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Article

Social entrepreneurship and employability of student entrepreneurs: The mediating roles of perceived support and perceived usefulness

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Abstract: Universities continue to provide solutions to private and public sectors of the economy by providing a skilled economy, increasing employment potentials, and improving employee performance. This study offered a theoretical model on the contributing factors to graduate employability among student entrepreneurs in Malaysian Higher Education and the mediating mechanism of perceived support and usefulness in social entrepreneurship to solve the graduate unemployment problem. We attained data using purposive and face-to-face sampling methods with acceptable data from 296 undergraduates and analyzed with the SEM software from respondents of various cultural backgrounds. Findings suggest a positive significant relationship between motivations, skills in social entrepreneurship, knowledge, and social elements on graduate employability. Similarly, perceived support explained skills, knowledge and social elements' relationship to graduate employability except for perceived usefulness. The outcome further discovered the perceived support role for graduates of social entrepreneurship in fostering job crafting and future employability with various implications and recommendations. The results require the application of other research approaches to provide concrete implementations and social and economic solutions. Insightful results and proposals helpful to policymakers like higher education curricula developers and implementers, scholars, government and private universities of this study can help curb graduate unemployment through social entrepreneurship.

Keywords: social entrepreneurship; graduate employability; student entrepreneurs; motivation; skills; knowledge; perceived support and usefulness

1. Introduction

Globally, universities provide employment solutions to all sectors of the economy. However, employment levels continue to decline with rising unguaranteed wage employment or permanent employment as more people pursue education. In addition to being a serious social issue that requires considerable interest, the issue of graduate unemployment is also a major economic one. Nevertheless, several areas of the economy still need to be explored. Social enterprises (SE) include cooperatives, community enterprises, credit unions, housing associations, employee-owned businesses, trading arms of charities, and development trusts, among others, and are involved in addressing social problems while engaging in commercial activities to (partially or fully) promote their business activities (Islam, 2022; Powell et al., 2019).

Historically, the creation of social businesses in Europe, known as EMES, is a research institute concentrating on theoretical and empirical studies relating to social entrepreneurship and the social economy. In Europe, social enterprises are enterprises conducted by the international research group. The EMES definition of social enterprises (SEs) from Argyrou and Lambooy (2020) specified three prerequisites for SEs: the economic and entrepreneurial elements of SEs, the societal components of SEs and the participatory governance of SEs. The literature showed the prerequisites for economic and entrepreneurial dimensions as (a) a continuous activity producing things and/or selling services, (b) a considerable degree of economic risk, and (c) a minimum quantity of paid labour. The requirements relating to the sociological features of SEs involve (a) an express objective to benefit the community, (b) an initiative undertaken by a group of people or civil society groups, and (c) a limited profit distribution. The phases of addressing the participatory governance of SEs also include (1) a high degree of autonomy, (2) decision-making authority not dependent on capital ownership, and (3) a participatory nature engaging people connected with the enterprise (Defourny and Nyssens, 2006; Nyssens et al., 2023). Social entrepreneurship focuses on servicing more people with particular social challenges (Bacq and Eddleston, 2018; Karatas-Ozkan et al., 2023).

In recent years, social entrepreneurship has been allocated across industries to the non-profit sector, such as hybrid institutional forms that combine profit and non-profit approaches (Dees, 1998). According to Reis (1999), SE refers to applying business experience and market-based skills to the non-profit sector, such as when non-profit organizations implement novel income-earning approaches. SE also assist in identifying societal problems with good value and taking the opportunity to create wealth from the problems. In addition, Zhao (2018) concludes that some researchers understand the elements of social entrepreneurship as complex and diverse as it can be for social change with or without direct monetary benefit from their social ventures. On the other hand, SE as an entrepreneurial strategy is now in its infancy and evolving with education in entrepreneurship (Hariyaty et al., 2019) designed to bolster variety in its context, shared activities, teamwork and empowered individuals. Thus, SE activities are within all sectors of the economy. Theoretically, however, social capital may be the driving force or, at times, act as a catalyst in fostering SE activities (Daskalopoulou et al., 2023). The involvement of these social activities had a positive impact on the economy in terms of graduate employability.

From the literature, employability has been interpreted and described as a term from various viewpoints and levels, such as society, business, organizations and individuals, particularly in human resource management and in business and management studies (Okolie et al., 2020; Ornellas et al., 2019). Graduate employability attributes in terms of integrity, reliability, willingness to take chances and accountability to deal with the volatility of operating businesses under pressure are paramount. Strategic planning and thought, good communication and engaging well with people are prerequisites for graduate employability (Mainga et al., 2022). Yelasmanchili (2018) found it is not easy to identify, analyze and compare employability qualities that influence potential graduates' appreciation when graduates apply for entry-level graduate jobs to bring to the workplace.

Unemployment refers to the number of unemployed who are available to work or

attain employment and is a significant issue globally and in Malaysia prior to the crisis of COVID-19 (Abd Rahman et al., 2020; Nasir et al., 2020). Again, as per the OECD, 25% of graduates in England and North Ireland worked in positions requiring fewer degrees (MacDonald and Giazitzoglu, 2019). Comparable events consequently popped up in Malaysia, where more than 50% of college graduates from tertiary colleges earn salaries below what is typical for students who have pursued bachelor's degrees (Abd Rahman et al., 2020). With nearly 60% of Malaysian graduates still unemployed a year after graduation, it suggests that these graduates were employed at a lesser level. This phenomenon demonstrated that more students from public colleges had lower employability due to a lack of communication skills, expertise, and entrepreneurship training (Nooriah and Zakiah, 2017). According to Rahim and Lajin (2015), despite the number of new graduates leaving universities without the skills required to succeed in the workplace, such as understanding and skills, is high; hence, the need for graduates to work on their skills and knowledge.

Likewise, SE is less attractive among people and students because the economic changes and rising cost of living cause people to pursue profit rather than social value. With SE, learners engage in entrepreneurial activities, such as opportunity identification, resource mobilisation, and innovation, to create a new venture or innovatively manage an existing business to achieve their social mission (Igwe et al., 2022). However, graduates still need to recognize the value of SE activities, with no deep knowledge of SE, to produce feelings and aspirations towards social value creation while protecting the environment (Hietschold et al., 2019; Hockets, 2017). Immense studies have highlighted the university's role in preparing graduates for employability in ever-changing industries (e.g., Misni et al. (2020); Zotov et al. (2021)). This mindset resulted in some university graduates needing more decision-making, problem-solving, teamwork, self-motivation and social skills but with heads full of theories without the knowledge to apply them. Zotov et al. (2021) found these to hamper graduates' chances of attaining employment after completion (i.e., finding a satisfactory job in the shortest time possible). Graduate employability studies exist in countries such as the United Kingdom, France, Italy and Spain (e.g., Caballero et al. (2015); Zotov et al. (2021)). Much focus is on irrelevant skills, with a few investigating graduate-relevant skills required based on value creation to employers (Abd Rahman et al., 2020; Osmani et al., 2019). Governments all over like Malaysia are so concerned about reducing graduate unemployment with several interventions. One of the government's interventions is the promotion of entrepreneurship at the tertiary levels of education. This is meant for university graduates to consider entrepreneurship including SE as an important element of economic growth and inclusion. For instance, the Malaysia Government 2024 budget made financial provisions to promote green practices in businesses thus, "A Greener Future for all". In the budget, government is committed to spend on existing and emerging businesses or start-ups where Bank Negara and Khazanah National Bhd will provide RM 2 billion and RM 150 million towards sustainable technology start-ups and environmentally friendly start-ups respectively. Non-Governmental Organisations (NGOs) such as Chamber of Social Entrepreneur Development (CSED), AirAsia Foundation, PurpoSE and Sustain.ed are also involved in supporting SE initiatives in Malaysia and the ASEAN countries. Nonetheless, there is little research on graduate employability in

SE from Asian nations like Malaysia to encourage university students to pursue social goals equipped with social abilities like collaborating with others and persuasion, as well as complex problem-solving skills, versatility, and adaptability needed for present and the future knowledge-based economy rather than setting up of profit-oriented firms (Rossano et al., 2023; Sengupta and Sahay, 2017). With this approach, SE will become a panacea for reducing the socio-economic issues of nations.

Moreover, sparse studies used the Theory of Planned Behaviour (TPB) on the interrelationship of this study's variables effect on graduate employability. The above gaps confirm the need for graduate employability studies, notably this study's variables and context. Hence, this study contributes fresh perspectives by integrating new variables such as motivation, knowledge, skills, and social elements as antecedents of graduate employability mediated by perceived support and usefulness among graduates. The following sections describe the literature review, discussion, and concluding part.

2. Theoretical and hypotheses development

2.1. Theoretical overview

The Theory of Planned Behaviour, notably, can explain the relationship between the potential of social entrepreneurship factors towards future graduate employability. The Theory of Planned Behaviour (TPB) is mainly for human action (Ajzen and Madden, 1986) and efforts controlled by a set of beliefs. This theory supports empirical evidence concerning human behaviour studies (Al-Mamary and Alraja, 2022). The Theory of Planned Behaviour of Ajzen (1991), or started as the Theory of Reasoned Action, refers to the personal intention to engage in behaviour at a particular time. In addition, TPB indicates that anticipated improvement in behavioural results encourages positive behaviours and firm intention towards people's perception, which is an essential predictor of entrepreneurship hinged on three key components: attitudes, subjective norms and perceived behavioural control (Al-Mamary and Alraja, 2022).

The first predictor is attitude, a persistent inclination to respond or act in favour of a particular thing and precede a person's conduct (Ali, 2021). Applying attitude in relationship to the SE setting suggests people need to feel good, delightful, and oriented towards entrepreneurial activity to generate stronger perceptions and intentions. The second predictor is subjective norms, which apply to the assumption of conduct either accepted or disapproved by individuals. It relates to the people's belief as to whether peers and individuals of value to the individual should participate in the behaviour. Perceived behavioural control also refers to an individual's understanding of the ease or difficulty of conducting the conduct of interest. Perceived behavioural control differs between situation and behaviour, with an individual having different behavioural control expectations depending on the situation (Ajzen, 1991).

The TPB resonates with this study in that, as universities continuously provide entrepreneurial education, it should reflect in learners' attitudes to seizing profit-oriented ventures and consider social entrepreneurship. SE will make university graduates contribute to solving societal problems for or without profit. This vital contribution would make communities feel the significant impact of university

education as students become more employable in the job market. This theory is widely used in socio-psychological studies for understanding, predicting and explaining human behaviour (Ajzen, 2015) in varied domains to induce and conduct behaviour change (Steinmetz et al., 2016). TPB has also been used in entrepreneurship-related studies to predict employability and student-related behaviour studies (Ali, 2021; Okolie et al., 2020).

2.2. Motivation and social entrepreneurship

Motivation is an internal or external energising force that propels, guides, and sustains a person's behaviour towards reaching a specific objective (Idiegbeyan-Ose et al., 2019).

According to Tiwari (2020), motivation in SE makes beneficiaries more eager to seize opportunities and may even inspire them to pursue it as a career. Social entrepreneurship also provides a creative way that derives to potential shift towards future graduates (Gupta et al., 2020). Motivation in SE inspires students to help society.

Werdhiastutie et al. (2020) state that people are motivated to work because they want to complete a meaningful task and receive appreciation for it. Motivation significantly influences social entrepreneurs, making adherents readily employable (Hietschold and Voegtlin, 2022). Increasing motivation levels enhances the social skills development of students' self-awareness prior to work life and contributes to a high employability rate (Bhat, 2020; Raemdonck, 2015). As a result, we proposed that:

Hypothesis 1: Motivation has a positive significant effect on graduate employability.

2.3. Skills amidst social entrepreneurship

Skills learners of graduate students gained can be categorised into four sub-skills: basic academic skills, employability skills, technical skills and entrepreneurship skills. In Caballero et al.'s (2015) study, to bolster graduate employability, university education activities should focus on the transmission of skills required for employment (which includes training in entrepreneurship and self-employment), which received the highest rating among 230 deans surveyed from Spanish universities.

In general, skills and knowledge are must-haves in all entrepreneurship training, hence the need to understand how unique skills and knowledge integrate in assessing decisions for either a social entrepreneur or general entrepreneurship as literature reiterates the significant role of skills and knowledge for effective entrepreneurship (e.g., Do Nguyen and Nguyen (2023); Estrin et al. (2016)). Skills are related to entrepreneurship as they represent the 'know what' and 'know who' and are vital in pursuing opportunities. This supports the view that social entrepreneurship is not only about voluntary work but could also increase people's skills and knowledge to solve societal problems (Ariffin, 2021; Essel et al., 2020). More so, knowledge in social entrepreneurship includes social networking, which can enhance university graduates' chances of building social skills. Perru-Smith and Lamine (2017) observed that social entrepreneurship's skills and knowledge improve the collective success of people by encouraging the exchange of social ideas or values with each other. Studies like Upton

and Sporton (2022) and Bhatti et al. (2022) conclude that social or mainline entrepreneurship skills promote ability and entrepreneurial competence, contributing to graduate SE and employability to identify opportunities to address social and economic needs. As a result, the hypothesis is that:

Hypothesis 2: Skills have a positive significant effect on graduate employability.

2.4. Knowledge amidst social entrepreneurship

Knowledge represents a set of information on certain things obtained through stored knowledge (books, electronic media), a range of environmental phenomena and messages transmitted from sender to receiver (Amin et al., 2014). According to Mokthar and Zainuddin's (2016) study, knowledge is vital in enhancing a person's understanding and directly influences their behavioural intention toward acquiring an entrepreneurial mindset.

In the study of Zaremohzzabieh et al. (2019), knowledge is an integral factor that enhances people's awareness about anything and participation in a particular behaviour. For this study, knowledge is therefore considered an essential factor influencing graduate employability. Okolie et al. (2020) state that most graduates need more employability due to inadequate core knowledge and competency when applying for jobs. Students of SE can enhance their knowledge, skills and abilities to explore or participate in social activities, making them more employable after higher education training (Pardo-Garcia and Barac, 2020). Hence, the proposition is that:

Hypothesis 3: Knowledge has a positive significant influence on graduate employability.

2.5. Social element amidst social entrepreneurship

The social element is essential to social entrepreneurship toward graduates' employability. Several researchers have concentrated on SE research, in which the social element is a social domain (Gupta et al., 2020). According to past studies, social elements, including support from parents, friends, peer groups, associations or clubs, among others, enhance the success of entrepreneurship (Tiwari et al., 2017, 2022; Zaato et al., 2022). Researchers represent that these social elements play a crucial role in social entrepreneurship. Intention to perform with types of a kind with high accuracy can be predicted from behavioural attitudes, subjective norms and perceived behavioural control, which, together with the perception of behavioural control, account for substantial changes in actual behaviour and have a significant relationship between attitudes and social entrepreneurship intention among university students (Ajzen, 1991; Chipeta et al., 2016). In addition, Chipeta et al. (2016) found that positive attitudes influence university students to adopt SE. Based on the entrepreneurship intention concept, there is no significance between the differences in gender in influencing students' entrepreneurship attitude (Entrialgo and Iglesias, 2017). Further, Frunzaru and Cismaru (2021) found that student entrepreneurs' family background influences their attitude towards entrepreneurship intention because they make their parents role models. Therefore, we proposed that:

Hypothesis 4: Social Elements have a positive significant influence on graduate employability.

2.6. Perceived support and usefulness as a mediator of employability antecedent factors

Employability issues are of central concern in every country, with increasing expectations for institutions to provide suitably skilled graduates. In line with this, universities are required to familiarise students with the employment environment and stimulate reflections on such experiences (Noah and Aziz, 2020). Literature indicates that considerable university support enhances student employability and contributes to their economic and human capital (Cacciolatti et al., 2017). Entrepreneurship is also embedded with employability in conjunction with centralised career services, work placements and professional development planning to promote graduate employability (Rees, 2021).

In the lens of Su et al. (2021), higher education institutions need to launch employment support policies to encourage entrepreneurship. Perceived entrepreneurial support policies enhance entrepreneurship practices and skill sets of graduates, improve the success rate of business and can directly solve the employment problem as students perceive it as applicable. Likewise, high perceived support helps students to focus on entrepreneurship and improve their employment options. Thus, with entrepreneurship support, students can start a business with a high rate of success (Caballero et al., 2015; Noah and Aziz, 2020).

Similarly, entrepreneurial knowledge blinded with perceived support enables people to behave in a desired direction in implementing entrepreneurial initiatives that create self-employment (Hietschold and Voegtlin, 2022). From Foong-ming (2008), perceived support explains the link between knowledge and graduate employability.

These are the proven strategies for increasing learners' employability. However, they frequently have a narrow focus, preparing students for employment shortly after graduation (by emphasising the employment-related skills necessary devoid of offering them support services) (Noah and Aziz, 2020). In the study of Farenga and Quinlan (2016), support for graduates' job prospects is "Hands-Off," "Portfolio," and "Award," with a strong emphasis on what students already have and can show when they graduate from college rather than encouraging behaviour and mindsets that will lead to perpetual job prospects. The more universities place a high premium on perceived support to graduates. With more attention to supporting students, the better it produces graduates with high levels of motivation, knowledge and skills for employability.

Brooks et al. (2012) found that perceived university support to students launch their dream ventures during and after graduating builds their confidence in their capabilities. This kind of support promotes students' knowledge and high interest and explains their basis for future employability. This requirement of graduate employability heightens when universities encourage and improve the existing knowledge arena that educators and learners use to create, communicate, and propagate information (Huang and Turner, 2018).

Further, as individuals, universities, and the government provide entrepreneurial-related support to students, they need to appreciate the value of the support and its objective to bolster employment growth. It is based on how students perceive the support, and its usefulness is what would provide them with knowledge, motivation,

and relevant entrepreneurial skills (Saeed et al., 2018). Likewise, the Su et al. (2021) study proved a significant link between perceived support and usefulness's consequential effect on knowledge acquisition, skills, and motivation on the employability of university graduates. In line with that, we hypothesised the following:

Hypothesis 5: Perceived support and usefulness mediates motivation of student's employability. Hypothesis 6: Perceived support and usefulness mediates student's skills and employability.

3. Research methodology

Respondents of this research were 294 Universiti Malaysia Kelantan students, which is above the least sample size of 64 using the G-Power based on effect size of 10, α err prob of 0.05, power effect of 0.80 and 3 as the number of predictors. The researchers used a purposive sampling technique through the adoption of physical questionnaire administration to obtain single-source data on social entrepreneurship. The study questionnaires as presented in the Appendix has been adopted from related studies with details for the study independent variables and include five (5) items each of motivation (Cohen et al., 2019; Tseng et al., 2019), knowledge (Essel et al., 2020; Rizkitysha and Hananto, 2022; Tshikovhi and Shambare, 2015), skills (Mainga et al., 2022), and social element (Desiana et al., 2022; García-Morales et al., 2020). Again, we adopted eight (8) items each for the mediating variables thus, perceived support (Akhter et al., 2020; Hockerts, 2017), perceived usefulness (Ali et al., 2022; Jamal and Sharifuddin, 2015; Rizkitysha and Hananto, 2022) and 6 items on graduate employability skills (Blom and Saeki, 2011; Mainga et al., 2022) which served as the dependent variable. The questions were modified to suit this study, and except for the background chrematistics, all questions on the main variables were designed by the researchers using a 5-point Likert Scale. Following data treatment with fewer than 5% missing values, we used the SPSS and SEM techniques for descriptive analyses and the study variables' direct and indirect causal impacts.

4. Results

4.1. Data analysis

The study collected data from Universiti Malaysia Kelantan students in the Faculty of Entrepreneurship and Business (FEB) and Faculty of Hospitality, Tourism and Wellness (FHTW) as presented. The respondents of this study are from third and fourth or final years of their study with entrepreneurship background training on courses like fundamentals of entrepreneurship, entrepreneurship behavior, strategic entrepreneurship, social entrepreneurship, and managing and development of new ventures in their respective areas of specialization.

As in **Table 1**, the percentage of females is higher compared to males, which is 67.9% (201 female respondents), while the percentage of males is about 32.1%, with 95 of them in the age group of 21–30 years. Next, most respondents were Malay with 66.9%, Chinese as 56 respondents (18.9%), Indians representing 11.5% and eight (8) respondents (2.7%) representing others. In addition, most respondents answered 'Yes' to their involvement in social entrepreneurship activities, representing (61.5%), while

the result of 'No' is 114 respondents.

Table 1. Respondents profile (n = 296).

Demographic variable	Frequency (n = 296)	(%)
Gender		
Male	95	32.1
Female	201	67.9
Age		
20 or less years	14	4.7
21–30 years	276	93.2
31–40 years	6	2.0
Respondents race		
Malay	198	66.9
Chinese	56	18.9
Indian	34	11.5
Other	8	2.7
Involvement in social entrepreneurship activity		
Yes	182	61.5
No	114	38.5

4.2. Assessment of normality

The researchers adopted a normality test to determine the appropriateness of the distribution data before applying the structural equation modelling. The assessment signifies that the data is standard as the value of multivariate kurtosis is 4.452 and meets the requirement limit (<50), as suggested by Hair et al. (2016) and Kline (2023). All critical ratio values were below the cut-off value of ±8.0. Also, all the kurtosis values were within the acceptable range of ±7.0 (Afthanorhan et al., 2020). This result indicated that the data met the criteria of the parametric method and, thus, utilized the maximum likelihood-based structural equation modelling for further examinations.

4.3. Confirmatory factor analysis (CFA)

Confirmatory factor analysis (CFA) is used in various research fields for evaluation purposes before proceeding to the structural model for hypotheses testing. The CFA was used as the fundamental first step to examine the reliability and validity of the measurement model applied in the study. The CFA output is in two approaches: 1) individual and 2) pooled CFA. Both approaches are widely acceptable for measurement models (first-order or second-order construct). In the current study, the measurement model used the first-order construct for all constructs. Perceived support and Usefulness were examined as the mediator constructs, while Graduate Employability was an endogenous construct. The researchers used AMOS version 24 for handling this analysis. CFA assessed an entire model using construct reliability, validity, and global fitness indexes (Byrne, 2013).

4.4. Model fit

The study model was drawn as shown in **Figure 1** using the CFA method. The maximum likelihood estimator with a 50-off iteration limit was performed to generate an outcome of the CFA model. The result of global fitness indexes is exhibited in **Figure 1**. The outcome suggests that the value of Chi-square normalized by degree of freedom (Chisq/df) was 1.152; Comparative Fit Index (CFI) and Incremental Fit Index were 0.986; the Tucker-Lewis Index (TLI) was 0.985; and Root Mean Square Error of Approximation (RMSEA) was 0.021. These results were within acceptable values as all incremental index values (CFI, IFI, and TLI) should be at least 0.90; absolute index (RMSEA) and parsimonious index (Chisq/df) lower than 0.08 and 3.0 respectively as recommended by applied scholars (Westland, 2015) after deleting six items with poor loadings (PS1, PS2, PS7, PU1, PU2 and GE5) that make up the latent constructs. The rest of the items for each construct were higher than 0.60. Thus, the measurement model fit was adequate and reliability, and validity assessments could form the basis for the final step assessments.

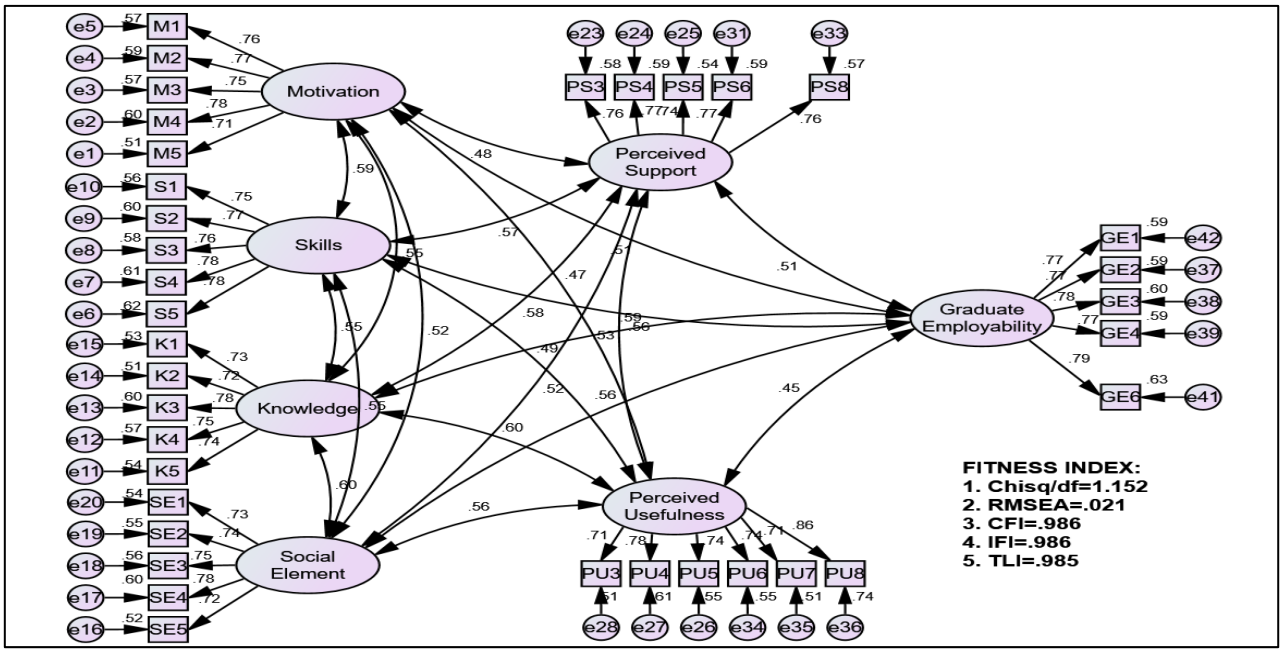

Figure 1. Pooled CFA.

4.5. Convergent and discriminant validity

Convergent validity means that each manifest variable (item) is measured strongly with its respective construct. There are multiple ways to assess the convergent validity, but the most commonly used for this purpose were Average Variance Extracted (AVE) and Maximum Shared Variance (MSV). The AVE was calculated based on the value of factor loadings, and MSV was measured using the value of construct correlations. In addition, the researchers examined the Composite Reliability (CR) for each construct. **Table 2** presents the reliability and validity results. All AVE values were higher than the recommended value of 0.50, and MSV values were lower than AVE values. Hence, the outcome established the convergent validity of the study constructs. In the case of reliability testing, all composite reliability values were higher

than the threshold value of 0.70, indicating that the construct reliability was confirmed reliable for further examinations, as per Zaato et al. (2023).

Table 2. Reliability and validity results.

Variable	CR	AVE	MSV
Perceived usefulness	0.884	0.561	0.375
Motivation	0.868	0.568	0.349
Skills	0.879	0.593	0.349
Knowledge	0.860	0.551	0.375
Social element	0.861	0.554	0.366
Perceived support	0.871	0.574	0.338
Graduate employability	0.883	0.601	0.353

Table 3. Discriminant validity.

Variable	Perceived usefulness	Motivation	Skills	Knowledge	Social element	Perceived support	Graduate employability
Perceived usefulness	0.749						
Motivation	0.470	0.754					
Skills	0.497	0.591	0.770				
Knowledge	0.612	0.549	0.549	0.742			
Social element	0.574	0.524	0.548	0.605	0.745		
Perceived support	0.525	0.475	0.574	0.581	0.516	0.758	
Graduate employability	0.454	0.513	0.560	0.594	0.556	0.510	0.775

Discriminant validity was an approach to measure the correlation between constructs in an entire model. The discriminant validity is established when the value of construct correlations is lower than the cut-off value of 0.85. In the meantime, the values of square root AVE (diagonal values) must be higher than on all construct correlations applied in the study. For this study, the correlation results were shown in **Figure 1** by creating a first-order construct. The results in **Table 3** proved that all constructs' correlation values were lower than the cut-off of 0.85. For other construct correlations in the model, the AVE values for each construct using the principle square root are consolidated with construct correlation (Afthanorhan et al., 2020). This criterion was established since both construct correlation and AVE values were satisfied.

4.6. Hypothesis testing

After evaluating the measurement model, the following step investigated the causal relationships by adding the path in the same model. These paths were analyzed to establish the link between all exogenous and endogenous constructs. **Figure 2** exhibits the structural relationships as proposed in the study. The researchers used the significance of path coefficients (*p*-value) and critical ratio (C.R.) to evaluate the hypotheses. According to Byrne (2013) and Afthanorhan et al. (2020), the path is significant at 0.05 when the value of C.R. is greater than 1.96. Given this recommendation, 10 out of 14 hypotheses were significant at 0.05, as depicted in

Table 4. These hypotheses included skills, knowledge, and social elements on perceived support, perceived usefulness and graduate employability. Among the path from mediator constructs, perceived support significantly affects graduate employability, while perceived usefulness does not.

Table 4. Regression weights: direct effect.

			Estimate	S.E.	C.R.	*P*	Result
Perceived_Support	←	Skills	0.278	0.070	3.949	***	Significant
Perceived_Support	←	Motivation	0.064	0.078	0.824	0.410	Not Significant
Perceived_Support	←	Knowledge	0.333	0.084	3.981	***	Significant
Perceived_Support	←	Social_Element	0.150	0.073	2.054	0.039	Significant
Perceived_Usefulness	←	Motivation	0.072	0.079	0.913	0.361	Not Significant
Perceived_Usefulness	←	Skills	0.124	0.061	2.032	0.043	Significant
Perceived_Usefulness	←	Knowledge	0.400	0.086	4.655	***	Significant
Perceived_Usefulness	←	Social_Element	0.278	0.080	3.485	***	Significant
Graduate_Employability	←	Motivation	0.132	0.080	1.652	0.098	Not Significant
Graduate_Employability	←	Skills	0.196	0.074	2.653	0.008	Significant
Graduate_Employability	←	Knowledge	0.298	0.094	3.160	0.002	Significant
Graduate_Employability	←	Social_Element	0.206	0.082	2.509	0.012	Significant
Graduate_Employability	←	Perceived_Support	0.114	0.058	1.967	0.049	Significant
Graduate_Employability	←	Perceived_Usefulness	−0.023	0.061	−0.321	0.748	Not Significant

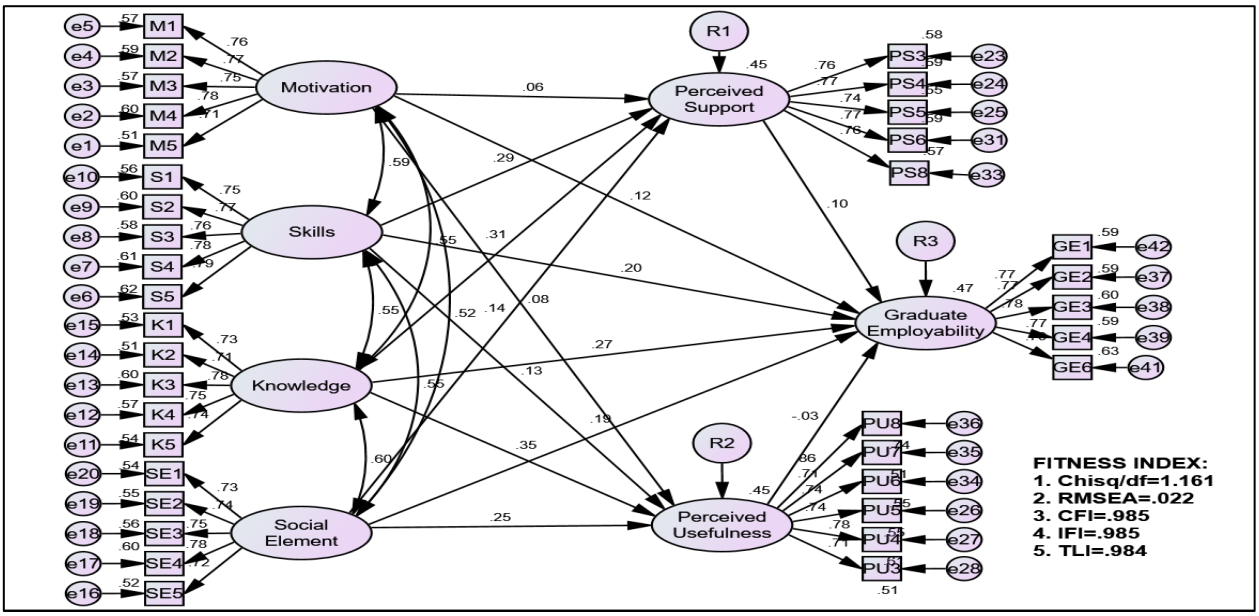

Figure 2. Structural model.

The graduate employability factor has contributed 0.47 or 47% of the total variance for this research. These contributions were predicted from four exogenous and two mediator constructs. Other factors in the phenomenon could explain the other 53% of variances. The next step is to test the indirect effects of perceived support and perceived usefulness constructs where the phantom approach was performed to estimate their specific indirect effects. The phantom model is conducted within the

same model but entirely disconnected from the estimated model (Nasir et al., 2020; Plomp et al., 2019). Therefore, it is a remarkable method that does not require stringent assumptions when testing the complex relationships in the model (Nasir et al., 2020). **Table 5** presents the indirect effect results using the phantom approach.

Table 5. Regression weight: Indirect effects.

	Motivation, support, graduate employability	**Motivation, usefulness, graduate employability**	**Skills, support, graduate employability**	**Skills, usefulness, graduate employability**	**Knowledge, support, graduate employability**	**Knowledge, usefulness, graduate employability**	**Social, support, graduate employability**	**Social, usefulness, graduate employability**
Unstandardized	0.064	0.132	0.28	0.124	0.298	0.165	0.277	0.124
P value	0.550	0.490	0.01	0.547	0.04	0.544	0.03	0.512
Result	No	No	Yes	No	Yes	No	Yes	No
Conclusion	Failed to Reject H0	Failed to Reject H0	Reject H0	Failed to Reject H0	Reject H0	Failed to Reject H0	Reject H0	Failed to Reject H0

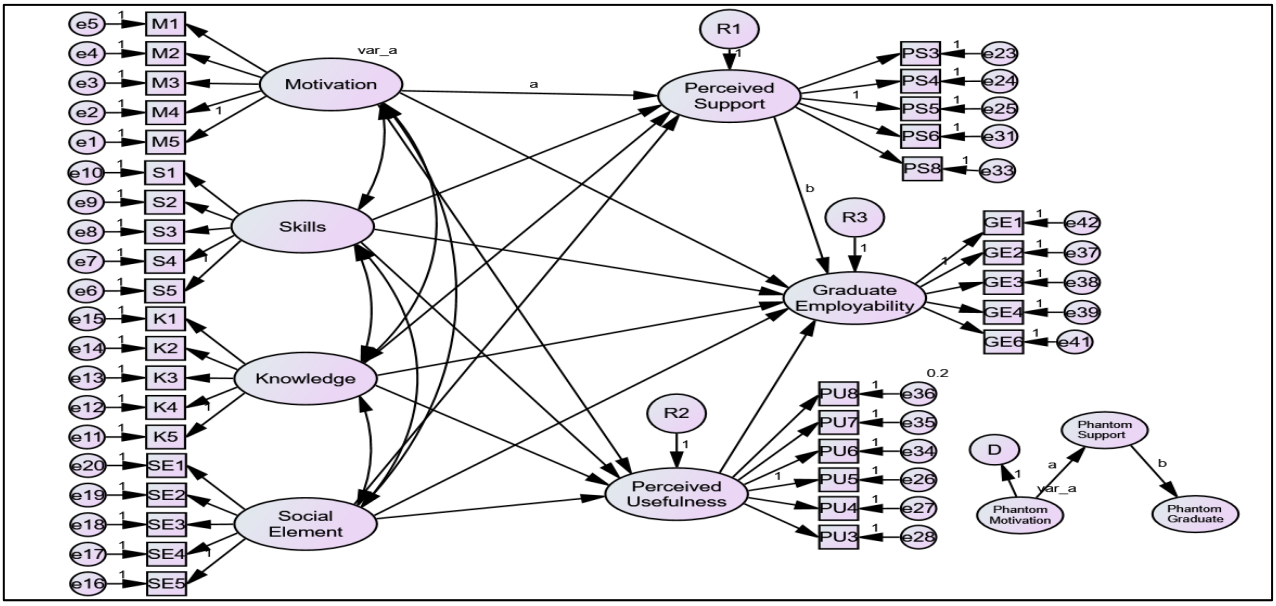

Figure 3. Example of phantom model.

Figure 3 presents the example of a phantom model using AMOS software for estimating the specific indirect effect. This example illustrates the indirect effect of motivation on graduate employability through perceived support as a total effect in the phantom model, whereas the original model constitutes the parent model. First, the three phantom constructs (Phantom Motivation, Phantom Support, and Phantom Graduate) were drawn at the next parent model. Second, the equality constraints were applied (a and b) to both structural paths of the parent and phantom model. Third, equality constraint was also applied to both exogenous constructs in the parent and phantom model with fixed to var_a. Lastly, a latent variable, labelled D with a causal effect from phantom motivation, is fixed with parameter '1'. The estimation process was conducted with 1000 bootstrapping applications and bias-corrected percentile. The specific indirect effect results are depicted in **Table 5** after performing the same procedures for another exogenous construct. As indicated below, five of eight hypotheses were not supported on graduate employability. On the contrary, three of

eight hypotheses (skills, knowledge and social elements) had statistically significant indirect effects on graduate employability through perceived support.

5. Discussion and implications

Motivation has received much attention from past studies on its relationship with graduate employability as a factor contributing to graduate employability (e.g., Aman (2020); Hosain et al. (2021)). Nonetheless, there are fewer empirical results about the effect of motivation in social entrepreneurship, which showed a significant result in graduate employability in this study. Thus, a motivation strategy can improve the employability of future graduates in social entrepreneurship (Hashim et al., 2023; Tiwari et al., 2022). In addition, Singh et al. (2023) mentioned that positive motivation for social entrepreneurship can create self-awareness in a person for better employability. Thus, high motivation for social entrepreneurship increases the potential of employability and has a positive relationship with future graduates' employability (Hosain et al., 2021).

The study also examines the relationship between skills in social entrepreneurship. This study contributes to the literature and demonstrates a significant relationship with graduate employability. The study model expanded graduate employability characteristics beyond the generic skills with discipline and career management skills (Belwal et al., 2017). The finding is also in terms with Tadjer et al. (2020) that skills in social entrepreneurship can assist students to communicate effectively with other people and enhance future employability. Besides, this finding supports previous studies that social entrepreneurship factors can be imparted and learned at university by gaining soft skills and generic skills students need during and after their studies to become a professional and competitive employee (Al Asefer and Abidin, 2021). Hence, this study highlights the value of skills such as good communication skills to unravel societal needs as well as proffer social entrepreneurial solutions, skills related to the particular field or institution, digital skills, problem-solving skills, good networking and team spirit, decision-making skills and creativity as highly required employability skills in SE.

Entrepreneurial knowledge in this knowledge-based economy is inevitable. Based on the study hypothesis, there is a positive relationship between knowledge and the employability of future graduates. This finding agrees with Rossano et al. (2023) that social entrepreneurship provides students with the knowledge and skills needed in an organization and is a significant factor in employability skills. Likewise, the result confirms studies that universities also provide knowledge of social entrepreneurship expertise, and it positively impacts their career decisions as they are creatively thinking and learning to improve their ability to generate new ideas and change existing trending goods and services in the job market (Mahendra et al., 2017; Wardana et al., 2022). SE training can provide opportunities for students to practice before entering a work environment, enhancing graduate employability.

On the fourth objective, a significant relationship exists regarding the social element of graduate employability. Evidence suggests that students' intention to embark on SE activities is heightened based on family and other social elements support (Chipeta and Koloba, 2016). This outcome further agrees with prior studies

that support from family, relatives, or friends influences students' involvement in SE and emerge successfully in any sector of business (Bazan et al., 2020). Hence, the university can create an environment to mould students' behaviour while they learn about SE, making social elements significantly influence the employability of future graduates.

The issue of perceived support and usefulness as a mediator or indirect effect of the study suggests that perceived support and usefulness only had a positive and significant mediating effect on skills, knowledge and social elements. This result agrees with prior studies of Foong-ming (2008), and Huang and Turner (2018) that perceived support explains factors like skills, knowledge and SE contributing to graduate employability. The study outcome contributes to the less existing literature on SE by confirming that perceived support and usefulness play an intervening role in the relationship between skills, knowledge and social elements of graduates' employability.

As provided by the study findings, most of the hypotheses thus, 10 out of 14 hypotheses, were significant at 0.05 as in **Table 4**. These hypotheses include skills, knowledge, and social elements on perceived support and perceived usefulness on graduate employability. Further, among the path from mediator constructs, perceived support significantly affects graduate employability, while perceived usefulness does not. Thus, this finding extends the current literature on SE, reinforcing that perceived support and usefulness would provide graduate students with knowledge, motivation, and relevant entrepreneurial skills needed for employment (Saeed et al., 2018; Su et al., 2021). Thus, the result suggests that perceived support motivates and equips university graduates with requisite interpersonal skills and a transformed mindset to launch their businesses after receiving an entrepreneurship education (Karatas-Ozkan et al., 2023).

This study provides empirical evidence for the Theory of Planned Behaviour, is primarily used in qualitative studies and is a fulcrum for further graduate employability studies using this model with essential implications for policymakers, practically and for future research.

For policy implication, this study recommends that the Ministry of Higher Education design an SE curriculum on elements discussed by this study with sustainable support involving outdoor activities like attending social entrepreneurship seminars to enable students to learn and contribute to society based on their experiences. This will also assist students to acquire more knowledge and communication skills that are good employability qualities. With the opportunities given, university students will be committed to joining any SE activities that can offer them more job opportunities. Further, the implication on the economy is that SE can contribute toward decreasing the graduate unemployment rate for those who are ready to work but lack the requisite knowledge and skills. Embracing SE will be a crucial driver for social transformation and creating balanced and equitable development of societies. The curriculum reviewers of higher education can also apply these findings to review the curriculum with better policies to improve SE education.

Practically, the implications of SE elements can also influence the success of industries involved in social activities or programmes since they need students who have soft skills which enable them to contribute creative ideas and innovation in

solving social problems, making them more capable of contributing to society and have a competitive advantage for employability. As a result, the study recommends for HEIs like university Malaysia Kelantan, an entrepreneurial university to incorporate Search Engine Marketing (SEM) into their websites to enable nascent students access vital information like social entrepreneurship initiatives in Malaysia, job prospects and requirements, resources required in SE, career trainings offered and possible networking activities. The introduction of SEM among other initiatives by tertiary entrepreneurial institutions will ease the effect of graduate unemployment leading to sustainable economic development of states like Malaysia an emerging country. Lastly, HEIs involved in entrepreneurship education can organise excursions and encourage students to do their industrial/internship attachment with existing MSMEs, cooperatives and NGOs promoting SE in Malaysia like Chamber of Social Entrepreneur Development (CSED), AirAsia Foundation, Purpose and Sustained to start ventures that can attract funding towards reducing graduate unemployment.

6. Conclusion

Social entrepreneurship as a means of solving society's problems while making a profit has been receiving attention recently, especially in the tertiary education of business schools. For this purpose, we developed a model based on the Theory of Planned Behaviour of Ajzen (1991) using motivation, knowledge, skills, and social elements as antecedents of graduate employability mediated by perceived support and usefulness. The findings revealed that skills, knowledge, and social elements on perceived support and perceived usefulness on graduate employability and perceived support also registered a positive and significant mediation effect on graduate employability except for perceived usefulness. This research introduces practical and theoretical implications. From the theoretical point of view, this study proved that Ajzen's TPB, notable as a socio-psychological approach for predicting and explaining human behaviour changes (Ajzen, 2015), is valid for graduate employability prospects.

The results contribute to the existing literature in that the proposed model helps to identify the mediating role of perceived support and usefulness on the antecedent factors of graduate employability in the Malaysian context. Remarkably, the outcome signifies that motivation, skills, knowledge and social elements are essential predictors of graduate employability, with knowledge being the most substantial positive factor, followed by skill and motivation. This indicates that students perceive social entrepreneurship knowledge, skill and motivation as essential to graduate employability. However, this finding did not predict a significant intervening effect of perceived usefulness on all the predictor variables. That is, participants do feel about perceived support but not usefulness. In view, the findings bring discoveries on graduate employability regarding social entrepreneurship, which is inadequately covered by literature.

Practically, too, the findings suggest that policymakers of higher education curriculum developers and implementors of the educational curriculum need to incorporate perceived support and usefulness in the teaching of entrepreneurship education in all their activities to create more interest and desire for students to

appreciate social entrepreneurship as an option for future graduate employability of which government and society at large will benefit. The result signifies that skills are vital for graduate employability and should be taken into account by policymakers when determining the employability skills needed for business graduates and the teaching/learning strategies that work best in entrepreneurship education to develop these competencies. Again, this study results suggest the need for higher education institutions to redesign their curricula by incorporating particular characteristics and personality traits that can alter graduates' outlooks and increase their employability by using what they have learned. In sum, another practical implication of this research finding require the use of Search Engine Marketing (SEM) by higher educational institutions in Malaysia like University Malaysia Kelantan (UMK) where paid advertisements can be made to showcase their SE programmes in order to attract potential students, job search resources, career development trainings/workshops and networking events.

7. Limitations and suggestions for future studies

This study achieved its main objective by employing a rigorous methodology. However, our study experienced a few limitations worthy of notice. Firstly, this research is single-source cross-sectional research using 296 University Malaysia Kelantan students; hence, our findings cannot portray the general views of all students of Malaysia. Future studies can be conducted in different regions of Malaysia and countries using longitudinal and other methods for cultural and economic reasons. Also, data were analyzed using quantitative techniques, and future researchers can use qualitative methods to study the relationship of the variables further. The study only examined the effect of motivation, knowledge, skills, and social elements that influence graduate employability mediated by perceived support and usefulness which opens an avenue for further experimental research to examine other factors and use other variables that may constitute a graduate's social entrepreneurship employability. Likewise, as part of solving the cross-sectional study results, we recommend that subsequent studies may determine which faculty that the study variable(s) is weakest. More importantly, the findings opined that, there should be regional and national policies such as the North Eastern states of Malaysia, among others like ASEAN countries to support social entrepreneurship and a comparison with the evolution of universities SE initiatives for the development of collaborations between universities and national and international funding agencies. To further enrich this study, it is recommended that this study be extended to various regions of the country. In a nutshell, conducting a comparative study with other regions or countries, using a multimethod approach, could provide a broader and more detailed perspective on the topic.

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Appendix

Survey questionnaire

Study questionnaire items:

Instructions:

We wish to express our gratitude to you for agreeing to participate in this study. The study questions are in two parts meant to illicit your views regarding social entrepreneurship and employability of student entrepreneurs with the mediating roles of perceived support and perceived usefulness. Once again, thank you for volunteering to participate in this study. Please, be informed that any information you provide is for academic purposes with no ethical issues.

Part 1: This part is made of questions on respondent's personal characteristics. Feel free and provide the appropriate information by ticking (√) the answer(s) that suits you.

1) Gender

Male ☐

Female ☐

2) Age group

20 or less years ☐

21–30 years ☐

31–40 years ☐

3) Race/ethnicity

Malay ☐

Chinese ☐

Indian ☐

Other ☐

4) Involvement in social entrepreneurship activity

Yes ☐

No ☐

Part 2: This second part contains questions to investigate the relationship between motivation, skills, knowledge, social element, perceived usefulness and support on graduate employability of social entrepreneurship. You are required to please express your view using the scale of 1 = (strongly disagree), 2 = (disagree), 3 = (Neutral), 4 = (Agree) and 5 = (strongly agree) by ticking (√) each of the question items applicable to you.

Table A1. Motivation in social entrepreneurship questions.

Motivation question items	**1**	**2**	**3**	**4**	**5**
1. My motivation towards social entrepreneurship is high.					
2. Motivation helps maximize talents and potential in social entrepreneurship.					
3. Motivation can improve my quality in terms of being involved in social entrepreneurship.					
4. Motivation in social entrepreneurship can influence my positive attitude.					
5. Motivation can increase the potential of employability.					

Table A2. Skills in social entrepreneurship questions.

Skills question items	**1**	**2**	**3**	**4**	**5**
1) Social skills are the most essential skill employers look for among graduate students (for example, the ability to communicate effectively with others).					
2) My skills level is increasing because of my engagement in social entrepreneurship activities.					
3) My skills level is increasing because of my engagement in social entrepreneurship activities.					
4) Employers prefer graduates who can work in a social environment.					
5) Social entrepreneurship can develop my communication skills (for example, delivering information to the community).					

Table A3. Knowledge in social entrepreneurship questions.

Knowledge question items	**1**	**2**	**3**	**4**	**5**
1) The knowledge of doing business while studying can help students in social entrepreneurship.					
2) I have a vast knowledge of social entrepreneurship.					
3) The knowledge that I gained in social entrepreneurship activities has changed me as a person.					
4) The social entrepreneurship platform has provided me with a lot of business knowledge and ideas.					
5) Social entrepreneurship activities reflect the knowledge of the graduates.					

Table A4. Social elements in social entrepreneurship questions.

Perceived social element question items	**1**	**2**	**3**	**4**	**5**
1) I intend to get involved in social entrepreneurship.					
2) I am ready to prepare myself by joining social entrepreneurship activities.					
3) I am intensely interested in social entrepreneurship because of its social mission.					
4) My family support me with any activities that relate to social entrepreneurship.					
5) My friends support my decision if I decide to be involved in social entrepreneurship activities.					

Table A5. Perceived support in social entrepreneurship questions.

Perceived support in social entrepreneurship question items	**1**	**2**	**3**	**4**	**5**
1) The university has faculty expertise in social entrepreneurship.					
2) University/ Faculty funds are available for social entrepreneurship projects related to employability.					
3) The organizational culture in my university encourages social innovation.					
4) University ecosystem that encourages students to experience social entrepreneurship activities.					
5) University/Faculty encourages students in social entrepreneurship projects.					
6) The university/Faculty provides enough infrastructure to support social entrepreneurship programs.					
7) The university supports industrial engagement to deliver social entrepreneurship elements that help employability.					

Table A6. Perceived usefulness in social entrepreneurship questions,

Perceived usefulness of social entrepreneurship question items	**1**	**2**	**3**	**4**	**5**
1) My involvement in social entrepreneurship programs would allow me to accomplish learning tasks quickly.					
2) My involvement in social entrepreneurship programs would improve my learning performance to get a better job.					
3) My involvement in social entrepreneurship would increase my job prospects.					
4) The university supports industrial engagement to deliver social entrepreneurship elements that help employability.					
5) Students' work placement (internships) relates to social entrepreneurship.					
6) My engagement in social entrepreneurship helps increase employability.					

Table A7. Graduate employability in social entrepreneurship questions.

Graduate employability question items	**1**	**2**	**3**	**4**	**5**
1) Social entrepreneurship has the potential to enhance employability skills.					
2) Social entrepreneurship can gain information related to work and labour market needs.					
3) Social entrepreneurship can build relationships and networks in the workplace.					
4) Social entrepreneurship can build confidence and the ability to increase productivity.					
5) Social entrepreneurship can get information about social entrepreneurship activities and financial assistance.					
6) Social entrepreneurship has the potential to build a career after graduation.					