

# Modelling the significance of social support and entrepreneurial skills for determining entrepreneurial behaviour of individuals

## A structural equation modelling approach

Muhammad Shoaib Farooq  
*Institute of Business and Management,  
University of Engineering and Technology,  
Lahore, Pakistan*

### Abstract

**Purpose** – Although entrepreneurial behaviour is considered a key element for economic development, yet very less is known about the determinants of factors leading towards entrepreneurial intention and behaviour. In order to bridge this gap, the purpose of this paper is to investigate the role of social support and entrepreneurial skills in determining entrepreneurial behaviour of individuals. Developing on the base of the theory of planned behaviour (TPB), this study investigates the relationship between social support, entrepreneurial skills and entrepreneurial behaviour along with existing constructs of the TPB (i.e. attitude, subjective norms, perceived behavioural control and entrepreneurial intention).

**Design/methodology/approach** – Data was collected from 281 respondents using a simple random sampling method, and the variance-based partial least-squares, structural equation modelling (PLS-SEM) approach was used for testing the proposed conceptual model.

**Findings** – Findings of this study have validated the proposed model, which have an explanatory power of 68.3 per cent. Moreover, findings reveal that social support and entrepreneurial skills have a significant impact on entrepreneurial intention of individuals. However, an unanticipated and non-significant relation between subjective norms and entrepreneurial intention is also found.

**Research limitations/implications** – Due to the limited scope of this study, a multi-group analysis is not possible, which is considered as a limitation of this study. Moreover, due to time constraints, this study is conducted within a specified time-frame; however, a longitudinal study over a period of three to six years can overcome this limitation.

**Practical implications** – Findings of this study are expected to have substantial implications for policy makers, future researchers and academicians. Outcomes of this study can help to better understand the cognitive phenomenon of nascent entrepreneurs. Moreover, it is expected that this study can serve as a torch-bearer for policy makers to develop better entrepreneurial development programmes, policies and initiatives for promoting self-employment behaviour.

**Originality/value** – Findings of this study are a unique step forward and offer new insights towards a better understanding of the determinants of entrepreneurial behaviour. Moreover, this study extends Ajzen's (1991) TPB in the context of entrepreneurial behaviour. By introducing and investigating the impact of two new variables, i.e. social support and entrepreneurial skills in the TPB and by validating the proposed model with PLS-SEM approach, this study makes a sizeable theoretical, methodological and contextual contribution in the overall body of knowledge.

**Keywords** Entrepreneurial intention, Theory of planned behaviour, PLS-SEM, Entrepreneurship education, Entrepreneurial behaviour, Entrepreneurship skills, Social Support

**Paper type** Research paper



## Introduction

Entrepreneurial behaviour is a result of cognitive process; several studies have frequently applied Ajzen's (1991) theory of planned behaviour (TPB) to explain the decision making process, which leads to the creation of a new business ventures (Farooq, 2016). Particularly, authors such as Farooq, Salam, Fayolle, Jaafar and Ayupp (2018), Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp (2018), Krueger (2007), Krueger *et al.* (2000), Heuer and Kolvereid (2014), Iakovleva *et al.* (2011), Kolvereid (1996a), Fayolle *et al.* (2006), Fayolle and Gailly (2008) Liñán and Santos (2007) and Liñán (2004, 2008) used TPB for analysing the entrepreneurial intentions and entrepreneurial decision making process. Somehow these studies agree that the intention to choose self-employment depends on characters' personal attitude, perceived behavioural control towards entrepreneurship and the effect of perceived subjective norms towards entrepreneurship (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). Despite this, there is still much to be explored regarding the way in which entrepreneurial intention is formed (Salam *et al.*, 2017). Authors such as Farooq, Salam, Fayolle, Jaafar and Ayupp (2018), Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp (2018), Liñán and Santos (2007) and Davidson and Honig (2003) argue that personal beliefs and social values affect the motivational drive towards becoming an entrepreneur. Hence, if the social environment is more supportive towards the entrepreneurial activity, it is plausible that an individual will be more inclined towards choosing self-employment as a career option (Farooq *et al.*, 2017). Similar to the external environment, personal attributes of an individual may also affect entrepreneurial intention (Burger-Helmchen, 2012). This study argue, that entrepreneurship is different from other human behaviours (e.g. eating, sleeping, smoking and travelling behaviour); there is a strong reason to believe that entrepreneurial behaviour requires special skills (entrepreneurial skills), whereas any special skills are definitely not required for smoking behaviour (Farooq, 2016). Further, entrepreneurial behaviour requires social support because business, being an economic activity, cannot be performed in isolation, unlike sleeping or eating behaviour (Farooq *et al.*, 2017). Further in the same context, this study argues that entrepreneurial activity requires way more resources (such as financial resources, human resources, information resources, etc.) than any other behavioural aspect (Farooq, 2016). Unfortunately, previous studies have been treating entrepreneurial behaviour similar to other human behaviours (e.g. sleeping, eating, smoking and travelling, etc.) which do not require much social support and skills (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). Moreover, this study argues that entrepreneurial skills and social support can influence entrepreneurial behaviour of individuals.

There is a probability of a strong connection between entrepreneurial skills and perceived behavioural control towards entrepreneurship (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). Moreover, it is argued that individuals having a strong grip on specific entrepreneurial skills will probably feel more confident to start their own business, instead of working for any other organisation (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). Other than this, it can also be argued that a strong grip on entrepreneurial skills would also be associated with a higher attitude towards entrepreneurship (Salam *et al.*, 2017). Yet, it is unfortunate that the literature on entrepreneurship is generally underdeveloped and there is little research on this topic to inform us about the significance of entrepreneurial skills and other initiatives of social support (Adomako *et al.*, 2016; Bayon *et al.*, 2015; Martin *et al.*, 2013; Weaver *et al.*, 2006; Zhao, 2012). In this aspect, this study argues that social support and entrepreneurial skills are essential for strong entrepreneurial behaviour. This study is a contribution to the literature of entrepreneurship, through theory building in a relatively less-developed area of entrepreneurship literature. In addition to this, this study is an effort to answer the call for more research by various scholars in the field of entrepreneurship (e.g. Brink and Madsen, 2015;

Bruni and Perrotta, 2014; Farooq, 2016; Gorman *et al.*, 1997; Martin *et al.*, 2013; Weaver *et al.*, 2006; Zhao, 2012) for more methodological, empirical and rigorous studies, to address a broad research question, of weather and up to what extent entrepreneurial skills and social support are significant in creating new entrepreneurs.

### **Theoretical background: literature review**

For assessing entrepreneurial behaviour, Ajzen's (1991) TPB has been applied in a number of studies (e.g. Bansal and Taylor, 2002; Heuer and Kolvereid, 2014; Kolvereid, 1996a; Krueger *et al.*, 2000; Luthje and Franke, 2003; Souitaris *et al.*, 2007; Van-Gelderen *et al.*, 2008). The efficacy of the TPB has received a considerable attention in various fields of studies, especially in social sciences (e.g. Ayob *et al.*, 2013; Davidson and Honig, 2003; Liñán and Santos, 2007), health sciences (e.g. Bansal and Taylor, 2002; Blue *et al.*, 2008) and entrepreneurship education (e.g. Bae *et al.*, 2014; Colombelli, 2015; Deakins *et al.*, 2008; Farooq, 2016; Farooq *et al.*, 2016; Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018; Liñán and Rodríguez-Cohard, 2015; Schlaegel and Koenig, 2014). Recent studies by Heuer and Kolvereid (2014) have revealed that Ajzen's (1991) TPB may be used to predict the intention of potential entrepreneurs. Its high predictability validates and increases the significance of the TPB for future researchers in the field of entrepreneurship (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). As demonstrated by its name, the TPB argues that (planned) attitudes lead to intentions, and after that intentions lead to behavioural outcomes. While individually testing each variable, Krueger *et al.* (2000) reported a non-significant relationship between subjective norms and intention to become an entrepreneur. However, many other scholars (e.g. Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018; Van-Gelderen *et al.*, 2008) reported a positive relationship between subjective norms and entrepreneurial intention. Although these studies are not directly comparable, even then most of their findings are very close to the results reported by Armitage and Conner (2001).

In this regard, Conner and Armitage (1998) also call for further studies to investigate the role of additional constructs which might be added to enhance the predictive power of the TPB. Indeed, Ajzen (1991) himself notes that "The theory of planned behaviour is, in principle, open to inclusion of additional predictors if it can be shown that they capture a significant proportion of the variance in intention or behaviour; after the theory's current variables have been taken account" (p. 199). It is a fact that the TPB has provided a parsimonious account of major determinants of human behaviour. Therefore, this study is an effort to provide theoretical description and role of additional variables (i.e. social support and entrepreneurial skills) in the context of entrepreneurial behaviour.

### *Concept of social support*

According to Wills (1985, 1991), social support refers to people perception and actuality, that they are valued, cared for and are part of a supportive social network; moreover, they can get support from their social network whenever they need it. In this regard, Langford *et al.* (1997) suggest that, the presence of social support gives a sense of secure feeling which helps people in making better decisions and leading a stress-less life. Furthermore, they acknowledge that social support can be in a variety of different forms, such as emotional support, tangible support (e.g. financial assistance), informational support (e.g. sharing valuable knowledge) and companionship (e.g. intangible support). Various scholars have identified a variety of sources for social support such as family, friends, colleagues, neighbours, community organisations, etc. (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). According to Farooq *et al.* (2017) and Kristiansen and Indarti (2004), a socially supportive environment not only boosts

entrepreneurial intention, but it also paves the way for potential entrepreneurial behaviour in budding entrepreneurs. Therefore, this study assumes that there is a strong link between social support and entrepreneurial behaviour of individuals. In this regard, this study is an effort to better understand that how social support affects entrepreneurial behaviour.

### *Concept of entrepreneurial skills*

The perception about entrepreneurial skills indicates the self-confidence of respondents about certain skills which are critical for being an entrepreneur (Farooq, 2016). It is expected that, a high level of entrepreneurial skills will positively influence the personal attitude towards entrepreneurship, subjective norms and perceived behavioural control (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). According to Liñán (2008), the perception towards entrepreneurial skills indicates that respondents are how much confident about their possession of entrepreneurial skills which are required for founding a new business (p. 261). Further, in this regard, he argues that certain skills are required for any individual to become an entrepreneur, and these skills can be categorised as entrepreneurial skills. For the purpose of this study, entrepreneurial skills are adapted from numerous previous studies (e.g. Boyd and Vozikis, 1994; Chen *et al.*, 1998; Delmar and Davidsson, 2000; Denoble *et al.*, 1999; Liñán, 2008). According to Denoble *et al.* (1999), the possession of entrepreneurial skills could increase individuals' confidence level and it makes them feel more able to start their own business. They argue that these entrepreneurial skills could be exercised in a better way as an entrepreneur, because the possession of entrepreneurial skills increases personal self-efficacy of potential entrepreneurs. Moreover, Salam *et al.* (2017) and Scherer *et al.* (1991) assert that having possession of entrepreneurial skills gives internal motivation and desire to excel; as a result, perceived chances of success as an entrepreneur become higher for those who possess entrepreneurial skills. Further in this regard, Liñán (2008) argues that entrepreneurial skills have a positive relation with personal attraction towards entrepreneurship. In this regard, Farooq *et al.* (2017) and Carsrud (1992) claim that the possession of entrepreneurial skills has a psychological effect on individuals' attitude, which empowers and leads a person towards entrepreneurial behaviour in future. On the basis of above discussion, this study assumes that there is a probability of high correlation between entrepreneurial skills and entrepreneurial behaviour.

## **Conceptual framework and hypotheses development**

### *Social support*

Shiri *et al.* (2012) suggest that having a perception of social support could play a positive role in developing entrepreneurial culture. According to Pruett *et al.* (2009), social support has a significant effect on individuals' confidence level (perceived behavioural control) and it positively affects entrepreneurial intention. Furthermore, Ismail *et al.* (2009) also support this argument on the base of their findings from a survey of students' intention towards entrepreneurship and reported a significant impact of social networks. However, Shiri *et al.* (2012) argue that social support have an indirect effect on entrepreneurial intention of individuals. They argue that the presence of social support indirectly effects entrepreneurial ignition level. They suggest that social support directly effects the "perceived desirability towards entrepreneurship" (entrepreneurial attitude) which, later on, positively affects entrepreneurial intentions.

Moreover, Kristiansen and Indarti (2004) find that a socially supportive environment not only boosts entrepreneurial intention but it also paves the way towards entrepreneurial behaviour for budding entrepreneurs. Furthermore, they claimed that entrepreneurial activities involve a certain level of risk and stress which can be buffered with a healthy social support from community. Davidson and Honig (2003) suggest that entrepreneurship is a social activity which requires much frequent interaction with the social environment

than any other activity. Therefore, it is plausible that a positive support from the social environment can encourage entrepreneurial behaviour among people (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). However, Schwarz *et al.* (2009) assert that if social environment is not favourable and supportive for entrepreneurial activities, people will have low entrepreneurial behaviour despite having a high entrepreneurial intention. On the basis of these logical relations drawn from literature review, this study hypothesises that:

- H1a. Social support positively affects attitude towards entrepreneurship.
- H1b. Social support positively affects perceived behavioural control.
- H1c. Social support positively affects entrepreneurial intention.
- H1d. Social support positively affects entrepreneurial behaviour.

#### *Entrepreneurial skills*

According to Liñán (2008), the perception towards entrepreneurial skills indicates that respondents are how much confident about their possession of entrepreneurial skills which are required for founding a new business. In this regard, he further argues that certain skills are required for any individual to become an entrepreneur, and these skills can be categorised as entrepreneurial skills (Farooq, Salam, Fayolle, Jaafar and Ayupp, 2018; Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp, 2018). For the purpose of this study, entrepreneurial skills are adapted from numerous previous studies (e.g. Boyd and Vozikis, 1994; Chen *et al.*, 1998; Delmar and Davidsson, 2000; Denoble *et al.*, 1999; Liñán, 2008). Moreover, Denoble *et al.* (1999) argue that the possession of these entrepreneurial skills could increase individuals' confidence level and can make them feel more able to start their own business. Further, they argue that these entrepreneurial skills could be exercised in a better way as an entrepreneur because the possession of these skills increases personal self-efficacy of potential entrepreneurs.

According to Scherer *et al.* (1991), having possession of entrepreneurial skills gives an internal motivation and desire to excel. As a result, perceived chances of success as an entrepreneur become higher for skilled people, as compared to those who do not possess entrepreneurial skills. Further in this regard, Liñán (2008) argues that entrepreneurial skills have a positive relation with personal attraction towards entrepreneurship. Moreover, Carsrud (1992) claims that the possession of entrepreneurial skills has a psychological effect on individuals' attitude, which empowers and leads a person towards entrepreneurial behaviour in future. Thus, based on this discussion generated from the findings of previous studies (e.g. Boyd and Vozikis, 1994; Carsrud, 1992; Liñán, 2008; Scherer *et al.*, 1991), entrepreneurial skills can be associated with entrepreneurial attitude, perceived behavioural control and entrepreneurial intention. In this context, this study hypothesises that:

- H2a. Entrepreneurial skills positively affect attitude towards entrepreneurship.
- H2b. Entrepreneurial skills positively affect perceived behavioural control.
- H2c. Entrepreneurial skills positively affect entrepreneurial intentions.
- H2d. Entrepreneurial skills positively affect entrepreneurial behaviour.

#### *Attitude towards entrepreneurship*

According to Ajzen (1991), attitude refers to the personal beliefs, which people hold about any given object or behaviour (p. 191). Further, he notes that beliefs about any object or behaviour are formed by certain attributes which are associated with them. As a result of

strong beliefs, people develop their attitude towards a given behaviour. In addition to this, a meta-analysis of the entrepreneurship literature by Armitage and Conner (2001) revealed that attitude towards entrepreneurship have highest predictive power for entrepreneurial intention, explaining more than 50 per cent of total variance. Further, Kim and Hunter (1993) reported that attitude towards entrepreneurship has a strong relationship with the perceived intention level. According to Robinson *et al.* (1991), personal attitude is responsible for individuals' liking or disliking, and as a result, it increases the likelihood of performing a given behaviour. On the basis of this logical relationship between attitude and intention, this study hypothesises that:

*H3a.* Attitude towards entrepreneurship positively affects entrepreneurial intention.

*H3b.* Attitude towards entrepreneurship positively affects entrepreneurial behaviour.

#### *Subjective norms*

According to Ajzen (1991), subjective norms refer to an individual's normative beliefs towards the opinion of other people around. As mentioned in previous section, subjective norms remained controversial in previous studies of entrepreneurial intention. In this regard, Heuer and Liñán (2013) argue that previous studies which used simplified measurement scales (e.g. Autio *et al.*, 2001) or single item scales (e.g. Krueger *et al.*, 2000) reported that subjective norms have an insignificant impact on entrepreneurial intention. Contrary to this, those studies which used multi-item scales, covering all dimensions of subjective norms (e.g. Kolvereid, 1996b; Kolvereid and Isaksen, 2006; Tkachev and Kolvereid, 1999; Van-Gelderen *et al.*, 2008), reported that subjective norms have a significant impact on entrepreneurial intentions.

Moreover, Heuer and Liñán (2013) argue that subjective norms capture the opinion of social believes, and given this fact that entrepreneurship is a social activity, subjective norms are considered an important predictor of entrepreneurial intention. Further in this regard, they suggest that subjective norms need to be explored in more depth for resolving controversies reported by previous studies. Another study by Van-Gelderen *et al.* (2008) reports that subjective norms are significant for entrepreneurial decision making process. Moreover, they argue that becoming an entrepreneur is a major decision of one's life. While choosing a career path, majority of individuals take advice from their parents, spouse and friends. In this way, the opinions of parents, spouse and friends might be influential for potential entrepreneurs. Based on this logical connection derived from the literature, this study hypothesises that:

*H4a.* Subjective norms positively affect attitude towards entrepreneurship.

*H4b.* Subjective norms positively affect perceived behavioural control.

*H4c.* Subjective norms positively affect entrepreneurial intention.

#### *Perceived behavioural control*

According to Ajzen (1991), the perceived ease or difficulty attached with a behaviour influences intention to perform it. If a task is perceived as very easy to perform, there is a high likelihood that people will perform that task. This phenomenon is referred as perceived behavioural control. Previous studies on entrepreneurial intention (e.g. Kolvereid, 1996a; Krueger *et al.*, 2000; Van-Gelderen *et al.*, 2008; Wilson *et al.*, 2007) also reported empirical evidence of relationship between perceived behavioural control and entrepreneurial intention. Hence, this study hypothesises that:

*H5a.* Perceived behavioural control positively affects entrepreneurial intention.

*H5b.* Perceived behavioural control positively affects entrepreneurial behaviour.

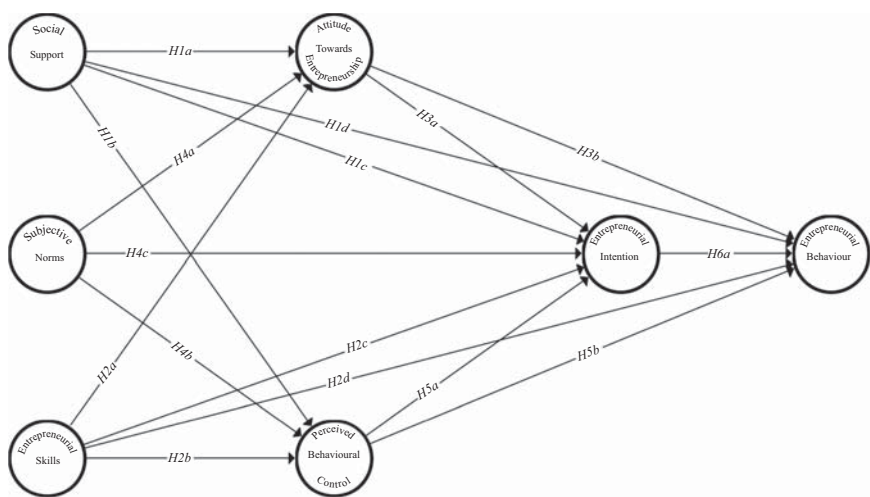
*Entrepreneurial intention*

Krueger and Carsrud (1993) argue that entrepreneurial behaviour is an intentional decision, which requires much deliberation and formal planning of resources. Furthermore, they argue that intentions are the best predictors of entrepreneurial behaviour. According to Ajzen (1991), intentions are assumed to reflect the motivational factors which influence any planned behaviour. Thus, intentions are a true indicator of how badly an individual is willing to perform a planned behaviour. In other words, intention is the main and immediate antecedent of any planned behaviour (Ajzen, 1991; Fishbein and Ajzen, 2010; Kolvereid, 1996b, p. 48). Furthermore, Karali (2013) suggests that entrepreneurship is an intentionally planned behaviour, which justifies that becoming an entrepreneur requires conscious efforts which might be stemmed from high entrepreneurial intention. Thus, on the basis of above discussion, it can be expected that this positive relation between intentions and planned behaviours could be true for entrepreneurial behaviour as well; therefore, this study hypothesises that:

*H6. Entrepreneurial intention positively affects entrepreneurial behaviour.*

*Conceptual framework*

The proposed conceptual model of this study comprises of seven latent variables, out of which three are exogenous variables, and four are endogenous variables. These seven variables encompass of social support, entrepreneurial skills, attitude towards entrepreneurship, subjective norms, perceived behavioural control, entrepreneurial intention, and entrepreneurial behaviour. On the basis of logical theoretical relations and findings craved from an extensive literature review, this model proposes that attitude towards entrepreneurship is positively affected by social support, entrepreneurial skills and subjective norms. Further, perceived behavioural control is positively affected by social support, entrepreneurial skills and subjective norms. Furthermore, entrepreneurial intention is positively affected by social support, entrepreneurial skills, attitude towards entrepreneurship, subjective norms and perceived behavioural control. Moreover, entrepreneurial behaviour is positively affected by social support, attitude towards entrepreneurship, perceived behavioural control and entrepreneurial intention. The proposed conceptual model for this study is presented in Figure 1.



**Figure 1.**  
Proposed conceptual  
model for assessing  
the impact of social  
support and  
entrepreneurial skills  
on entrepreneurial  
behaviour

**Source:** Developed on the base of Ajzen (1991)

## Research methodology and approach

### *Sample size and data collection*

A self-administered questionnaire was used for data collection from 281 respondents. The sample size was determined on the base of review of previous related studies and suggestions of different researchers. For the purpose of this study, the sample unit is identified as participants of entrepreneurial skill training programs, with minimum age of 20 years. This particular segment is selected for understanding the impact of entrepreneurial skills and social support on the entrepreneurial behaviour of individuals.

### *Data analysis*

This study incorporates a variance-based partial least-squares (PLS) technique. PLS is a second-generation technique of data analysis, which comes under the umbrella of structural equation modelling. The use of PLS is becoming increasingly popular in social science due to its high predictability level. For the purpose of this study, the researcher decided to employ SmartPLS-3.2.6 (Ringle *et al.*, 2017) for all of PLS-related calculations in this study. This choice is based on the user friendly-interface of this application, availability of resources, backup support, nature of study, level of measurement, sample size, etc. (Chin and Newsted, 1999).

All measurement scales used in this study are selected from authentic sources and previously published studies such as Abebe (2012), Alsos and Kolvereid (1998), Kolvereid (1996b), Liñán (2008), Liñán and Chen (2009), Oosterbeek *et al.* (2010), Semrau and Werner (2014) and Sequeira *et al.* (2007), and are cross-checked from Farooq (2016), Karali (2013), Lorz (2011), Martin (2012) and Muller (2008). The complete list of measurement scales used in this study, along with their respective sources, is presented in Appendix.

## Research findings and results

As mentioned in the previous section, this study employs a self-administered questionnaire. The data collection process was undertaken over a period of five months in early 2015. A total of 450 questionnaires were sent in March 2015, and over a period of 5 months, 298 complete responses were recorded, yielding a response rate of 66.2 per cent. Out of 298 responses, 17 questionnaires were excluded in the screening process. Remaining 281 responses, which was a sufficient sample size for partial least-squares structural equation modelling (PLS-SEM) were used for the data analysis of this study.

### *Data screening and pre-analysis*

As part of the preparation for data analysis, a thorough screening process was conducted. Data was thoroughly tested for any possible statistical error of normality, outliers, missing values and demographic characteristics. Demographic characteristics of respondents are presented in Table I, which shows a balanced proportion from all segments and also confirms that our data is unbiased. Therefore, it is expected that the findings of this study present an impartial view of respondents' attitude and behaviour towards entrepreneurship.

### *Assessment of measurement models*

The conceptual model of this study involves both types of measurement models, i.e. formative measurement model as well as reflective measurement models. Out of seven total variables, two variables (i.e. social support and entrepreneurial intention) have formative measurement models, and five variables (i.e. attitude towards entrepreneurship, subjective norms, entrepreneurial skills, perceived behavioural control and entrepreneurial behaviour) have reflective measurement models. Statistical evaluation criteria for reflective measurement models is different from formative measurement models (Hair *et al.*, 2017). In the case of formative measurement models, the concept of internal consistency is



**Table I.**  
Demographic  
characteristics

	Frequency	Per cent
<i>Gender</i>		
Male	148	52.7
Female	133	47.3
<i>Current marital status</i>		
Single	83	29.5
Married without children	97	34.5
Married with children	101	35.9
<i>Highest education level</i>		
Secondary school	158	56.2
Undergraduate	95	33.8
Postgraduate	28	10.0
<i>Current employment status</i>		
Self-employed	61	21.7
Organisational employee	149	53.0
Unemployed	71	25.3
<i>Family/parents' occupation</i>		
Self-employed	146	52.0
Organisational employee	135	48.0
<i>Age group</i>		
20-30	158	56.2
30-40	114	40.6
40-50+	9	3.2
<i>Monthly household income</i>		
Below Rs10,000	89	31.7
Rs10,000-20,000	108	38.4
Rs20,000-30,000	33	11.7
Rs30,000-40,000	35	12.5
Rs40,000-50,000	12	4.3
More than Rs50,000	4	1.4

inappropriate (Chin, 1998) because items of formative measurement scale are likely to represent an independent cause and are not necessarily highly correlated with each other (Hair *et al.*, 2017), whereas items of reflective measurement models need to be correlated and should depict significant outer loadings (Hair *et al.*, 2017). For the purpose of this study, both reflective and formative measurement models were evaluated separately. Considering the guidelines of Hair *et al.* (2017), all reflective measurement models were analysed for reliability and validity of constructs, whereas formative measurement models were analysed for their convergent validity and discriminant validity. This section is aimed to discuss the evaluation of measurement models (outer models), starting with the assessment of reflective measurement models.

#### *Assessment of reflective measurement models*

Considering the guidelines of Hair *et al.*'s (2017) and Henseler *et al.*'s (2009) constructs with reflective measurement scales (i.e. attitude towards entrepreneurship, subjective norms, entrepreneurial skills, perceived behavioural control and entrepreneurial behaviour) were separately analysed. The assessment of reflective measurement models involved, composite reliability and Cronbach's  $\alpha$  for evaluating internal consistency of constructs, average variance extracted (AVE) value for evaluating convergent validity of constructs. Moreover,

Fornell-Larcker's criterion and cross-loadings were also used for evaluating the discriminant validity of reflective constructs. As per the results, all values of composite reliability and Cronbach's  $\alpha$  are higher than 0.70. The complete list of composite reliability and Cronbach's  $\alpha$  values for all reflective measurement models is presented in Table II, which demonstrate the strong internal consistency of reflective measurement models.

AVE for all reflective constructs was calculated to assess their convergent validity. Findings depict that all AVE values are higher than 0.50 threshold level. Please refer to Table II for complete list of AVE values. Moreover, Hair *et al.* (2017) suggest Fornell-Larcker's criterion for evaluating the discriminant validity of constructs which have reflective measurement models. It involves the comparison of the square root of AVE values with the correlation values of other latent variables. As per the rule of thumb, the square root of AVE should be higher than the value of highest correlation with any other construct (Chin, 2010; Hair *et al.*, 2017). The researcher have calculated Fornell-Larcker's criterion, and its results demonstrate the discriminant validity of reflective measurement models. The calculation of Fornell-Larcker's criterion is presented in Table III.

Another test for discriminant validity of reflective constructs was performed by evaluating the cross-loadings of constructs' indicators. As a rule of thumb, indicators should have highest loading on their own underlying latent construct as compared to other variables involved in the model (Hair *et al.*, 2017). The complete list of cross-loadings of all indicators of each construct is presented in Table IV.

As per the findings presented in Table IV, all indicators (measurement scale items) have a higher loading on their respective underlying latent construct as compared to loading on any other construct involved in the model. Hence, these findings meet the cross-loadings evaluation criteria and provide a satisfactory evidence for the discriminant validity of the reflective measurement models. Now, the discussion continues with the assessment of formative (i.e. social support, and entrepreneurial intention) constructs involved in this study.

#### *Assessment of formative measurement models*

The evaluation process for formative constructs is different from reflective constructs (Chin, 2010; Hair *et al.*, 2017; Henseler *et al.*, 2009). The logic behind this notion is that all formative measurement models are likely to represent an independent cause for underlying latent variable; thus, formative indicators do not have a high correlation among measurement scale items. Moreover, convergent validity calculation is also different for formative measurement models (Chin, 1998; Hair *et al.*, 2017). As mentioned in the previous section, this study involves two formative constructs (i.e. social support and entrepreneurial intention). In order to establish convergent validity the magnitude of path coefficient (correlation) between both formative constructs, i.e.  $SS^{\text{formative}} \rightarrow SS^{\text{reflective}}$  and  $EI^{\text{formative}} \rightarrow EI^{\text{reflective}}$ , was assessed. As per the rule of thumb, the correlation value between  $Y^{\text{formative}} \rightarrow Y^{\text{reflective}}$  should be 0.80 or higher for determining convergent validity of formative constructs (Chin, 1998; Hair *et al.*, 2017). Results demonstrate that path coefficient values between  $SS^{\text{formative}} \rightarrow SS^{\text{reflective}}$  and  $EI^{\text{formative}} \rightarrow EI^{\text{reflective}}$  are higher than the threshold of 0.80, which fulfils the criteria described by Chin (1998). Thus, both formative measurement models (i.e. social support and entrepreneurial intention) have a sufficient degree of convergent validity. Further, outer weights (relative importance) of formative indicators were also assessed for establishing relative importance of indicators for their underlying latent constructs. The complete list of outer weights of all formative indicators is provided in Table V.

Considering the guidelines of Hair *et al.* (2017) and Henseler *et al.* (2016), these outer weight values were assessed for their significance also. Findings depict that all formative constructs have a significant and positive outer weight. It proves that all indicators of formative

**Table II.**  
Reliabilities,  
convergent and  
discriminant validities,  
and correlations

	Cronbach's $\alpha$	AVE	Composite reliability	ATE	EB	EI	ES	PBC	SN	SS
ATE	0.8213	0.5852	0.8751	1						
EB	0.9634	0.5775	0.9663	0.6099	1					
EI	—	—	—	0.5338	0.7248	1				
ES	0.8608	0.512	0.8922	0.5974	0.669	0.5815	1			
PBC	0.8477	0.5687	0.8875	0.5027	0.618	0.5341	0.5118	1		
SN	0.8504	0.5717	0.8888	0.3366	0.4817	0.3919	0.3982	0.5314	1	
SS	—	—	—	0.4553	0.6728	0.5796	0.5553	0.5143	0.3378	1

**Note:** Shaded columns represent formative constructs

measurement models have met the criteria for establishing their relevance and significance. On the basis of the above discussion, the suitability of formative constructs is also established and overall assessment of formative measurement models demonstrate acceptable results to proceed with the evaluation of the structural model. Hereafter, the discussion continues with the assessment of structural model (inner model) in the next section.

### Assessment of the structural model

Findings of the measurement model evaluation confirmed that all reflective and formative measurement models are reliable and valid, and now this section is aimed to evaluate the structural model, which is also known as inner model. The evaluation of structural model involves the assessment of predictive capabilities and the significance of relationships (path coefficients) between constructs of the structural model. Considering the guidelines of Hair *et al.*'s (2017) assessment of the structural model started with the evaluation of path coefficient values. The path coefficient values of the proposed structural model are presented in Figure 2.

The analysis of the measurement model (outer model) and the structural model (inner model) suggests that the proposed theoretical model is fit to proceed with hypothesis testing. Findings of the structural model demonstrate that, except the weak relationship of subjective norms, all other hypothesised path relations are positive and significant. For the ease of readers, a summarised view of hypothesis testing is presented in Table VI.

Results show that all path coefficient values are positive and range between 0.071 and 0.469. The highest path coefficient values are between entrepreneurial skills to attitude towards entrepreneurship ( $\beta = 0.469$ ), and between entrepreneurial intention to entrepreneurial behaviour ( $\beta = 0.359$ ), whereas lowest path coefficient values are between subjective norms to attitude towards entrepreneurship ( $\beta = 0.095$ ), and between subjective norms to entrepreneurial intention ( $\beta = 0.071$ ). These findings depict that all path coefficient values are positive, but there is a noticeable variance in the magnitude and strength of relationship among constructs of the structural model. Whether a path coefficient value is significantly different from zero or not ultimately depends on the *t*-values. Considering the guidelines of Hair *et al.* (2017), this study involved 5,000 samples for the bootstrapping routine. It must be noted that this study observes the rule of *t*-value  $> 1.96$  and  $p < 0.05$  for analysing the significance level of path coefficients. Through the overall analysis of *t*-values, it is determined that the majority of path coefficient values are significant at  $p < 0.01$  and  $p < 0.05$ , except the relation between subjective norms to attitude towards entrepreneurship and the relation between subjective norms to entrepreneurial intention.

As depicted in Figure 2,  $R^2$  values range between 0.386 and 0.682, and all of them are significant at  $p < 0.05$ , which depicts an adequate fit of model to the data. The highest and close to highest  $R^2$  values, 0.682 and 0.490, belong to entrepreneurial behaviour and

	ATE	EB	EI	ES	PBC	SN	SS
ATE	<i>0.7650</i>						
EB	0.6099	<i>0.7599</i>					
EI	0.5338	0.7248	–				
ES	0.5974	0.6690	0.5815	<i>0.7156</i>			
PBC	0.5027	0.6180	0.5341	0.5118	<i>0.7542</i>		
SN	0.3366	0.4817	0.3919	0.3982	0.5314	<i>0.7561</i>	
SS	0.4553	0.6728	0.5796	0.5553	0.5143	0.3378	–

**Notes:** Values in italics are square root of AVE; shaded columns represent formative constructs with no AVE value

**Table III.**  
Fornell-Larcker  
criterion (square root  
of AVE compared to  
the construct  
correlations)

	ATE	EB	EI	ES	PBC	SN	SS
ATE_01	0.7239	0.4157	0.3404	0.4373	0.3965	0.3194	0.3066
ATE_02	0.7159	0.4169	0.4388	0.3926	0.3254	0.2372	0.3110
ATE_03	0.6927	0.3972	0.2928	0.3466	0.3082	0.2035	0.3205
ATE_04	0.8506	0.5171	0.4883	0.5506	0.4225	0.2515	0.3853
ATE_05	0.8282	0.5604	0.4508	0.5230	0.4511	0.2776	0.4056
EB_01	0.5291	0.7891	0.5518	0.5264	0.4400	0.3198	0.5025
EB_02	0.4871	0.7842	0.5698	0.5271	0.4934	0.3710	0.5215
EB_03	0.3925	0.7833	0.5800	0.5048	0.4541	0.3991	0.5557
EB_04	0.4532	0.7815	0.5308	0.4886	0.4445	0.3429	0.4915
EB_05	0.4653	0.7795	0.5500	0.5156	0.4577	0.3907	0.5514
EB_06	0.4877	0.7779	0.5630	0.5175	0.5568	0.4180	0.5258
EB_07	0.4865	0.7746	0.5410	0.4822	0.5571	0.4340	0.5420
EB_08	0.5495	0.7691	0.6963	0.5938	0.5439	0.3831	0.6092
EB_09	0.4612	0.7684	0.5363	0.4721	0.4508	0.3649	0.5524
EB_10	0.4498	0.7679	0.6038	0.5295	0.5172	0.5093	0.5190
EB_11	0.4707	0.7625	0.4737	0.5337	0.4349	0.3378	0.5080
EB_12	0.4294	0.7614	0.5083	0.4836	0.4232	0.3267	0.4840
EB_13	0.4888	0.7613	0.7036	0.5673	0.5602	0.3648	0.5063
EB_14	0.4801	0.7551	0.5399	0.5209	0.4307	0.4579	0.4958
EB_15	0.4575	0.7494	0.4987	0.4716	0.4543	0.2829	0.4955
EB_16	0.4362	0.7458	0.5106	0.4551	0.3883	0.2834	0.5063
EB_17	0.3687	0.7386	0.5325	0.4716	0.4560	0.3859	0.5716
EB_18	0.4363	0.7373	0.5115	0.4810	0.4219	0.3081	0.4613
EB_19	0.5122	0.7282	0.4570	0.5424	0.4478	0.3097	0.3971
EB_20	0.3994	0.7234	0.4808	0.4747	0.3865	0.3176	0.4851
EB_21	0.4660	0.7141	0.5422	0.4872	0.4804	0.3367	0.4097
EI_01	0.3790	0.5083	0.6660	0.3665	0.3520	0.2069	0.3358
EI_02	0.1918	0.3815	0.5045	0.2754	0.2657	0.2035	0.3153
EI_03	0.2133	0.2770	0.3724	0.2244	0.1284	0.1517	0.2199
EI_04	0.3123	0.3658	0.5366	0.3186	0.2984	0.1682	0.3544
EI_05	0.3309	0.4328	0.6323	0.3770	0.3870	0.3503	0.3762
EI_06	0.3344	0.4402	0.6083	0.3800	0.2886	0.2267	0.3509
ES_01	0.4674	0.4483	0.4066	0.7650	0.3792	0.2704	0.3951
ES_02	0.4610	0.5111	0.4692	0.7327	0.3898	0.2696	0.3643
ES_03	0.3937	0.4423	0.4325	0.7374	0.3156	0.2641	0.3918
ES_04	0.4598	0.4891	0.4268	0.7702	0.3265	0.3072	0.4042
ES_05	0.4455	0.4705	0.4065	0.7879	0.3774	0.2710	0.3815
ES_06	0.3080	0.3673	0.2782	0.5318	0.3093	0.2124	0.3033
ES_07	0.3785	0.3694	0.3132	0.6129	0.3165	0.2190	0.3248
ES_08	0.4714	0.6635	0.5338	0.7471	0.4803	0.4209	0.5633
PBC_01	0.3510	0.4266	0.3880	0.3306	0.7210	0.4125	0.3210
PBC_02	0.3446	0.4312	0.3643	0.3381	0.6821	0.3200	0.3369
PBC_03	0.3628	0.5094	0.4265	0.3975	0.7897	0.4459	0.4190
PBC_04	0.4469	0.5244	0.4126	0.4080	0.7639	0.4175	0.4224
PBC_05	0.3974	0.4781	0.4252	0.4110	0.8027	0.4214	0.4183
PBC_06	0.3655	0.4157	0.3958	0.4239	0.7589	0.3770	0.3978
SN_01	0.2072	0.3177	0.2577	0.2439	0.3567	0.7615	0.2163
SN_02	0.1789	0.2879	0.2233	0.3205	0.3569	0.7132	0.2053
SN_03	0.3229	0.3904	0.3526	0.3680	0.4418	0.7841	0.2990
SN_04	0.3169	0.3708	0.2869	0.2963	0.4289	0.7651	0.2645
SN_05	0.2376	0.3597	0.2864	0.2755	0.4191	0.7896	0.2273
SN_06	0.2304	0.4368	0.3468	0.2915	0.3891	0.7195	0.3002
SS_01	0.3497	0.6004	0.4447	0.4874	0.4188	0.3254	0.8222
SS_02	0.4060	0.5283	0.5081	0.4259	0.4244	0.2751	0.8355
SS_03	0.3345	0.5110	0.4185	0.4233	0.4018	0.2172	0.7500
SS_04	0.3596	0.5212	0.4779	0.4540	0.4082	0.2502	0.7945

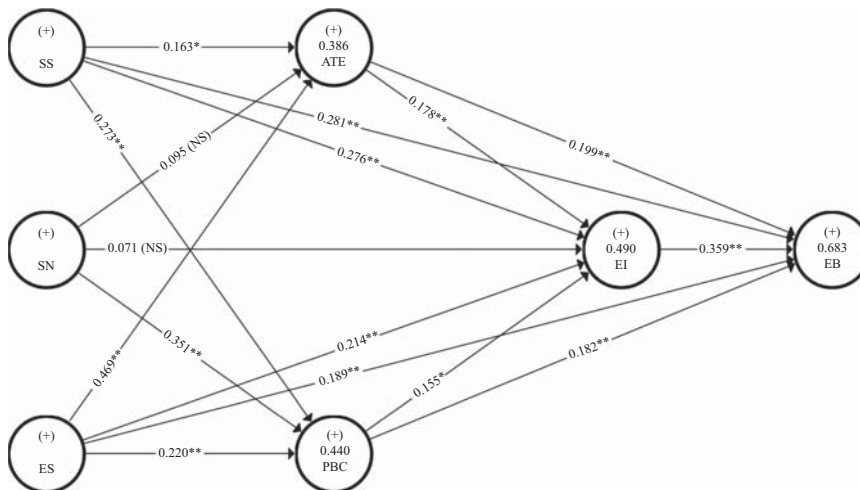
Table IV.  
Cross-loadings

Note: Shaded columns represent formative constructs

**Table V.**  
Outer weights of  
items involved in  
formative constructs

	Outer weights	<i>t</i> -statistics ( O/STDEV )	<i>p</i> -values
EI_01→EI	0.4276**	7.8403	0.0000
EI_02→EI	0.2511**	4.4185	0.0000
EI_03→EI	0.1164*	1.9846	0.0472
EI_04→EI	0.2836**	4.8876	0.0000
EI_05→EI	0.3536**	6.5667	0.0000
EI_06→EI	0.2786**	4.7126	0.0000
SS_01→SS	0.3358**	3.5311	0.0004
SS_02→SS	0.4049**	4.2299	0.0000
SS_03→SS	0.2261*	2.4050	0.0162
SS_04→SS	0.2720**	3.0945	0.0020

**Notes:** EI, entrepreneurial intention; SS, social support. \* $p < 0.05$ ; \*\* $p < 0.01$



**Notes:** NS, not significant; SS, social support; ES, entrepreneurial skills; ATE, attitude towards entrepreneurship; SN, subjective norms; PBC, perceived behavioural control; EI, entrepreneurial intention; EB, entrepreneurial behaviour. \* $p < 0.5$ ; \*\* $p < 0.1$

**Figure 2.**  
Findings of  
structural model

entrepreneurial intention, respectively, which suggests that the model largely explains the variation of these two constructs, whereas the lowest  $R^2$  value 0.386 belongs to attitude towards entrepreneurship which provides a moderate explanation of variation. These findings of  $R^2$  values indicate that the proposed conceptual model has an adequate explanatory significance. Here caution must be taken because supporting a model only on the basis of  $R^2$  value is not a good approach (Hair *et al.*, 2017). Therefore, Stone-Geisser's (Geisser, 1974; Stone, 1974)  $Q^2$  test was used for assessing the predictive relevance of structural model. As a rule of thumb, if a  $Q^2$  value is larger than zero, it suggests that latent exogenous constructs involved in the structural model possess predictive relevance for latent endogenous constructs (Chin, 2010; Hair *et al.*, 2017). The highest predictive relevance in the structural model is achieved by entrepreneurial behaviour with a  $Q^2$  value of 0.386, followed by perceived behavioural control with a  $Q^2$  value of 0.247. Moreover, the lowest  $Q^2$  value of 0.147 is achieved by entrepreneurial intention. These  $Q^2$  values support the underlying assumption that all latent underlying endogenous constructs involved in

Hypothesised path	$\beta$	<i>t</i> -value	<i>p</i> -value	95% confidence interval	Decision
<i>H1a</i> Social support→attitude towards entrepreneurship	0.163*	2.463	0.014	[0.0389, 0.2923]	Supported
<i>H1b</i> Social support→perceived behavioural control	0.273**	4.687	0	[0.1630, 0.3900]	Supported
<i>H1c</i> Social support→entrepreneurial intention	0.276**	4.755	0	[0.1636, 0.3900]	Supported
<i>H1d</i> Social support→entrepreneurial behaviour	0.281**	5.032	0	[0.1704, 0.3898]	Supported
<i>H2a</i> Entrepreneurial skills→attitude towards entrepreneurship	0.469**	7.413	0	[0.3422, 0.5907]	Supported
<i>H2b</i> Entrepreneurial skills→perceived behavioural control	0.220**	3.569	0	[0.0930, 0.3368]	Supported
<i>H2c</i> Entrepreneurial skills→entrepreneurial intentions	0.214**	3.254	0.001	[0.0866, 0.3415]	Supported
<i>H2d</i> Entrepreneurial skills→entrepreneurial behaviour	0.189**	3.634	0.0003	[0.0956, 0.2945]	Supported
<i>H3a</i> Attitude towards entrepreneurship→entrepreneurial intention	0.178**	2.830	0.005	[0.0513, 0.3039]	Supported
<i>H3b</i> Attitude towards entrepreneurship→entrepreneurial behaviour	0.199**	4.566	0	[0.1123, 0.2838]	Supported
<i>H4a</i> Subjective norms→attitude towards entrepreneurship	0.095 (NS)	1.669	0.095	[−0.0181, 0.2057]	Not Supported
<i>H4b</i> Subjective norms→perceived behavioural control	0.351**	6.473	0	[0.2425, 0.4551]	Supported
<i>H4c</i> Subjective norms→entrepreneurial intention	0.071 (NS)	1.165	0.244	[−0.0413, 0.1979]	Not Supported
<i>H5a</i> Perceived behavioural control→entrepreneurial intentions	0.155*	2.197	0.028	[0.0155, 0.2909]	Supported
<i>H5b</i> Perceived behavioural control→entrepreneurial behaviour	0.182**	3.832	0	[0.0821, 0.2693]	Supported
<i>H6</i> Entrepreneurial intention→entrepreneurial behaviour	0.359**	6.684	0	[0.2552, 0.4679]	Supported

**Notes:** NS, not significant. \* $p < 0.05$ ; \*\* $p < 0.01$

**Table VI.**  
Hypotheses testing

this study have strong predictive relevance. Hence, overall predictive relevance for the whole proposed structural model is achieved. Now, the discussion continues with the assessment of goodness-of-fit (GoF) value in next section.

#### *GoF and absolute model fit indices*

Although PLS-SEM do not generate overall GoF indices and  $R^2$  value is considered as the primary way to evaluate the explanatory power of the model (Henseler *et al.*, 2016), however, a diagnostic tool, presented by Tenenhaus *et al.* (2005) as the GoF index for PLS-SEM, was used to assess the model fit. This GoF is measured by using the geometric mean of the average communality score (AVE value) and the average  $R^2$  values (for endogenous constructs), and is calculated using the following equation:  $(GoF = \sqrt{(AVE \times R^2)})$ . Although Tenenhaus *et al.* (2005) did not reported any cut-off values for this aforementioned GoF index, however, Wetzels *et al.* (2009) reported the following cut-off values for assessing the results of the GoF analysis:  $GoF_{small} = 0.1$ ;  $GoF_{medium} = 0.25$ ;  $GoF_{large} = 0.36$ . According to Henseler *et al.* (2016), a good model fit indicates that a model is parsimonious and plausible.

Considering the guidelines of Tenenhaus *et al.* (2005) and Henseler *et al.* (2016), researcher have calculated the GoF index for the model involved in this study, which is presented in Table VII. As depicted in the said table, conceptual model used in this study yielded a GoF index value of 0.5305, which indicates a very good (GoF<sub>large</sub>) model fit. Moreover, considering the suggestions of Henseler *et al.* (2016), the standardized root mean square residual (SRMR) value was also assessed for this study along with traditional GoF index. The model involved in this study yielded a standardized SRMR value of 0.4770 which is well below the cut off value and also demonstrates a very good fit. Hence, on the basis of the GoF index value, which is 0.5305, and standardized SRMR value, which is 0.4770, it is concluded that the model involved in this study has a very good fit.

On the basis of comprehensive analysis of the measurement model and the structural model, it is concluded that both models (i.e. measurement model and structural model) demonstrate significant results and are upright for proceeding to the next section.

## Analysis and discussion of findings

### *The influence of social support*

This study involved all four dimensions of social support, which are described by Uchino (2004) and Wills (1985, 1991), i.e. emotional support, tangible support, informational support and companionship support. The analysis of social support and its impact on underlying latent variables has demonstrated remarkable findings. Empirical findings of this study are inline with Farooq, Salam, Fayolle, Jaafar and Ayupp (2018), Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp (2018) and establish that social support has a positive and significant influence on all hypothesised path relationships for explaining entrepreneurial behaviour. Specifically, it is found that social support has a positive and significant direct effect on attitude towards entrepreneurship, perceived behavioural control, entrepreneurial intention and entrepreneurial behaviour.

Unique to this study, it is observed that individuals with high social support depicted a high intention towards entrepreneurship. These findings imply that highest influence on entrepreneurial intention is explained by social support. More specifically, attitude towards entrepreneurship, entrepreneurial intention and entrepreneurial behaviour is largely influenced by social support. Moreover, results have proven that social support is a better predictor of entrepreneurial behaviour as compared to subjective norms. It is a unique finding, and provides insight for policy makers on the relative importance of social support. Conclusively, social support plays a significant role in the formation of entrepreneurial behaviour because entrepreneurial intention is strongly influenced in the presence of social support.

	AVE	$R^2$
Attitude towards entrepreneurship	0.5852	0.3863
Entrepreneurial behaviour	0.5775	0.6827
Entrepreneurial intention	–	0.4903
Entrepreneurial skills	0.5120	–
Perceived behavioural control	0.5687	0.4399
Subjective norms	0.5717	–
Social support	–	–
Average scores	0.56302	0.4998
$AVE \times R^2$	0.2814	
$GoF = \sqrt{(AVE \times R^2)}$	0.5305	

**Table VII.**  
Calculation of  
goodness-of-fit  
(GoF) index



### *The influence of entrepreneurial skills*

Findings of this study demonstrate the significance of entrepreneurial skills for explaining the overall variance in entrepreneurial behaviour through entrepreneurial intention. It is found that entrepreneurial skills have a positive and significant direct effect on attitude towards entrepreneurship, perceived behavioural control and entrepreneurial intention. More specifically, the role of entrepreneurial skills which is proposed by this study is now empirically verified for its significance and relevance. This aspect of entrepreneurial skills covers a comprehensive and broad range of entrepreneurial skills, which were adapted after an extensive literature review from various previous studies (e.g. Boyd and Vozikis, 1994; Chen *et al.*, 1998; Delmar and Davidsson, 2000; Denoble *et al.*, 1999; Liñán, 2008).

Although these findings are unique to this study, at the same time, these findings also support the notion of Farooq, Salam, Fayolle, Jaafar and Ayupp (2018), Farooq, Salam, Ur Rehman, Fayolle, Jaafar and Ayupp (2018) and Liñán (2008) by proving that the perception towards entrepreneurial skills has a positive relation with perceived behavioural control, which is an ultimate source of confidence required for founding a new business venture. In other words, the possession of entrepreneurial skills creates a pressing desire to be independent and being one's own boss. This discussion and empirical findings presented in previous section lead to the conclusion, that entrepreneurial skills are an important contributing factor for individuals' entrepreneurial intention and entrepreneurial behaviour.

### *Practical implications*

Practical implications of this study are largely related to managerial practices for entrepreneurship development. The findings on role and relationship between constructs of the conceptual model provide interesting insight for policies related to entrepreneurship development programmes and, in particular, entrepreneurial skills development programmes. Findings from this study reveal that individuals' sense of perceived social support is significant in influencing their entrepreneurial intention and behaviour. These findings establish the basis for creating strategies for improving the entrepreneurship development programmes. It must be noted that other aspects of entrepreneurial skills are assessed and found to be significant and equally important for potential entrepreneurs. It is expected that the findings of this study will be useful for better deployment of resources and promoting self-employment in youth. As mentioned earlier, academicians and policy makers are often challenged to promote entrepreneurial behaviour in youth (Liñán *et al.*, 2011). The discussion continues with the practical implication of this study for policy makers and academicians.

This study has opened up new avenues for academicians and researchers in the field of entrepreneurial behaviour studies, by exploring the role of social support and entrepreneurial skills in a unique research design. Findings derived from this study are exploratory in nature and require comprehension from other academic scholars. Further studies from academic scholars and researchers are warranted to validate the findings drawn from this study. This model can be a guideline for future researchers to develop a better understanding of the role of social support and entrepreneurial skills for determining entrepreneurial behaviour of individuals. Moreover, findings of this study will be of interest for those involved in promoting entrepreneurship and creating awareness about self-employment.

### *Limitations of the study*

Over the period of the whole research process, this study came across some limitations. Although every effort was made to ensure the generalisability and sanctity of this study by employing maximum possible resources and latest versions of available softwares, still the findings of this study are subject to some limitations. It is pertinent to mention that the limitations of this study are outlined, to set the directions for future studies and to serve as a torch-bearer for future researchers. It is expected that the discovery of these limitations is in

itself an opportunity for more in-depth studies by future researchers. A number of scholars (e.g. Martin, 2012; Menzies *et al.*, 2006; Zahra and Covin, 1995) have also recommended a longitudinal study for a better understanding of entrepreneurial behaviour. A longitudinal study requires a series of data collection at pre-defined intervals, over a period of many years from the same group of selected respondents. Due to the time constraints and limitation of resources, a longitudinal study was not possible; therefore, it is also considered a limitation for this study. Moreover, although the sample size of this study is acceptable for PLS-SEM analysis, but a bigger sample size is desirable for multi-group analysis (MGA) and finite mixture partial least squares (FIMIX-PLS) segmentation. Moreover, a larger sample size is required in order to explore the pedagogical differences in entrepreneurial skill levels through MGA. Because only a bigger group of sample can allow further split group analysis, which was not possible due to time constraints of this study, therefore it is also considered a limitation of this study.

## Conclusion

Findings of this study are unique and explore the role of social support and entrepreneurial skills for explaining entrepreneurial behaviour of individuals. This study has made a significant theoretical contribution by extending Ajzen's (1991) TPB in the context of entrepreneurial behaviour studies, which is ultimately a step forward to the further development of empirically proven theories in the field of entrepreneurship development. Moreover, the conceptual framework of this study is now empirically tested and it has demonstrated significant predictive relevance, along with a good fit for GoF index. Furthermore, findings of this study answer a call by various researchers (e.g. Dickson and Weaver, 2008; Gorman *et al.*, 1997; Heuer and Liñán, 2013; Martin, 2012; Pittaway and Cope, 2007; Weaver *et al.*, 2006) for a methodologically rigorous study in the field of entrepreneurial behaviour. Although, findings of this study are a step forward in the entrepreneurship literature and shed light on new dimensions of entrepreneurial behaviour. Yet, some of the findings were not as anticipated and are contrary to Souitaris *et al.* (2007), such as weak influence of subjective norms. It must be noted that, except weak relationship of subjective norms, all other hypothesised path relations were found to be positive and significant.

Empirical findings generating from this study have supported the researcher's argument for high predictive supremacy of social support and entrepreneurial skills towards entrepreneurial behaviour. With this discussion, it is concluded that "entrepreneurial behaviour" is a result of high entrepreneurial attitude, subjective norm, social support, entrepreneurial skills and perceived behavioural control. Without social support and in absence of entrepreneurial skills, entrepreneurial intention will be nothing but just a wishful dream, proving the old biblical statement "many are called [...] but few are chosen". This study has presented a scholarly response to the problem statement and research questions posed at the beginning of this study. Moreover, it has successfully explained the relationship and predictive power of social support and entrepreneurial skills, which have never been considered by previous researchers. Indeed, this study has successfully pulled together the elusive and disparate strands of various disciplines, to bridge the literature gap, while making a sizeable contribution to the overall body of knowledge in the field of entrepreneurship. Moreover, this study is truly a first and in-depth empirical investigation that entails the influence of social support and entrepreneurial skills on entrepreneurial behaviour of individuals.

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## Appendix. Scale development

### *Entrepreneurial attitude constructs*

Adapted from (Kolvereid, 1996b, pp. 50-51; Liñán and Chen, 2009, p. 612):  
 Being an entrepreneur implies more advantages than disadvantages to me.  
 A career as entrepreneur is attractive for me.  
 If I had the opportunity and resources, I would like to start a firm.  
 Being an entrepreneur would entail great satisfactions for me.  
 Among various options, I would rather be an entrepreneur.

### *Subjective norms constructs*

Adapted from (Kolvereid, 1996b, p. 52; Liñán and Chen, 2009, p. 612):  
 My closest family members think that I should not start my own business.  
 My closest friends think that I should not start my own business.  
 People who are important to me think that I should not start my own business.  
 To what extent do you care about what your closest family members think when you are to decide whether or not to start your own business?  
 To what extent do you care about what your closest friends think when you are to decide whether or not to start your own business?  
 To what extent do you care about what people who are important to you think when you are to decide whether or not to start your own business?

### *Social support constructs*

Adapted from (Abebe, 2012, p. 11; Semrau and Werner, 2014, p. 509; Sequeira *et al.*, 2007, pp. 283-284):  
Emotional/moral support from social network (parents, spouse, siblings, relatives, close friends, colleagues, community/government organisations).

Necessary information/knowledge/skill support from social network (parents, spouse, siblings, relatives, close friends, colleagues, community/government organisations).

Support your initial financial capital from social network (parents, spouse, siblings, relatives, close friends, colleagues, community/government organisations).

Support in shape of additional contacts from social network (parents, spouse, siblings, relatives, close friends, colleagues, community/government organisations).

### *Entrepreneurial skill constructs*

Adapted from (Liñán, 2008, p. 270; Oosterbeek *et al.*, 2010, p. 446):

Market awareness.

Creativity.

Flexibility.

Recognition of opportunity.

Problem-solving skills.

Leadership and communication skills.

Development of new products and services.

Networking skills, and making professional contacts.

### *Perceived behavioural control constructs*

Adapted from (Liñán and Chen, 2009, p. 612):

To start a firm and keep it working would be easy for me.

I am prepared to start a viable firm.

I can control the creation process of a new firm.

I know the necessary practical details to start a firm.

I know how to develop an entrepreneurial project.

If I tried to start a firm, I would have a high probability of succeeding.

### *Entrepreneurial intention constructs*

Adapted from (Liñán and Chen, 2009, p. 613):

I am ready to do anything to be an entrepreneur.

My professional goal is to become an entrepreneur.

I will make every effort to start and run my own firm.

I am determined to create a firm in the future.

I have very seriously thought of starting a firm.

I have the firm intention to start a firm some day.

### *Nascent entrepreneurial behaviour constructs*

Adapted from (Alsos and Kolvereid, 1998, p. 106):

Business planning:

I have prepared a business plan.

I have organised my business start-up team.

I know from where to get initial facilities/equipment.

I have already acquired facilities/equipment, required for my business start-up.

I have decided about the product/service I want to deal in.

I have conducted market survey.

I have devoted my full time to my business start-up.

Financing the new firm:

I have saved some money to invest in my business.

I have invested some money for initiating my business.

I have arranged a partner who is willing to invest in my business.

I have applied for bank funding.

I have already received funding from bank to initiate my business.

I have applied for government funding.

I have already received government funding to initiate my business.



Interaction with the external environment:  
I have applied for licensee, patent, etc.  
I have hired some employees.  
I have started sales promotion activities.  
I have registered my business with the relevant regulatory authority.  
I have found some customers.  
I have received my first payment.  
I have a positive net income from my business start-up.

#### **About the author**

Dr Muhammad Shoaib Farooq is currently serving as an Assistant Professor of Entrepreneurship at the Institute of Business and Management (IB&M), University of Engineering and Technology (UET), Lahore, Pakistan. He received the PhD Degree in Entrepreneurship, from THE University Malaysia Sarawak (UNIMAS), Kota Samarahan, Malaysia. He received several national and international awards including first prize in Young Entrepreneurs' Business Plan Competition, Zamalah Award and Commonwealth Scholarship. He is the founder of UTAUT3 (i.e. Extended Unified Theory of Acceptance and Use of Technology). His recent papers have appeared in *Education + Training*, *World Journal of Entrepreneurship, Management and Sustainable Development*, *Journal of Air Transport Management*, *Interactive Technology and Smart Education*. His current areas of interest include entrepreneurial intention, entrepreneurship education, family business, succession planning, technology acceptance and innovation management. Dr Muhammad Shoaib Farooq can be contacted at: [sshoaibfarooq2@yahoo.com](mailto:sshoaibfarooq2@yahoo.com)