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Abbreviation

ADB	Asian Development Bank
CDRI	Cambodia Development Resource Institute
EE	Entrepreneurship education
ERIA	Economic Research Institute for ASEAN and East Asia
HEIs	Higher Education Institutes
ILO	International Labour Organization
MoEYS	Ministry of Education, Youth and Sports
MEF	Ministry of Economy and Finance
OECD	Organisation for Economic Co-operation and Development
RGC	Royal Government of Cambodia
SDC	Swiss Agency for Development and Cooperation
SMEs	Small and medium-sized enterprises
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

Executive summary

Entrepreneurship is crucial to advancing the economy of Cambodia and fostering the development of society. The Royal Government of Cambodia has recognised the importance of entrepreneurship and included the promotion and entrepreneurship education in multiple policies and strategy. Universities and higher education institutes have been more active in providing entrepreneurship education (EE) as well as services and facilities to support startups in recent years. However, to date, there is very limited research on how young people in Cambodia perceive and prepare for entrepreneurial careers.

This quantitative study draws on the survey data collected from 834 students in 19 higher education institutions (HEIs) to, first, understand how undergraduates in Cambodia plan and prepare for entrepreneurial career choices and, second, identify the factors associated with their intention to become entrepreneurs. The students in the sample were mostly in their third and final year of study; about half of them were completing a degree in business, management, marketing and related services. The quantitative data collected were analysed together with a review of academic literature on EE as well as policy documents and reports on innovation and entrepreneurship support in Cambodia. We believe that the data and the findings of the study can help the government and HEIs promote entrepreneurship more effectively and efficiently.

The study finds that most students had very promising attitudes towards the career choice of being an entrepreneur. Eighty-two percent of them responded positively to the statement "I will make every effort to start and run my own firm" and 61 percent of them planned to have their own companies 5 years after graduation.

Around one-third of the students already had the experience of forming and/or operating a business, most of which were in the trade sector (wholesale and retail). A large majority of these students gained their business experience fairly recently, within the last 12 months at the time of the survey.

The study also collected data on whether the students received EE, which included both formal academic education programs and training workshops offered by other organizations. Most of the students in the sample (70 percent) had attended EE programs at some point. It also finds that the EE was largely effective in boosting students' motivation, knowledge, and skills in starting a new business.

EE notably comprises not only the learning of theories and knowledge; and, in recent years, the government, HEIs and other stakeholders have been promoting start-up programs and other opportunities for students to gain practical experience. The data showed that the level of participation in such programs and activities was generally low, although most of them acknowledged that they were aware of the programs or activities. Workshops or training on entrepreneurship were the most popular activities, in which about 50 percent of the respondents took part. Entrepreneurship promotion events and business start-up programs ranked second and third, with 30 percent and 26 percent of the respondents said they participated, respectively. Very few students had been engaged in mentoring, consultation, business plan competition, and start-up programs. This was the case despite students' relatively high interest in setting up their own businesses; in other words, there appeared to be an "intention-action gap".

Regarding the factors associated with the students' intention to become entrepreneurs, the study reviewed academic literature and identified nine influential factors. The nine factors are on three dimensions: individual, family and social, and entrepreneurship-related education.

The study used multiple linear regression to test whether these nine variables are associated with the students' entrepreneurial intention.

The study finds that, on the individual dimension, students who identified themselves as Cambodian Chinese (Cambodian with Chinese ancestry) tended to have higher entrepreneurial intentions. Students with higher personal attributes like innovativeness, risk-taking propensity, proactiveness and critical thinking were also more likely to have a stronger entrepreneurial intention. Previous studies have found that these attributes were significant predictors of entrepreneurial intention, and this study confirms that such correlation remains valid in the Cambodian context. However, the study could not find any evidence to support the gender-based difference in entrepreneurial intention.

Regarding the factors on the family and social dimension, the study finds that family income and perceived appropriateness were two variables that significantly predicted entrepreneurial intention. Such findings are in line with previous studies, indicating that family financial support and positive perception of entrepreneurial career in Cambodia greatly influenced students' intention to start their own companies.

All the three factors related to EE are found to be strong predictors of students' entrepreneurial intention. There are significant even after controlling for other factors in the model. These factors are participation in start-up programs and related activities, doing a business major, and having a positive perception of higher education support. These findings reconfirmed the importance of EE in Cambodia in increasing students' intention to become entrepreneurs.

The study also points out that three of all the factors included in the analyses seem to be most influential in determining entrepreneurial intention. They are: personal attributes (innovativeness, risk-taking propensity, proactiveness and critical thinking), perceived appropriateness of entrepreneurship for society, and perceived support from higher education institutions. Based on the findings, the study puts forward three recommendations for the government, HEIs and other stakeholders on the provision of EE. First, it is advisable that HEIs provide students with more opportunities to gain "hands-on experience", including internship and entrepreneurial activities. This would help further increase students' entrepreneurial intention and close the intention-action gap. Second, there is a need for providing and strengthening startup-supporting programs in universities, as they help students act on their intention and foster innovation. HEIs with less resources may want to consider making use of the existing startup support network in Cambodia. Third, HEIs should continue to provide courses and learning activities that develop the four positive personal attributes that contribute to increasing entrepreneurial intention (i.e., innovativeness, critical thinking, proactiveness and risk-taking propensity). Also, it is advisable to start building these competencies early on at a lower level of education, as such attributes tend to take a long time to form.

1. Introduction

1.1. Background

Entrepreneurship is an essential driver of economic growth and an engine of wealth creation on both the individual and the societal levels. It promotes innovation required to exploit new opportunities, promotes productivity, creates employment, generates solutions and addresses some of the greatest challenges of our time, be they social, environmental and economic (Schumpeter 1983; Chan, Bhargava, and Street 2006). In addition, entrepreneurship contributes to the overall growth of economies; it, in particular, supports the development of small and medium-sized enterprises (SMEs) and improves market competition, as it promotes product and service development in response to market needs and changes (Romer 1994; Hussain, Bhuiyan, and Bakar 2014).

An indispensable means of promoting entrepreneurship is entrepreneurship education (EE); it provides people, especially young people, the knowledge and skills, as well as raises their preparedness and intention needed to create successful businesses. This paper presents the findings of a study conducted in Cambodia that surveys university students' entrepreneurial intention and investigates whether and how EE leads to such intention.

Entrepreneurship and innovation are crucial to advancing the Cambodian economy and driving the aspiring economic growth as planned. Indeed, the domestic investment rate of Cambodia is only around 20 percent, which is significantly lower than other Asian nations that have successfully transformed their national economies, such as South Korea (30 percent), Thailand (34 percent) and Malaysia (32 percent) (Asian Development Bank [ADB] and International Labour Organization [ILO] 2015). Additionally, while SMEs take up to 70 percent of employment and 58 percent of domestic production, they are still overwhelmingly running as micro-and-small-sized enterprises and remain outside the formal sector of economy (Ehst et al. 2018). In the same vein, prior studies also identified poor entrepreneurial environment and challenges of SMEs, mainly related to regulation burden, limited innovation, and a lack of human capital (Khieng, Mason, and Lim 2019; Sam and Dahles 2017; Ehst et al. 2018; Kem et al. 2019; Vixathep 2013).

The Royal Government of Cambodia (RGC) recognizes the importance of entrepreneurship in advancing the country's economy so as to achieve upper-middle-income country status by 2030 and high-income country status by 2050 (RGC 2015; 2018). It has put in place a number of policies and initiatives aiming to foster the promotion of entrepreneurship. Some of the most significant policies are the Industrial Development Plan (2015-2025), the National Science, Technology and Innovation Policy (2020-2030), the Cambodia Trade Integration Strategy (2019-2023), the Education Strategic Plan (2019-2023), and the National Policy on Youth Development (2011). Other important initiatives that help support the growth of enterprises include establishing the Entrepreneurship Development Fund, Khmer Enterprise, Techo Startup Centre, and SME Bank, as well as the issuance of sub-decrees on the Provision of Tax Incentives for SMEs in priority sectors.

EE and other supporting programs are included in many of the public policies above, with public universities and other governmental organizations providing EE in and beyond universities. Private universities, private sector actors and development partners have also offered EE and supporting programs and facilities, such as entrepreneurs' networks and incubators, to promote entrepreneurship in Cambodia.

Despite the efforts, it could be challenging for the Cambodian government and other stakeholders to continue strengthening EE and supporting young entrepreneurs without adequate data and evidence to support policymaking and the designing of program activities. While recent studies on entrepreneurship in Cambodia mainly focus on stakeholders' involvement and status of entrepreneurship development in Cambodia (Holt 2020; Khieng, Mason, and Lim 2019; Ehst et al. 2018; Sam and Dahles 2017), there is very limited research on how young people perceive and prepare for entrepreneurial careers. This insufficient understanding, in our opinion, could limit the potential of such programs and policies, stopping them from contributing most effectively to the economic development of Cambodia. In view of this, our study aims to provide empirical data and to expand the growing "entrepreneurship literature" written in and for the developing context. We believe that the study can help the government and other stakeholders to align policy on entrepreneurship and innovation, as well as planning and provision of EE and other endeavours, with the needs of our future entrepreneurs.

1.2. Research questions

Entrepreneurship is a multidimensional process involving many activities, from the early stage of ideation to enterprise establishment and to creating macroeconomic impact. This study focuses on the provision of EE in universities. By design, it looks into the very early stages of preparing university students for starting entrepreneurial careers. A study by Ehst and colleagues (2018) found that university students increasingly considered being entrepreneurs as a possible career path. This study aims to determine whether this is also the case in Cambodia, for, to date, the understanding of how students plan and prepare for being entrepreneurs is still limited.

The study assesses university students' entrepreneurial intention (definition of which provided in sub-section 3.1.1) by investigating whether EE and the relevant support provided in Cambodia are preparing our next generation of entrepreneurs. EE does not take place in a vacuum, and one's entrepreneurial intention is influenced by multiple factors. This study, therefore, seeks also to identify factors that can influence students' entrepreneurial intention in the Cambodian context. Among these factors are ones of EE that can help elucidate the connection between EE and entrepreneurial intention.

In short, the research questions of this study are:

1. How do Cambodian undergraduates plan and prepare for entrepreneurial career choices?
2. What are the factors associated with their entrepreneurial intention?

1.3. Significance of study

The study collects primary data from undergraduates in universities in Cambodia and provides a comprehensive understanding of the factors that contribute to increasing students' entrepreneurial intention. To be precise, this study provides insight into the current situation and practices of entrepreneurial career planning in universities. This paper reports the study's key findings, based on which the authors put forward recommendations to a wide range of stakeholders to improve the provision of EE.

More specifically, the study will be beneficial to the following stakeholders:

- Policy makers, leaders and administrators of higher education institutes, and development partners – the findings will help inform the design and implementation of relevant programs and policies and help them advocate for strengthening EE.

- Future researchers – this study can be used to inform future discussions on raising students' entrepreneurial intention and engagement and may lead to a more comprehensive understanding of the impact of EE

The remainder of this paper is structured as follows: section 2 discusses the current provisions of EE and programs in Cambodia. In section 3, we define and explain empirical studies on entrepreneurship. Section 4 describes how data were collected and analysed. Next, section 5 discusses the findings of data analysis. The last section, section 6, concludes the study and discusses its implications for policy and future research.

2. Cambodian context: entrepreneurship education and training programs

EE is considered as a form of human resource development (Ferrandiz, Fidel, and Conchado 2018; OECD and ERIA 2014; Lee, Chang, and Lim 2005). It comprises courses or fields of study embedded in education systems that aim to foster individuals' entrepreneurial knowledge, skills and mindset. It also includes short and long-term programs aiming to help individuals develop practical entrepreneurial skills and gain hands-on experience. EE and training programs not only develop an individual's entrepreneurial competencies but also influence the intention of venture creation and successful entrepreneurship (Ferrandiz, Fidel, and Conchado 2018; Sánchez 2013). The gained knowledge and skills can stimulate an individual's motivation in founding their own business (Sánchez 2013). It can also be a precondition for developing the right understanding of and attitudes towards entrepreneurship, as acting on a strong desire alone to launch a business could be reckless (Lee, Chang, and Lim 2005).

Cambodia has undergone many education reforms to enhance the quality and accessibility of teaching and learning (Un and Sok 2022). Despite the reforms, the provision of EE is still fragmented – both in general and higher education. In general education, entrepreneurship is not considered as a priority within the curriculum; and there is a rare implementation of learning surrounding the topic (Khieng, Mason, and Lim 2019). This is due partly to teachers' use of a rote learning approach and emphasis on memorizing facts. These practices are at odds with integrating EE into the education system because EE requires the development of creative, opportunity-seeking, proactive and innovative competencies – the foundation of value generation and contribution to other people – as early as in primary education (Lackéus 2015).

In higher education institutes (HEIs), including universities, the importance of entrepreneurship and innovation is much better recognized (Khieng, Mason, and Lim 2019). In recent years, there has been increasing attention from the government and other stakeholders on providing young people with EE and training programs that aim to foster entrepreneurial awareness and skills (MoEYS 2019a; UNDP 2021; Sadesk and Lacave 2021). Alongside, some programs provide technical and financial support to entrepreneurs or potential entrepreneurs, that is, individuals who moved beyond the very early stages of the entrepreneurial journey. There is an increasing number of students receiving business-related education and a proliferation of business majors and programs that support start-ups (OECD and ERIA 2014; MoEYS 2021). The following highlights the current situation wherein EE, training, awareness-building, and other supporting mechanisms are being provided and promoted in Cambodia.

2.1. Policies and governmental commitment

The government has recognized the importance of EE and is committed to promoting it for young Cambodians. As such, EE has been included in the national Education Strategic Plan (2014-2018), which corresponds to the National Vision under the National Strategic Development

Plan (2014-2018); adhering to entrepreneurship is one of the critical competencies to be developed in the Cambodian human resource. For instance, the government established two funds, each worth five million USD, in the last five years. Firstly, a Skills Development Fund seeks to bridge the mismatch between university curricula, existing entrepreneur capabilities and market needs. Secondly, an Entrepreneurship Development Fund aims to encourage innovation and careers beyond traditional professional pathways (Sadesk and Lacave 2021).

The commitment was also made in multiple ministerial speeches. For instance, H.E. Dr HANG Chuon Naron, Minister of Education, Youth and Sport (MoEYS), assured the audience in an event that "it is our [MoEYS's] responsibility to give the youth the opportunity to explore their potential and to prepare them for future endeavours." (MoEYS 2018 as cited Khieng, Mason, and Lim 2019, p4). H.E. Dr AUN Pornmoniroth, Minister of the Ministry of Economy and Finance (MEF), in addressing the newly established Techo Startup Cente this year, said that the ministry "need to orient our [Cambodia's] young talents toward research and innovation corresponding to the new economic develop context by enhancing their skills and entrepreneurial capabilities to develop new startups" (Techo Startup Center 2022).

2.2. Entrepreneurship programs and support at HEIs

As mentioned earlier, degrees in business administration and management are becoming more prevalent and popular in Cambodian HEIs. Some universities went further and started initiatives to provide their students a wide range of educational and start-up support; these include entrepreneurial programs, startup supporting facilities, university-business collaboration, and business plan competition (see details in Table 1). These are critical for universities to transform themselves from being not only teaching and researching universities but also entrepreneurial universities; this process also involves research commercialization and innovation activities carried out by universities to contribute to the development of industries and the wider society (Sam and Dahles 2017). These activities also allow universities to expand their roles in the entrepreneurial ecosystem (Khieng, Mason, and Lim 2019).

More importantly, the entrepreneurial programs and supporting facilities are essential to supporting students to acquire entrepreneurial knowledge, build entrepreneurial skills and be inspired to start their entrepreneurial careers (Ferrandiz, Fidel, and Conchado 2018). Through supporting facilities, students are given access to support that is tailored to their needs. For instance, the establishment of the Techo Startup Center aims to encourage students to participate in incubation and acceleration programs as well as to provide students with mentoring and training services, which can help to shape their innovative ideas and sharpen their entrepreneurial skills for running their own startups. In addition, students can also access various types of support, such as working spaces, consultation sessions, connections to business owners, investment and funding opportunities.

While it is known that the government is committed to promoting EE, what is less known is exactly what programs are being implemented, except for the larger-scale initiatives such as the Techo Startup Center. This is because, to date, there is no large-scale study on such initiatives in universities in Cambodia. To facilitate the study, we compiled a list of university entrepreneurship programs and activities, alongside facilities and other support dedicated to supporting startups (see Table 1). We would like to emphasize that this list is not exhaustive, but we believe that it provides a sufficient understanding of the landscape. Most of the initiatives identified were led by universities in Phnom Penh, and this could place students outside the capital city at a disadvantage. The list of initiatives, nonetheless, does not allow us to assess the quality of the facilities and the effectiveness of the programs.

Table 1: Initiatives being provided by HEIs in Cambodia

University	Initiative	Category of support
Royal University of Phnom Penh	Courses on social entrepreneurship and innovation for master's degree program in the Faculty of Development Studies	Entrepreneurship program
	Courses on entrepreneurship and cooperatives in the Faculty of Development Studies	Entrepreneurship program
	Formal entrepreneurship and internship program in the Faculty of Engineering	Entrepreneurship programs Business-university collaboration
	Social Innovation Support Unit	Startup supporting facility
	Techo Sen Startup Center (a national agency with RUPP as a host)	Startup supporting facility
	University-Industry Cooperation Centre	Startup supporting facility
National University of Management	Undergraduate program on entrepreneurship and innovation	Entrepreneurship program
	Master's program on global innovation management	Entrepreneurship program
	Innovation lab (iLab)	Startup supporting facility University-industrial collaboration Awarding schemes
Institute of Technology of Cambodia	Techno Incubation Space	Startup supporting facility
Paññāsāstra University of Cambodia	Hub for entrepreneurship	Startup supporting facility
University of Puthisastra	Hackathons and makerthons	Awarding schemes
Cambodia Academy of Digital Technology	Innovation Centre for ICT research and translation	Startup supporting facility
Royal University of Law and Economics	Master's degree in Entrepreneurship and Project Management in French Cooperation Program	Entrepreneurship program
Royal University of Agriculture	Centre for food research and development	Startup supporting facility University-business collaboration

Note: This list is based on the authors' compilation and might not embrace all entrepreneurial programs and activities happening for all universities in Cambodia.

2.3. "Hands-on" training and supporting programs

Alongside university-based programs and support, there is a wide range of training programs and supporting activities being provided by other stakeholders, including development partners, government entities and private companies (as shown in Table 2). The training is usually provided as one of their core activities to the inspired entrepreneurs and business owners (depending on the target groups) to increase their understanding of key business concepts, improve their business skills, develop viable business plans, and ultimately improve their business performance.

In addition to the training, some advisory services and financial support are usually provided to help participants tackle challenges in establishing and growing their businesses. The program designs and activities are usually tailored to different stages of startups, from the pre-startup stage to the operational and scaling-up stages.

Like the initiatives at HEIs mentioned above, the effectiveness and impact of these programs were not known, partly because there are no publicly available evaluation reports and data. Relying on the publicized details of the programs, it was apparent to us that most programs were of a small scale and that networking was a primary objective of most programs.

Table 2: Initiatives being provided by development partners and other stakeholders

Name of programs and providers	Summary of programs	Contribution
Community-based enterprise development (C-BED) organised by ILO	**Target group:** marginalized communities, vulnerable groups, geographically isolated, low literacy and education, necessity-based entrepreneurs. **Period:** activity-based **Aim:** to support individuals to start or improve businesses for enhanced livelihoods. **Supports:** Online training	Awareness
Dak Dam incubator program organised by Impact Hub Phnom Penh and supported by HEKs/Eper and SDC	**Target group:** inventor-entrepreneurs passionate about having an impact on the agriculture sector in Cambodia **Period:** 3 months **Aim**: supports participants in developing viable, responsible business models **Supports:** innovation training, prototyping, mentoring, a field trip to learn about challenges and opportunities in Cambodia's agriculture sector, space to work, masterclasses, demo day, and access to the global network of Impact Hub Phnom Penh	Ideation, prototype, and incubation
Bluetribe organised by UNDP and supported by Smart Axiata, Shaper Impact Capital,3E-Fii Financial Group, Khmer Enterprise, iDE, Mekong Strategic Partners, Bongloy, The Idea Consultancy	**Target group:** entrepreneurs who are serious about building a business for the long term and not just a side project that would end after six months. **Period:** 6 months **Aim:** to help young founders build investment-ready ventures. **Supports:** building network and connection with customers and investors and advising support to develop their prototypes and business models.	Ideation, prototype, and incubation
Smart Scale organised by Mekong Strategic Partners and supported by Seedstarts, Smart Axiata, USAID	**Target group:** 13 Startup founders (40 percent) **Period:** 12 weeks **Aim:** to help local startup founders to identify their business gaps and develop their business skills and strategies. **Supports:** providing a platform for business network, business training workshops, mentorship, consultation, and funding (up to US$ 100, 000).	Acceleration
Women in TEK Network organised by The Asia Foundation and supported by Pact, USAID	**Target group:** Women with tech business **Period:** 1 year **Aim:** to spotlight women entrepreneurs as role models and to spark conversation that they have been countering especially negative perceptions **Supports:** free working space, networking events, and mentorship.	Network and awareness

Note: This list is examples of some programs deriving from Young Entrepreneurs Guidebook (UNDP, 2021)

3. Literature review

This section provides details on how entrepreneurship is understood in this study and illustrates how university students' entrepreneurial intention was measured. It thereby also explains the conceptual framework of the study, wherein the entrepreneurial intention is influenced by factors on the individual, family and societal, and EE dimensions.

3.1. Entrepreneurship

3.1.1. Definition

Entrepreneurship is considered a driver of innovation, employment creation, technological transformation, and growth of the economy. It involves the process of creating new things or modifying existing products, services, or production methods to enhance productivity or profitability (Schumpeter 1983; Chan, Bhargava, and Street 2006). In business operations, this is important to not only create new products and services but also enhance productivity, profitability, and job opportunities for other people. One may argue that economic policies should favour large enterprises over smaller enterprises because of their production efficiency and profitability (Gollin 2008; Acs et al. 2016). Yet, it is somehow incomplete and misleading because entrepreneurship covers broader aspects. For instance, entrepreneurship involves human capacities such as proactiveness, creativity, self-reliance and other competitive behaviours that are essential to growing individuals to succeed in working life, given contemporary society's economic challenges and changing landscapes of work (Schoof 2006; OECD [Organisation for Economic Co-operation and Development] 2010). In addition, it can potentially create new products and services to enhance the standard of living and non-economic wellbeing of society that are important for institutional and societal development (Vixathep and Matsunaga 2015).

There is not a single definition of entrepreneurship. For instance, some studies refer to entrepreneurship as human agents like arbitrators, coordinators in any forms of productions, employers, production managers, risk-takers, as well as innovators (Schumpeter 1983; Chan, Bhargava, and Street 2006). Entrepreneurship is sometimes referred to as individual behaviour. In this regard, entrepreneurship is defined as "[…] recognition of opportunities to create value, and the process of acting on this opportunity, whether or not involving in the formation of a new entity" (Schoof 2006, p xii). Similarly, OECD (2010, p 220) defines entrepreneurship as a "[…] phenomenon associated with entrepreneurial activity, namely enterprising human in pursuit of the generation of the market. It may occur through new creation or within SMEs, large firms, and the public and non-profit sectors". Some other studies set the boundary by referring entrepreneurship to the act of formation of new business enterprises and operations for income-generation purposes (Siri Roland et al. 2012; Valerio, Parton, and Robb 2014).

From the above definitions, it is plausible to say that entrepreneurship is a set of human behaviours; and sometimes occurs in establishing and operating one's own enterprises. In this study, though we acknowledge that entrepreneurship is more than just business establishment and operation for income generation, for the purpose of measurement, we use a narrower definition of the term and limit it to behaviour in establishing and operating one's own business.

3.1.2. Relationship between entrepreneurial intention and preparation

Numerous studies aim to answer a question: which factors influence people's choice to pursue a career as an entrepreneur? In process of answering the question, the entrepreneurial intention has been widely used as a key predictor of actual entrepreneurial behaviour. Entrepreneurial intention, in this regard, is the desire to start one's own business in the future, and entrepreneurial

behaviour is the process of preparing or starting a business (Bird 1988). The intention is the foundation of the behaviour. Simply put, the entrepreneurial intention is considered as the first step in starting a business (Gelderen et al. 2008); while the entrepreneurial behaviour is considered as the second step toward becoming a business owner/entrepreneur (Katz 1990).

This justification is consistent with a psychological theory called the "Theory of Planned Behaviour" that sees intention as a primary predictor of people's planned actions (Ajzen 1991). The intention is a construction of one individual's state of mind that guides them to perform a particular action. So, the better we understand people's intentions, the better we can forecast and explain their planned/actual behaviour. This notion has been tested in some empirical studies to understand the intention-behaviour relationship. For example, in a meta-analysis study by Sheeran (2002) covering 422 studies over ten years, the mean correlation between intention and behaviour is 0.53, accounting for 28 percent of the variance in behaviour; meaning the behaviour can be explained by the intention with a minimum mean of 25 percent to a maximum mean of 81 percent. In entrepreneurship, whilst it remains doubtful to some whether intention can accurately predict entrepreneurial behaviour, the entrepreneurial intention is still considered one of the key predictors of actual entrepreneurial actions (Krueger, Reilly, and Carsrud 2000; Verma, and Rao 2017; Ambad and Damit 2016).

3.1.3. Measurement of entrepreneurial intention and preparation

Researchers have developed and used different instruments to measure and assess entrepreneurial intention. From an occupational choice perspective, for example, Franke and Lüthje (2004) measured entrepreneurial intention with a simple statement of "it is very likely that s/he will start a business after graduation" using a five-level Likert scale. Similarly, Wang and Wong (2004) used the level of interest for starting one's own business using Likert scale questions starting from "no interest" to "very high interest". Entrepreneurial intention was also assessed with a dichotomous nominal scale with "yes" and "no" closed-question options. (Dohse and Walter 2012). In an entrepreneurial process, on the other hand, entrepreneurial intention was measured as the first step, "nascent entrepreneur", while "active entrepreneur" was identified as the latter step (Mamun et al. 2017). The intention, in this sense, was assessed by using a single statement as the instrument to proxy the intention.

Entrepreneurial intention has also been measured more comprehensively using a set of statements covering different aspects of entrepreneurship (Liñán and Chen 2009). This instrument measures individual's responses, on a Likert scale, using six statements (e.g., I am ready to do anything to be an entrepreneur, my professional goal is to become an entrepreneur). This instrument is believed to be adequate in measuring entrepreneurial intention and was cross-checked with empirical works (e.g., Krueger, Reilly, and Carsrud 2000; Ajzen 1991; Choo and Wong 2006). Its applicability was also tested for different contextual analyses (Liñán and Chen 2009). Noticeably, this instrument was frequently used in recent studies (Ambad and Damit 2016; Ozaralli and Rivenburgh 2016; Yıldırım, Çakır, and Aşkun 2016; Usman and Yennita 2019). Considering its comprehensiveness, we utilise this instrument in the present study, adopted from Liñán and Chen (2009), to measure university students' entrepreneurial intention. Further details on this instrument can be found in the Appendix.

As for the measurement of entrepreneurial preparation, this study uses students' experiences in doing business. This was assessed using a yes/no question asking students whether they had engaged in any processes of business formation/operation. If the students answered "yes" to this question, they were then asked to provide detailed information on business areas and the status of preparation, for example, time spent and activities that they have done. This way

of measurement might be different from other studies (e.g., Mamun et al. 2017); however, it provides us with the basic information and helps us tell apart who were engaged in doing business from those who were not.

3.2. Factors influencing entrepreneurial intention

Previous social-psychological studies developed multiple models and identified various factors that can influence entrepreneurial intention. From a psychological perspective, the formation of intention is influenced by individual characteristics. The variables used to predict the intention included personal attitudes (how a person feels about being an entrepreneur), perceived behavioural control/self-efficacy (confidence in their capabilities) and subjective norm (whether their entrepreneurship decision is supported by family and friends) (Ajzen 1991). In addition, personality traits were also found to be important factors in predicting one's entrepreneurial intention (McClelland 1961). A number of variables that reflect individual personality and traits were included in various models to understand the relationship between individual characters and entrepreneurial intention. Other variables that represent individual characteristics include innovativeness, risk-taking propensity, competitive spirit, proactiveness, need for achievement, and need for independence (Ozaralli and Rivenburgh 2016; Sánchez 2011; Yıldırım, Çakır, and Aşkun 2016; Franke and Lüthje 2004; Singh, Verma, and Rao 2017; Ambad and Damit 2016). Whilst the results are not clear-cut, most studies confirmed that individuals with a high level of self-efficacy, good personality traits, and positive attitudes towards entrepreneurship were more likely to have a stronger intention.

The ways in which entrepreneurial intention is influenced by demographical characteristics, such as gender and ethnicity, have been scrutinized in many past studies. Compared to women, men's entrepreneurial intention is usually more substantial. One reason for the difference is that most entrepreneurs are men; and another reason is that women tend to possess a lower level of risk propensity, which was said to be stopping them from choosing to be entrepreneurs (Bae et al. 2014; Yıldırım, Çakır, and Aşkun 2016). In terms of ethnicity, given the phenomenon of globalization and international migration, many countries' immigrants, for instance, Chinese tend to involve in business-related activities compared to the local people or other groups of ethics; thus it might affect their descendants in having interest to run their own business in the future (Wang and Wong 2004; Verver and Koning 2018).

In addition to personality factors and demographic characteristics, entrepreneurial intention can also be influenced by environmental settings. In other words, entrepreneurial intention can be affected by a wide range of factors, including social, cultural, and institutional aspects that influence individuals' perception of the possibilities and that increase their tendency to start a business. For instance, some studies investigated the impact of social and family-related factors to understand how social relations can foster the intention and formation of business enterprises. This is because, with family's and society's support, individuals can gain the resources, skills and connections needed to run a successful business. The variables used as proxies to measure the social and family-related factors include: having family background of running business; income level of family; perceived relational support; and perceived appropriateness (perceived acceptance of an entrepreneurial career in society) (Adekiya and Ibrahim 2016; Wang and Wong 2004; Mamun et al. 2017; Ambad and Damit 2016).

Moreover, the impact of governmental interventions and educational environment seemed to receive a lot of attention from prior studies (Dao et al. 2021; Ambad and Damit 2016; Ozaralli and Rivenburgh 2016; Franke and Lüthje 2004; Sánchez 2011). In Malaysia where the government has paid considerable attention to promote entrepreneurship, key factors that are

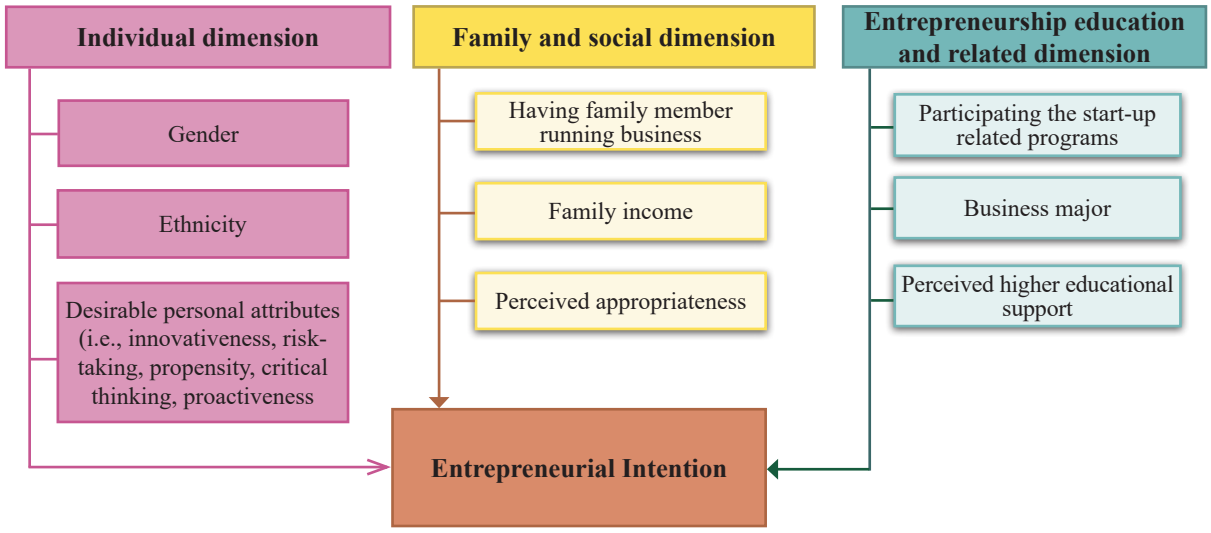
included in predicting the intention are: perceived educational support; perceived relational support; and perceived structural support (Ambad and Damit 2016). Similarly, since EE and academic environments tend to shape entrepreneurial aspiration and capacities of young individuals, the variables of field of study, EE and training experience, perceived educational support and university environment were also tested (Turker and Sonmez Selcuk 2009; Franke and Lüthje 2004; Sánchez 2011; Wijayati et al. 2021).

The studies above well elucidated the significant influence that social, educational, and demographical factors have on entrepreneurial intention. They inform the conceptual framework and design of data collection tools of this study, which are elaborated in the following sub-section.

3.3. Conceptual framework

Informed by previous research projects in this field of work, we included nine variables that could influence entrepreneurial intention in the Cambodian context. Those variables are categorized into three dimensions, namely (1) individual dimension, (2) family and social dimension, and (3) EE and related dimension (illustrated in Figure 1).

Figure 1: Proposed framework for the current study



Source: Authors' synthesis

Individual dimension comprises gender, ethnicity and positive personal attributes. Gender is chosen because, in Cambodia, most formal businesses are run by males, even though there is an increasing number of women running their own businesses (World Bank 2022). Thus, female students might still be less interested in pursuing an entrepreneurial career, as they are the minority and might prefer being employed rather than founding their own firms (Yıldırım, Çakır, and Aşkun 2016). Ethnicity is included because Cambodian society is quite heterogeneous. Migration of people from other Asia countries like China and Vietnam was noticeable throughout history. Many people of Chinese ethnic origin received their Cambodian citizenship through birth or marriage; they are more active in trading and business activities compared to other ethnicities (Verver and Koning 2018). Therefore, this variable is chosen to assess whether ethnicity has had any influence on the students' entrepreneurial intention. The variable of personal attributes is a combination of four attributes, namely innovativeness, risk-taking propensity, critical thinking, and proactiveness. These attributes were found to be important for increasing students' entrepreneurial intention and, more generally, helping

students to be competitive in today's changing society (Ozaralli and Rivenburgh 2016, Alberta 2011). For example, critical thinking, one of the 21st-century skills, helps individuals analyse and apply possible solutions in daily life (Alberta 2011) as well as enhances their capacity to implement business strategies and run a successful business. Therefore, critical thinking is combined with the three personal attributes to identify the relationship between entrepreneurial intention and personal attributes.

On the family and social dimension, three variables, namely entrepreneurial family background, level of family income and perceived appropriateness, are included. The first variable is important because parents or any other family members running the business can influence children's and young people's career choices as role models (Wang and Wong 2004). Also, it gives them the chance to accumulate the right skills and experience as well as the access to valuable social networks. Thus, it is plausible to say that an entrepreneurial family background can motivate one to pursue an entrepreneurial career. The second variable, family income, is another influential factor, as one's family wealth can potentially provide the financial support needed in finding/running one's own business, a process that can be costly (Wang and Wong 2004). The last variable in this dimension is perceived appropriateness. This variable is a measurement of the extent to which individuals think that an entrepreneurial career is appropriate within their society (Adekiya and Ibrahim 2016). It is believed that a positive perception of an entrepreneurial career could influence some to pursue such a career in the future.

The final dimension, the EE dimension, includes three variables: exposure to programs supporting startups and providing "hands-on" experience; doing a business major; and perceived higher education support. As mentioned earlier, universities and other stakeholders, such as development partners, have offered business-related programs in Cambodia that aim to improve young people's entrepreneurial knowledge and skills. It is thus vital to identify the relationship between the participation in these programs and the students' entrepreneurial intention (Ferrandiz, Fidel, and Conchado 2018). We hypothesize that students' participation in these programs is a predictor for their stronger entrepreneurial intention. The second variable on this dimension is "business major". We view the choice of enrolling in a business major as a form of self-investment, in which students invest in increasing their knowledge and skills in running a business. In the process of receiving education, students in a business major might gain more entrepreneurial knowledge and competencies than their peers doing other majors and may thus be more inspired to start an entrepreneurial career (Wijayati et al. 2021). Perceived higher education support is the last variable to observe. It measures the extent to which students agreed that their universities had given enough support for starting a business. This variable allows us to check whether the investment in building a support system in universities helped increase students' interest in becoming entrepreneurs (Turker and Sonmez Selcuk 2009; Franke and Lüthje 2004).

4. Methods

This study uses a quantitative research design to collect data and generalise research results from a specific proportion of the target population, known as the sample (Macdonald and Headlam 2008, p.9). This study uses a questionnaire to collect quantitative data; the target population is university students in Cambodia in their final year (year 4 or year 5) as well as those approaching the final year of their undergraduate degree (year 3). They were chosen for the study because they were about to enter the labour market and had to plan for their careers – for some a career as entrepreneurs. The detailed processes of sampling, data collection and analysis are elaborated upon below.

4.1. Sampling and sample

The sampling consisted of two stages. The first stage involved a random selection of HEIs using systematic sampling with the probability proportional to the size of the total student enrolment. The sampling frame was based on the HEI list and enrollment statistics obtained from the Department of Higher Education under the MoEYS. In this first stage, 25 HEIs were selected for the study; however, only 19 HEIs agreed to join the study. Those HEIs comprise five public HEIs and 14 Private HEIs based in Phnom Penh and other provinces, namely Battambong, Prey Veng, Svay Reang, Siem Reap, Takeo, and Kampong Speu.

In the following stage, a simple random sampling was applied to select students from the HEIs. The sampling frame was mainly based on the lists of students enrolled in the academic year of 2020/21, obtained from the HEIs. For HEIs that could not provide us with student lists, we requested them to share a survey link with students, from which we collected names and contacts of students willing to participate in the study. The number of respondents per HEI was determined based on the enrollment size of each participating university.

Table 3*:* Demographical information of student respondents

Respondent characteristics		**Freq.**	**Percent**
Gender	Male	376	45.08
	Female	458	54.92
Age group	≤ 20	100	11.99
	21-25	658	78.90
	26-30	61	7.31
	≥31	15	1.80
Field of study	Business, management, marketing, and related services	445	53.36
	Legal professions and studies	68	8.15
	Computer sciences and related services	63	7.55
	Engineering	57	6.83
	Foreign languages, literatures, and linguistics	55	6.59
	Social sciences	54	6.47
	Public administration	25	3.00
	Others (agriculture, architecture, education, etc)	67	8.03
Year of enrollment	3	358	42.93
	4	465	55.76
	5	11	1.32
Current resident	Phnom Penh	397	47.60
	Provinces	437	52.40

Source: University student survey 2021

A total of 834 students from the 19 HEIs participated in the study. The demographic information of those student respondents is shown in Table 3. There are more female respondents (55 percent) than male respondents (45 percent). Most of them (79 percent) were aged between 21 and 25 and were in the 3rd and 4th years of their university enrollment. Noticeably, quite a small number of participants (1.3 percent) were in their 5th year; this was because some students were in courses that were longer than four years, for example, the degree of engineering. 54 percent

of the respondents were doing a business major, such as management, marketing, accounting and other related services (hereafter shortened as business major); the remaining 46 percent were doing a major other than the above, these included law (8 percent) and computer sciences (7.5 percent). It is worth highlighting that a larger proportion of the sample doing business majors can be explained by the sampling process. As mentioned earlier, HEIs with large numbers of student enrolment are likely to be selected in the first stage, and it happens that large universities specializing in business majors were selected. For their residential locations, the urban-rural proportions are almost equal− 52 percent are based in provinces, and 48 percent are in the capital (Phnom Penh).

4.2. Data collection

This quantitative study used a cross-sectional design with a structured questionnaire to collect data from the students. The questionnaire consists of seven sections, namely: (1) demographic information, (2) educational background, (3) general career plan and entrepreneurial engagement, (4) personal traits and entrepreneurial intention, (5) exposure to EE and related activities, (6) family background, and (7) their current economic activities. Some questions, mainly those on career plans and entrepreneurship engagement, were adopted from "Global Student Entrepreneurship Survey 2018" that had been used in 54 OECD's member countries (Sieger et al 2018).

Due to the COVID-19 pandemic and travel restrictions, the interviews were conducted remotely using multiple applications and platforms. Specifically, KoBo Toolbox was used for digital data entry. Meanwhile, Zoom video conference, Telegram and telephone calls were used for communication, depending on the preference and internet connection of the interviewee. Prior to data collection, a team of eight enumerators (six females) were trained to familiarize themselves with the questionnaire with KoBo Toolbox and Zoom video conference. The questionnaire was also pre-tested with 16 undergraduate students and then revised for actual data collection.

The research team conducted the interviews mainly through Zoom (79 percent). The remaining were through phone calls (16 percent) and through Telegram call (5 percent). Each online interview took approximately 40-50 minutes. The whole fieldwork took roughly two months, from early June to late July 2021.

For the contacted individuals, they were informed on the research ethics to ensure their voluntary participation and candid responses. Interviews started with a brief introduction about the study objectives and data privacy. Enumerators also let the respondents know that they could withdraw at any time during the interview if they think that the questions were sensitive or irrelevant to them.

There was a quality assurance process over the collected information. After completing the interview, the research enumerators carefully reviewed the survey form prior to submission. All submitted information was double-checked and verified by a principal investigator before being included for analysis.

4.3. Analysis

The collected data were analysed in two steps. First, descriptive statistics were employed to describe the current situation of students' career plan, education, and experience in relation to entrepreneurship. The analysis consisted of frequency, percent and cross-tabulation calculations to understand the pattern and compare the difference in the student groups. Second, regression

analyses were used to identify the factors influencing entrepreneurial intention. Prior to the regression analysis, a statistical test of Cronbach's Alpha was also utilised for checking the reliability and internal consistency of some variables.

The descriptive results of the variables used for regression are presented in Table 4. The average score of entrepreneurial intention of the sample students is 3.67, and 33 percent of the students had business preparation experiences. In regards to the factors on the individual dimension, the sample comprises more female students (55 percent) than male students (45 percent). Among all, the students who declared themselves as Cambodian Chinese (Cambodian with Chinese ancestry) constitute 31 percent of all participants, with the remaining 69 percent identifying themselves as Cambodian only, Cambodian Cham, Cambodian Vietnam, and others. The students on average had a personal attribute score of 3.86; as a reminder, the four attributes were identified as key to developing entrepreneurial behaviour (see section 3.2), and a higher score indicates a higher degree of possession of such attributes.

Table 4: Variables included in the regression model

Variable	Measurement	Mean	Freq.	Percent
Dependent variable				
Entrepreneurial intention	Composite score of 6 items (1 Strongly disagree to 5 Strongly agree)	3.67	-	-
Independent variable				
Individual factors				
Gender	1=Female 0=Male	-	458 376	54.92 45.08
Ethnicity	1=Cambodian Chinese 0=Others	-	255 579	30.58 69.42
Personal attributes	Composite score of 17 items from 4 different constructs (innovativeness, risk-taking propensity, proactiveness, and critical thinking)	3.86	-	-
Family and social factors				
Having family member running business	1=Yes 0=No	-	506 328	60.67 39.33
Family income	1= Less than $500 2=$500-$1000 3= More than $1000	-	573 118 143	68.71 14.15 17.15
Perceived appropriateness	Composite score of 5 items	3.86	-	-
EE and related factors				
Startup-related program experience	Composite score of 10 questions asking experience in participating the programs (0=never participated/ never heard of 1=participated)	1.94	-	-
Business major	1=Doing major in business 0=Doing other majors	-	445 389	53.36 46.64
Perceived higher education support	Composite score of 7 items	3.52	-	-

Note: n= 834

Source: University student survey 2021

As for the factors on the family and social dimension, about 60 percent of the study sample have their immediate family member(s) (father, mother, or sibling) operating a business. About 70 percent of the respondents reported that their family earned less than $500, followed by $500-$1000 (14 percent), and more than $1000 (17 percent). Their mean score of the perceived appropriateness is 3.86; as a reminder, perceived appropriateness is the extent to which the respondents thought that an entrepreneurial career was appropriate in society (that is, in this case, Cambodia).

Regarding the factors on the EE dimension, among the ten programs studied (listed in Figure 10), students on average participated in approximately two programs. The students in business and related majors make up 53 percent of the sample. Lastly, the average score of perceived higher education support is 3.52.

Since some instruments such as entrepreneurial intention, personal attributes, perceived appropriateness, and perceived higher education support used Likert-scale type, prior to the regression analysis, we performed Cronbach Alpha test to assess their level of reliability or internal consistency. The results of each component are reported in Table 5 below.

Table 5 presents the Cronbach's Alpha test results. Overall, most of the Alpha values are between 0.7 and 0.8, meaning that they are at an acceptable level. Having said this, innovativeness, risk-taking propensity, and critical thinking have relatively lower values of Alpha (<0.5). Yet, when the four attributes are combined to form the variable "personal attributes", the Alpha value is 0.8, which is in the acceptable range.

Table 5: Results of Cronbach's Alpha test

Variables	Number of items	Mean	Std. Dev.	Min	Max	Cronbach's alpha
1. Entrepreneurial intention	6	3.67	0.54	1.83	5	0.8
2. Personal attributes	17	3.86	0.33	2.43	4.92	0.8
+ Innovativeness	5	3.59	0.40	2.20	5	0.5
+ Risk-taking propensity	3	4.00	0.46	2	5	0.5
+ Proactiveness	6	3.91	0.39	2.50	5	0.7
+ Critical thinking	3	3.93	0.44	2.33	5	0.5
3. Perceived appropriateness	5	3.86	0.50	2.20	5	0.7
4. Perceived higher education support	7	3.52	0.52	1.29	5	0.8

Source: University student survey 2021

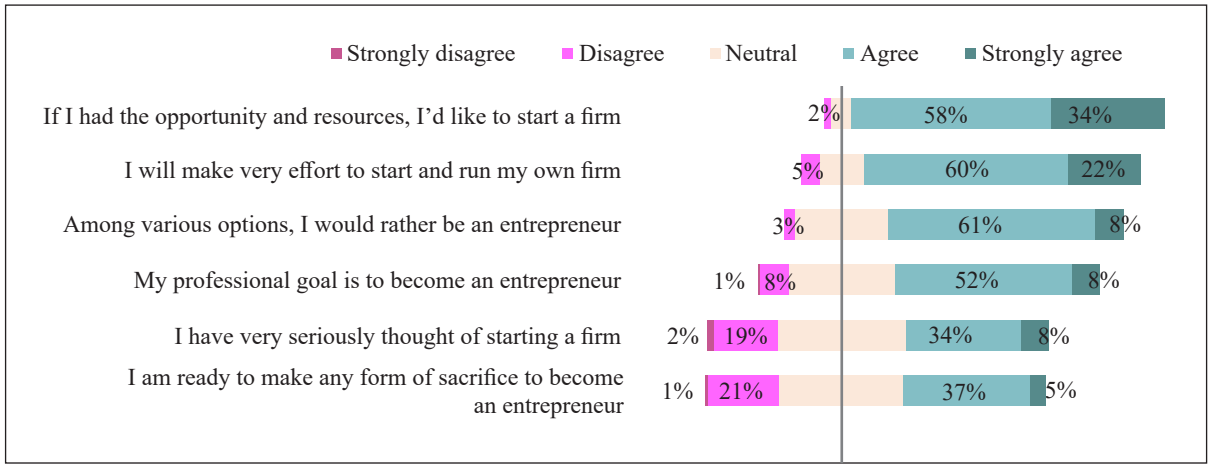
5. Findings and discussion

5.1. Entrepreneurial career intention and preparation

As entrepreneurship has the potential to drive individual growth while fulfilling the societal development gaps, this study uses the students' perspectives and experiences to establish an understanding of how they would plan and prepare for their careers as entrepreneurs. To do this, we explored their career plans, as well as their participation in business preparation activities and entrepreneurship-relevant education and/or capacity-building programs.

5.1.1. Career plan

Figure 2: Self-reported entrepreneurial intention in percent



Source: University student survey 2021

Figure 2 shows the students' responses to six statements that measured their attitudes towards establishing and running their own businesses. The figure shows that the majority of the students had positive attitudes towards becoming an entrepreneur. For example, most of them agreed that if they had the resources and opportunity, they would like to start their own firms. Similarly, they would put their effort into establishing their business. That said, the majority remained "neutral" or "disagree" to the statement on whether they would make sacrifices for being an entrepreneur and whether they had seriously thought of starting a firm.

Figure 3: Career plan soon after degree completion and five years later in percent

Career Plan after graduation in percent	Directly after graduation	5-year after graduation
Employer or business owner of my parent	3%	2%
Employer or business owner of my own business	17%	61%
Employee / officer	72%	31%
Self-employed (not owning any business)	1%	2%
Further my education	5%	2%
I have not decided yet.	3%	3%

Source: University student survey 2021

The students were asked about their career plans for soon after graduation and five years after graduation; the results are shown in Figure 3. The majority of the respondents (72 percent) said they would like to be employed in either the private sector or the public sector while only 17 percent of students would like to become an employer or a business owner soon after graduation. Surprisingly, the proportion of those who wished to be business owners five years after graduation significantly increased to 61 percent. We believe that this is because fresh graduates usually have limited work experience and scarce resources for starting their own companies; working as employees allows them to gain experience, build useful connections and save money before starting their own businesses. We will return to these factors in the discussions on the family and social dimensions.

Table 6: Career plan by major of study in number and percent

		Business owner of my parent		Business owner of my own business		Employee / officer		Self-employed		Further my education		Others/ haven't decided	
		N	%	N	%	N	%	N	%	N	%	N	%
Immediately after graduation (1)	Business major (n=445)	11	2.47	90	20.22	315	70.79	3	0.67	19	4.27	7	1.57
	Other majors (n=389)	12	3.08	50	12.85	284	73.01	6	1.54	19	4.88	18	4.63
5-year after graduation (2)	Business major (n=445)	7	1.57	317	71.24	104	23.37	5	1.12	6	1.35	6	1.35
	Other majors (n=389)	9	2.31	190	48.84	153	39.33	10	2.57	9	2.31	18	4.63

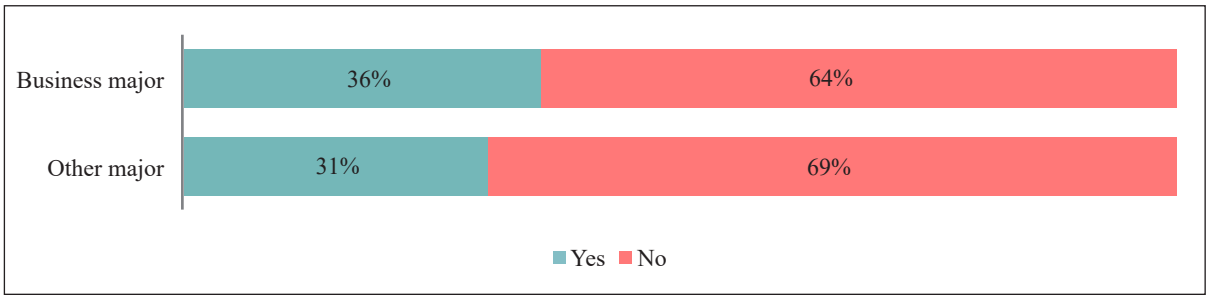
Note: Pearson $chi^2(1) = 15.2248$ Pr = 0.009; Pearson $chi^2(2) = 46.3815$ Pr = 0.000
Source: University student survey 2021

Table 6 presents the career plan of students in business major and those in other majors, including law, computer sciences, engineering, foreign languages and social sciences. Compared to their counterparts, a higher percent of the students in business major intended to become business owners at both time points. The difference between the two groups of students wanting to own a business after five years of graduation (22 percent) was approximately three times wider than that immediately after graduation (7 percent). In short, more business-majored students than students in other fields are aspiring to be entrepreneurs or business leaders.

5.1.2. Preparation

5.1.2.1. Business plan and action

Figure 4: Business engagement by field of study in percent



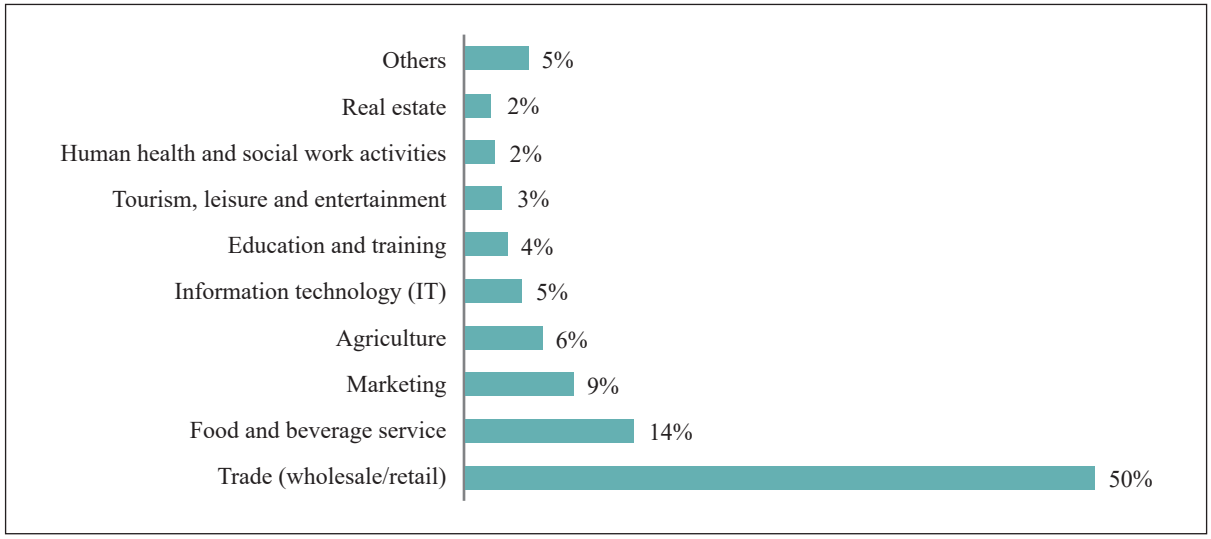
Source: University student survey 2021

Figure 4 shows the actual business engagement of the student respondents. We simply asked whether they had any experience in business formation and/or operation, and approximately one-third of them said yes. Comparing the students in business-related majors and those in other majors, a larger proportion of the former had had such experiences.

Those with experience in business preparation (n=277) were asked further which industries their prepared businesses were in, with the possibility to choose more than one answer. As

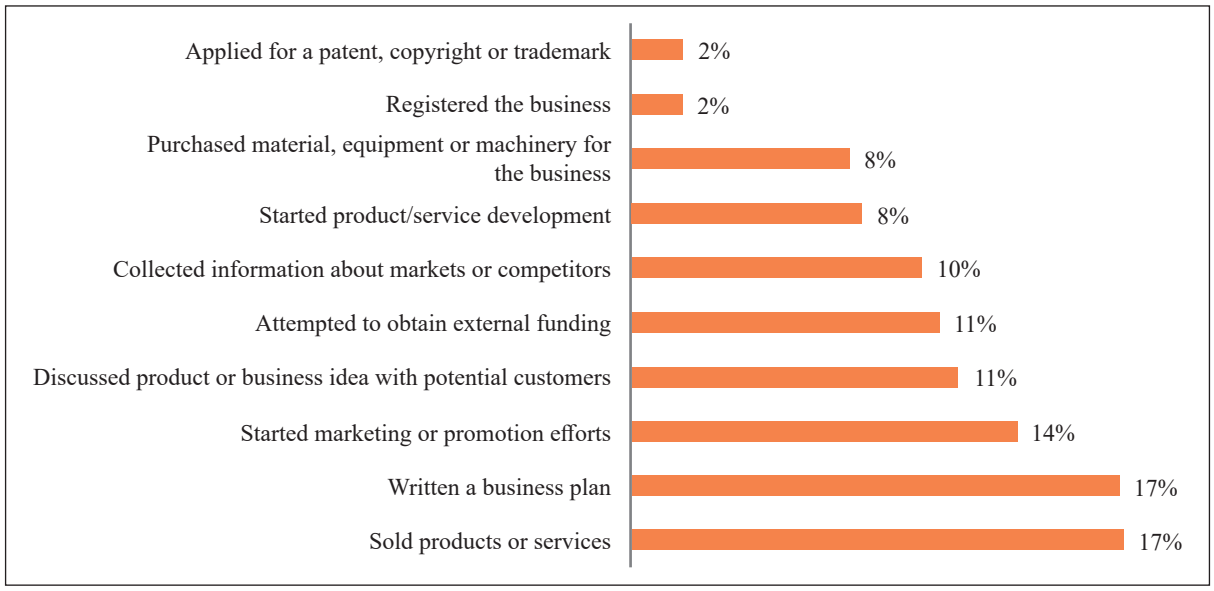
shown in Figure 5, their experiences were mainly in trade (wholesale/retail). Other notable business areas were food and beverage service for 14 percent and marketing for 9 percent. There is no difference in sectors wherein the students had the experience between students in business major and those in other majors.

Figure 5: Student's favorable business areas in percent



Source: University student survey 2021

Figure 6: Activities being prepared for running businesses in percent

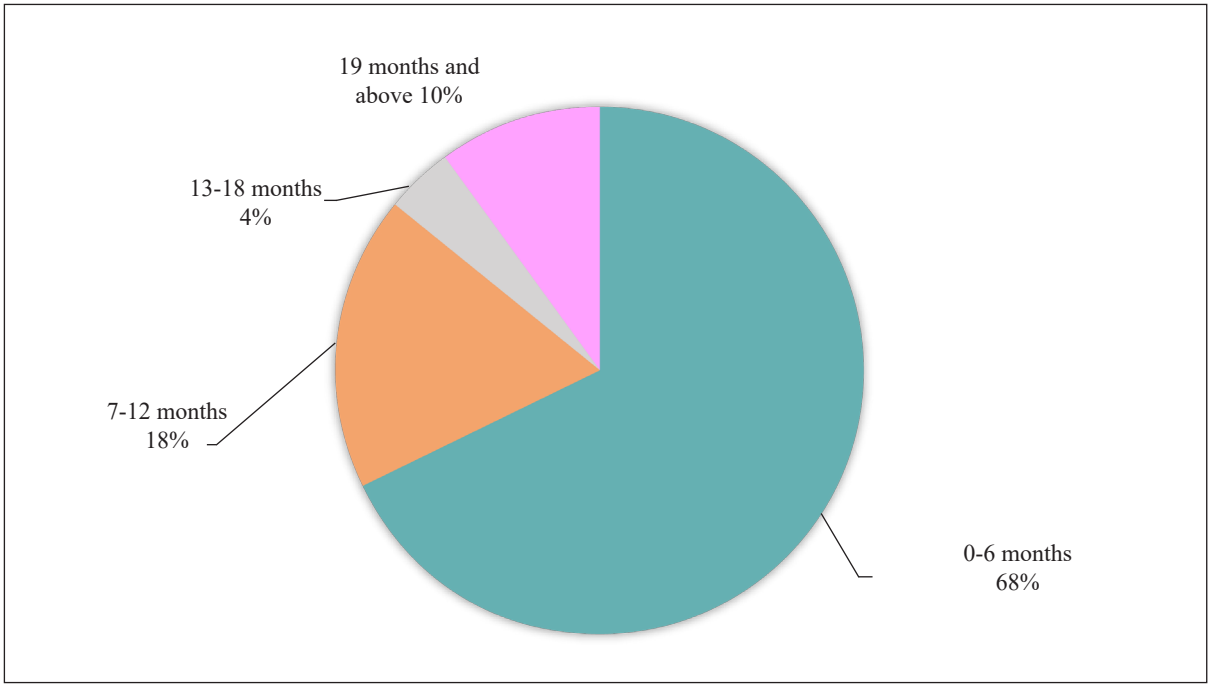


Source: University student survey 2021

Activities students conducted in preparation to start their businesses are presented in Figure 6. Overall, the students engaged in all listed activities. Writing business plans and selling products/services, had the highest share, with 17 percent for each. Other activities were related to marketing and seeking funding, which shared up to 14 percent and 11 percent, respectively. Only a few respondents registered their businesses and applied for a patent, copyright or trademark, suggesting that these businesses were mainly in the informal economy.

Regarding the time spent on business preparation, 68 percent of them spent up to 6 months, and other 18 percent of them spent between 6 and 12 months (Figure 7). We also calculated the difference between business and non-business major students, but there was no significant difference.

Figure 7: Duration of businesses preparation in percent



Source: University student survey 2021

5.1.2.2. Entrepreneurial capacity building: education and exposure to supporting facilities/ programs

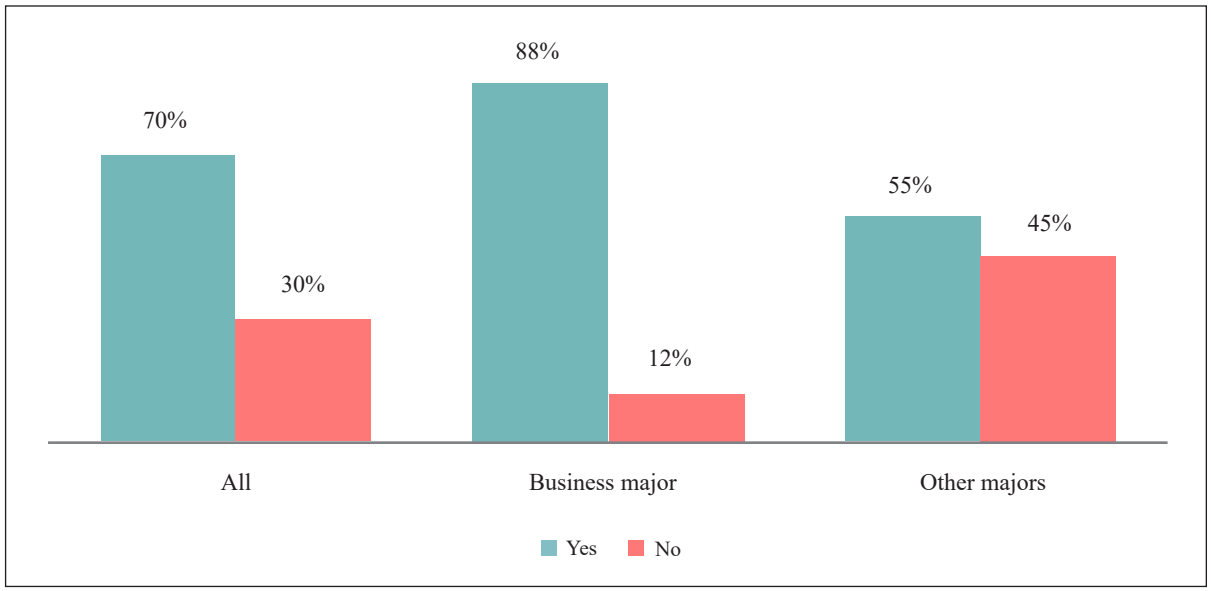
The findings above provide an insight into how the students planned and prepared for entrepreneurial careers; this sub-section focuses on an earlier stage: how the students developed their entrepreneurial knowledge and skills. We are interested in not only the formal EE provided by the universities but also the "hands-on" activities organized by other stakeholders, such as development partners.

5.1.2.2.1 Entrepreneurship education

We first asked the students whether they had received EE. In this study, EE is defined as forms of academic education and formal training that aim to develop individuals with entrepreneurial mindsets and skills to support participation and performance in a range of entrepreneurial activities. EE can be given through multiple means, including but not limited to formal academic education programs and stand-alone training programs (Valerio, Parton, and Robb 2014, p1).

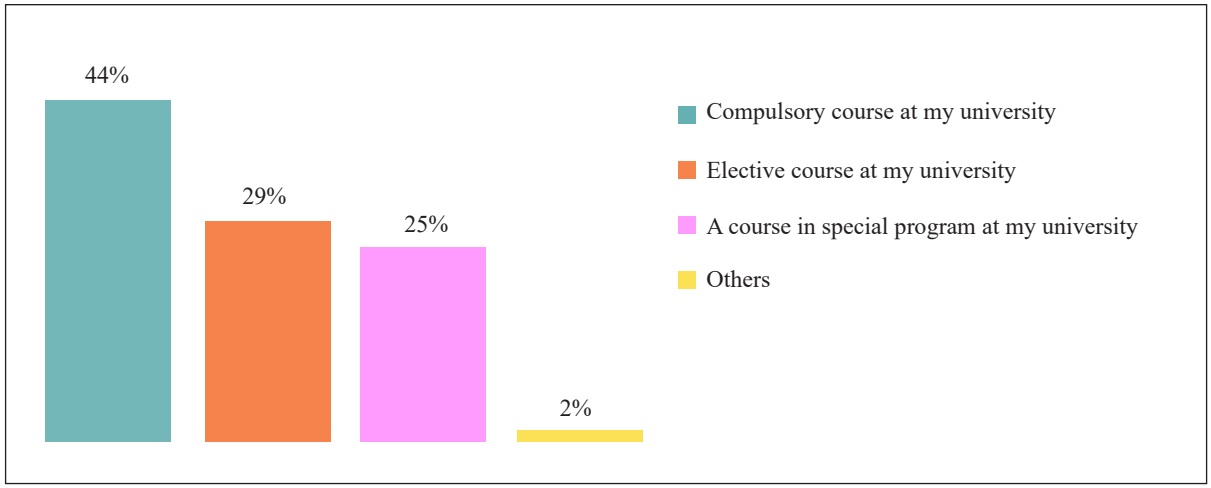
As shown in Figure 8, 70 percent of all students surveyed had received EE. Unsurprisingly, more students in business major reported to have received EE, compared to those from other majors.

Figure 8: Receiving entrepreneurship course in percent



Source: University student survey 2021

Figure 9: How students received their entrepreneurship course in percent



Source: University student survey 2021

Forty-four percent of those who received EE said that they did so in compulsory university courses, while 29 percent did so in elective courses and 25 percent in special programs (see Figure 9). This demonstrates that both university arrangement and student preference are important determinants in leading to students' access to EE. It is worth highlighting that most universities in Cambodia provide only compulsory courses; only a few allow students to select courses (sometimes called a course credit system), this may have had an impact on the survey findings presented in Figure 9.

Our study further used students' responses to three statements to gauge the effectiveness of EE in increasing students' knowledge and motivation regarding setting up a business and their abilities to identify business opportunities. Respondents were asked about the extent to which they agreed with the three statements (1 for Strongly disagree and 5 for Strongly agree). We compared the mean scores given by those who had received EE with those who had not received EE. As shown in Table 7, the differences in mean scores were statistically significant between the two groups. In particular, the mean scores of those who received EE are higher

than those who did not. For instance, for the first statement of "the course that I attended in my university increased my understanding of how to set up a new business", those who received the EE (M=3.92) have a statistically significant higher score than those who did not received the EE (M=3.26) with p=0.01 and t=12.69. This indicates that EE was perceived to be effective in terms of increasing students' understanding of how to set up a new business

Table 7: Usefulness of courses received at universities perceived by respondents who received EE and those who did not

Statements	EE	Obs.	Mean Score	*t*-Test Results
The courses that I attended at my university increased my understanding of how to set up a new business	*Received*	583	3.92	12.64***
	Not received	251	3.26	
The courses that I attended at your university increased my motivation to set up a new business	*Received*	583	3.76	9.32***
	Not received	251	3.24	
The courses that I attended at my university enhanced my ability to identify business opportunities	*Received*	583	3.88	7.94***
	Not received	251	3.47	
Total	*Received*	583	3.85	11.86***
	Not received	251	3.32	

*** p<0.01, ** p<0.05, * p<0.1

Note: Received EE n=583, Not received EE n=251

Source: University student survey 2021

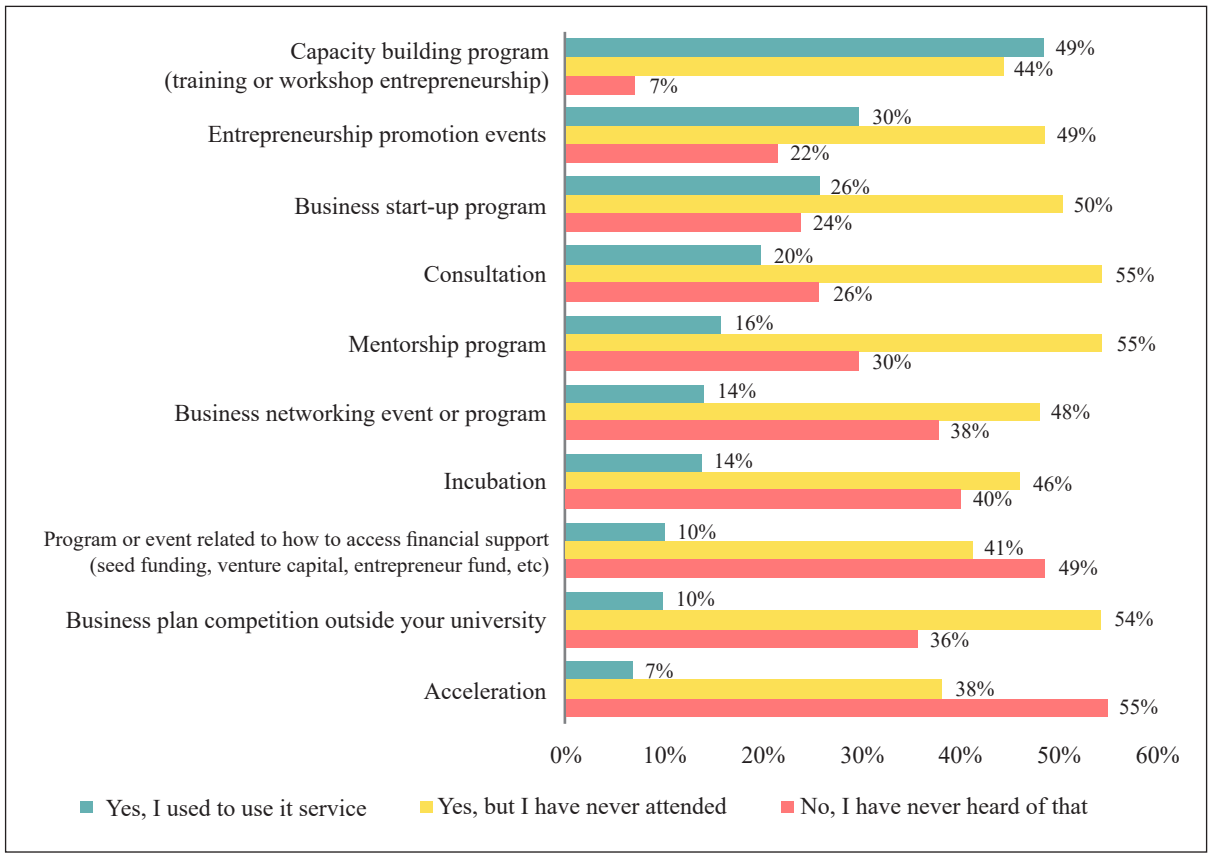
5.1.2.2.2 Start-up support programs and "hands-on" activities

EE notably can comprise both learning of theories and knowledge as well as gaining practical experiences. Given the importance of practical experiences (Ferrandiz, Fidel, and Conchado 2018), we asked the respondents whether they knew of and participated in a range of support programs and practices provided by the universities or other organizations (see Figure 10).

The proportion of students who participated in the programs or practices examined in this study was generally below 50 percent. The most popular programs are training or workshops on entrepreneurship, in which 49 percent of respondents took part. Entrepreneurship promotion events and business start-up programs were relatively popular, but only 30 percent and 26 percent of respondents participated, respectively. The least used programs were acceleration (7 percent) and external business plan competitions (10 percent); the latter was unexpected because of the prevalence of such competitions as reported in section 3. 3.

The study also found that, even when students knew of the programs, their willingness to participate in the programs remained low. More than 50 percent of respondents knew of but were rarely engaged in the following: mentoring, consultation, and business plan competition. This is a concern, but the scope of this study did not allow us to identify the reasons for non-participation; we believe that further study is needed in this regard.

Figure 10: Students' participation in programs that provide support to start-ups and that offer "hands-on" experience



Source: University student survey 2021

5.2. Factors influencing entrepreneurial intention

The analysis of the factors influencing the entrepreneurial intention is shown in Table 8. The variables were entered sequentially following three steps. Step 1 involved entering variables of factors on the personal dimension (i.e., gender, ethnicity, and personal attributes) into Model 1. Step 2 added the variables on family and social dimension (i.e., having family member running business, family income, and perceived appropriateness) into Model 2. In step 3, the remaining variables related to EE (i.e., startup-related program experience, business major and perceived higher education support) were added into Model 3. The statistical results are explained below:

Model 1: Variables that are positively and significantly associated with the dependent variable, entrepreneurial intention, are ethnicity ($\beta = 0.09$, $p<0.05$) and personal attributes ($\beta = 0.63$, $p<0.001$). The results imply that students with a Cambodian Chinese background were more likely to have stronger entrepreneurial intentions. Also, students with higher personal attributes tended to have stronger intentions. For model power explanation, the inputting of personal factor variables alone provides an explanatory power of $R^2 = 0.16$.

Model 2: Controlling for the other variables, having family member running business ($\beta=0.07$ $p<0.05$), family income ($\beta = 0.03$, $p<0.05$) and perceived appropriateness ($\beta = 0.22$, $p<0.001$) are all statistically significant in predicting the entrepreneurial intention. Those who had family member(s) operating business, who came from a family with higher income, and who to a larger extent agreed that an entrepreneurial career was appropriate in Cambodia, were more likely to have strong interest in pursuing entrepreneurial career. The inclusion of the three variables increased the R2 from 0.16 in Model 1 to 0.21 in Model 2. Observably, there is a change of significant level

for the personal dimension variables in Model 1. Ethnicity as a variable became less significant in predicting the entrepreneurial intention with the change of P value from less than 0.05 to less than 0.01. Having said this, the variable of personal attributes remained statistically significant, holding a P value lower than 0.001.

Model 3: Controlling for the other variables, experience in attending startup programs (β= 0.04, p<0.001), business major (β= 0.12, p<0.001) and perceived higher education support (β= 0.2, p<0.001) are statistically significant in predicting the entrepreneurial intention. Simply put, the students who had more experience in startup programs and in gaining hands-on experience, who were in business major, and who thought more highly of the support offered by their universities had stronger interest in entrepreneurial career. The inclusion of these three variables increased the model's explanation power to 0.29. With the input of those education and related experience variables, most of the entered variables in the previous models remained statistically significant, except for the two variables (ethnicity and having a family running their own business), of which the statistical significance changed. The former became statistically significant (p<0.05) while the latter became statistically insignificant. To sum up, the inputting of 9 variables of interest in relation to individual, family and social, and EE dimensions provided the highest model explanatory power of R2 = 0.29.

Table 8: Direct effects of predictor variables on entrepreneurial intention

Variables	Model (1)	Model (2)	Model (3)
Individual factors			
Gender (Female)	-0.03	-0.04	-0.05
	(0.03)	(0.03)	(0.03)
Ethnicity (Cambodian Chinese)	0.09**	0.07*	0.08**
	(0.04)	(0.04)	(0.04)
Personal attributes	0.63***	0.49***	0.36***
	(0.05)	(0.06)	(0.05)
Family and social factors			
Having family member running business	-	0.07**	0.04
	-	(0.04)	(0.03)
Family income	-	0.03**	0.03**
	-	(0.01)	(0.01)
Perceived appropriateness	-	0.22***	0.19***
	-	(0.04)	(0.04)
EE and related factors			
Startup-related program experience	-	-	0.04***
	-	-	(0.01)
Business major	-		0.12***
	-	-	(0.03)
Perceived higher education support	-	-	0.20***
	-	-	(0.03)
Constant	1.25***	0.83***	0.65***
	(0.20)	(0.21)	(0.20)
Observations	834	834	834
R-squared	0.16	0.21	0.29

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: University student survey 2021

5.3. Discussions on key findings

To our knowledge, this is the first study on entrepreneurial career planning and on identifying factors that influence the entrepreneurial intention of university students in Cambodia. This study found that many university students in Cambodia were keen to pursue an entrepreneurial career and had made initial steps; most of them, however, had not started their business (e.g., were in the phase of writing a business plan and conducting market research). This, according to our survey data, was likely to be caused by the fact that most students (72 percent) after graduation want to become employees first and to start their own businesses after gaining further experience a few years later (63 percent).

The lack of preparation for starting their own companies could be explained by the limited exposure to programs and activities that offered hands-on experience and direct start-up support. This finding is in line with the prior studies that found programs and facilities to support startups, specifically at the universities, remain limited (Khieng, Mason, and Lim 2019; Kem et al. 2019); thereby not many students could have accessed or had such experience. Moreover, our data suggested that, although some university students knew of such programs and activities, they chose not to participate. Further research is needed to identify the barriers to participation.

Despite the relatively low participation rates in such programs, our data can confirm that the entrepreneurship education provided in Cambodia – at least in the HEIs that our study covered – has been effective in increasing students' knowledge and motivation in regard to establishing a business and their abilities to identify opportunities in venture creation. Also, the students generally viewed becoming an entrepreneur as an attractive career option.

Our regression analysis identified factors that influenced students' entrepreneurial intention; these factors are on three dimensions, namely the individual dimension, the family and social dimension, and the EE dimension.

Regarding the individual dimension, those who identified themselves as Cambodian Chinese tended to have stronger entrepreneurial intentions. This finding is corroborated by the study conducted by Verver and Koning (2018) who found that Cambodian Chinese and Chinese nationals living in Cambodia were more likely to start their own business in Cambodia. Our findings however are slightly different from those of Wang and Wong (2004), who found that ethnicity did not have any significant influence on the interest of starting a business.

This study also found a strong correlation between the four selected positive personal attributes and entrepreneurial intention. Multiple other studies have found that these personality traits were significant predictors of the intention (Ozaralli and Rivenburgh 2016; Sánchez 2011; Yıldırım, Çakır, and Aşkun 2016; Franke and Lüthje 2004; Singh, Verma, and Rao 2017; Ambad and Damit 2016), and our study can confirm that such correlation remains valid in the context of Cambodian universities. Meanwhile, this adds to the empirical evidence that critical thinking skills positively contribute to the formation of intention. This is probably because this ability is significant not only for evaluating relevant information for making decision but also for planning a successful business.

We are glad to find that gender had no significant influence on entrepreneurial intention. Female students are equally as interested as male students in starting their own businesses in the future. Such finding is different from Yıldırım, Çakır, and Aşkun (2016) that found female students have lower intention than males.

Regarding the family and social dimension, family income and perceived appropriateness were two variables which significantly predicted entrepreneurial intention. Such finding are in line with those of Wang and Wong (2004) and of Adekiya and Ibrahim (2016), implying that financial support provided by families and positive perception of entrepreneurial careers in Cambodian society greatly influence the students' intentions. Surprisingly, the business background of the family was significant in model 2 but not in model 3. This suggests that EE (factors of which were only entered in model 3) may have offset the impact that the entrepreneurial family background had on students' entrepreneurial intention.

The last group of variables in the EE dimension were all found to be significant in predicting the students' entrepreneurial intention. The three variables are: startup-related program experience, business major, and perceived higher education support. The startup-related programs, which provided hands-on experience and practical support, were new initiatives of the government and other stakeholders; they sought to increase the workforce's knowledge and skills in starting businesses. This study can confirm that these programs significantly increased entrepreneurial intention; the finding is consistent with an earlier study of Ferrandiz, Fidel, and Conchado (2018).

Doing a business major at a university is probably a more traditional way of equipping oneself with the business skills and mindset for enterprises. Unsurprisingly, undertaking a business major was also found to be a variable that can predict entrepreneurial intention. This is corroborated by the study of Wijayati et al. (2021), which found studying a business major enhanced students' entrepreneurial capacities. Lastly, perceived higher education support was also a significant factor in increasing the student's entrepreneurial intention; this finding is similar to that of the studies by Turker and Sonmez Selcuk (2009) and by Franke and Lüthje (2004).

The regression analysis findings provide valuable insights about EE. Based on the results, we will discuss in the next chapter how and what else the stakeholders could do to better prepare the next generation of entrepreneurs.

6. Conclusion and implications

6.1. Concluding remark

Entrepreneurship is crucial for the progression of the economy and society as it fosters innovation, SME development and job creation. Despite the growing interests in enhancing the entrepreneurial environment in Cambodia, few studies have been conducted to examine how young people perceive entrepreneurship and their experience in pursuing a related career. This study was designed to understand whether university students are interested in becoming entrepreneurs, how they prepared for it, and the factors that influenced their entrepreneurial intention. Equally importantly, this study sheds light on how universities in Cambodia are preparing the next generations of entrepreneurs. The findings provide input for policy, program and education provisions in developing and supporting young entrepreneurs.

Using the survey data collected from 834 students in 19 HEIs in Cambodia, this study can conclude that there is a relatively strong entrepreneurial intention among university students in Cambodia. However, only 1 in 4 of them had translated intentions into actions, such as preparing a business plan, discussing with potential clients, and registering a business. Although many of the university students surveyed aspired to start their own companies, most would like to firstly become employees upon graduation and only hope to become entrepreneurs later in their careers.

The intention-action gap can also be seen in EE in Cambodia. The universities that this study covers are found to be effective in capacity development, that is, in increasing understanding of entrepreneurship, motivating students to establish their own businesses (yet not immediately) and increasing their ability to do so. However, we found the universities to be less effective in providing "hands-on experience" and start-up support for students, as well as encouraging students to engage in these experiences, even when they were provided.

Based on the study findings, we can confirm that the development of the four positive personal attributes (innovativeness, risk-taking, proactiveness, and critical thinking) are key to increasing the entrepreneurial intention in the Cambodian context. The same can be said about family income and perceived appropriateness (i.e., seeing an entrepreneurial career as appropriate in society). Encouragingly, gender was not statistically significant in the analysis, implying that one's gender has limited influence on one's intention. Moreover, it can be established that all the factors in the EE dimensions are positively influencing the students' entrepreneurial intention: startup-related program experience; business major; and perceived higher education support. These findings confirm the importance of providing of EE and related programs in raising individual motivation and in preparing them for future engagement.

6.2. Implication for policy and program

Based on the study findings, we put forward three recommendations for the government, HEIs and other stakeholders, regarding the provision of EE and relevant supporting programs.

First, HEIs should provide more "hands-on experiences" for students to close the intention-action gap identified in this study. One possibility is involving SMEs in providing internship and other work opportunities for university students; this is beneficial to both students and SMEs and should help increase entrepreneurial activities as students learn from business owners. In addition, career counselling can help students consolidate their learning and act on their entrepreneurial intention. Another viable option for universities to close the intention-action gap is to collaborate with development partners and private sector actors to organize innovation and entrepreneurship activities and competitions. This, on the one hand, further strengthens the entrepreneurial culture and, on the other, extends students' professional networks to enable discussions for starting their own businesses. Both options will require dedicated resources from universities to ensure sustainable collaboration between them and their partners. For HEIs that have already been providing such experiences (e.g., mentoring, business plan competition), they should more actively encourage students to take part.

Second, there is a need to provide and strengthen startup support programs in universities. Incubators, accelerators, and startup programs are effective ways to encourage students to act on their entrepreneurial intention and realize their business plans. Additionally, the university should consider providing more information on how to finance business ideas, as this study finds it lacking. For the less resourceful HEIs, they should consider making use of existing startup support network in Cambodia, which comprise of impact hubs and innovation centres run by the government, NGOs and social enterprises, to provide startup support.

Third, HEIs should continue to provide courses and learning activities that develop the four positive personal attributes that contribute to increasing EI; the attributes studied are innovativeness, critical thinking, proactiveness and risk-taking propensity. Furthermore, it is advisable to strengthen in basic education the development of such attributes or competencies. In addition to using competency-based education in classrooms, other viable options include

social innovation projects, such as Generation Future implemented by UNICEF Cambodia, and other similar innovation-focused and competency-based educational programs.

6.3. Suggestion for future research

This quantitative study provided a comprehensive understanding of EE, university students' intentions, and preparation in setting up their own businesses; the design of the study, however did not allow for answering certain how and why questions that we encountered during the findings. We, therefore, would like to suggest three areas for future research.

First, this study finds that 1 in 4 students prepared for setting up their own business; it is worth conducting a qualitative study to gain a deeper understanding of the student's experiences, including the barriers that they faced, how they overcame the barriers, and what would help other early entrepreneurs like them. Second, some variables, for example personality traits, in the regression analysis were assessed with self-reported questionnaire. We are aware that the measurement of these variables may be influenced by personal bias and subjectivity and, thus, suggest future studies use tools that can measure such attributes more objectively together with self-assessment. Lastly and most importantly, further studies need to investigate the intention-action gap that we identified. In other words, research on the barriers to increasing entrepreneurial preparation among university students, who had relatively high entrepreneurial intention, is urgently needed. Research of this kind will help further improve the entrepreneurial environment in Cambodia and help translate the increased entrepreneurial intention into actions to transform the country's economy.

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Appendix

Items	Mean
1. Entrepreneurial Intention (Liñán and Chen 2009)	**3.67**
1.1. Among various options, I would rather be an entrepreneur	3.73
1.2. My professional goal is to become an entrepreneur	3.59
1.3. I am ready to make any form of sacrifice to become an entrepreneur	3.24
1.4. I will make every effort to start and run my own firm	3.97
1.5. I have very seriously thought of starting a firm	3.27
1.6. If I had the opportunity and resources, I'd like to start a firm	4.24
2. Innovativeness (Ozaralli and Rivenburgh 2016)	**3.59**
2.1. I often surprise people with my novel ideas.	3.25
2.2. People often ask me for help in creative activities.	3.25
2.3. I obtain more satisfaction from mastering a skill than coming up with a new idea.	3.59
2.4. I prefer work that requires original thinking.	3.99
2.5. I like to experiment with various ways of doing the same thing.	3.86
3. Risk-Taking Propensity (Ozaralli and Rivenburgh 2016)	**4.00**
3.1. I'm quite cautious when I make plans and when I act on them	4.11
3.2. If a task seems interesting, I'll choose to do it even if I'm not sure whether I'll manage it.	3.89
3.3. Success makes me take higher risks.	3.99
4. Proactiveness (Seibert, Kraimer, and Crant 2001)	**3.91**
4.1. I am constantly on the lookout for new ways to improve my life.	4.12
4.2. Nothing is more exciting than seeing my ideas turn into reality.	4.41
4.3. If I see something I don't like, I fix it.	4.06
4.4. I am always looking for better ways to do things.	3.98
4.5. If I believe in an idea, no obstacle will prevent me from making it happen.	3.68
4.6. I can spot a good opportunity long before others can.	3.21
5. Critical Thinking (Alberta 2011)	**3.93**
5.1. To build my knowledge, I reflect on my own thinking and am open to new ideas.	4.32
5.2.I can see the strengths and weaknesses of my own point of view and in the points of view of others.	3.62
5.3.I believe in my ability to solve problems and make good decisions	3.85
6. Perceived Appropriateness (Adekiya and Ibrahim 2016)	**3.86**
6.1. A career in entrepreneurship is an acceptable career in this society	3.99
6.2. Starting one own business is considered as appropriate by many in this society	3.85
6.3. In this environment, entrepreneurs are looked up to as role models	3.71
6.4. In this society, becoming self-employed is more cherished than getting white collar job	3.74
6.5. I believe I can make my parents, friend and spouse happy by choosing to be self-employed after graduation	3.99
7. Perceived Higher Education Support (Franke and Lüthje 2004)	**3.52**
7.1. The courses that I attended at my university increase my understanding on how to set up a new business	3.72
7.2. The courses that I attended at your university increase my motivation to set up a new business	3.60
7.3. The courses that I attended at my university enhance my ability to identify business opportunity	3.75
7.4. ICT usage in university encourages me to develop creative ideas for being anentrepreneur	3.48
7.5. Availability of ICT tools at the university (e.g., Desktop computer, Laptop, Tablet, Printer, USB (memory) stick, E-book reader (e.g., Amazon Kindle) increases chances for me to become an entrepreneur	3.33
7.6. Access to the Internet at the university increases chances for me to become an entrepreneur	3.35
7.7. My university climate is good for those who want to become an entrepreneur.	3.42

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