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## A Proposed Framework on Technopreneurial Behaviour among Students

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### Abstract

Technopreneurship is the combination between technology and entrepreneurship. Technopreneur is a tech-savvy business owner who needs to employ technology throughout their business operations. In the era of technological globalization, technopreneurship has to become prominent as that has the potential to develop economic growth, hence the study of technopreneurship behaviour is very important as it could help the development of the country. The technopreneurial studies have been conducted by a few researchers, but to date, it is found very limited study conducted about technopreneurial studies, especially in Malaysia. Thus, this conceptual study proposed on technopreneurial behaviour framework developed from Theory Planned Behaviour, comprises attitudes, subjective norm and perceived behavioural control, and also intention as a predictor towards technopreneurial behaviour. This quantitative study will be carried out a survey among university students throughout Malaysia by using 359 respondents. The study is proposed to analyses the data using PLS-SEM. The discussion of this study will contribute to the body of knowledge to further enlighten on technopreneurial behaviour reflected by attitudes, subjective norms and perceived behavioural control, and technopreneurial intention.

**Keywords:** Technopreneurial Behaviour, Technopreneurial Intention, Theory Planned Behaviour

### Introduction

In the era of technological globalization era, technopreneurship has to become prominent as that has the potential to develop economic growth. This is to surge the innovation, creativity, and competitiveness of a country (MOHE, 2020). The Covid-19 outbreak on 2020 has impacted the way people doing things such as the way they working, learning, how we communicate and our life pretty much rely on the technology. The situation during and post-pandemic has emerged the entrepreneur to innovate their business operations to provide technology-based business. Thus, this will create more opportunities for business start-ups. In the technological globalization era, the increasing numbers of technology businesses contribute to the economy and create employment opportunities as universities take initiatives toward the technopreneurial programs (David et al., 2003). As businesses are

entering a new era known as Fourth Industrial Revolution (IR 4.0), entrepreneurs need to change their ways of doing business as well (Koe et al., 2020). The emerging technologies such as the use of the internet have contributed to Industrial Revolution 4.0 that become a strategic point, particularly in today's entrepreneurship, also referred to as the electronic business revolution or electronic business (Machmud et al., 2020; Rojko, 2017). Entrepreneurship is seen as one of the key strategies for economic development to promote the economic growth of a country and ensure its competitiveness in addressing the growing trends of globalization (Shamsudin et al., 2016).

Previous studies on the application of the Theory of Planned Behaviour were focusing on entrepreneurial intention / technopreneurial intention rather than actual behaviour. A very limited study conducts on Attitudes, Subjective Norm, and PBC toward Technopreneurial Intention. Therefore, this study will conduct with ultimate outcome of TPB which Technopreneurial Behaviour. This research proposes that Technopreneurial Intention mediates attitude, subjective norm, perceived behavioural control and technopreneurial behaviour.

### **Problem Statement**

GDP Growth shows fluctuating trend but due to the global pandemic, all countries in the world experiencing the worst since 1980. According to Trading Economics (2020) the unemployment rate in Malaysia is rising tremendously on 2020 whereby the unemployment rate in Malaysia average of 3.35% from 1998 until 2020. The year 2020 marks the highest unemployment since 1998 and it took a long time to get the rate to the normal percentage and a lot of endeavour require to solve the unemployment issue.

As businesses are approaching a new era known as Fourth Industrial Revolution (IR 4.0), entrepreneurs need to change their ways of doing business as well (Koe et al., 2020). The unemployment rate in the midst of the extreme impact caused by the COVID-19 pandemic has jumped 46.10% from a year earlier. Entrepreneurship is seen as one of the key strategies for economic development to promote the economic growth of a country and ensure its competitiveness in addressing the growing trends of globalization (Shamsudin et al., 2017). MOHE also agreed that entrepreneurial activities are a driver for economic growth and build the ability to increase a country's innovation, creativity, and competitiveness.

The recent Covid-19 outbreak has prompted businesses all over the world to accelerate their use of digital technology by several years bringing to the importance of technopreneurship among university students. This can be denied as its contribution to economic progress. Under the 12th Malaysia Plan, the digitalizing of the Small and Medium Enterprises will be pursued as an important national agenda to revolutionize the traditional way of conducting business, as mentioned by the Chief of SME Corp. As with all other industries and corporations, the pandemic's new norms ought to be utilized as a push element to go digital for company continuity and sustainability, hence the study on technopreneurial behaviour would contribute to magnifying the creation of the technology-based venture.

A study conducted by Koe et. Al (2020) about undergraduates' likelihood of Choosing Technopreneurship as a Career showed that 45.4% of students have a low likelihood choose to become Technopreneurs. Their lack of interest embark on business technology-based would impact economically, socially and environmentally as mentioned by Nurhajato and Machmud (2019); Kussmaul et al (2006); Bryant (2006) the technopreneurs need to excel in two aspects, namely to ensure that technology that is a business object can work according to needs, target customers, and can be sold for profit and provide economic, social and

environmental benefits or impacts. In addition, Global Entrepreneurial Monitor (GEM) reported that Malaysians have a low score in entrepreneurial behaviour and attitude (Koe et. Al, 2018). Therefore, further study on technopreneurial behaviour is needed to investigate what are the factors that contribute to students' intention to embark on technology-based ventures.

### Research Objective

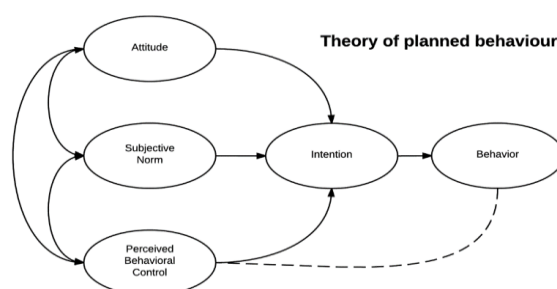
This conceptual study proposed a framework is intended to investigate the relationship between attitudes, subjective norms and perceived behavioural control and technopreneurial intention, the relationship technopreneurial intention and technopreneurial behaviour and to depict the mediating effect of technopreneurial intention on the relationship between attitudes, subjective norm and perceived behavioural control towards technopreneurial behaviour.

1. To determine the relationship between attitudes and Technopreneurial Intention
2. To determine the relationship between subjective norms and Technopreneurial Intention
3. To determine the relationship between perceived behavioural control and Technopreneurial Intention
4. To determine the relationship between technopreneurial intention and Technopreneurial Behaviour
5. To investigate whether technopreneurial intention mediates the relationship between attitudes, subjective norms, and perceived behavioural control on technopreneurial behaviour

### Literature Review

The study is underpinned by the Theory of Planned Behaviour (TPB). TPB is an extension of the Theory of Reasoned Action (TRA). The TRA is based on the premise that an individual's behaviour can be predicted by the intention to perform a particular behaviour (Fishbein and Ajzen, 1975). Previous studies on technopreneurship also based on this theory were conducted by (Salhieh and Al-Abdallat, 2022; Koe et. al.,2021; Yordanova et al., 2020); Nurhayati et al., 2019; Machmud et al., 2020).

Diagram 1 : Theory of Planned Behaviour (TPB)



### Attitudes

H1: Attitudes has a positive effect on Technopreneurial Intention

Attitude is the first variable in TPB. It refers to a particular habit or action, such as entrepreneurship, which reflects the individual beliefs that people may have (Al-Jubari, 2019). Such habits may be either good or negative, and as a result, they have an impact on how individuals engage in that specific behaviour, whether they act or do not act. Ajzen (1991) who introduced the Theory of Planned Behaviour highlighted that people with more

favourable attitudes reflect their behaviour, and the more their intention to accomplish it should be. Thus, having favourable attitudes it indicates that the individuals have favourable intentions to accomplish their behaviour to perform (Koe et. al., 2018). Previous studies show that attitude toward entrepreneurship (ATE) is the strongest predictor of Entrepreneurship Intention (Al-Jubari, 2019; Armitage and Conner, 2001). Therefore, having favourable attitude towards technopreneurial intention will lead to favourable technopreneurial behaviour beneficial the undergraduates who are also future graduates to amplify their entrepreneurship skills, especially in technology-based business ventures.

### ***Subjective Norms***

H2: Subjective Norms has a positive effect on Technopreneurial Intention

The second variable in TPB is subjective norm refers to a person's perceptions about what important or close friends and family members, including parents and friends, would think if they choose to engage in certain conduct like starting a company or not (Al-Jubari, 2019). Usually, people will seek advice or opinion from people surrounding them to make an important decision in their life, hence subjective norms consider important as the students put into consideration the opinion, they get from their closest person to pursue their entrepreneurship career, in this study technopreneurial career. Several studies, including Almobaireek and Manolova (2012); Autio et al (2001); Krueger et al (2000); Lian and Chen (2009); Tarek (2016), have shown it to be an insignificant relationship between subjective norms toward entrepreneurial intention (Al-Jubari, 2019). On the other hand, previous other research (Iakovleva et al., 2011, Siu and Lo, 2013, Tkachev and Kolvereid, 1999) has shown indication that subjective norm is a major predictor of entrepreneurial intention. Hence, a study on subjective norms towards technopreneurial intention is needed to further investigate its impact on technopreneurial behaviour.

### ***Perceived Behavioural Control***

H3: Perceived Behavioural Control has a positive effect on Technopreneurial Intention

The third variable is perceived behavioural control is about person's impression of how easy or easy to carry out an activity (Chang, 1998; Talebi et al., 2020). According to the TPB, perceived behavioural control is defined as "people's perception of the ease or difficulty of doing the desired behaviour." (Ajzen, 1991). Additionally, it is expected that perceived behavioural control reflects both past encounters and predicted challenges. Perceived behavioural control is the sense of situational competence that affects how easy or challenging it is to carry out the conduct of interest of becoming self-employed (Ras, Akhtar and Das, 2017). Hence, favourable perceived behavioural control would lead to stronger technopreneurial behaviour.

### ***Technopreneurial Behaviour***

H4: Technopreneurial Intention has a positive effect on Technopreneurial Behaviour

TPB stated that intentions, that are influenced by attitude, subjective norms, and perceived behavioural control, are the best predictors of behaviours, the stronger attitude, subjective norms, and perceived behavioural control, the impact on intention (Ajzen, 1991). TPB introduced three factors that have an impact on technopreneurial behaviour namely attitudes towards behaviour (Kolvereid, 1996), subjective norms or social encouragement to become or not to become technopreneur (Fishbein and Ajzen, 2010), and lastly perceived behavioural control (Ajzen 2001) which is the student's perception on their ability to take necessary action

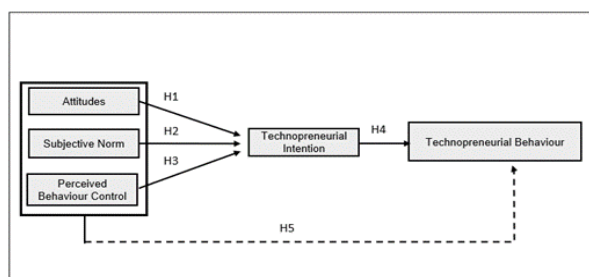
to become technopreneur. However, to date, there are found a very limited studies on entrepreneurial behaviour or even technopreneurial behaviour from previous research. Hence, this study is needed to determine the factors that contribute to technopreneurial behaviour.

### ***Technopreneurial Intention***

H5: Technopreneurial Intention mediates the relationship between Attitudes, Subjective Norms and Perceived Behavioural Control and Technopreneurial Behaviour

Previous research used TPB to predict the relationship between entrepreneurial intention (Krueger and Carsrud, 1993). The intention has played a mediator role between those three factors (attitude, subjective norms, and perceived behavioural control) towards technopreneurial behaviour (Bagozzi et al., 1989). It can be discussed further on the intention-based model purpose to study on the technopreneurial intention. Technopreneurial activity is a planned behaviour, hence studying pre-enterprise events, including the decision to establish an entrepreneurial career, is undoubtedly both relevant and intriguing because the intent is a crucial component of organisation development (Katz and Gartner 1988). Thus, from the literature mentioned, the research proposed research framework is as below:

Diagram 1: Proposed Research Framework



### **Proposed Methodology**

The framework for this study was developed by using systematically review the literature from various databases. In order to test the framework, this study will employ quantitative approach. The study will be conducted among undergraduates from selected university throughout Malaysia, specifically who taken technology entrepreneurship course. A total 5397 undergraduates were determined as the total population of this study. Questionnaires will be the main tool to collect the data and 359 respondents will be selected to answer the questionnaires as according to table proposed by (Krejcie and Morgan, 1970). The study will use probability sampling, which is simple random sampling. After the major data collection, all the completed questionnaires will be manually key in through SmartPLS 3 and analysed.

### **Conclusion**

In a nutshell, this study on technopreneurial behaviour is highly recommended for undergraduates to consider technopreneurial or to become entrepreneurs who run technology-based businesses to promote their technopreneurial behaviour. The stronger technopreneurial behaviour generally would enhance country productivity and contribute to economic growth. It also helps future graduates to find their careers after they are graduating from their current studies. For this study, technopreneurial intention mediates the relationship between three variables namely attitude, subjective norms, and perceived behavioural control towards technopreneurial behaviour.

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