# Entrepreneurial intentions amongst Master of Business students in efficiency-driven economies: South Africa and Poland

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## A B S T R A C T

The purpose of this research was to determine the relevance of the constructs of the Liñán and Chen (2009) Entrepreneurial Intention Questionnaire for Master of Business students in two efficiency-driven economies, and to test the empirical validity of an entrepreneurial intention model. After the number of factors and the related items of each had been determined by exploratory factor analysis (EFA), a confirmatory factor analysis (CFA) was conducted to verify the factor structure and to enable testing of the hypotheses regarding the existence of relationships between observed variables and their underlying latent constructs. The CFA confirmed the entrepreneurial intention (EI), personal attitude (PA), perceived behavioural control (PBC), entrepreneurial self-efficacy (ESE), social valuation (SV), closer valuation (CV) and entrepreneurial Competence (EC) variables as a preliminary step for the structural equation model (SEM) analysis. The comparative fit index and the root means square error of approximation (RMSEA) indicated that the proposed model had an acceptable fit. The model parameters of all the components of the model were then determined to test the hypotheses relating to the model. Significant relationships between personal attitude and entrepreneurial intention and perceived behavioural control and entrepreneurial intention were proven. No other significant relationships between variables were identified.

**Key words:** Entrepreneurship; entrepreneurial intention; small and medium enterprises; efficiency-driven economies; Poland; South Africa

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## Introduction

The importance of entrepreneurship and the establishment and growth of businesses to stimulate economic development, employment and the survival of a country are widely accepted (Ahktar, Azeem & Mir 2014: 20; Adjasi & Rantseli 2011: 2; Wennekers, Van Stel, Carree & Thurik 2010; Van Stel, Carree & Thurik 2005). South Africa is not doing well in this regard, with limited entrepreneurial activity relating to start-up and established businesses. The total entrepreneurial activity (TEA) plus established that number of entrepreneurs in South Africa is low at 12.6% of the adult population compared to other efficiency-driven economies such as Brazil (39.9%), China (15.9%) and Poland (18.7%), respectively (Kelley, Singer & Herrington 2016: 61, 67, 98, 105).

The decision to establish a new business is regarded as planned behaviour. According to Ajzen's theory of planned behaviour (1991), there is a strong relationship between intention (or planned behaviour) and the actual act. Shapero and Sokol (1982) and Honig (2004) assert that entrepreneurial intention is the best predictor of entrepreneurial behaviour.

Entrepreneurial intention is an indication of the inclination of a person to start a business, and it is a vitally important determinant of entrepreneurial activity. Entrepreneurial intention in South Africa is extremely low at 10.9%, but is close to the 12.6% of South Africans who are actually involved in business ownership (Kelley et al. 2016: 105). However, in comparison with the average of 23% for efficiency-driven economies involved in business ownership, South Africa, at 12.6%, lags far behind (Kelley et al. 2016: 19). With regard to entrepreneurial intention, South Africa is more in line with the 12% entrepreneurial intention of the innovation-driven economies than the 26% of the efficiency-driven economies (Kelley et al. 2016: 16).

The typology of countries, namely those with innovation-driven, efficiency-driven and factor-/resource-driven economies, is used by both the World Economic Forum and Global Entrepreneurship Monitor (GEM). It is also based on Porter's definition of economic development levels (Porter, Sachs & McArthur 2002) according to which the type of economy is determined by the level of development of the country and types of economies, namely factor driven, efficiency driven and innovation driven economies. Factor-driven economies are those countries that are at a low level of development and where the application of primary factors of production including primary resources, commodities, unskilled labour and land determine economic growth. The next level of development is efficiency-driven economies that are middle-income countries where economic growth is determined by the integration of their economies into international production systems. The application of global technologies, international production systems and facilitation of improved

technologies enable these economies to attract investments in the form of foreign capital, foreign direct investment, joint ventures and outsourcing arrangements. Innovation-driven economies are high-income countries that are technology-generating economies as opposed to technology-importing economies. With regard to global technologies, these countries are innovative in a number of sectors, they are able to adapt rapidly and move to new technologies, they commercialise their innovations and their competitiveness is linked to elevated levels of science-based and other learning. The economic environment of a country is critical for the evolvement and maintenance of the level of development of a country (Porter et al. 2002: 17).

Entrepreneurial intentions are highest in factor-driven economies where people are more inclined to become involved in their own small businesses because of limited employment and other income opportunities. Factor-driven economies participating in the GEM include those of Angola, Botswana, Burkina Faso, Cameroon, Uganda, India, Iran, Kuwait, Philippines, Vietnam and Bolivia. Efficiency-driven economies include those of South Africa and Poland, as well as China, Indonesia, Kazakhstan, Malaysia, Thailand, Argentina, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Croatia, Ecuador, El Salvador, Guatemala, Hungary, Jamaica, Lithuania, Poland, Mexico, Panama, Peru, Suriname, Uruguay, Romania, Bosnia and Herzegovina, Georgia, Kosovo, the Russian Federation and Turkey. Innovation-driven economies, where entrepreneurial intentions are lowest because of thriving economies, include the economies of the USA, Canada, Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Portugal, Slovenia, Slovakia, Spain, Sweden, the United Kingdom, Switzerland, Norway, Australia, Japan, Singapore, Taiwan, Qatar, Puerto Rico, Tobago and Trinidad (Singer, Amorós & Moska 2015: 11).

The positive association of the educational level of business owners with business performance and growth (Furlan, Grandinetti & Paggiaro 2014; Millan, Congregado, Roman, Van Praag & Van Stel 2014; Blackburn, Hart & Wainwright 2013: 13; Mitra & Pingali 2009: 62) is relevant here because the aim of this study was to investigate Master of Business students and their level of entrepreneurial intentions. The study endeavoured to give an indication of the prevalence of entrepreneurial intentions amongst Master of Business students, and the motivating factors and antecedents relating to their entrepreneurial intentions.

In Africa and many other countries, including China (Bawuah, Buame & Hinson 2006; Wu & Wu 2008: 753; Adly & Kathib 2014), tertiary education focuses on educating students for employment rather than for becoming employers or business owners. Although entrepreneurship education has been included in some programmes in South Africa in the past 20 years, this is at a limited level with only one

or two modules on entrepreneurship in some qualifications. In exceptional situations and with few students, full entrepreneurship diplomas, degrees and postgraduate qualifications are offered at some universities.

Studies have proven the positive effect of education on the intention and inclination to start a business (Raposo, Ferreira, Do Paco & Rodrigues 2008). Internationally, and in developed countries in particular, entrepreneurship education at postgraduate level is becoming increasingly popular. Many MBA students now have entrepreneurial endeavours as their objectives, whereas in the past their primary focus was to advance in corporates (Nieuwenhuizen, Groenewald, Schachtebeck, Davids & Janse Van Rensburg 2015: 19). There is a need to understand and determine the entrepreneurial intentions of postgraduate students and the antecedents that impact on their intentions.

The objective of the study was to test a questionnaire based on Ajzen's theory of planned behaviour (TPB) on the entrepreneurial intention of Master of Business students. Liñán and Chen (2009: 593) developed and tested an instrument, the entrepreneurial Intention questionnaire (EIQ), but indicated that there was a need for further research to gain a better understanding of the factors that affect entrepreneurial perceptions. They identified two areas for further research in this regard, namely cross-cultural studies to determine the effect of different cultures and values on entrepreneurial intentions, and the refinement of an instrument to analyse entrepreneurial perceptions and intentions (Liñán & Chen 2009: 594).

The current study was a cross-cultural study aimed at determining the effect of the cultures and values of two countries, namely South Africa and Poland, on entrepreneurial intentions using the EIQ. Both countries are classified as developing countries with efficiency-driven economies. Although both countries are currently democracies, they were governed by oppressive regimes until 1980/1990s. High youth unemployment is prevalent in Poland, and stands at 27.8% for youth between the ages of 15 and 24 (Polakowski 2012), and at 31.4% in South Africa (Statistics South Africa 2013). The 2015 TEA rate for both Poland at 9.4% and South Africa at 10.9%, is below the average TEA rate of 13.1% for efficiency-driven economies (Kelley et al. 2016: 96, 104).

There are many differences in competitiveness and societal culture practices between South Africa and Poland. The Global Competitiveness Report Index 2015–2016 (World Economic Forum 2016) ranks Poland in 41st position, which is a better ranking than South Africa at 49th. In addition, some cultural differences exist. "The GLOBE Study of 62 Societies (House, Hanges, Javidan, Dorfman, & Gupta 2004) classified countries into ten cultural clusters on nine social culture practices and values. Whereas Eastern Europe (Poland) scores high on societal culture practises

(as is) such as assertiveness, in-group collectivism and gender egalitarianism, and low on performance orientation, future orientation and uncertainty avoidance, sub-Saharan Africa (SSA) scores high only on humane orientation and has a mid-score for the other eight practices" (Nieuwenhuizen & Swanepoel 2015: 2).

## Entrepreneurial intention models and theoretical frameworks

According to the TBP (Ajzen 1991) in social psychology literature, the intentions of individuals are determined by a combination of three antecedents, namely attitudes, subjective norms and perceived behavioural control.

Attitudes are the approving or adverse evaluations of a specific behaviour and include what people consider likeable, attractive or advantageous – this can also be both affective and evaluative (Ajzen 1991). In relation to entrepreneurship, it is the degree to which a person values being an entrepreneur as positive or negative (Liñán & Chen 2009: 596).

Subjective norms refer to normative beliefs and the motivation to comply with such beliefs, as well as the perceived social pressures to perform or avoid certain behaviours. In the context of intention, subjective norms refer to the perception that reference people, that is, family, friends and colleagues, would approve of a decision (Ajzen 1991). Regarding entrepreneurship, this pertains to the social pressure of being involved in entrepreneurial behaviours and the perception that family, friends and reference people in their close environment would approve of them becoming entrepreneurs (Liñán & Chen 2009: 596).

Perceived behavioural control is the extent to which people perceive themselves to be in control of a specific behaviour. It refers to a person's subjective assessment of the ease of performing a task or behaviour and the level of control over the behaviour (Ajzen 2002). According to Liñán and Chen (2009: 596), therefore, it means how easy or difficult a person perceives becoming an entrepreneur to be.

Based on the TPB and the model of entrepreneurial event (Shapero & Sokol 1982), the Shapero-Krueger model of entrepreneurial intention was developed (Krueger, Reilly & Carsrud 2000). Similarly, Liñán (2004) and Liñán, Rodríguez-Cohard and Rueda-Cantuche (2005) integrated the models of Shapero and Sokol (1982) and Ajzen (2006). They constructed an entrepreneurial intention model with the following three antecedents: personal attraction towards entrepreneurship, perceived social norms and perceived feasibility or self-efficacy. Liñán and Chen (2006, 2009) developed and validated the entrepreneurial intentions instrument, the EIQ, used in this research.

In their model, Liñán and Chen (2009: 596) tested the effect of the antecedents, personal attitude (PA), subjective norm (SN) and perceived behavioural control (PBC) on entrepreneurial intention (EI). They used PBC and indicated that they viewed it as fairly similar to entrepreneurial self-efficacy (ESE) (Bandura 1997) and perceived feasibility (Shapero & Sokol 1982), although some research has proven that there is in fact a difference between PBC and ESE (McGee, Peterson, Mueller & Sequeira 2009).

In addition, the model of Liñán and Chen included the assumption that SN has an influence on PA and PBC. However, owing to the inability of researchers to prove the effect of SN on entrepreneurial intention, a number of suggestions have been made that the effect of SN could be indirect through PA and PBC (Liñán & Chen 2009: 606). In a study by Liñán, Nabi and Krueger (2013: 91), the indirect effect of SN via PA and PBC on EI was tested and proven. In this study, SN was divided into two variables, closer valuation (CV) and social valuation (SV). CV refers to the valuation of entrepreneurship by family, friendsand colleagues, while SV relates to the external environment including government policies, support and entrepreneurship programmes, culture and attitudes towards entrepreneurship. This study also confirmed the significant effect of PA and PBC on EI (Liñán et al. 2013: 79).

The Linan and Chen EIQ have been extensively tested in many studies such as that of Wu and Wu (2008) in China; that of Ferreira, Raposo, Rodrigues, Dinis and Do Paço (2012), and across cultures Linan and Chen (2009) in Spain and Taiwan; and Iakovleva, Kolvereid and Stephan (2011) in developed and developing countries. The studies found that the EIQ is replicable in different countries with similar predictive power.

Wu and Wu (2008) developed a hypothetical model based on the TPB, and with the application of structural equation modelling (SEM) tested the impact of the antecedents, PA, SN and PBC, on entrepreneurial intention. In the model, they also determined the relationship between educational background and the PA, SN and PBC antecedents. The comparative fit index (CFI) indicated a proper level of fit of 0.89 with acceptable RMSEA values (0.072), suggesting a reasonably well-fitting model. They determined PA to be the primary predictor of Chinese university students' entrepreneurial intentions and PBC as well as an important predictor. The contribution of SN was not significant in the prediction of EI (Wu & Wu 2008: 768).

McGee et al. (2009) developed a model and tested the effect of ESE on entrepreneurial intentions. Here, ESE measured the belief a person has in his or her abilities to successfully start an entrepreneurial venture (McGee et al. 2009: 965). They conducted a survey of prospective entrepreneurs, and using factor analysis

and SEM, and identified a multidimensional structure for ESE with five ESE dimensions, namely searching, planning, marshalling, implementing – people, and implementing – financial. These dimensions were combined with attitude towards venturing and nascent entrepreneurship, and included in the analysis. Nascent entrepreneurs are people who have never owned a business, but are considering a business start-up. The application of SEM techniques allowed for the simultaneous measurement of multi-item constructs and the correlations between the constructs. Their refined ESE measure proved to be appropriate for determining the behaviour of nascent entrepreneurs with a positive relationship between nascent entrepreneurs and the five dimensions of ESE (McGee et al. 2009: 984).

In a study by Ferreira et al. (2012: 424), secondary school students in Portugal were involved in a survey. The self-administered questionnaire included questions on demographic characteristics, behavioural and psychological constructs, and entrepreneurial intention. SEM was used to analyse the data. The results indicated that a need for achievement, self-confidence and PA do affect entrepreneurial intention. In addition, their findings determined that PBC was affected by SN and PA.

## Objectives of the study

The objectives of this research were to

1. assess the relevance of the constructs of the Liñán and Chen (2009) EIQ for Master of Business students in two efficiency-driven economies
2. develop and test the empirical validity of an entrepreneurial intention model

The first stage of the research was aimed at determining the applicability of the Liñán and Chen (2009) EIQ, in particular assessing whether the items in the EIQ aligned with the factors as validated in Liñán and Chen's (2009) study. The second stage was to test an entrepreneurial intention model using SEM.

The contribution of the research was to assess which variables were pre-eminent in determining entrepreneurial intentions for Master of Business students in efficiency-driven economies and the impact of the antecedents on entrepreneurial intentions through the SEM.

In the model proposed for this study (see Figure 1), personal attitude (PA), self-efficacy (SE), entrepreneurial competence (EC) and perceived behavioural control (PBC) were included as independent variables, while entrepreneurial intention (EI) acted as the dependent variable. Closer valuation (CV), which refers to the valuation of entrepreneurship by family, friends, colleagues, was included as a separate

antecedent or motivational factor to PA, EC and PBC, similar to the model suggested by Liñán et al. (2013: 81).

Similarly, social valuation (SV), relating to the external environment, including government policies, support and entrepreneurship programmes, culture and attitudes towards entrepreneurship, were also included as an antecedent or motivational factor owing to its relevance in various studies and reports (Herrington, Kew & Kew 2015: 12; Malebana 2012; Liñán et al. 2013: 79).
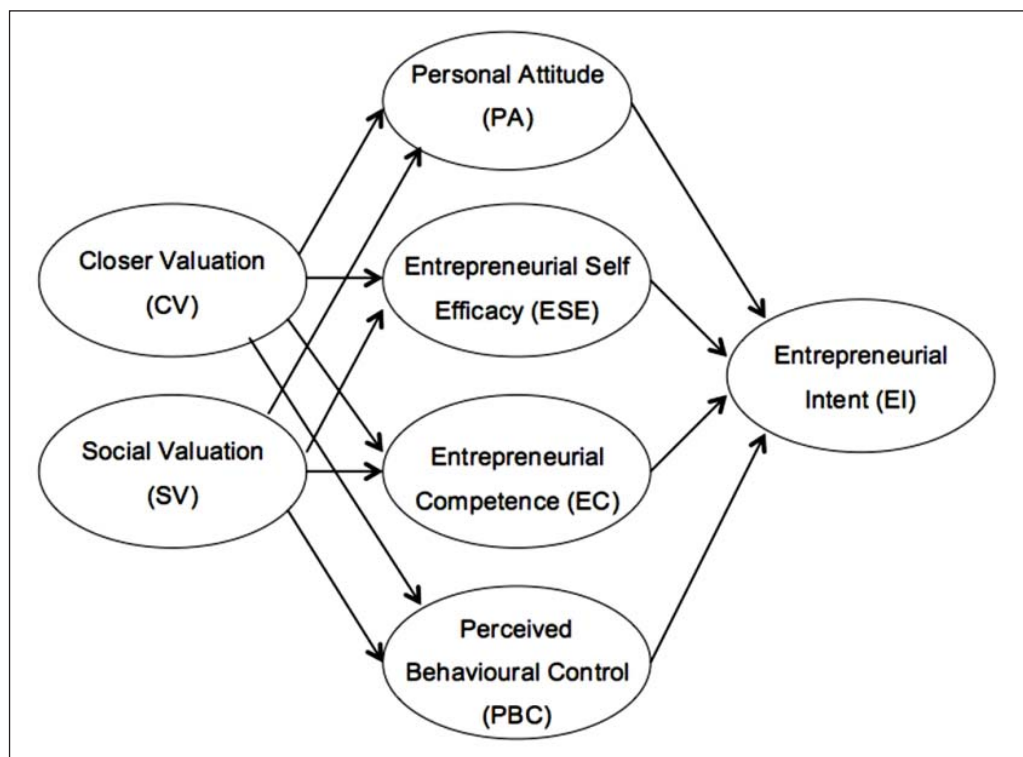


**Figure 1:** Proposed entrepreneurial intention model for Master of Business students in factor-driven economies

The following hypotheses relating to the model were tested:

H1:   Personal attitude towards the behaviour has a positive impact on entrepreneurial intention.

H2:   Entrepreneurial self-efficacy has a positive impact on entrepreneurial intention.

H3:   Entrepreneurial competence has a positive impact on entrepreneurial intention.

H4:   Perceived behavioural control has a positive impact on entrepreneurial intention.

H1a: Closer valuation has a positive impact on personal attitude towards entrepreneurial intention.

H2a: Closer valuation has a positive impact on entrepreneurial self-efficacy.

H3a: Closer valuation has a positive impact on entrepreneurial competence.

H4a: Closer valuation has a positive impact on perceived behavioural control.

H1b: Social valuation has a positive impact on the attitude towards entrepreneurial intention.

H2b: Social valuation has a positive impact on entrepreneurial self-efficacy.

H3b: Social valuation has a positive impact on entrepreneurial competence.

H4b: Social valuation has a positive impact on perceived behavioural control.

## Research methodology

### Research design

A questionnaire was distributed to all Master of Business students at two universities, one in Poland, the Krakow Business School (KSB) (MBA students), and one in South Africa, the University of Johannesburg (UJ) (MCom Business Management students). The syllabi of the MBA and MCom degrees are similar. Both are postgraduate Master of Business Management degrees that include Business and Management-related modules as well as a minor dissertation. In June 2013, 182 questionnaires were handed out in class and all were completed and returned. Ninety-three Polish students and 89 South African students participated in the study.

A cross-sectional survey design was used, with two stratified samples drawn from Master of Business Management students: MCom students at the University of Johannesburg (UJ), South Africa, and MBA students at the Krakow Business School (KSB), Poland. In June 2013, 182 questionnaires were handed out and all were completed and returned.

### Measuring instrument

The entrepreneurial intention instrument validated by Liñán and Chen (2009) and adapted by Malebana (2012), who added questions to assess the effect of university

studies on entrepreneurial intention, was used. Minor adjustments were made to the latter instrument.

In section A of the questionnaire, demographic information was collected. Section B (7 items) focused on experience and entrepreneurial knowledge. Section C (9 items) addressed entrepreneurial intention (EI); section D (6 items) attitude towards becoming an entrepreneur – personal attitude (PA); section E (9 items) perceived behavioural control (PBC); section F (5 items) social valuation (SV); section G (15 items) closer valuation (CV); section H (24 items) entrepreneurial self-efficacy (ESE); and section I (4 items) entrepreneurial competencies (ECs).

The questions in sections A and B were measured on a nominal scale, while the questions in sections C to I used a five-point Likert-type scale (for C, D, E, F and G: 1 = strongly disagree; 5 = strongly agree; for H and I: 1 = very little confidence; 5 = very confident). The final instrument consisted of 82 questions/items.

## Statistical analysis

The statistical analysis consisted of the following two processes:

1. An investigation of the construct validity and internal consistencies of the entrepreneurial intention instrument and confirmatory factor analysis (CFA) was conducted on the items of seven scales with the objective of accepting or rejecting the related hypotheses.
2. An assessment was made of the fit of the proposed model through a path analysis to determine the relationship between entrepreneurial intention and its antecedents through structural equations.

As part of the purpose of SEM, estimates of the parameters of the model, that is, factor loadings, the variance and covariances of the factor and the residual error variances of the observed variables, were determined through CFA. SEM was used to assess the fit of the model. SEM is a general statistical modelling technique, which is primarily a combination of factor analysis and regression or path analysis.

## Findings

The descriptive statistics in Table 1 reflect an overview of the relevant information of respondents who participated in the study. One-hundred-and-eighty-two (182) Master of Business Management (MCom and MBA) students from two countries, namely Poland and South Africa, participated in the study. The number of participants from each country was close, with 93 (50.9%) Polish and 89 (49.1%) South African

respondents respectively. At 79.8%, the majority of the respondents were employed or had been employed (92.9%), were male (60.7%) and were classified in the age group 20 to 39 (84.8%). The descriptive statistics of the respondents are included in Table 1.

**Table 1:** Descriptive statistics of respondents

| Descriptor | Percentage (n = 182) | |
|---|---|---|
| Country | 50.9% Poland | 49.1% South Africa |
| Gender | 60.7% male | 39.3% female |
| Age | 20–29 | 43.8% |
| | 30–39 | 41% |
| | 40–49 | 15.2% |
| Employment | 80% employed | 20% unemployed |
| Previously employed | 93% have been employed | 7% have never employed |
| Own business | 31% tried to start | 14% have own businesses |
| Family member in own business | 55% Yes | 45% No |
| Friend in own business | 82% Yes | 18% No |
| Knows someone who has a business | 92% Yes | 8% No |

The entrepreneurial intention (EI) of the Master of Business students to start their own businesses was measured by nine questions on a five-point Likert-type scale. The mean of EI was 3.49, indicating that the Master of Business students were moderately in agreement that they had entrepreneurial intentions.

According to the comparative study of the entrepreneurial intent of business students: South African (UJ) versus Poland (KSB) (Nieuwenhuizen & Swanepoel 2014: 11), 'UJ MCom students scored higher and differed largely from KSB MBA students on six of the ten factors, namely entrepreneurial intent, attitude towards becoming an entrepreneur, perceived behavioural control, new product development, financial acumen and entrepreneurial support. The KSB students indicated that they know more entrepreneurs than the UJ students but the effect size is medium. The UJ students scored higher on managing employees and marketing and networking than the KSB students, but with a medium effect size. The same applied to entrepreneurial competencies.'

## Statistical analysis

An unrestricted exploratory factor analysis (EFA) was first conducted to determine the construct validity of the entrepreneurial intent instrument. SPSS 20 (SPSS 2012) was used to conduct the EFA on each of the seven scales (C, D, E, F, G, H and I) of the questionnaire individually. Scales C (EI) and D (PA) were unidimensional. Scale E (PBC) resulted in one factor only, as the one item, 'I am able to control the creation process of a new business', of the second factor was discarded. Scale F (SV) resulted in one factor with four items. Owing to a high communality value, the item, 'It would be easier for me to receive support from people I know than from the government', was removed. Scale G (CV) with 15 items extracted four factors. Based on the cluster of items, the researcher was able to identify the following four factors: knowing entrepreneurs, valuing entrepreneurial activity, assistance from family, friends and others, and country culture support. The fourth social capital factor, 'country culture support', only contained two variables and could not be regarded as stable. Thus, for scale G (CV), only three factors were retained.

For scale H (ESE), four factors were extracted with six items discarded. The item, 'In my country, entrepreneurial activity is considered to be worthwhile, despite the risks', was discarded because of a high communality value. The following five items were discarded because of cross-loadings: 'Estimate the amount of start-up funds and working capital necessary to start a business'; 'Clearly and concisely explain verbally/ in writing my business idea in simple terms'; 'Develop relationships with key people who are connected to sources of capital'; 'Identify potential sources of funding for investment in my business'; and 'Make decisions under uncertainty and risk'. Based on the cluster of items, the following four factors were identified: managing employees, new product development, marketing and networking and financial acumen.

As reflected in Table 2, 12 factors of the refined factor scales of the EIQ were acceptable, as the Cronbach alpha coefficient (α) was greater than 0.7 (Hair, Black, Babin, Anderson & Tatum 2010). Scale G 1.4 (country culture support) at 0.683 fell just below and was also retained.

**Table 2:** Reliability of refined factor scales

| Factor scales | | N = items | α |
|---|---|---|---|
| C | EI: Entrepreneurial intention | 9 | 0.942 |
| D | PA: Personal attitude | 6 | 0.926 |
| E | PBC: Perceived behavioural control | 9 | 0.868 |
| F | SV: Entrepreneurial support | 4 | 0.748 |

| Factor scales | | N = items | α |
|---|---|---|---|
| G1.1 | CV: Knowing entrepreneurs | 4 | 0.798 |
| G1.2 | CV: Valuing entrepreneurial activity | 4 | 0.810 |
| G1.3 | CV: Assistance from family, friends and others | 4 | 0.779 |
| G1.4 | CV: Country culture support | 2 | 0.683 |
| H1.1 | ESE: Managing employees | 7 | 0.914 |
| H1.2 | ESE: New product development | 4 | 0.837 |
| H1.3 | ESE: Marketing and networking | 5 | 0.796 |
| H1.4 | ESE: Financial acumen | 3 | 0.907 |
| I | EC | 4 | 0.813 |

The next stage of the analysis was to determine through confirmatory factor analysis (CFA) and SEM the effect of the newly refined constructs on the entrepreneurial intention of Master of Business Management students. The CFA is a preliminary step in SEM analysis (Harrington 2009: 11).

## Confirmatory factor analysis (CFA)

After the number of factors and the related items of each had been determined by an EFA, a CFA was conducted to verify the factor structure and to enable testing of the hypotheses relating to the existence of relationships between observed variables and their underlying latent constructs. The goodness-of-fit statistics for the measurement models of each respective factor are depicted in Table 2.

According to Hair et al. (2010), a general guideline for the interpretation of the CFI is that values of 0.80 or higher indicate a satisfactory fit between the postulated model and the empirical data. All of the CFI/TLI values indicated a satisfactory fit. A standardised root mean residual (SRMR) of 0.08 or less indicates a good model fit, although Kelloway (1998) adopts a stricter approach and suggests that SRMR values of less than 0.05 are indicative of an acceptable fit. The SRMR values for each of the factors indicate a good model fit with all values below 0.05. The RMSEA is a sound representation of how well the model fits the population, and lower RMSEA values indicate a better fit. Generally, RMSEA values below 0.08 indicate an acceptable fit and values below 0.05 suggest a good fit (Hair et al. 2010). The RMSEA for the factors C, E, G1, G2 and I were below the cut-off value of 0.05, indicating a good model fit. Although factor D marginally missed the cut-off for an acceptable fit,

given that the other indices adhered to the guidelines, it could be argued that an overall acceptable model fit was achieved. The RMSEA of factors F and G3 adhered to the normative cut-off values.

The entire subscale of factor H (ESE) was discarded, since the EFA suggested that the scale should be split into four independent subfactors, which were conceptually ambiguous. Based on the collective fit indices, factors H1 (ESE: managing employees) and H4 (ESE: marketing and networking) did not demonstrate a good model fit. Furthermore, since factor H3 (ESE: financial acumen) only contained three items, the CFA model fit was perfect. Owing to the inability to detect misfitting parameters in these subscales, the author deemed the construct validity of the entire subscale to be suspect and did not replicate the observed data. She thus decided to remove the entire subscale from the structural model.

The factors extracted from the seven scales in the questionnaire, item loading and the Cronbach alpha coefficient are indicated in Table 3. The reliabilities for each of the 13 factors of the refined factor scales of the EIQ were acceptable, as the Cronbach alpha coefficient (α) was greater than 0.7 (Hair et al. 2010).

**Table 3:** Goodness-of-fit statistics for the measurement models of each respective factor

| Factor | Incremental fit indices | | Absolute fit indices | | Cronbach alpha |
|---|---|---|---|---|---|
| | TLI | CFI >0.92 | SRMR <0.08 | RMSEA (90% CI) <0.08 good fit <0.05 acceptable fit | |
| EI | 0.983 | 0.987 | 0.031 | 0.046 (0.000; 0.084) | 0.942 |
| PA | 0.955 | 0.973 | 0.029 | 0.088 (0.032; 0.143) | 0.926 |
| PBC | 0.976 | 0.983 | 0.040 | 0.040 (0.000; 0.085) | 0.868 |
| SV | 0.746 | 0.915 | 0.044 | 0.179 (0.089; 0.285) | 0.748 |
| CV1 | 1.048 | 1.000 | 0.008 | 0.000 (0.000; 0.098) | 0.798 |
| CV2 | 1.016 | 1.000 | 0.010 | 0.000 (0.000; 0.140) | 0.810 |
| CV3 | 0.917 | 0.972 | 0.034 | 0.113 (0.000; 0.225) | 0.779 |
| ESE1 | 0.679 | 0.786 | 0.075 | 0.171 (0.135; 0.210) | 0.914 |
| ESE2* | 1.026 | 1.00 | 0.007 | 0.000 (0.000; 0.105) | 0.837 |
| ESE3* | 1.0 | 1.0 | 0.0 | 0.0 (0.0; 0.0) | 0.907 |
| ESE4* | 1.082 | 1.0 | 0.011 | 0.0 (0.0; 0.0) | 0. |
| EC | 1.039 | 1.000 | 0.005 | 0.000 (0.000; 0.053) | 0.813 |

\* *p*-value significant .05

The CFA confirmed the EI, PA, PBC, SV, CV and EC variables as a preliminary step in the following SEM analysis:

## SEM of the entrepreneurial intention model

SEM was used to test the empirical validity of the proposed entrepreneurial intention model in Figure 1. SEM was applied to test the measurement model, in this instance, the structural or causal paths between variables as confirmed in the CFA.

After the statistical software (Amos 7.0) had been applied to the total sample, the results of the entrepreneurial intention model were presented (see Figure 2 below).
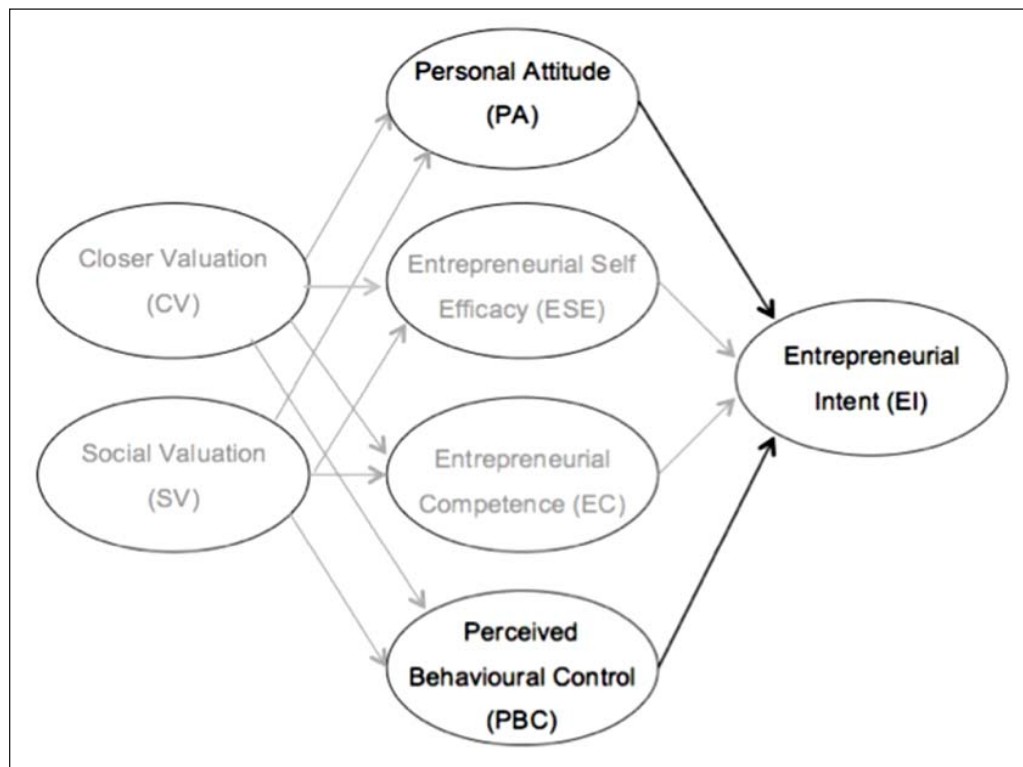


**Figure 2:** Adapted entrepreneurial intention model for Master of Business students in factor-driven economies

According to Bentler (1990), the CFI varies from 0 to 1, with 1 indicating a perfect fit and a minimum acceptable fit of 0.90. In this SEM, the CFI indicated an acceptable level of fit of 0.820 that was reasonably close to the fit index of 0.90. The RMSEA, the measure based on population discrepancy, should be 0.05 or less to indicate a close fit, 0.06-0.08 for a reasonable fit and 0.10 as the upper limit (Byrne 2013). The RMSEA value for this SEM at 0.069 indicated a reasonable fit. Thus, the CFI and RMSEA indicated that the proposed model had an acceptable fit.

The model parameters of all the components of the model were then determined to test the hypotheses relating to the model. As explained previously, all (three) hypotheses pertaining to ESE were removed because of insufficient construct validity.

**Table 4:** Results of hypotheses tests

| | Beta parameter | P-value significance | Hypothesis |
|---|---|---|---|
| PA→EI | .755 | 0.000 | 1  accepted |
| EC→EI | -0.053 | 0.258 | 2  rejected |
| PBC→EI | .226 | .001 | 3  accepted |
| CV1→PA | 1.003 | 0.482 | 4a rejected |
| CV2→PA | -1.420 | 0.600 | |
| CV3→PA | -1.760 | 0.482 | |
| CV4→PA | 4.439 | 0.469 | |
| CV1→EC | 0.585 | 0.410 | 4b rejected |
| CV2→EC | -0.676 | 0.625 | |
| CV3→EC | -0.523 | 0.678 | |
| CV4→EC | 2.029 | 0.520 | |
| CV1→PBC | 1.392 | 0.585 | 4c rejected |
| CV2→PBC | -2.307 | 0.639 | |
| CV3→PBC | -2.437 | 0.595 | |
| CV4→PBC | 6.439 | 0.572 | |
| SV→PA | -2.822 | 0.473 | 5a rejected |
| SV→EC | -1.558 | 0.443 | 5b rejected |
| SV→PBC | -3.729 | 0.608 | 5c rejected |

EI: entrepreneurial intention; PA: personal attitude; PBC: perceived behavioural control; CV: closer valuation; SV: social valuation; CE: entrepreneurial competence

## Hypotheses tested

H1:  Personal attitude towards the behaviour has a positive impact on entrepreneurial intention. This hypothesis was accepted because the *p*-value was significant and the beta parameter indicated a positive strong relationship between personal attitude and entrepreneurial intention.

H2:   Entrepreneurial competence has a positive impact on entrepreneurial intention. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level and the beta parameter was negative.

H3:   Perceived behavioural control has a positive impact on entrepreneurial intention. This hypothesis was accepted because the *p*-value was significant and the beta parameter indicated a positive relationship between PBC and EI.

H4a:  Closer valuation has a positive impact on the attitude towards entrepreneurial intention. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level.

H4b:  Closer valuation has a positive impact on entrepreneurial competence. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level.

H4c:  Closer valuation has a positive impact on perceived behavioural control. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level.

H5a:  Social valuation has a positive impact on the attitude towards entrepreneurial intention. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level.

H5b:  Social valuation has a positive impact on entrepreneurial competence. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level.

H5c:  Social valuation has a positive impact on perceived behavioural control. This hypothesis was rejected because the *p*-value was not significant at the 0.05 level.

## Discussion and conclusions

In summary, although the entrepreneurial intentions were moderate (3.49 on a 5-point scale), the findings indicated that personal attitude and perceived behavioural control, respectively, had a positive and significant impact on the entrepreneurial intentions of Master of Business students in efficiency-driven economies. This was positive and proves the importance of developing a personal attitude and perceptions of behavioural control of students to ensure increased entrepreneurial intentions. However, the impact of entrepreneurial self-efficacy, which was discarded in the proposed model, and entrepreneurial competence did not prove to have a significant

impact on entrepreneurial intention. In addition, neither the closer valuation nor the social valuation factors proved to be motivators for entrepreneurial intention.

These results were in line with the findings of Wu and Wu (2008: 762) who reported the positive and significant impact of personal attitude and perceived behavioural control on entrepreneurial intention, with the impact of social norm (CV and SV combined) on personal attitude and perceived behavioural control as insignificant.

The findings of this study confirmed those of Gird and Bagraim (2008: 719–720) on final-year commerce students that the PA towards entrepreneurship is the most important predictor of entrepreneurship, followed by PBC. They postulated that subjective norm, which consists of CV and SV, has no significant influence. It was also confirmed that other environmental factors such as government initiatives, support and culture are not motivators for entrepreneurial intention.

Liñán and Chen (2009: 607), in their study that included the two innovation-driven economies of Spain and Taiwan, also found significant positive effects of personal attitude and perceived behavioural control on entrepreneurial intention, but not for subjective norm (CV and SV combined). Owing to the fact that they anticipated this outcome, they also tested for the effect of subjective norm on personal attitude and perceived behavioural control, respectively. Both proved to be significant (Liñán & Chen 2009: 607). Similarly, as reported earlier, Liñán et al. (2013: 91) confirmed the significant effect of PA and PBC on EI and SN (CV and SV combined) as the indirect effect of SN via PA and PBC on EI for these two innovation-driven economies. Although the aim of the researcher in the current study was to confirm these findings for efficiency-driven economies, none of these paths (CV and SV through PA and PBC) generated significant results.

The difference in these results could perhaps be explained by the differences between innovation-driven versus efficiency-driven economies. It could also be explained by findings of the Global Entrepreneurship Monitor that has indicated cross-cultural differences, even within the same types of economies. Although the sample for this study consisted of Master of Business students from two efficiency-driven economies, the results of the GEM indicated remarkable differences in the perception of social values towards entrepreneurship in these two countries that might cancel out each other with regard to the impact of subjective norm (SV and CV) on personal attitude and perceived behavioural control. In the GEM, social values include the following: 1) entrepreneurship as a good career choice; 2) the high status of successful entrepreneurs; and 3) media attention to entrepreneurship. These are directly related to SV.

In this study, entrepreneurship was regarded as a good career choice by 73.8% of South Africans and 63.4% of the Polish citizens. In South Africa, 76.1% of respondents

perceived successful entrepreneurs to have a high status, while only 62.9% of Polish respondents had the same perception (Kelley et al. 2016: 98, 105). Although the South Africans perceived social values towards entrepreneurship as more positive than the Polish citizens, the entrepreneurial intention of South Africans was lower at 10.9% than the 16.2% of the Polish citizens. However, both were much lower than the average of 26% for efficiency-driven economies (Kelley et al. 2016: 19, 98, 105).

The questionnaire included SV items relating to government support for entrepreneurs and the entrepreneurial culture towards entrepreneurship in a country. Although it was expected that these would have a motivational effect on personal attitude, perceived behavioural control and entrepreneurial competence to impact on entrepreneurial intention, this could not be proven. In addition, a further analysis of the results indicated that a significant difference ($p = 0.039$) in the perception of entrepreneurial support existed between South Africans, with a mean of 2.96, and Polish citizens with a mean of 2.74 on the five-point Likert-type scale. Although students of both groups had a negative view, the Polish students were more negative about entrepreneurial support.

Previous studies have also reported that people in South Africa are often unaware of the support provided by government and unable to access the support (Reddy 2007; Ladzani & Netswera 2009; Ladzani, Nieuwenhuizen & Nhlapo 2011). This finding clearly indicates that these initiatives ultimately have no impact on entrepreneurial intention. The problem could also be that the cultures in both these countries are not entrepreneurial in nature because of various historical issues, such as apartheid in South Africa and communism in Poland, both preventing the majorities in their respective societies from considering entrepreneurship as an option or acting entrepreneurially, for decades.

With regard to entrepreneurial support it is clear that government policies, that is, involvement and visibility in both Poland and South Africa need to be improved. A concerted effort, positive approach, visibility and accessibility of government support would enhance entrepreneurial intention and entrepreneurial activity in both countries.

Following the results of the subjective norm (SV and CV combined) and in relation to the recommendation for further research to determine the effect of different cultures and values on EI, it would seem that the use of the EIQ might be problematic in cross-cultural studies.

The results of this study also confirmed the EIQ of Liñán and Chen (2009) as a valid instrument for testing entrepreneurial intention.

A recommendation for further studies would be that some items referring specifically to entrepreneurial self-efficacy should be removed or adapted because of

the similarity of ESE to PBC. As mentioned previously, the factor, entrepreneurial self-efficacy, did not prove to be unidimensional in the CFA.

This study could be expanded to include other countries and also to compare the results of different countries and types of participants, that is, undergraduate students, employed individuals and unemployed individuals.

## References

Adjasi, C. & Rantseli, P. 2011. The role of procurement in promoting historically disadvantaged SMMEs: evidence from Ekurhuleni Municipality. Master's dissertation, Stellenbosch University, Stellenbosch.

Adly, A. & Khatib, L. 2014. Reforming the entrepreneurship ecosystem in post-revolutionary Egypt and Tunisia. [Online] Available at: http://iis-db.stanford.edu/pubs/24614/Reforming_the_Entrepreneurship_Ecosystem_in_Post-Revolutionary_Egypt_and_Tunisia-_Amr_Adly.pdf. Accessed: 5 June 2015.

Ahktar, N., Azeem, S.M. & Mir, G.M. 2014. 'Strategic role of internet in SMEs growth strategies', *International Journal of Business Management and Economic Research*, 5(2):20–27.

Ajzen, I. 1991. 'The theory of planned behaviour', *Organisational Behavior and Human Decision Processes,* 50(2): 179–211.

Ajzen, I. 2002. 'Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behaviour', *Journal of Applied Social Psychology*, 32(4).

Ajzen, I. 2006. Constructing a TPB questionnaire: conceptual and methodological considerations. [Online] Available at: http://www.unix.oit.umass.edu~aizen/pdf/ tpb. measurement. Accessed: 25 June 2008.

Bandura, A. 1997. *Self-efficacy: the exercise of control.* New York: Freeman.

Bawuah, K., Buame, S. & Hinson, R. 2006. 'Reflections on entrepreneurship education in African tertiary institutions', *Acta Commerci*. [Online] Available at: http://actacommercii.co.za/index.php/acta/article/viewFile/78/78. Accessed: 26 May 2015.

Bentler, P.M. 1990. 'Comparative fit indexes in structural models', *Psychological Bulletin*, 107: 238–246.

Blackburn, R.A., Hart, M. & Wainwright, T. 2013. 'Small business performance: business, strategy and owner-manager characteristics', *Journal of Small Business and Enterprise Development,* 20(1): 8–27.

Byrne, B.M. 2013. *Structural equation modelling with AMOS: basic concepts, applications and programming.* 2nd edition. New York: Routledge.

Ferreira, J.J., Raposo, M.L., Rodrigues, R.G., Dinis, A. & Do Paço, A. 2012. 'A model of entrepreneurial intention', *Journal of Small Business and Enterprise Development*, 19(3): 424–440.

Fayolle, A. 2015. Entrepreneurship education in MBA programmes. Interview at EMLYON Business School. 18 March.

Furlan, A., Grandinetti, R. & Paggiaro, A. 2014. 'Unveiling the growth process: entrepreneurial growth and the use of external resources', *International Journal of Entrepreneurial Behaviour & Research*, 20(1): 20–41.

Gird, A. & Bagraim, J.J. 2008. 'The theory of planned behaviour as predictor of entrepreneurial intent amongst final-year university students', *South African Journal of Psychology,* 38(4).

Hair, J.F., Black, B., Babin, B., Anderson, R.E. & Tatham, R.L. 2010. *Multivariate data analysis: a global perspective.* Upper Saddle River, NJ: Pearson Education.

Harrington, D. 2009. *Confirmatory factor analysis.* New York: Oxford University Press.

Herrington, M., Kew, J. & Kew, P. 2015. GEM South Africa report. [Online] Available at: http://www.gemconsortium.org/download@file. Accessed: 27 January 2016.

Honig, B. 2004. 'Entrepreneurship education: toward a model of contingency-based business planning', *Academy of Management Learning and Education*, 3(3): 258–273.

House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W. & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: the GLOBE Study of 62 Societies*. London: Sage.

Iakovleva, T., Kolvereid, L. & Stephan, U. (2011). 'Entrepreneurial intentions in developing and developed countries', *Education and Training*, 53(5): 353–370.

Kelley, D., Singer, S. & Herrington, M. 2016. Global Entrepreneurship Monitor 2015/16 Global Report. [Online] Available at: www.gemconsortim.org. Accessed: 15 February 2016.

Kelloway, E.K. 1998. *Using LISREL for structural equation modelling: a researcher's guide.* Thousand Oaks, CA: Sage.

Krueger, N.F., Reilly, M.D. & Carsrud, A.L. 2000. Competing models of entrepreneurial intentions, *Journal of Business Venturing.* 15(5-6), 411-432.

Ladzani, W. & Netswera, G. 2009. 'Entrepreneurial support for rural small businesses in Limpopo Province, South Africa', *Development Southern Africa,* 26(2): 225–239.

Ladzani, M.L., Nieuwenhuizen, C. & Nhlapo, S. 2011. 'Factors that influence the success of small businesses in the Kroonstad area'. *Journal of Public Administration,* 46(4): 1459–1478.

Liñán, F. 2004. Intention-based models of entrepreneurship education, *Picolla Impressa/ Small Business,* (3): 11–35.

Liñán, F. & Chen, Y.W. 2006. Testing the entrepreneurial intention model on a two-country sample. [Online] Available at: http://www.recercat.net/bitstream/2072/2213/1/ UABDT06-7.pdf. Accessed: 28 August 2007.

Liñán, F. & Chen, Y.W. 2009. 'Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions', *Entrepreneurship Theory and Practice*, 33(3): 593–617.

Liñán, F., Nabi, G. & Krueger, N. 2013. 'British and Spanish entrepreneurial intentions: a comparative study', *Revista de Economía Mundial,* 33: 73–103.

Liñán, F., Rodríguez-Cohard, J.C. & Rueda-Cantuche, J.M. 2005. Factors affecting entrepreneurial intentions. Paper presented at the 45th congress of the European Regional Science Association, Amsterdam, 23–25 August.

Liñán, F., Rodríguez-Cohard, J.C. & Rueda-Cantuche, J.M. 2011a. 'Factors affecting entrepreneurial levels: a role for education', *International Entrepreneurship Management Journal*, 7.

Liñán, F., Urbano, D. & Guerrero, M. 2011b. 'Regional variations in entrepreneurial cognitions: start-up intentions of university students in Spain', *Entrepreneurship and Regional Development*, 23(3, 4): 187–215.

Malebana, M.J. 2012. Entrepreneurial intent of final-year commerce students in the rural provinces of South Africa. Unpublished doctoral thesis, University of South Africa, Pretoria.

McGee, J.E., Peterson, M., Mueller, S.L. & Sequeira, J.M. 2009. 'Entrepreneurial self-efficacy: refining the measure', *Entrepreneurship Theory and Practice,* July: 965–988.

Millan, J.M., Congregado, E., Roman, C., Van Praag, M. & Van Stel, A. 2014. 'The value of an educated population for an individual's entrepreneurship success', *Journal of Business Venturing*, 29: 612–632.

Mitra, R. & Pingali, V. 2009. 'Analysis of growth stages in small firms: a case study of automobile ancillaries in India', *Journal of Small Business Management,* 1: 69–75.

Nieuwenhuizen, C., Groenewald, D., Schachtebeck, C., Davids, J. & Janse van Rensburg, L. 2015. Entrepreneurship undergraduate and postgraduate game changing initiatives in the private sector management and leadership hub. Unpublished report for the Global Excellence and Stature Project of the Faculty of Management, University of Johannesburg.

Nieuwenhuizen, C. & Swanepoel, E. 2015. 'Comparison of the entrepreneurial intent of master's business students in developing countries: South Africa and Poland', *Acta Commercii* 15(1).

Polakowski, M. 2012. Youth unemployment in Poland, Friedrich Ebert Stiftung, Berlin.

Porter, M., Sachs, J. & McArthur, J. 2002. Executive summary: competitiveness and stages of economic development. In M. Porter, J. Sachs, P.K. Cornelius, J.W. McArthur & K. Schwab. (Eds.). *The Global Competitiveness Report 2001–2002:*16–25. New York: Oxford University Press. [Online] Available at: http://www.isc.hbs.edu/competitiveness-economic-development/frameworks-and-key-concepts/Pages/shapes-of-development.aspx. Accessed: 27 January 2016.

Raposo, M., Ferreira, J., Do Paco, A. & Rodrigues, R. 2008. 'Propensity to firm creation: empirical research using structural equations', *International Entrepreneurship Management Journal*, 4(4): 485–504.

Reddy, M. 2007. 'Small business in small economies: constraints and opportunities for growth', *Social and Economic Studies,* 56(1, 2): 304–321.

Shapero, A. & Sokol, L. 1982. The social dimension of entrepreneurship. In C.A Kent, D.L. Sexton, & K.H. Vester (Eds.). *The encyclopaedia of entrepreneurship.* Englewood Cliffs, NJ: Prentice-Hall.

Singer, S., Amorós J.E. & Moska D. 2015. Global entrepreneurship monitor 2014 global report. [Online] Available at: http://www.babson.edu/Academics/centers/blank-center/

global-research/gem/Documents/GEM%202014%20Global%20Report.pdf. Accessed: 27 January 2016.

Statistics South Africa, 2013. Quarterly labour force survey, Quarter 3, 2013. Statistical release P0211. [Online] Available at: http://www.statssa.gov.za. Accessed: 11 November 2013.

Van Stel, A., Carree, M. & Thurik, R. 2005. 'The effect of entrepreneurial activity on national economic growth', *Small Business Economics*, 24(3): 311–321.

Wang, W., Lu, W. & Millington, J.K. 2011. 'Determinants of entrepreneurial intention among college students in China and USA', *Journal of Global Entrepreneurship Research,* 1(1).

Wennekers, S., Van Stel, A., Carree, M. & Thurik, A.R. 2010. 'The relationship between entrepreneurship and economic development: is it U-shaped? *Foundations and Trends in Entrepreneurship*, 6(3): 167–237.

World Economic Forum. 2016. *The Global Competitiveness Report 2015–2016*. [Online] Available at: www.weforum.org/reports/global-competitiveness-report-2015-2016. Accessed: 28 April 2016.

Wu, S. & Wu, L. 2008. 'The impact of higher education on entrepreneurial intentions of university students in China', *Journal of Small Business and Enterprise Development*, 15(4).

Yang, J. 2013. 'The theory of planned behaviour and prediction of entrepreneurial intention among Chinese undergraduates', *Social Behavior and Personality,* 41(3): 367–376.