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Factors affecting business graduates' employability–empirical evidence using partial least squares (PLS)

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Abstract

Purpose – The purpose of this paper is to examine the relationship between skills and employability of business graduates. The study also examines the moderating effect of 'social mobility factors' in the 'skills–employability' relationship.

Design/methodology/approach – A quantitative positivist approach was undertaken to test the hypotheses. Business graduates from two universities in a developing country responded to a questionnaire about their perceptions of different sets of employability factors. Partial least squares (PLS)-based structural equation modelling (SEM) was used to examine the relationships between skills and employability of business graduates.

Findings – The findings show that both soft skills and technical skills are positively related to employability, which is consistent with prior studies. The findings also indicate that social mobility factors play a significant role in employability.

Research limitations/implications – The study is based on data from two public universities, and its findings need to be interpreted with care as universities differ in their size, area of concentration and ownership structure.

Practical implications – The findings advance the evidence of graduate employability of business students. Based on these results, university authorities, policymakers, teachers and business graduates will benefit from the findings related to students preparedness for the competitive global job market.

Originality/value – The study's findings contribute to business graduates' skill set development in the developing countries that share a similar education system, culture and values.

Keywords Graduate skills, Social mobility factors, Employability, Business graduates

Paper type Research paper

Introduction

Business education has been under pressure in recent decades to increase the employability prospects of their graduates (Jackling and De Lange, 2009; Turner, 2014). Over the last decade, rapid changes in the business environment have ushered the need for changes in the skills required by business graduates who now need to meet the expectations of different stakeholders and to add value for their clients (De Lange *et al.*, 2006; Wilton, 2011). The recent economic downturn and its challenges have also shown how economic fortunes rely heavily on skilled employees. These concerns mainly centre on business education's role in enhancing employability and specifically the role of education institutions in providing employability skills through curriculum development. However, the concept of employability remains

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poorly defined and is often narrowly focused as the means of developing individual skills (Yorke, 2006). Business problems are multidimensional and complex, requiring soft skills as well as technical business skills to understand business contexts and processes (Prikshat *et al.*, 2019). Various reports show that recent business graduates lack adequate knowledge of the workplace (Cumming, 2010). The existing literature suggests that business graduates require a broad understanding of interpersonal skills, communication and analytical skills, as well as an awareness of changing business and social conditions (Jackling and De Lange, 2009). Researchers view the importance of skills development from a very narrow scale to a broader scale, with disagreements on how these skills can be combined to provide an integrated set of skills for business graduates (Gammie *et al.*, 2002; Jones, 2014). The literature also emphasises the ways that technical skills and soft skills can be integrated into business curricula (Yorke and Knight, 2007). Even though an agreement is lacking on how to enhance employability and who should be responsible, all stakeholders generally accept that academic institutions, in collaboration with industry, can take some positive initiatives to increase business students' employability (Tran, 2015; Knight and Yorke, 2003). Several studies urge business educators to redesign business programmes to improve job prospects for graduates (Kavanagh and Drennan, 2008; Griffin and Coelhoso, 2019).

The academic literature, in general, explores employability skills from employers' perspectives. Very few studies investigate employability skills from graduates' perspectives, especially the perceptions of business graduates on employability skills (Wilton, 2011). Moreover, very few studies consider social mobility factors (sociocultural), which are expected to operate differently in different countries. Social mobility is a complex and multifaceted concept. From an absolute perspective, social mobility refers to the processes of adjustment in the income or occupational structure of the economy. On the other hand, the relative viewpoint of social mobility refers to an individual's opportunities to progress within the social hierarchy. Different social classes do not have the same access to resources offered by that society. Evidence also shows that some groups whose members have limited social networks and poor family backgrounds face particular disadvantages in the job field (Finch *et al.*, 2013; Macmillan *et al.*, 2015). Children from better family backgrounds (in terms of both economic and social status) can use social mobility connections to secure employment.

The role of sociocultural factors needs to be understood, along with the technical and soft skills required to improve the employability of business graduates (Gracia, 2010). It is argued that a wide variety of interpretation exists on how these sociocultural factors are inferred and what elements of social factors need to be included (Monteiro *et al.*, 2019). The literature shows that business students' social skills can be improved by engaging them in extra-curricular activities such as work-integrated learning and internships (Stevenson and Clegg, 2011). A growing number of universities have adopted these elements in their business programmes as part of curriculum development. Apart from the skill sets required for intending business graduates, the existing literature largely accepts that the job market is efficient and that employers are expected to employ the right person. This expectation is largely true in developed countries. It can, however, be argued that the interpretation of sociocultural factors is narrowly focused on individual competency in networking with prospective employers. For example, it is expected that, in an efficient job market, a person with an appropriate combination of technical and soft skills is likely to secure a job. Currently, many universities offer networking facilities to connect job-seeking graduates with their potential employers. By initiating these university-sponsored programmes, employers can be benefitted as they can select the right candidate through on-the-job observation in a work-integrated university programme or by getting to know a prospective candidate through networking.

Job markets in developing countries operate differently (Winterton and Turner, 2019), and are mostly characterised by nepotism, different networking arrangements and family connections (Mok, 2016; Mok and Jiang, 2017; Cheong *et al.*, 2016). There are significant skill

gaps in the areas of problem solving, communication, leadership and critical thinking which require business schools to revise and improve their curriculum (Abbasi *et al.*, 2018). Having the right skill set, noted earlier as being required for employability, might not be adequate for securing a job in developing countries (Pouratashi, 2018; Abbasi *et al.*, 2018).

Despite attentions paid to the relationship between different skill sets and employability, most researchers have argued that academic studies on business graduates' employability remain prescriptive (Finch *et al.*, 2013; Belwal *et al.*, 2017); there is a lack of empirical evidence supporting these propositions. In addition, few academics explore business graduates' employability and provide examples from case studies that suffer from a lack of generalizability. It has been argued that studies based in the developed countries context predominantly ignored the sociocultural factors of employability (Baird and Parayitam, 2019). These studies assumed that the job market is efficient in developed countries (See, for example, Cumming, 2010; Jones, 2014; Finch *et al.*, 2013). Little research has been undertaken on business graduates' employability in the context of developing countries (such as, Bangladesh) where the job market is predominantly embedded in a complex set of sociocultural factors. In this context, the current study seeks to contribute to the body of knowledge on the business graduates' employability factors from students' perspective by empirically examining the factors that affect business graduates' employability.

From the existing literature, this empirical study develops a model that integrates the concepts of business graduates' skills and their employability. The research model also presents formal hypotheses developed from prior studies. The employability factors for business graduates and the relationships between them are tested with empirical data obtained from a survey conducted in Bangladesh, an emerging economy and a developing country. This paper contributes to the existing literature in three ways. Firstly, it reinterprets employability criteria by focusing on technical and soft skills, with special consideration given to the contextual environment of job markets. Previous studies have concentrated mainly on skills development, especially the technical and soft skills, and have subsequently designed programmes to prepare business students for employability through developing business course curriculum (Gammie and Joyce, 2009; Bunney *et al.*, 2015). The findings of this study present a valuable insight into a shift towards skill sets by employers and policy-makers. Secondly, it applies employability criteria to a developing country context where the conditions of employability are mostly unexplored; to date, most of these studies have been conducted in developed countries. It is argued that a gap exists between business graduates' preparation for the job market and how these markets operate in a developing country. Finally, the current study evaluates employability criteria and the business education system's role at the university level. This study also focuses on the extent to which sociocultural factors moderate the 'skills–employability' relationship.

The remainder of the paper proceeds as follows. The next two sections develop the research model and hypotheses from the existing literature. The third section presents the research method, including the data collection approaches needed to test the research hypotheses. The fourth section presents the results of the study, while the fifth section discusses the research implications of the study. The final section concludes the paper with the study's limitations and future research directions.

Employability and business education

Employability is characterised by the extent to which intending graduates possess a set of skills composed of technical skills and soft skills. These skills are often viewed as personal competences to satisfy the job requirements demanded by employers (Yorke and Knight, 2007). However, it will be argued here that employability is often seen as a set of attributes isolated from the context in which these skills are demanded and applied (Moreau and

Leathwood, 2006). The contextual environment within which business operates is in constant flux due to automation and globalisation, which has implications for graduate employability (Mohamed and Lashine, 2003). Such a transformation requires intending graduates to have different skill sets (Awayiga *et al.*, 2010). As employers are seeking the right graduates with the required technical skills and soft skills, different networking events help both business graduates and employers to get to know each other and fulfil their respective requirements. However, employability is also related to a specific context which is influenced not only by whether intending graduates have the right combination of skills required for a specific job but also by some other contextual factors. The business education system has been criticised for merely focusing on technical skills rather than training students in soft skills (Jackling and de Lange, 2009). Consequently, higher education institutions are now evaluated based on the rates of graduate employment along with other financial, educational, and operational targets.

Business organisations, in many cases, do not recruit new graduates but instead look for candidates with practical work experience. Hence, it has become challenging in recent years for a new graduate without job experience to secure a job. Griffin and Coelhoso (2019) argue that employability skills for graduates remain an ongoing topic for discussion and debate. They suggest that graduates require more practical experience through internship before entering the job market as they lack critical thinking and intellectual skills. Moreover, the general expectation is that higher education institutions include an employability spine embedded within the academic curriculum (Cumming, 2010). Higher education institutions have adopted an 'employability success rate' as one of their performance indicators: this helps the institution to develop business graduates with work-readiness skills and to enhance its reputation which eventually helps to attract more students. Again, the question remains as to whether education institutions ought to play a more prominent role in graduates' employability, and, if so, how to measure whether they are performing this role. Research on employability remains incomplete, as it does not include the context of a job market, nor the social and cultural factors that surround it. Broadening the skill base of graduates takes a rational viewpoint to enhancing employability, but it ignores the impact of social conditions on job markets. Among other criteria, employers consider the reputation of the education institution and students' opportunity to network with them through career fairs as well as other means that may influence graduate employability (Macmillan *et al.*, 2015). The job market in developing countries operates differently, with recruitment and selection of employees not always following formal procedures. Although employers in developing countries like to recruit graduates with the required skills, their decisions, in many cases, are influenced by other factors such as family connections, references (who the applicant knows), social status and political connections with the ruling party. Moreover, networking facilities, such as job fairs and access to networking opportunities organised by professional bodies in conjunction with prospective employers, are rarely available. Consequently, the individual has the sole responsibility for finding a job (Koen *et al.*, 2015).

Several authors (Hogan *et al.*, 2013; Potgieter and Coetzee, 2013) are of the view that the employability discourse needs to be embedded within the job environment where intending graduates are seeking employment. The attributes of the job environment are expected to be different in a different context, and not least in the developing country situation. As previously indicated, job markets and employability criteria are influenced by family and political connections, kickbacks and personal attributes of intending graduates. The previous literature has shown that family background, both directly and indirectly, helps in gaining employment. For example, wealthy and influential families are well connected to employers, either through extended family connections or job networking, graduates from those families have a better chance of securing a job earlier than others who have the same skill level but have no connections. In an indirect relationship, wealthy families can send their sons and daughters to the best education institutions to enhance their job prospects. Again, it can be

argued that family and political connections may also help a student to find a better placement or internship, which can lead to ongoing employment (Hanser, 2002).

The importance of networking in gaining employment has been recognised (Calvo-Armengol and Jackson, 2004). While access to networking has been highlighted as essential as it provides business graduates with the opportunity to gain access to potential employers that can assist them in securing either internships or full employment, employers see this as a highly effective and low-cost strategy to recruit future employees (Loury, 2006). Networking takes place in several ways such as in academic curriculum design, work-integrated learning, internships and employer mentoring (Gammie *et al.*, 2002), and through avenues such as career fairs, guest speakers and workshops (Kemple and Willner, 2008).

Research model and hypotheses development

The employability of business graduates depends on several factors. Earlier studies found that business graduates are inclined to place more emphasis on technical skills than on soft skills, whereas more recent studies argue that technical skills are not enough for job success in business and management areas (Griffin and Coelhoso, 2019; Abbasi *et al.*, 2018; Cheong *et al.*, 2016). As discussed earlier, the business curriculum has undergone massive transformation to include soft skills such as communication, leadership and teamwork to comply with the changing job market and the demands of key stakeholders (Hirsch and Collins, 1988). The notion of soft skills was later further changed as a result of feedback from key stakeholders such as employers. As a result, courses in most of the world's leading business schools are designed to integrate learning and practical work experience as part of business education (Kavanagh and Drennan, 2008; Gracia, 2010). The current study has extended the literature by including social mobility skills in contexts in which the market operates differently. For example, social mobility factors (such as political connections, socially powerful family members and nepotism) play a crucial role in employability, in addition to technical and soft skills, in developing countries. The proposed research model is presented in figure 1. The proposed research model in this study primarily examines the relationship between graduate skills and employability.

Technical skills (TS)

Although authors define technical skills in different ways, most agree on the importance of knowledge and the ability to apply this knowledge as being necessary to perform the job accurately and completely (Awayiga *et al.*, 2010; Jackling and De Lange, 2009). The technical skills required of business graduates are core numeracy knowledge, basic computer knowledge, work-related software skills and so forth, all of which allow them to operate the business effectively and efficiently (Osmani *et al.*, 2015; Ayoubi *et al.*, 2017). Such skills depend on a sound understanding of the core business activities and processes. With the expansion of computer and software developments, business transaction processing has changed significantly. The boundaries of technical skills for business graduates have expanded to include computer and software skills. Accordingly, it is important for business graduates to have sound knowledge of web-based applications (such as enterprise resource planning, computer-aided manufacturing and computer-aided business design) and data manipulation in Microsoft Excel as these skills have become predominantly important for performing his/her job in a corporate firm. McMurray *et al.* (2016) explored employability skills from an employers' perspectives and showed the importance of technical skills to enhance the potentials of employability.

In their comprehensive study, Jackling and De Lange (2009) identified a range of important skills that business graduates need to be successful in employment and in their future career. In a more recent note, Warwick and Howard (2015) provide a comprehensive

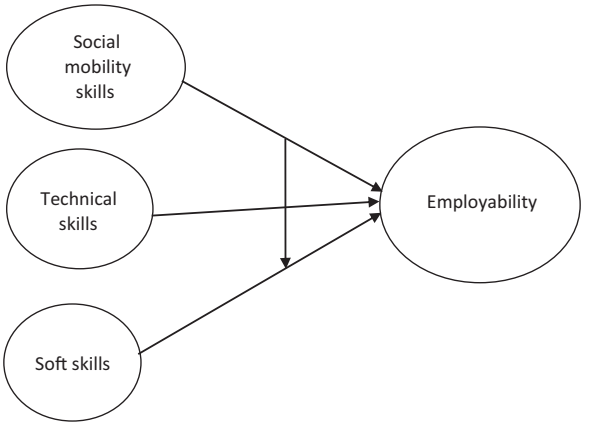

Figure 1.
Research model

skills list from the employers' perspectives, which includes skills in business case analysis techniques (such as sound knowledge of the forecasting of business data using web-based applications). Discipline-specific technical skills are also important for graduates' employability. For example, accounting students should have a sound understanding of how to prepare and present financial statements; finance students should know about financial instruments and markets; marketing students should have an understanding on up-to-date marketing and distribution strategies as practised by companies. The current study, therefore, proposes the following hypothesis:

H1. Technical skills will have a positive influence on business graduates' employability.

Soft skills (SS)

Prior studies argue that technical skills are inadequate for job success in the areas of business and management (Jackling and De Lange, 2009; Hirsch and Collins, 1988). A growing number of studies argue that soft skills are complementary to technical skills, with both required for graduate employment (Mohamed and Lashine, 2003; Warwick and Howard, 2015). Soft skills include communication skills, interpersonal skills and behavioural skills, as demonstrated through teamwork and leadership (Teng *et al.*, 2019). However, scholars have strongly criticised the lack of concentration on soft skills development by education institutions (Awayiga *et al.*, 2010). Recent changes in pedagogy introduced by a growing number of universities have focused on communication and interpersonal skills development. For example, most Australian universities have increased their assessment of case study presentation, group discussion and communication skills. It is suggested that effective communication skills are necessary for business and management graduates, as they comprise verbal expression, listening skills as well as writing skills (Warwick and Howard, 2015). Writing skills are essential to prepare and present the results of business operations so these can be communicated, thus complying with the interests of shareholders and other stakeholders. Baker and McGregor (2000) note that communication skills play a vital role in the employment of business graduates in a firm, and especially for accounting and finance graduates. An earlier survey conducted in Australia, the United States (US) and other developed countries shows that interpersonal skills such as the capability of working as part of a team, communication skills and technical skills are important for job success. The literature also notes that less emphasis has been given on improving interpersonal skills. Therefore, scholars suggest that interpersonal and communication skills should be incorporated into business courses.

Several studies from the employers' perspectives on graduates' skills note that employers are more interested in graduates' communication, interpersonal, management and teamwork skills alongside the subject-related technical skills (Grossman and Johnson, 2015; Osmani *et al.*, 2015; Jones *et al.*, 2017). These soft skills help job-seeking graduates to cope with uncertainty and enhance their ability to work under pressure, increase their self-confidence and enable them to think and plan strategically. De Villiers (2010) notes that soft skills assist graduates to be proactive in their learning and to accept responsibility. In a recent comprehensive review, Abbasi *et al.* (2018) have noted employers' priority for the soft skills for business graduates. Based on the above literature, the current study proposes the second hypothesis:

H2. Soft skills will have a positive influence on business graduates' employability.

Social mobility skills (SMS)

Social mobility, a proxy measure for social fairness, has attracted considerable attention (Finch *et al.*, 2013; Macmillan *et al.*, 2015). It is defined as the movement, or the opportunities for movement, between social classes or occupational groups (Aldridge, 2003). In an open society, individuals can move freely based on their aptitude, intelligence and ability (Mok, 2016). However, in certain contexts, especially where the job market is not efficient, employers' perceptions of potential employees with the same qualifications vary largely according to employers' social biases, nepotism or connections which could influence hiring decisions, rather than applicants' qualifications (Cai, 2013; Koen *et al.*, 2015).

Past research examines several factors which influence business graduates' employability, most of which place high importance on technical subject-oriented skills and soft skills. However, the recent literature (Mok, 2016; Mok and Jiang, 2017) argues that some other social mobility factors are equally important for graduates' employability. These factors are family background, institutional reputation, social connectivity and regionalism. Although these factors have little influence in the developed country context, they are closely connected with employability in the context of most developing countries. In the Chinese context, Mok and Jiang (2017) note that a family's economic power becomes a competitive advantage in enhancing a student's academic performance as well as in obtaining a good job. In their study findings, they note that, despite good academic results, graduates could not secure a good job if they did not have a strong family background. The authors also indicate that graduates with a strong family background received help from family or non-family networks in gaining employment. Earlier research findings also echo the importance of social networking with a strong family background in seeking jobs (Bian and Ang, 1997).

Other scholars argue that institutional reputation is an important factor for graduate employability. The literature indicates that most employers use institutional rankings as a measure of graduate quality (Harvey, 2000; Finch *et al.*, 2013). For example, Clarke (2007) notes a positive relationship between institutional reputation and graduate employment with a higher salary. Family background is indirectly related to employment. For example, students from a rich family can afford to enrol in a reputable and expensive institution, which ultimately helps to secure better employment. A similar scenario is also present in other developing countries where graduates from top universities are employed more quickly than students from lower-ranked (less well-reputed) universities. However, evidence suggests that institutional reputation alone is not enough for gaining employment; personal connections and other influential references are also required.

A growing number of academic studies argue that connectivity or networking also plays a vital role in a graduate being employed in a good organisation. As discussed before, networking is interpreted differently in different contexts. For example, in developed

countries, in most cases, employers select the right person for a job through networking, job fairs and information sessions (Bridgstock *et al.*, 2019). However, in developing countries, this may not be true. Networking in these countries means kickbacks, allegiance and influence, resulting in the situation where the right person may not be selected for a job. This political factor, or connectivity, may not be openly seen in developed countries; however, it is one of the major criteria in the context of most developing countries. Political networks or connectivity refers to informal job search channels, including referrals from political leaders (Xu and Zhang, 2015). The use of social networks for employability is considered by employers to be a proactive and low-cost method of recruiting and selecting a new employee. However, the use of political networks, at times, results in inefficient employees being appointed to organisations that have been pressured to employ unskilled graduates. In Bangladesh, as in many other developing countries, political pressure, particularly by the ruling party members is a common phenomenon experienced by employers, who feel forced to recruit less-qualified candidates. Based on the above literature, the following hypothesis has been proposed:

H3. Social mobility skills will have a positive influence on business graduates' employability.

Research methodology

This study adopted a quantitative–positivist research approach. Through applying a positivist research approach, formal hypotheses were developed from the business education and employability literature, which also facilitated the identification and adoption of measures for the variables. A conceptual model was also developed to locate factors affecting employability to inform the developing country context. The study was conducted in a developing country, Bangladesh, which provided the perfect opportunity to explore the impact of sociocultural factors on business graduates' employability. The conceptual model helped in evaluating the relationships between employability variables and in testing the hypotheses. Finally, the conceptual design sketched the inferences formed about the phenomenon (i.e. employability factors for business graduates) from the data collected from the sample.

Data collection and sample

This research was conducted by administering a questionnaire survey among recent business graduates who had finished business or management degrees the previous year (most, at the time of the study, were pursuing master's degrees) from two universities in Bangladesh. Unlike business students in developed countries who seek graduate placements after their undergraduate degree, business students in Bangladesh complete their master's degree before seeking employment. Students who had finished their master's degree were selected, as they had completed their course work and had started to pursue employment opportunities. The first mail was sent to 480 students who had completed their graduation. The follow-up mail was sent four weeks later to all non-respondents. To ensure their privacy and anonymity, and to gain their confidence, respondents were assured that their identities would not be disclosed. After a couple of rounds of follow-up emails, the study received 310 responses. After eliminating responses with missing data, a sample of 280 useable responses (58.33 per cent response rate) was finally collected.

Common method bias is a challenging issue when using a survey method. Following the guidelines of Podsakoff *et al.* (2003), different initiatives were considered to overcome common method bias. For example, adequate attention was given to systematically identifying the measurement items, by depending on previously tested scales and instruments to eliminate vague, ambiguous and unfamiliar terms. In addition, data were

carefully collected from appropriate respondents who had graduated with a major in business or management courses.

Measures and variables

This study measured both independent and dependent variables from the existing literature. While the dependent variable is employability, the significant independent variables identified from the existing literature are technical skills (TS), soft skills (SS) and social mobility skills (SMS). The questionnaire comprised four sections, with each variable separately evaluated, that is, business graduates' technical skills (TS), soft skills (SS), social mobility skills (SMS) and employability. All measures used a 7-point Likert-type scale with the anchors 1 = strongly disagree through to 7 = strongly agree.

The measures used in this study for technical skills comprised strong knowledge on a subject, completing the job accurately and on time and the ability to operate up-to-date software. This study adopted technical skills measurement items from the previous literature (Andrews and Higson, 2008; Bennett *et al.*, 2000). The soft skills were measured by considering the following items: self-control and confidence, timeliness, analytical ability, communication skills, interpersonal skills and leadership skills. These items have been previously used in higher education research (Elias and Purcell, 2004; Andrews and Higson, 2008). Social mobility skills refer to the context-specific factors which influence graduates' employability in the context of developing countries, such as Bangladesh. Based on Macmillan *et al.* (2015) and Xu and Zhang (2015), the current study selected items for social mobility skills comprising family background, institutional reputation, nepotism/political connections and regionalism. Employability was measured based on the items developed by Cuyper *et al.* (2008). For instance, students were asked to indicate their agreement with items such as 'I am hopeful of getting employment within six months of my graduation' or 'I am confident of getting employment in my discipline area' (rated 1 = strongly disagree; 7 = strongly agree).

Data analysis technique

The current study uses the partial least squares (PLS) technique, a variance-based structural equation modelling (SEM) method, to test the model and proposed hypotheses. As a causal-predictive approach, PLS-SEM emphasises prediction in estimating statistical models designed to provide causal explanations (Hair Jr *et al.*, 2016). Hence, the technique overcomes the apparent dichotomy between explanation and prediction which forms the basis for developing managerial implications (Hair *et al.*, 2019). This is an appropriate technique when: (1) the sample size is relatively small (in the current study, 280) considering the population; and (2) the focus of the study is the prediction of dependent variables and does not require multivariate normal data (Chin, 1998). Based on the above-mentioned considerations, PLS-SEM seems to be the most appropriate technique for this study (Ringle *et al.*, 2005).

Results and analysis

Table 1 shows that business graduates required a broad range of technical skills and soft skills along with social mobility skills, all of which are equally important in securing a job. The mean value and standard deviation in the table also indicate that most respondents emphasise the following items under each construct as essential factors for employability.

Assessment of measurement properties

The study used two phases of analysis and interpretation in the developed model to explore the relationships between employability and the skills variables. The partial least squares

Construct	Item	Mean	SD*
Technical skills (TS)	TS1–Subject-specific knowledge	4.783	0.942
	TS2–Ability to finish the job with accuracy and within time frame	4.835	0.955
	TS3–Efficiency to use required software/apps	5.127	0.96
Soft skills (SS)	SS4–Communication skills (both oral and written)	4.646	0.992
	SS5–Interpersonal and negotiation skills	4.976	0.898
	SS6–Problem solving with great leadership skills	5.123	0.876
Social mobility skills (SMS)	SMS1–Family background is crucial for employment	5.071	0.807
	SMS2–University/institutional reputation helps employment	5.156	0.746
	SMS3–Nepotism and political connections help employment	5.123	0.978
	SMS4–Regionalism has an influence on employment	5.16	0.886
Employability (EMP)	EMP1–Hopeful of getting employment within six months of my graduation	4.868	0.947
	EMP2–It may take more than a year to get employment	4.92	0.98
	EMP3–I am confident of getting employment in my discipline area	4.967	0.954
	EMP4–I may need to look for employment outside my own discipline	5.061	0.819

Note(s): *Standard deviation

Table I.
Means and standard deviations of relevant items

(PLS) model was analysed to assess the reliability and validity of both measurement and structural models. While the structural model evaluates the relationships between independent and dependent variables, the measurement model explores the relationships between constructs and their observed indicators. In addition, to assess the interaction effect of social mobility skills (SMS), the product indicator approach has been used, following the guidelines of Hair *et al.* (2014). The product indicator approach is the best option when the prime concern is parameter accuracy.

Assessment of the measurement model comprises the estimation of internal consistency and tests of the convergent and discriminant validity of the instrument items (Hair *et al.*, 2019). In PLS-SEM, some rules of thumb serve as guidelines to assess model results (Chin, 2010). The measurement model of all constructs initially evaluates the adequacy of each multi-item scale. The current study measures internal consistency, reliability, convergent validity and discriminant validity before testing the hypotheses. To assess internal consistency and reliability, the technique used most often is Hulland's (1999) composite reliability. Higher values generally reflect greater reliability. Convergent validity, on the other hand, measures the extent to which the construct converges to explain the variance of its items. The metric used for evaluating a construct's convergent validity is average variance extracted (AVE), with AVE values of 0.5 or above indicating that the construct explains at least 50 per cent of the variance of its items (Hair Jr *et al.*, 2016). Table II presents the results of a partial least squares (PLS) analysis.

The initial model consisted of 17 observed variables. Referring to the recommendation of Igbaria *et al.* (1995) and Hulland (1999), the current study considered 0.6 as the minimum cut-off level for each item. Following this rule, three items (SS1, SS2 and SS3) were eliminated. The revised model with 14 items was further tested using SmartPLS 3.0 M3 software (Ringle *et al.*, 2005), and it was found that all items exceeded the cut-off value of 0.6 (see Table II). The results affirmed that all items sufficiently represented their respective constructs, that is, technical skills (TS), soft skills (SS) and social mobility skills (SMS). Table II also reveals that the values for composite reliability and Cronbach's alpha (α) for all measures exceeded the cut-off values (Henseler *et al.*, 2015), satisfying the prerequisite of construct reliability. In addition, the AVE (average variance extracted)

scores of all measures also exceeded the cut-off value of 0.50 suggested by Fornell and Larcker (1981).

Assessment of the discriminant validity of the measures is the next step in measurement validation. A construct should share more variance with its measures than with other constructs in the model (Barclay *et al.*, 1995; Chin, 1998). Measures are considered to have adequate discriminant validity if the square root of the average variance extracted (AVE) for each construct is larger than the correlation between the construct and any other construct in the model (Fornell and Larcker, 1981; Henseler *et al.*, 2015). All constructs in the estimated model fulfilled this condition (see Table II). The discriminant validity has been presented in table III. Finally, it can be concluded that the results of the employability model exhibit satisfactory discriminant validity (see Table III).

Construct	Item	Factor loading	CR*	Cronbach's alpha	AVE
TS	TS1–Subject-specific knowledge	0.7708	0.828	0.696	0.617
	TS2–Ability to finish the job with accuracy and within time frame	0.7246			
	TS3–Efficiency to use required software/apps	0.8536			
SS	SS4–Communication skills (both oral and written)	0.6227	0.801	0.638	0.577
	SS5–Interpersonal and negotiation skills	0.8077			
	SS6–Problem solving with great leadership skills	0.8306			
SMS	SMS1–Family background is crucial for employment	0.7533	0.854	0.773	0.594
	SMS2–University/institutional reputation help employment	0.7345			
	SMS3–Nepotism and political connections help employment	0.7797			
	SMS4–Regionalism has an influence on employment	0.8155			
EMP	EMP1–Hopeful of getting employment within six months of my graduation	0.75	0.796	0.658	0.50
	EMP2–It may take more than a year to get employment	0.6735			
	EMP3–I am confident of getting employment in my discipline area	0.6722			
	EMP4–I may need to look for employment outside my own discipline	0.7133			

Note(s): *AVE = average variance extracted; CR = composite reliability

Table II.
Measurement items and validity assessment

	EMP	TS	SMS	SS
EMP	*0.7029**			
TS	0.6045	*0.7858*		
SMS	0.637	0.6375	*0.7706*	
SS	0.6619	0.7459	0.7289	*0.7594*

Note(s): *Italic figures on the diagonal are the square root of average variance extracted (AVE). Keys: TS = Technical skills; SS = Soft skills; SMS = Social mobility skills; EMP = Employability

Table III.
Discriminant validity

Assessment of the structural model

Prior to the assessment of the structural relationships, the issue of collinearity needs to be examined to ensure that it does not bias the regression results. Addressing this issue is necessary as it covers the significant causal effects in the structural model (Kock and Lynn, 2012). Hence, the current study, using SmartPLS 3.0, has assessed collinearity among the latent constructs, by considering the variance inflation factor (VIF) in the structural model. If VIF values are more than 5, this indicates probable collinearity issues among the predictor constructs. However, VIF values between 3 and 5 also indicate the collinearity issue (Becker *et al.*, 2015), with the ideal VIF value being close to 3 or lower. Table IV reveals that the VIF values corresponding to each construct are close to 3 or lower, thus indicating that no collinearity problems exist among the predictor constructs.

The results of the structural model assessment, detailing the path coefficients (β) and *t*-statistics, are summarised in Table V. To assess the adequacy of the PLS model, two main criteria, namely, path coefficients and the R^2 values of the latent endogenous variables, have been used. Chin (1998) suggests that path coefficients should exceed 0.2. In this model, it has been observed that all path coefficients, except for one, exceed 0.2, thus suggesting that the model adequately fits the data.

A further test of model fit is provided by the R^2 values for the latent endogenous constructs. The R^2 value of each endogenous construct measures the variance and models of explanatory power (Shmueli and Koppius, 2011). The R^2 value is also indicative of the in-sample predictive power (Rigdon, 2012). Chin (1998) suggests that an R^2 value of ~0.66 indicates a substantial model fit, an R^2 value of ~0.35 indicates a moderate model fit and an R^2 value of ~0.17 indicates a weak model fit. The R^2 value for the latent endogenous variable, employability (EMP), in this study is $R^2 = 0.534$, which suggests a moderate fit of the model to the data. The results of the PLS-SEM structural model support hypotheses H1, H2 and H3, indicating that TS, SS and SMS are significant antecedents of employability. These findings also offer strong empirical evidence for the significance of having technical skills as well as soft skills for employability. However, social mobility skills also draw significant attention in this regard: this is not usual in the developed country context, but is very common in the developing country and least developed country (LDC) contexts.

	EMP
EMP	
SMS	2.242
SS	2.965
TS	2.309

Note(s): TS = Technical skills; SS = Soft skills; SMS = Social mobility skills; EMP = Employability

Table IV. Collinearity statistics (variance inflation factor [VIF])

Hypothesis	Relationship	Coefficient (β)	*t*-value	Result
H1	TS → EMP	0.1794	2.288	Supported
H2	SS → EMP	0.3289	2.865	Supported
H3	SMS → EMP	0.3031	3.179	Supported
	Endogenous construct	Model		
R^2	EMP	0.534		

Note(s): TS = Technical skills; SS = Soft skills; SMS = Social mobility skills; EMP = Employability

Table V. Structural properties of constructs

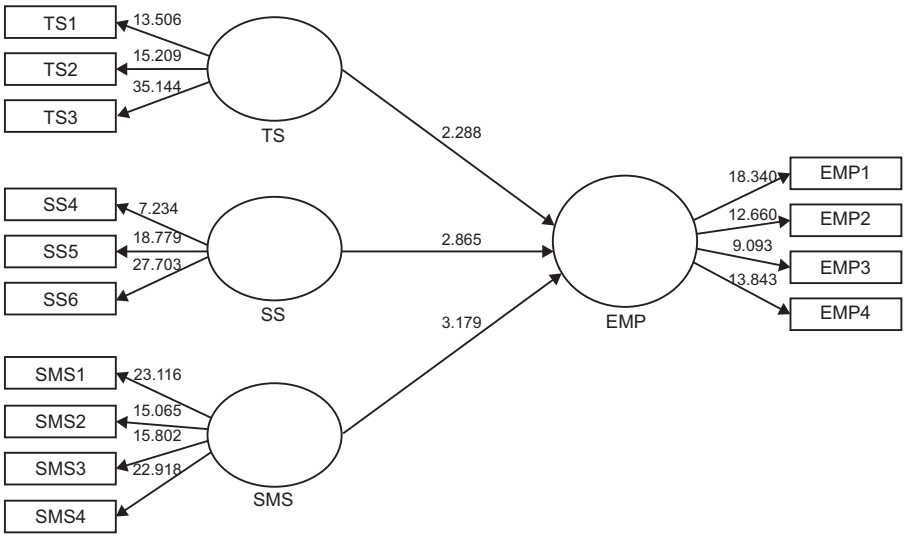

Figure 2.
Results of PLS analysis

Interaction moderation

In this study, social mobility skills (SMS) are introduced as a moderator variable. It is assumed that SMS negatively influences the relationship between social skills (SS) and employability (EMP). The results also indicate that the higher the influence of SMS, the weaker the relationship between SS and EMP. Figure 2 shows the main effects model (the simple model in which SMS is linked to EMP). An interaction term is next introduced to create a moderating effect. The results show that the interaction term SS*SMS has a negative effect on EMP. From the results, it can be inferred that if SMS becomes higher, the relationship between SS and EMP would lessen by the size of the interaction term and generate the value of 0.4989–0.2984 = 0.200. Thus, it can be argued that when SMS becomes higher, SS becomes less important in the explanation of EMP. A conclusion can be drawn based on an assessment of the significance of the interaction term. Hence, the bootstrapping procedure is employed to assess the level of significance between the interaction term (SS*SMS) and EMP. The analysis yields a *t*-value of 0.7487 for the path linking the interaction term and EMP. Hence, the moderating effect of SMS on the relationship between SS and EMP is not significant.

Discussion and conclusion

This study examines the factors affecting business graduates' employability. Specifically, it attempts to fill the knowledge gap between employability and the required business graduate skills by examining the role of social mobility skills along with technical skills and soft skills. The results of the empirical analysis have supported all hypotheses. This means that business graduates need a strong knowledge of core subject-related technical matters along with communication, leadership and team-building skills to be employed successfully in a job. Many earlier studies show that technical skills provide the foundation for business students in their respective careers (De Lange *et al.*, 2006). However, in recent times, soft skills are attracting greater attention from employers (Wilton, 2011). The results of the current study confirm that soft skills and technical skills are both important for business graduates' employability. In addition, sociocultural factors, such as nepotism, political connections and social status, play a vital role, particularly in developing countries. However, these factors do

not eliminate the importance of technical skills and soft skills. A university's reputation is also strongly linked with graduate job success (Wilton, 2011). Many employers consider discipline-focused knowledge, expertise and problem-solving skills as primary reasons for recruiting business graduates. In particular, a prerequisite for business graduates is the ability to understand and interpret business operations, and employers are highly supportive about technical knowledge in business education (Grossman and Johnson, 2015). However, the need for technical skills does not negate the increasing demand for soft skills and for skills that address other sociocultural factors.

The findings, by and large, confirm the underpinning conceptual models used to build the study's hypotheses. Firstly, it was proved that technical skills have a positive and significant relationship with business graduates' employability. Earlier academic research in this domain also confirmed similar results (De Lange *et al.*, 2006). Secondly, the relationship between soft skills and employability is shown to be positive and significant. Recent research shows that technical skills, on their own, are not sufficient for business graduates to secure jobs (Gammie *et al.*, 2002). Hence, various skills, such as communication, leadership, problem-solving and interpersonal skills, are gaining higher preference among employers. Finally, this study's empirical findings suggest that social mobility skills are also playing a significant role in this regard. This study also investigates the role of social mobility skills and their interaction effects on the link between soft skills and employability. The study assumed that social mobility skills, like family background, nepotism and political connections, would inversely influence the link between soft skills and employability. Although the empirical results provided some evidence, it was not significant. Even though social mobility skills, on many occasions, (especially in the developing country context), undermine the influence of technical skills and soft skills, these issues need to be treated with caution as the former skill has been exercised for a long time. Good governance, a transparent and fair recruitment policy and social awareness can reduce the unfair application of social mobility skills.

This study has several key implications for business education literature. Firstly, the results provide evidence that technical skills and soft skills are very important for business graduates in obtaining a job. Earlier studies in this domain were predominantly conceptual and did not empirically test the influence of these skills on employability. The current study tested data from a developing country (Bangladesh), and its findings can be relevant to other developing and developed countries that share a similar academic context. For example, the current literature reveals that, in most developed countries, employers prefer business graduates who possess strong technical knowledge as well as having abilities to prepare, present and interpret (communication skills) business results (Jackling and De Lange, 2009; Grossman and Johnson, 2015). Secondly, social mobility factors, such as political connectivity, the reputation of the education institution and nepotism, play a vital role in obtaining a job in developing countries. However, these factors (except for institutional reputation) may not necessarily be significant in the developed country context. Based on the study's findings, university management could design and select skill sets for graduates in their business programmes.

Finally, earlier academic research mainly reports on factors such as technical skills and soft skills (Suleman, 2018; Abbasi *et al.*, 2018; Ayoubi *et al.*, 2017; Griffin and Coelhoso, 2019), but has not adequately considered the role of social mobility factors in business graduates' employability. Most of the earlier studies have predominantly overlooked this important variable (social mobility skills) that has been empirically tested in the current study. As this study suggests the need for greater emphasis on skill sets for graduates along with some intervening factors, the findings can benefit academics, university management and employers. Business school academics could review their existing programmes and incorporate the required skills-related programme in their curricula. Professional bodies

(such as the Institute of Certified Public Accountant, The Institute of Chartered Accountants, The Institute of Certified Financial Analyst and marketing associations) may become interested in active engagement in various skills development programme which could eventually facilitate university to better equip business programmes to enhance business graduates' education experiences and skill sets. Suleman (2018) has argued that an understanding of the economic and social factors of employability is important for higher education institutions to develop graduates' job preparedness.

Limitations and future research directions

The issues of graduate employability and skills are gaining significant attention in education literature. This study is consistent with the current focus and tries to gain more understanding of employability factors; moreover, it highlights the graduate employability issues from developing county context. The results of this research are subject to some limitations. Firstly, the sample size of the survey may affect the results, as the data were collected from only two universities in a developing country such as Bangladesh. The sample size may limit the potential to generalise the outcomes of the current study to another countries. A future study might cover a larger sample and test similar values and educational culture in another country. Moreover, possibilities exist to undertake cross-country analysis to underscore the employability factors in different contexts. Secondly, the measurement error is a pivotal problem for employability studies. Nonetheless, this study inherits the limitations from the items used by Cuyper *et al.* (2008) to measure graduate employability. Moreover, this study has not considered the prior life experiences of respondents that could assist them in developing their skills. Though there have been few researches of graduate employability through survey, none of the research explored in-depth employability skills for business graduates via mixed method research design. Future research might reveal graduate employment issues through data and theory tribulation. Finally, the current study did not consider employers' and academics' perceptions on graduate employability. Further research is necessary to explore in detail the views of employers and academics on business graduates' employability factors.

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