48.64	67.852	.418	.400	.772
AB8	49.62	65.802	.417	.526	.773
AB9	48.38	67.823	.541	.447	.762
AB10	48.40	68.709	.466	.381	.768
AB11	49.19	66.752	.513	.503	.762
AB12	48.91	66.112	.464	.532	.767

Perceived behavioural control:

Item Statistics			
	Mean	Std. Deviation	N
PBC1	4.29	1.371	185
PBC2	4.09	1.222	185
PBC3	4.03	1.435	185
PBC4	3.78	1.471	185
PBC5	4.25	1.364	185

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PBC1	16.14	22.969	.671	.605	.894
PBC2	16.34	23.237	.759	.650	.876
PBC3	16.40	21.600	.751	.712	.877
PBC4	16.65	21.164	.764	.734	.874
PBC5	16.18	21.495	.815	.674	.862

Subjective norm:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.728	.731	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SN1	21.08	21.510	.521	.484	.672
SN2	20.76	22.334	.586	.720	.653
SN3	20.98	23.380	.516	.591	.674
SN4	20.28	25.834	.336	.441	.724
SN5	20.74	23.606	.559	.591	.665
SN6	21.70	25.506	.289	.345	.742

Appendix 4: Sequential multiple regression SPSS output for intent as dependent variable

Model summary table

<table>
<tr><th colspan="12">Model Summary[d]</th></tr>
<tr><th rowspan="3">Model</th><th rowspan="3">R</th><th rowspan="3">R
Square</th><th rowspan="3">Adjusted
R Square</th><th rowspan="3">Std. Error
of the
Estimate</th><th colspan="6">Change Statistics</th><th rowspan="3">Durbin-
Watson</th></tr>
<tr><th rowspan="2">R Square
Change</th><th rowspan="2">F
Change</th><th rowspan="2">df1</th><th rowspan="2">df2</th><th rowspan="2">Sig. F
Change</th></tr>
<tr></tr>
<tr><td>1</td><td>.449[a]</td><td>.202</td><td>.174</td><td>1.1098</td><td>.202</td><td>7.411</td><td>6</td><td>176</td><td>.000</td><td></td></tr>
<tr><td>2</td><td>.489[b]</td><td>.239</td><td>.195</td><td>1.0959</td><td>.038</td><td>2.124</td><td>4</td><td>172</td><td>.080</td><td></td></tr>
<tr><td>3</td><td>.623[c]</td><td>.388</td><td>.341</td><td>.9917</td><td>.149</td><td>13.682</td><td>3</td><td>169</td><td>.000</td><td>2.101</td></tr>
<tr><td colspan="12">a. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age</td></tr>
<tr><td colspan="12">b. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age, Adhocracy, Hierarchy, Market, Clan</td></tr>
<tr><td colspan="12">c. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age, Adhocracy, Hierarchy, Market, Clan, SN, AB, PBC</td></tr>
<tr><td colspan="12">d. Dependent Variable: Intent</td></tr>
</table>

Coefficients table

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	5.467	.473		11.558	.000		
	Ethnicity	-.399	.091	-.300	-4.374	.000	.962	1.040
	Gender	.129	.173	.052	.744	.458	.932	1.073
	Age	-.182	.103	-.140	-1.765	.079	.725	1.379
	Work Experience	-.119	.079	-.118	-1.509	.133	.742	1.347
	Position	.173	.070	.177	2.471	.014	.883	1.133
	Entrepreneur	-.476	.206	-.161	-2.309	.022	.929	1.076
2	(Constant)	4.706	.738		6.380	.000		
	Ethnicity	-.402	.090	-.303	-4.446	.000	.954	1.048
	Gender	.148	.174	.060	.852	.396	.897	1.115
	Age	-.159	.103	-.122	-1.547	.124	.712	1.404
	Work Experience	-.102	.079	-.101	-1.285	.201	.720	1.388
	Position	.165	.072	.169	2.277	.024	.802	1.247
	Entrepreneur	-.532	.205	-.181	-2.594	.010	.914	1.095
	Adhocracy	.016	.009	.125	1.794	.075	.907	1.102
	Market	.007	.009	.068	.718	.474	.500	2.002
	Clan	.013	.012	.109	1.135	.258	.483	2.071
	Hierarchy	.000	.000	-.081	-1.078	.283	.791	1.264
3	(Constant)	1.494	.841		1.776	.078		
	Ethnicity	-.182	.091	-.137	-2.005	.047	.778	1.286
	Gender	.160	.158	.065	1.013	.313	.892	1.121
	Age	-.174	.093	-.134	-1.867	.064	.707	1.415
	Work Experience	-.046	.072	-.046	-.637	.525	.703	1.422
	Position	.098	.067	.101	1.458	.147	.762	1.312
	Entrepreneur	-.299	.190	-.101	-1.573	.118	.874	1.145
	Adhocracy	.009	.008	.067	1.042	.299	.873	1.146
	Market	.007	.009	.071	.829	.408	.498	2.007
	Clan	.022	.011	.176	1.998	.047	.469	2.133
	Hierarchy	-7.274E-5	.000	-.014	-.196	.845	.755	1.324
	AB	.041	.016	.198	2.550	.012	.601	1.663
	SN	.015	.010	.100	1.462	.146	.775	1.291
	PBC	.266	.084	.245	3.149	.002	.598	1.672

Test for linearity and homoscedasticity: Intent as dependent variable

Plot of studentized residuals against unstandardized predicted values
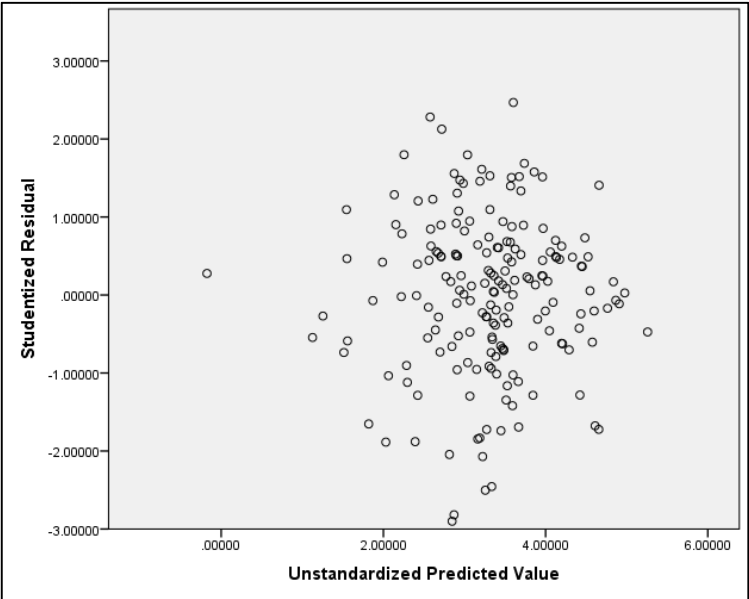
Test for normality: Intent as dependent variable

Sequential multiple regression SPSS output for Attitude toward entrepreneurship as dependent variable

Model summary table

<table>
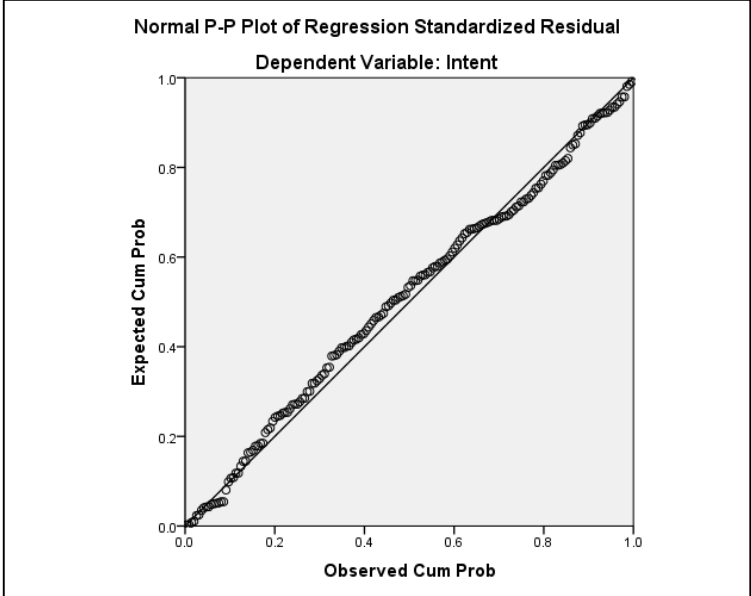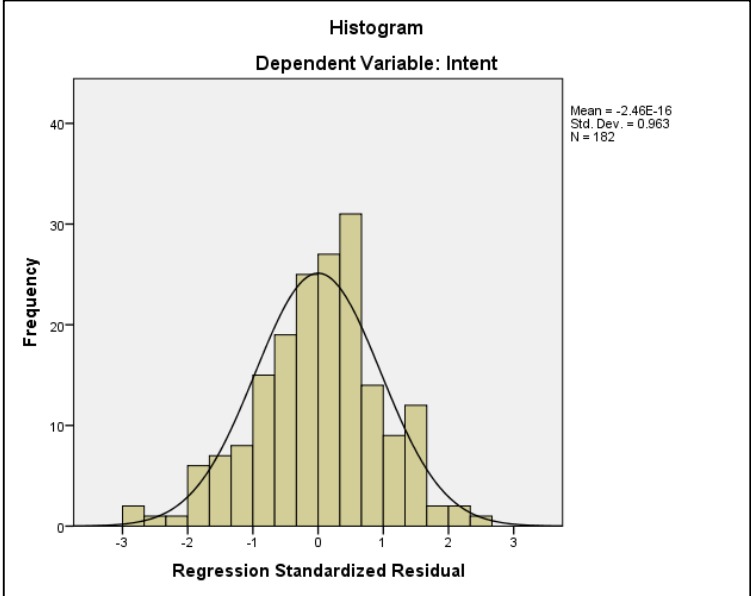<tr><td colspan="12" align="center">Model Summary[c]</td></tr>
<tr>
<td rowspan="3">Model</td>
<td rowspan="3">R</td>
<td rowspan="3">R Square</td>
<td rowspan="3">Adjusted R Square</td>
<td rowspan="3">Std. Error of the Estimate</td>
<td colspan="6" align="center">Change Statistics</td>
<td rowspan="3">Durbin-Watson</td>
</tr>
<tr>
<td rowspan="2">R Square Change</td>
<td rowspan="2">F Change</td>
<td rowspan="2">df1</td>
<td rowspan="2">df2</td>
<td rowspan="2">Sig. F Change</td>
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</tr>
<tr><td colspan="12">a. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age</td></tr>
<tr><td colspan="12">b. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age, Adhocracy, Hierarchy, Market, Clan</td></tr>
<tr><td colspan="12">c. Dependent Variable: AB</td></tr>
</table>

Coefficients table

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	32.534	2.321		14.019	.000		
	Ethnicity	-2.599	.447	-.403	-5.816	.000	.962	1.040
	Gender	-.737	.849	-.061	-.868	.386	.932	1.073
	Age	.019	.505	.003	.037	.971	.725	1.379
	Work Experience	-.374	.387	-.076	-.966	.335	.742	1.347
	Position	.095	.343	.020	.277	.782	.883	1.133
	Entrepreneur	-1.862	1.010	-.130	-1.843	.067	.929	1.076
2	(Constant)	32.181	3.648		8.822	.000		
	Ethnicity	-2.674	.447	-.414	-5.985	.000	.954	1.048
	Gender	-.576	.862	-.048	-.668	.505	.897	1.115
	Age	.014	.508	.002	.027	.978	.712	1.404
	Work Experience	-.378	.391	-.077	-.966	.335	.720	1.388
	Position	.140	.358	.030	.391	.696	.802	1.247
	Entrepreneur	-2.027	1.014	-.141	-1.999	.047	.914	1.095
	Adhocracy	.083	.044	.134	1.892	.060	.907	1.102
	Market	.009	.047	.019	.203	.839	.500	2.002
	Clan	-.049	.059	-.082	-.841	.402	.483	2.071
	Hierarchy	-.002	.002	-.060	-.785	.433	.791	1.264

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Test for linearity and homoscedasticity: Attitude towards entrepreneurship as dependent variable

Plot of studentized residuals against unstandardized predicted values
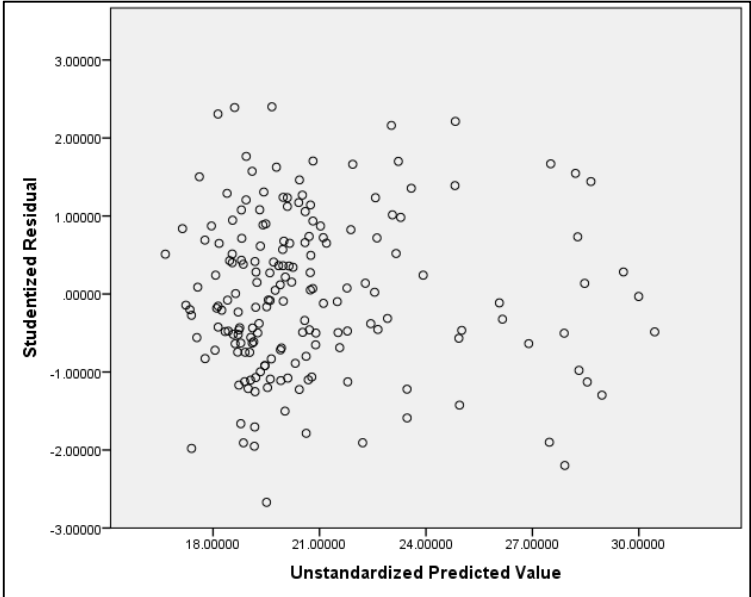
Test for normality: Attitude towards entrepreneurship as dependent variable

Sequential multiple regression SPSS output for subjective norm as dependent variable
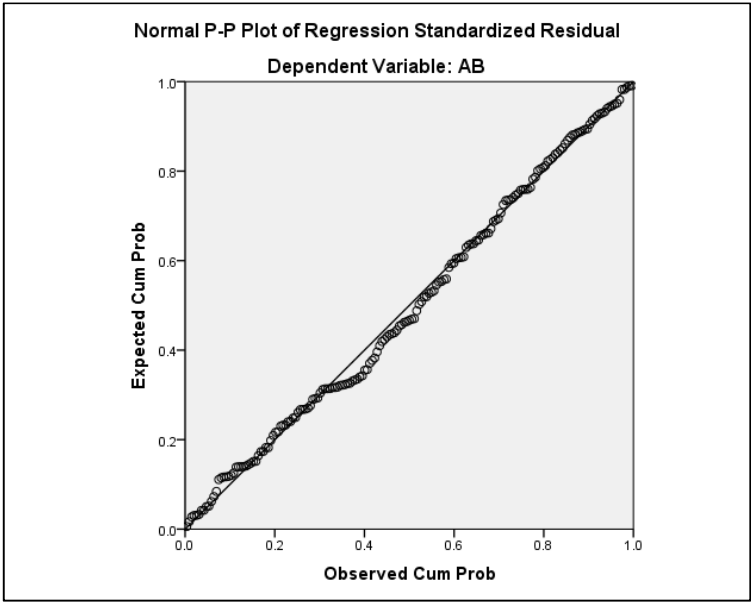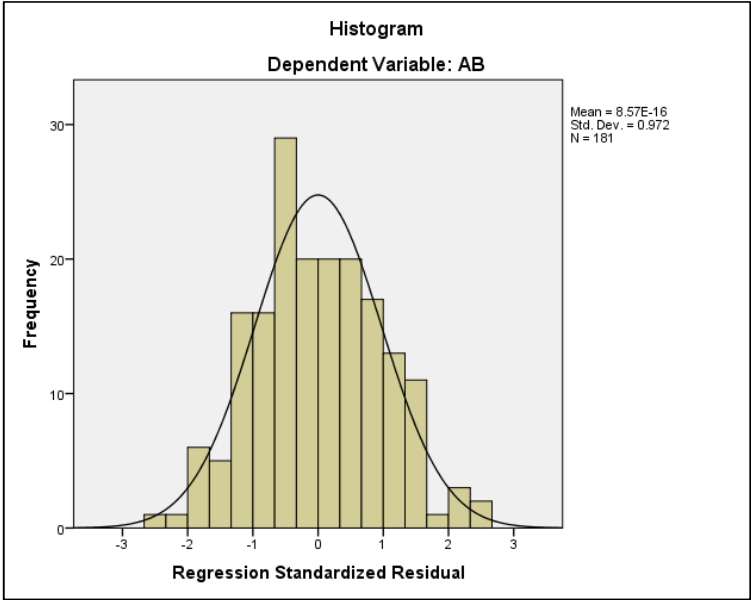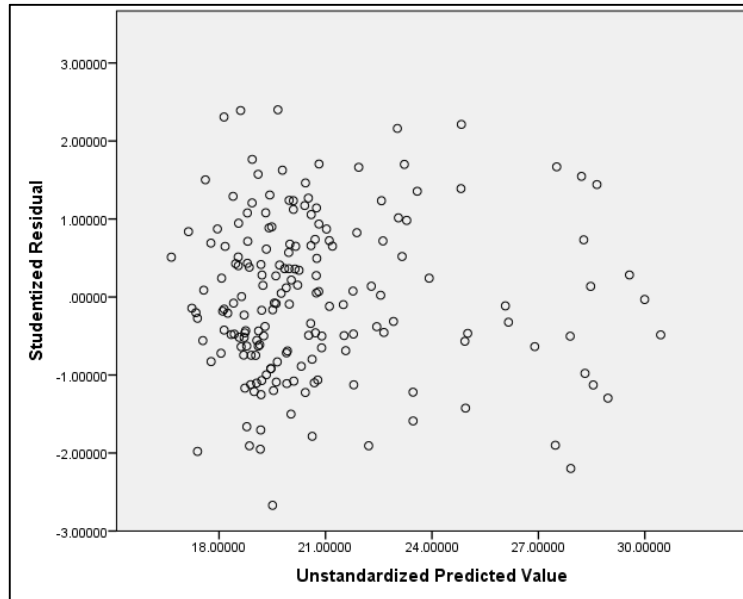
Model summary table

Model Summary[c]										
				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.228[a]	.052	.020	7.9516	.052	1.610	6	176	.147	
2	.326[b]	.106	.054	7.8111	.054	2.597	4	172	.038	2.033
a. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age										
b. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age, Adhocracy, Hierarchy, Market, Clan										
c. Dependent Variable: SN										

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Coefficient table

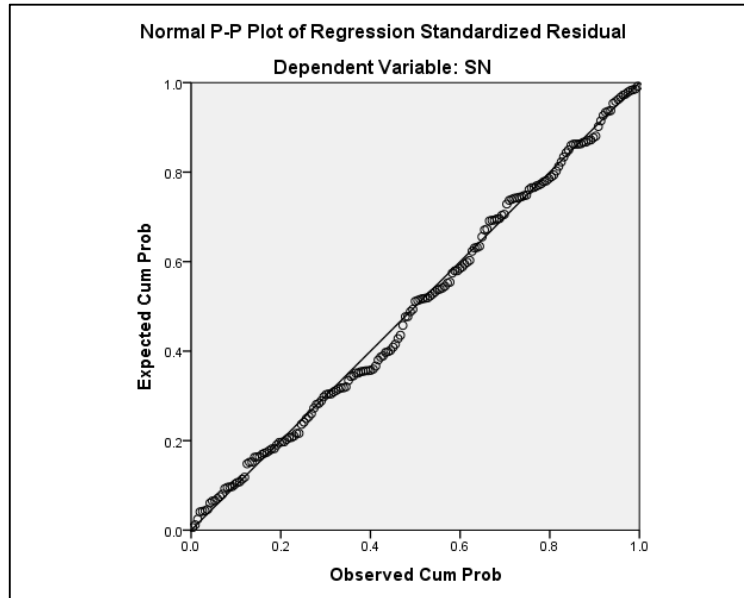| Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	18.748	3.389		5.532	.000		
	Ethnicity	-.746	.653	-.086	-1.143	.254	.962	1.040
	Gender	-.383	1.240	-.023	-.308	.758	.932	1.073
	Age	.878	.738	.103	1.189	.236	.725	1.379
	WorkExperience	-1.052	.565	-.159	-1.862	.064	.742	1.347
	Position	1.091	.501	.170	2.178	.031	.883	1.133
	Entrepreneur	-.839	1.476	-.043	-.569	.570	.929	1.076
2	(Constant)	21.961	5.257		4.177	.000		
	Ethnicity	-.888	.644	-.102	-1.379	.170	.954	1.048
	Gender	-.127	1.242	-.008	-.102	.919	.897	1.115
	Age	.798	.732	.093	1.091	.277	.712	1.404
	WorkExperience	-1.095	.563	-.165	-1.943	.054	.720	1.388
	Position	1.161	.516	.181	2.249	.026	.802	1.247
	Entrepreneur	-.891	1.462	-.046	-.610	.543	.914	1.095
	Adhocracy	.138	.063	.166	2.187	.030	.907	1.102
	Market	-.038	.067	-.058	-.568	.571	.500	2.002
	Clan	-.190	.085	-.232	-2.237	.027	.483	2.071
	Hierarchy	-.001	.003	-.029	-.360	.720	.791	1.264

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Test for linearity and homoscedasticity: subjective norm as dependent variable

Plot of studentized residuals against unstandardized predicted values

Test for normality: subjective norm as dependent variable

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: SN

Sequential multiple regression SPSS output for perceived behavioural control as dependent variable

Model summary table

				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.362a	.131	.101	1.0141	.131	4.364	6	174	.000	
2	.443b	.196	.149	.9867	.065	3.445	4	170	.010	2.004

Model Summary[c]

a. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age

b. Predictors: (Constant), Entrepreneur, Ethnicity, Work Experience, Gender, Position, Age, Adhocracy, Hierarchy, Market, Clan
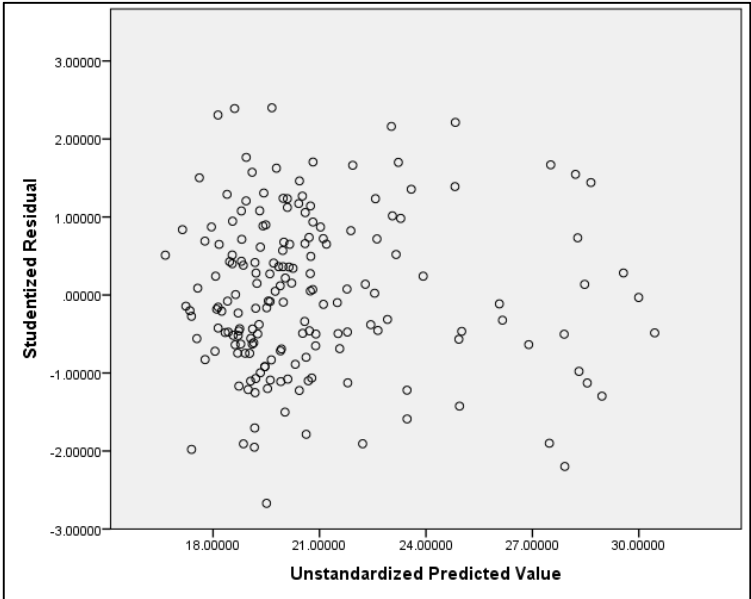
c. Dependent Variable: PBC

Coefficient table

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	5.444	.432		12.593	.000		
	Ethnicity	-.338	.083	-.292	-4.058	.000	.963	1.039
	Gender	.069	.159	.032	.434	.665	.933	1.072
	Age	.071	.095	.063	.748	.455	.715	1.398
	WorkExperience	-.107	.073	-.121	-1.475	.142	.736	1.359
	Position	.085	.064	.100	1.327	.186	.885	1.130
	Entrepreneur	-.390	.189	-.152	-2.068	.040	.928	1.078
2	(Constant)	5.917	.664		8.909	.000		
	Ethnicity	-.355	.081	-.307	-4.366	.000	.955	1.047
	Gender	.060	.158	.028	.381	.704	.896	1.116
	Age	.053	.093	.046	.565	.573	.705	1.417
	Work Experience	-.136	.072	-.155	-1.894	.060	.709	1.411
	Position	.143	.065	.167	2.192	.030	.811	1.232
	Entrepreneur	-.463	.185	-.180	-2.505	.013	.913	1.095
	Adhocracy	.002	.008	.017	.238	.812	.908	1.101
	Market	.003	.009	.031	.320	.749	.508	1.969
	Clan	-.013	.011	-.123	-1.244	.215	.487	2.052
	Hierarchy	-.001	.000	-.247	-3.202	.002	.793	1.262

Test for linearity and homoscedasticity: perceived behavioural control as dependent variable

Plot of studentized residuals against unstandardized predicted values

Test for normality: perceived behavioural control as dependent variable