Antecedents of Entrepreneurial Intentions of Female Undergraduate Students in Bangladesh: A Covariance-Based Structural Equation Modeling Approach

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A B S T R A C T

Due to the economic and social development, particularly in developing countries through entrepreneurship, Businesses, government organizations, and legislative bodies have all paid particular attention to entrepreneurship development. However, these developments are impossible without strengthening female students’ entrepreneurial intention (EI). As a result, the primary purpose of this paper is to investigate the impact of entrepreneurial antecedents on Bangladeshi female undergraduate students’ EI. A well-organized questionnaire was prepared and circulated to responders using the snowball sampling technique to achieve the goal. Finally, 251 female undergraduate students from higher educational institutions were chosen as the sample size. The covariance-based structural equation modelling (CB-SEM) approach has been applied using AMOS software to complete the analysis procedure. The findings revealed that two

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entrepreneurial antecedents (attitude and subjective norm) have a significant beneficial impact on EI. The study's outcomes indicate that entrepreneurial attitude, and subjective norms, play a vital role for Bangladeshi female students in enhancing their EI.

KEY WORDS: Bangladesh, CB-SEM, entrepreneurship, entrepreneurial intentions, female undergraduates, TPB theory

Introduction

Entrepreneurship is simply one of the individual’s capabilities to create business opportunities and capitalize on those opportunities to generate value and profit for the company (Ohanu & Ogbuanya, 2018; Mensah et al., 2021). Organizational capacity and professional abilities are developed through an evolutionary and inventive process (Chukwu et al., 2019). Additionally, entrepreneurship can be defined as a coordinated effort that results from original thought or creation and a unique viewpoint on something that already exists (Galvo et al., 2017). Entrepreneurship is also crucial in fostering innovation and increasing productivity (Milojevic et al., 2021). As a result, entrepreneurship is often regarded as a critical economic force and a catalyst for the growth and health of the global economy (Gieure et al., 2020; Tleuberdinova et al., 2021; Slavinski et al., 2020). Due to the economic and social development, particularly in developing countries through entrepreneurship, Businesses, government organizations, and legislative bodies have all paid particular attention to entrepreneurship development. As a result, entrepreneurship is often regarded as a critical economic driver and a stimulant for the development and health of the world economy (Mensah et al., 2021; Guo et al., 2016). In the international community, it is seen as a novel strategy that can be relied on to reduce unemployment while simultaneously encouraging social progress and economic prosperity (Coulibaly et al., 2018). Depending on the circumstances, the amount of economic growth experienced by a country may be linked to the nature of entrepreneurship in that country (Ramadani et al., 2022; Antonijević et al., 2022; Radović-Marković et al., 2021; Radović-Marković et al., 2021b; Naderibeni et al., 2020; Chukwu et al., 2019). The development of entrepreneurial orientation can aid in the reduction of unemployment as well as the promotion of social and economic prosperity (Gieure et al., 2020; Abdul et al., 2019; Samuel and Rahman, 2018; Rahman et al., 2017; Abdul et al., 2017).
With over 161 million people, Bangladesh is one of the world's most populous countries. Women constitute slightly less than half of the total population. According to the United Nations Development Programme, Bangladesh is one of those countries where most of the population is young. Approximately half of the population is under the age of 25 (Hechavarria et al., 2019; New Age Bangladesh, 2018). Bangladesh hoped to gain middle-income status by 2021 by concentrating on developing an innovative economy. Bangladesh currently has 151 universities, which is a significant number. There are 105 private universities, and the rest are public universities (Rahman et al., 2021; UGC, 2019). According to the most recent data, the total number of students enrolled in private universities is 349,160 (2,479,477 men and 1,012,133 women), while the total number of students enrolled in community universities is 8,17,707 (males=5,07,928 men and females=3,09,779) (UGC, 2019). Even though many students seek to find employment following graduation, many of them struggle terribly (Ramadani et al., 2022). The situation of graduate students' unemployment in Bangladesh is the most critical of the country's present concerns. According to the Master Card Index of Women Entrepreneurs (MIWE, 2021), Bangladesh was also ranked last out of 65 countries. As a group, the MIWE represents approximately 80 percent of the worldwide female workforce and conducts extensive research into the socio-demographic variables that aid or impede women's ability to attain their goals. MIWE's findings indicate that female entrepreneurs and professionals in Middle Eastern and African economies and some Asian economies continue to lag behind their male counterparts in terms of their ability to progress professionally as business leaders, professionals, or technicians (MIWE, 2021). Without a doubt, Bangladesh is in a challenging situation. It is likewise imperative to devote greater attention to promoting the entrepreneurial aspirations of students, particularly female students in Bangladesh. A further consideration is an importance of emphasizing students' entrepreneurial intention (EI) to promote entrepreneurship growth. Because it boosts a person's motivation to start a new business, it can also be defined as the process of becoming identity, which opens up the possibility of beginning a new business, as well as aiding an entrepreneur in their venture (Swarupa and Guyal, 2020; Ramadani et al., 2019). According to the Theory of Planned Behaviour (TPB) assumption, attitudes, subjective standards, and perceived behavioural control (PBC) can all influence an individual's intention to do something. In this study, these three elements are recognized as the antecedents of EI. However, in terms of TPB theory, the
primary purpose of this paper is to investigate the antecedents of EI among female undergraduates from Bangladesh. The study's outcomes reveal that entrepreneurial attitude, subjective norms, play a vital role for Bangladeshi female students to enhance their EI.

The rest of the paper is put together as follows. The following section discusses the study's theoretical framework and hypotheses. After that, the overall methodology is described. The study also explains how the data was processed and what was discovered. Finally, the implications of the study are discussed.

Theoretical Background and Hypotheses Development

The Theory of Planned Behavior (TPB) has been extensively used to explain the EI (TPB). This theory is commonly utilized in the area of human behaviour. TPB has also been used to describe entrepreneurial aspirations and behaviours in earlier studies (Schlaegel and Koenig, 2014). According to TPB, one of the essential variables in an individual's behaviour is their intentions, which are influenced by three psychological constructs: attitude toward behaviour, subjective norms, and perceived behaviour control (PBC) (Ajzen, 1991). Attitude is a subjective assessment of the outcomes of one's desired conduct that determines how much one loves or dislikes it. Subjective norms refer to how members of a society see their social obligations. Finally, PBC is described as self-efficacy, which is defined as one's belief and confidence in one's abilities and the ease with which one can do a particular activity. PBC, sometimes known as self-efficacy, refers to how many difficulties somebody expects or is willing to face when starting a new business (Ajzen, 1991). TPB was utilized to predict EI in university students, and three behavioural antecedents were employed to show the theory's validity (Anjum et al., 2018; Farrukh et al., 2018; Karimi et al., 2017). However, current research demonstrates that the relative importance of the antecedents (attitude toward behaviour, subjective norms, and perceived behaviour control) on students' EI and their impact varies significantly between situations and countries (Linan et al., 2013; Nabi and Linan, 2011). Following a thorough investigation of current literature using TPB, the study discovers the following framework has been developed.
Attitude and EI

It is critical to consider an individual's attitude because it will decide the actions and behaviours they will engage in in the future. According to Ajzen (1991), attitude can be described as an individual's overall judgment and assessment of their own behaviors as well as the acts of other people. The willingness to react to specific objects in the surroundings as an expression of admiration for the object can also be defined as attitude (Efendi and Makhfudli, 2009). Developing an awareness of attitudes and entrepreneurial intention, according to Ismail (2015), is essential since they both can have an influence and can be a necessary step in generating higher entrepreneurial intention. Many researchers have discovered that positive attitudes toward behaviour have a significant and positive effect on entrepreneurial intentions (Shi et al. 2020; Paco et al., 2011; Agolla et al., 2019; Azizuddin et al., 2020). In addition, training and skill development programs can help to foster good attitudes about entrepreneurship among participants (Ramadani et al., 2022). We came up with the following hypothesis, which was supported by the literature:

H₁: Attitude has positive impact on EI for female undergraduate students in Bangladesh.
Subjective Norms and EI

The term "subjective (social) norm" refers to the pressure placed on individuals by society to engage in or refrain from a particular action or behavior (Ajzen, 1991). People's decisions to participate in or refrain from participating in a particular activity are influenced by a person's point of view on that activity or activity's subject (Wedayanti and Giantari, 2016). Individual's decision to become an entrepreneur will be influenced by the beliefs or points of view of family, friends, and members of society who he or she considers to be important in his or her life. The researchers discovered that more EI is associated with both subjective norm (Noor and Malek, 2021; Wedayanti and Giantari, 2016). People who come from business families are more likely to aspire to start their own firm or take over an existing one, and their entrepreneurial ambitions may be influenced by their family background as a result (Kolvereid, 1996). Because it helps to reduce uncertainty and dangers (Farooq et al., 2018), these findings show that subjective norms are significant because they can have a favorable impact on entrepreneurial behavior if they are implemented successfully (Ahmad et al., 2019). We came up with the following hypothesis, which was supported by the literature:

\[ H_2: \text{Subjective norm has positive impact on EI for female undergraduate students in Bangladesh.} \]

Perceived Behavioural Control and EI

A person's belief that he or she can control or show certain behaviours is called "perceived behavioral control (PBC)" (Ajzen, 1991). It's up to the person, and if he or she has strong beliefs and confidence, he or she will choose to be an entrepreneur and has a good chance of being successful when starting a business (Al-Jubari et al., 2019). A study conducted in Malaysia on Asnaf millennials discovered a significant favorable relationship between PBC and pre-start-up behavior (Mahmood et al., 2019). Additionally, a recent study conducted by Ahmed et al (2020) and discovered that PBC has a significant favourable impact on entrepreneurial behaviour among university students in Pakistan. Besides, Andi and Mei-Lan Lin, (2020) say that PBC makes students more likely to be entrepreneurs. Mahmood et al. (2019) found that entrepreneurial intent was affected by PBC in a roundabout way. We came up with the following hypothesis, which was supported by the literature:
H₃: Perceived behavioural control has positive impact on EI for female undergraduate students in Bangladesh.

Methods

Sample and Procedure

The respondents for this study are Bangladeshi female undergraduate students from higher educational institutions. The researchers acquired their data via a widely distributed self-administered questionnaire. The dependent variable is entrepreneurial intention (EI). The antecedents of entrepreneurial intention are the independent variables (attitude, subjective norm, and perceived behavioural control). A snowball sampling approach was used to give the questionnaire to the respondents in this study. If the authors utilize the CB-SEM with AMOS, as Kline (2005) recommended, a sample size of 251 is sufficient and large. After the authors received 50 responses, we conducted a pilot test and found that the data was highly consistent. Table 2 has more information on the reliability values.

Measures of Scales

Table 1: Measures of scale

<table>
<thead>
<tr>
<th>Variables</th>
<th>No. of Items</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial intention</td>
<td>10</td>
<td>Ajzen (1991) and Cameron et al. (2012).</td>
</tr>
<tr>
<td>Attitudes towards behavior</td>
<td>6</td>
<td>Cameron et al. (2012).</td>
</tr>
<tr>
<td>Subjective norms</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Perceived behavioral control</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors, based on Ajzen (1991) and Cameron et al. (2012)

Each item uses a five-point "Likert Scale", with responses ranging from "strongly disagree" (1) to "strongly agree" (5).

Data Analysis Tools

Two software packages (SPSS and AMOS) were used to finish the data analysis. Prior to using the AMOS software, the authors conducted a preliminary examination of the data for missing values, normality, outliers, and multicollinearity problems in the first step. AMOS was used to do
Confirmatory Factor Analysis (CFA) for all variables with measurement models and a structural model to test the direct effect.

**Ethical subject Matters**

We provided a consent form with the questionnaire that stated the study's fundamental objective. Using that consent form, the authors certified that all of the information they had acquired would be used solely for the objectives of this study. Furthermore, it was guaranteed that all data would be kept entirely confidential.

**Data Analysis and Findings**

In the first step of the data analysis, we have done the CFA for all research variables to validate the appropriate items have been selected for the studied variables. We run the measurement model in the second stage, which is dependent on the items that have been confirmed. After getting the fit indices of measurement mode, finally, we run the structural model to test our formulated hypotheses.

**CFA to Validate the Constructs**

CFA has used to check the construct validity of the questionnaire. It is possible to utilize this strategy if the questions on the survey have already been used in other research projects (Prudon, 2015). In addition, we used items from other studies, which are listed in Table 1.

If we look at Table 1 again, we can see that EI initially had ten components (10). However, based on the AMOS report's Modification Indices (MI), we have excluded six items (items 2, 4, 5, 6, 8, and 9) for EI. Initially, there were six items for all independent variables (attitude, subjective norms, and PBC). Based on the Modification Indices (MI) of AMOS output, we removed one item (item no 2) for attitude, two items (items no 4 and 5) for subjective norms, and one item (item no 5) for PBC (item no 6). In Table 2, we provide the fit indices of all of our research variables after deleting those items from our variables. Additionally, Figure 1 depicts the variables. For each research variable, the CFA results demonstrated an appropriate factor loading of larger than 0.6 (Awang, 2012). As a result, the study's unidimensionality has been confirmed. The
factor loading of each item (0.6) was considered the best match when convergent, construct, and discriminant validity was analyzed.

Table 2: Measures of reliability and validity

<table>
<thead>
<tr>
<th></th>
<th>OI</th>
<th>UI</th>
<th>CR</th>
<th>AVE</th>
<th>RMSEA</th>
<th>GFI</th>
<th>CFI</th>
<th>X 2 /df</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT</td>
<td>6</td>
<td>5</td>
<td>.898</td>
<td>.64</td>
<td>.067</td>
<td>.984</td>
<td>.992</td>
<td>2.11</td>
</tr>
<tr>
<td>PBC</td>
<td>6</td>
<td>5</td>
<td>.873</td>
<td>.58</td>
<td>.109</td>
<td>.969</td>
<td>.975</td>
<td>3.99</td>
</tr>
<tr>
<td>SUBN</td>
<td>6</td>
<td>4</td>
<td>.776</td>
<td>.48</td>
<td>.038</td>
<td>.995</td>
<td>.997</td>
<td>1.36</td>
</tr>
<tr>
<td>EI</td>
<td>10</td>
<td>4</td>
<td>.797</td>
<td>.50</td>
<td>.000</td>
<td>.997</td>
<td>1.00</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Source: Authors’ elaboration

Figure 2: CFA for individual construct (variable)

Source: Authors, AMOS software

Measurement Model

It was decided to use the measurement model in this study to check the model fit and discriminant validity and ensure that the data was reliable.
It has been determined that the measurement model is valid by the fit indices RMSEA (0.062), GFI, CFI, NFI (0.903, 0.947, and 0.900), and Chisq/df (1.96), which have all met or exceeded the acceptance criteria for the measurement model (figure 3 and Table 3). As a result, we can run the structural model to test our formulated hypotheses.
Structural Model

Figure 4: Structural model

![Structural Model Diagram](image)

Source: Authors, AMOS software

Table 4: Values of structural model

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT</td>
<td>EI</td>
<td>0.773</td>
<td>.090</td>
<td>7.470</td>
<td>***</td>
</tr>
<tr>
<td>PBC</td>
<td>EI</td>
<td>-0.013</td>
<td>.069</td>
<td>-1.184</td>
<td>.854</td>
</tr>
<tr>
<td>SUBN</td>
<td>EI</td>
<td>0.214</td>
<td>.062</td>
<td>3.163</td>
<td>.002</td>
</tr>
</tbody>
</table>

R²=.80, Source: Authors’ computation

Figure 4 and Table 4 show a direct association between entrepreneurial antecedents of female undergraduate students and EI in Bangladesh. Entrepreneurial antecedents accounted for 80% of the variance in EI (R² = 0.80), indicating that they are highly predictive. This study discovered that attitudes and subjective norms have a statistically significant favourable impact on the EI of female undergraduate students from Bangladesh. The β scores for attitude (β =0.773, p=0.000) and subjective norms (β = 0.214, p=0.002), were statistically significant. As a result, Therefore, H₁ and H₃ are supported.

The fundamental objective of this paper is to investigate the effect of entrepreneurial antecedents on the EI of female undergraduates in
Bangladesh. To test the effects, we formulated three hypotheses. So, we have discussed our discussions based on our formulated hypotheses. When the findings demonstrated a statistically significant positive correlation between attitude and EI, our first hypothesis (H1) was accepted. Based on our first hypothesis (H1), the findings demonstrated a significant positive relationship between attitude and entrepreneurial intent (EI). According to some researchers, entrepreneurial attitude is a powerful predictor and significantly impacts EI (Jalil et al., 2021; Agolla et al., 2019, Majeed et al., 2021; Radović-Marković, 2018; Salamzadeh et al., 2021) It recommends that students must focus more on their attitudes to increase their EI. The hypothesis (H2) is shown to be false, meaning that there is no statistically significant association between PBC and EI in this study. The findings contrast to previous studies conducted by other researchers, who discovered a substantial link between this attribute and entrepreneurial aspiration in a sample of participants (Andi and Mei-Lan Lin, 2020; Agolla et al., 2019, Majeed et al., 2021). But, our finding is similar to the findings of (Jalil et al., 2021). One of the explanations for his inconsistent finding is the cultural difference and lack of confidence of the female students. Finally, for hypothesis three (H3), the finding revealed that subjective norms and EI have a significant positive relationship that is statistically significant. Thus, strong support from close friends and family members, coworkers and professors, and anybody else who students regard to be important in their lives can help them develop their entrepreneurial goals. Recently published studies also found similar findings. (Andi and Mei-Lan Lin, 2020; Agolla et al., 2019, Majeed et al., 2021).

**Conclusion**

The main goal of this paper is to find out how entrepreneurial factors affect the EI of Bangladeshi female undergraduate students. Based on the TPB theory's assumptions, we came up with three main hypotheses to help us reach the goals of this study. The results showed that attitude and subjective norm, both entrepreneurial antecedents, have a significant positive effect on EI. The study results show that an entrepreneurial attitude and subjective norms are crucial for Bangladeshi female undergraduate students to improve their EI. From the results of this study, the researcher could figure out the antecedents that lead university students in emerging countries like Bangladesh. Students' attitudes need to be changed to be more
positive, and their families and friends need to be supportive. Governments, higher educational institutions, other organizations and agencies must figure out how to enhance the students' interest in business while still in educational institutions.

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References


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