THE SIGNIFICANCE OF UNIVERSITIES IN ENCOURAGING DIGITAL ENTREPRENEURSHIP AMONG UNDERGRADUATES AT UTeM

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DECLARATION

I declared that this thesis entitled **"The Significance of Universities in Encouraging Digital Entrepreneurship Among Undergraduates at UTeM"** is the result of my own research except as cited in reference.

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APPROVAL

I hereby declare that I have checked this thesis entitled "**The Significance of Universities in Encouraging Digital Entrepreneurship Among Undergraduates at UTeM**" and in my opinion, this thesis it complies the fulfillment for awarding the award of the degree of Bachelor of Technopreneurship with Honors.

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DEDICATIONS

I would like to dedicate this project to God S.W.T as an unwavering source of motivation that kept me from giving up and guided me through the completion of this research. To my parents, family, and friends whose constant support, encouragement, and motivation played a pivotal role in helping me successfully conclude this study. Special dedication is reserved for my supervisor, Dr. Norun Najjah binti Ahmat, whose guidance and guided me on the right path. In addition, I extend my heartfelt dedications to my panel, especially Dr. Tan Lay Hong, whose time, expertise, and constructive feedback significantly contributed to the refinement of this work. I am also grateful to all my friends who provided invaluable assistance during the project, and a big thank you to everyone who stood by me, offered words of encouragement, and played a crucial role in bringing this study to completion. Without their unwavering support, this project would not have been possible. Thank you very much.

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ABSTRACT

The rise of the digital economy has created new opportunities and challenges for aspiring entrepreneurs. As universities play a crucial role in nurturing and shaping the future workforce, it is essential to investigate their significance in encouraging digital entrepreneurship among undergraduate students. The aim of this study was to determine the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. This research intended to evaluate the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. To achieve this objective, four key variables were evaluated, which are entrepreneurial mindset, social networks and support, education and training, and motivations and incentives. This research used quantitative methodologies. The Likert scale was used to gather data through a questionnaire from undergraduate students at UTeM. Data was collected from a sample of 169 undergraduate students at UTeM. The data was analyzed using Statistical Packages for Social Sciences (S.P.S.S). The instrument's reliability was established through the application of Cronbach's Alpha test. The Pearson Correlation and Multiple Regression Analyses have been used to assess the size and trend of the relationship between variables and to test research hypotheses. The results findings show all the independent variables had a significant relationship with the digital entrepreneurship among undergraduate students and entrepreneurial mindset becomes the most significant challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. In conclusion, this study successfully achieved all two objectives, and the hypothesis shows all challenges have a positive relationship with the dependent variable. However, there are some limitations such as time limitation, insufficient knowledge of the theoretical framework, financial obligations and certain individuals may not be attracted to participation in online surveys.

Keyword: Digital Entrepreneurship, Undergraduate Students, Digital Economy, UTeM

ABSTRAK

Kebangkitan ekonomi digital telah mewujudkan peluang dan cabaran baharu untuk bakal usahawan. Memandangkan universiti memainkan peranan penting dalam memupuk dan membentuk tenaga kerja masa depan, adalah penting untuk menyiasat kepentingan mereka dalam menggalakkan keusahawanan digital dalam kalangan pelajar sarjana muda. Matlamat kajian ini adalah untuk mengetahui kepentingan universiti dalam menggalakkan keusahawanan digital dalam kalangan mahasiswa di UTeM. Penyelidikan ini bertujuan untuk menilai cabaran yang dihadapi oleh pelajar prasiswazah dalam memulakan dan mengekalkan usaha niaga keusahawanan digital di UTeM. Untuk mencapai objektif ini, empat pembolehubah utama telah dinilai, iaitu minda keusahawanan, rangkaian sosial dan sokongan, pendidikan dan latihan, serta motivasi dan insentif. Penyelidikan ini menggunakan metodologi kuantitatif. Skala Likert digunakan untuk mengumpul data melalui soal selidik daripada pelajar prasiswazah di UTeM. Data dikumpul daripada sampel 169 pelajar sarjana muda di UTeM. Data dianalisis menggunakan *Statistical Packages for Social Sciences* (S.P.S.S). Kebolehpercayaan instrumen telah ditubuhkan melalui aplikasi ujian *Alpha Cronbach*. *Pearson Correlation* dan *Multiple Regression Analyses* telah digunakan untuk menilai saiz dan trend hubungan antara pembolehubah dan untuk menguji hipotesis penyelidikan. Hasil kajian menunjukkan semua pembolehubah bebas mempunyai hubungan yang signifikan dengan keusahawanan digital di kalangan pelajar peringkat ijazah dan sikap keusahawanan menjadi cabaran paling signifikan yang dihadapi oleh pelajar peringkat ijazah dalam memulakan dan mengekalkan usaha keusahawanan digital di UTeM. Kesimpulannya, kajian ini berjaya mencapai kedua-dua objektifnya, dan hipotesis menunjukkan semua cabaran mempunyai hubungan positif dengan pembolehubah bergantung. Walau bagaimanapun, terdapat beberapa kekangan seperti had masa, pengetahuan yang tidak mencukupi tentang kerangka teori, tanggungjawab kewangan, dan sesetengah individu mungkin tidak tertarik untuk mengambil bahagian dalam tinjauan dalam talian.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

The global economy is rapidly transitioning towards digitalization, with technology playing a pivotal role in driving business growth and innovation. This transformation is primarily powered by technological advancements like Artificial Intelligence (AI), machine learning, big data, and the Internet of Things (IoT), revolutionizing how businesses and consumers interact. Moreover, cloud computing and digital payment systems have simplified data access and customer engagement, enabling businesses to explore new and innovative methods. With the advent of the internet and digital platforms, digital entrepreneurship has become a critical aspect of contemporary business. This has facilitated businesses in capitalizing on new digital market opportunities and attracting new customers. Additionally, it has enabled them to gain more data-driven insights, leading to better decisions and increased efficiency. Furthermore, digital platforms have enabled small businesses to establish themselves and compete with massive corporations. Digital entrepreneurship refers to creating, developing, and managing online businesses that utilize technology to provide innovative products and services. For instance, entrepreneurs can use e-commerce platforms to establish online stores, leverage social media to grow their audience, and automate customer service tasks with Artificial Intelligence (AI).

1.1 Background of Study

Ácsc and Szerb (2009) argue that digital entrepreneurship has emerged as a significant driver of job creation and economic growth, particularly in developing nations. The previous concept is supported by the emergence of digital entrepreneurship as a key driver for economic growth and innovative advancements in the 21st century. This has been enabled by the widespread adoption of digital technologies and the emergence of new business models such as the sharing economy. According to Autio et al. (2018), the adoption of digital technologies and online platforms has considerably reduced the obstacles to entry for entrepreneurs, resulting in a notable increase in the number of new business start-ups. Start-ups such as Grab and Airbnb have effectively disrupted traditional business models by leveraging digital technologies and the sharing economy to provide new services to their customers.

According to Hamari et al. (2016), the sharing economy has brought about a significant transformation in traditional industries, leading to the emergence of new markets and prospects for innovative entrepreneurs. The development of technological innovations and the widespread adoption of internet and mobile devices have created an extensive number of customers for entrepreneurs to initiate and cultivate their own businesses, access a broader demographic, and enhance their customer base. Furthermore, entrepreneurs demonstrate the ability to utilize a diverse range of tools and platforms, which may assist in the automation and optimization of their business operations. In his book titled "The Lean Start-up," Ries (2011) highlights the significance of digital technologies and data analytics for enabling entrepreneurs to immediately test and enhance their business models, thereby resulting in accelerated growth and success. Despite the potential advantages of digital entrepreneurship, a considerable number of undergraduate students may be deficient in the necessary knowledge and skills to effectively launch and sustain an online business. This underscores the significance of offering education and training in digital entrepreneurship.

The development of a strong entrepreneurial culture, specifically in the realm of digital entrepreneurship, has been identified as a crucial factor for Malaysia's future economic success by the World Economic Forum (World Economic Forum, 2020). Accordingly, the Malaysian government has placed significant emphasis on this priority. In order to encourage the expansion of start-up businesses, the government has implemented a range of measures, including programs that provide financial support and guidance from experienced mentors. According to a recent report by the Organisation for Economic Co-operation and Development (OECD), there exists a positive correlation between strong entrepreneurial cultures in countries and higher levels of economic growth and innovation (Organisation for Economic Co-operation and Development, 2017). In line with this idea, the government is encouraging the embrace of new technologies among Malaysians, thereby urging individuals to enhance their digital proficiency. The utilization of digital technology by numerous new businesses in Malaysia has resulted in the emergence of a thriving start-up ecosystem, characterized by innovation and the creation of new products and services. In recent years, Malaysia has experienced a notable upswing in digital adoption, whereby numerous small and medium-sized enterprises (SMEs) have been utilizing digital technologies as a way to drive growth and build innovation. Consequently, the economy of Malaysia is progressively enhancing its competitiveness, with an increased emphasis on digital transformation as an engine for driving economic expansion.

UTeM, being a prominent technical university in Malaysia, holds a significant responsibility in encouraging digital entrepreneurship among its undergraduate student population. According to Liedtka et al. (2017), scholars believe that universities hold a crucial responsibility in empowering students with the necessary skills for the digital economy by offering programs that develop innovation and entrepreneurship. Alain and Gailly (2013) argue that universities have a pivotal role in fostering entrepreneurial mindsets through the provision of opportunities for students to engage with authentic challenges and to generate innovative solutions. Their research on entrepreneurship education supports this argument. The concentration of UTeM on digital entrepreneurship is expected to provide students with practical exposure, which will help their growth in the rapidly evolving digital economy. This approach is intended

to encourage them with essential skills and knowledge required to excel in the digital economy and establish a path towards further achievements.

Therefore, this study aims to explore the significance of universities, particularly UTeM, in encouraging digital entrepreneurship among its undergraduate students. This study will utilize quantitative methods to collect data and assess the opportunities and challenges faced by students in their digital entrepreneurship pursuits. This study will help develop strategies to better support digital entrepreneurship activities among undergraduate students. The study seeks to examine the level of awareness and understanding of digital entrepreneurship among undergraduate students. It also aims to assess the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM.

1.2 Problem Statement

Despite living in a society where technology is advanced and ubiquitous, many undergraduate students globally fail to seize opportunities to develop skills in digital entrepreneurship, as shown by recent research (Bae et al., 2014). This global problem is largely due to insufficient guidance and resources to develop entrepreneurial skills (Guerrero, Urbano, and Fayolle, 2016), compounded by the absence of courses or programs in digital entrepreneurship in many universities (Hsu et al., 2017). As a consequence, students have difficulty acquiring the necessary knowledge and skills for success in this field. Similar issues exist in Malaysia. Due to a lack of guidance and resources, many Malaysian undergraduates struggle to access opportunities for digital entrepreneurship. This issue is exacerbated by the absence of courses or programs in digital entrepreneurship at Malaysian universities. As a consequence, it is difficult for Malaysian students to acquire the necessary skills and knowledge to flourish in the digital economy.

At UTeM (Universiti Teknikal Malaysia Melaka), there may be unique obstacles to digital entrepreneurship education. Undergraduates at UTeM may lack knowledge and understanding of digital entrepreneurship. This is due to a number of factors, including a curriculum that does not adequately address digital entrepreneurship, limited exposure to practical experiences in the field, and insufficient faculty support and guidance. Consequently, students at UTeM may lack the skills and knowledge necessary to navigate the digital economy effectively. Given the increasing demand for digital skills in the global and Malaysian employment markets, it is imperative that universities, including UTeM, offer courses or programs in digital entrepreneurship. Universities can educate students with the knowledge and skills necessary for success in the digital economy in this way. Digital entrepreneurship not only enables students to launch their own businesses and positively impact their communities (Acs et al., 2018), but it also enhances their competitiveness in the job market, which is increasingly demanding digital skills (Guerrero, Urbano, and Fayolle, 2016). Therefore, the objective of this research is to examine the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM, with the aim to identifying best ways to equip them with the skills required to thrive in the digital economy (van Deursen et al., 2015). This research will contribute to the enhancement of digital entrepreneurship education at UTeM and enable students to become successful digital age entrepreneurs.

A significant number of successful digital entrepreneurs globally attribute their achievements to a strong online presence. This is a problem encountered by entrepreneurs everywhere. Understanding the needs and trends of customers is also essential to digital entrepreneurship because it enables entrepreneurs to tailor their offerings to meet the needs of their target market (Kartajaya et al, 2019). The significance of having a well-defined marketing strategy that enables entrepreneurs to effectively promote their products or services is a second global issue in digital entrepreneurship. In Malaysia, an analogous problem exists. Due to a lack of understanding of these crucial factors, many UTeM undergraduates may struggle to be successful in digital entrepreneurship. Without a strong online presence, knowledge of consumer requirements and trends, and a solid marketing strategy, it is difficult for Malaysian students to excel in this profession.

There may be unique obstacles at UTeM that impede the success of undergraduate students in digital entrepreneurship. These obstacles may include a lack of exposure to practical experiences in establishing an online presence, insufficient knowledge and skills in market research and analysis, and deficient training in the development of effective marketing strategies. Such factors may prevent UTeM students from effectively capitalizing on the digital economy's opportunities. In addition to identifying the factors that contribute to the potential success of undergraduate students in digital entrepreneurship, the objectives of this study extend more deeply. The research seeks to address the globally recognized challenges of establishing a strong online presence, understanding customer needs and trends, and developing effective marketing strategies, while also taking into account the unique challenges confronted by UTeM students. By comprehending and addressing these challenges, this study aims to equip undergraduate students at UTeM with the necessary knowledge and skills to prosper in the digital economy and increase their chances of success in digital entrepreneurship.

The process of establishing and maintaining a successful digital business is indeed complex and demanding, creating obstacles worldwide, including for UTeM undergraduates. One of the primary challenges faced by digital entrepreneurs globally is the restricted availability of financial resources. The absence of financial resources can hinder students' ability to launch and maintain their digital businesses. In Malaysia, a similar problem exists. Many UTeM undergraduates may have difficulty procuring the essential funding to launch their digital entrepreneurship endeavors. In Malaysia, the availability of venture capital and other forms of funding targeted specifically at digital enterprises may be limited, making it difficult for students to acquire the capital they need to initiate their businesses.

Moreover, mentorship and guidance are essential for digital entrepreneurial success. Nevertheless, many students worldwide, including those at UTeM, may lack access to experienced mentors and adequate guidance (Sussan and Acs, 2017). Mentorship plays a crucial role in equipping students with valuable insights, knowledge, and networks to support their entrepreneurial endeavors. The absence of mentorship programs at UTeM or a lack of awareness regarding their significance can

hinder the advancement of aspiring digital entrepreneurs. In addition, strong marketing and business skills are necessary for success in the digital entrepreneurship landscape (Malthouse et al., 2013). However, undergraduates at UTeM and around the world may encounter obstacles in acquiring and refining these skills. Digital marketing, data analytics, and business strategy may not be adequately addressed in the curriculum and educational programs at UTeM and other universities. Furthermore, limited access to necessary resources and infrastructure can impede students' digital entrepreneurship endeavors (Zahra et al., 2014). Access to technology, Internet connectivity, pertinent software, and physical spaces for collaboration and innovation are essential for students to successfully launch and maintain their digital enterprises. These challenges and obstacles may discourage undergraduates from pursuing digital entrepreneurship at UTeM and globally. In addition to assessing the challenges that undergraduate students at UTeM face in starting and sustaining digital entrepreneurship ventures, the objective of this study is to identify potential solutions and recommendations to address these challenges. By recognizing and addressing these issues, UTeM can better support its students in their digital entrepreneurship endeavors, thereby nurturing a more robust and prosperous digital entrepreneurship ecosystem within the university and beyond.

1.3 Research Questions

The research questions for this study are derived from the problem statement presented in the previous subtopic and will be addressed at the end of this research. Specifically, the following research questions will guide the investigation:

i. What is the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM?
ii. How far, the undergraduates are able to face the challenges in starting and sustaining the digital entrepreneurship?

1.4 Research Objectives

The research objectives of this study are established to address the research questions mentioned earlier. The following are the specific research objectives for this study:

i. To examine the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM.
ii. To assess the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM.

1.5 Scope of Study

The scope of this research is to determine the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. The research focused on undergraduate students as they are often more open to new ideas and willing to take risks, which makes them potentially good candidates for digital entrepreneurship. The study was conducted at UTeM specifically to ensure that the results obtained were relevant to the university's context and applicable to students in their early stages of university life. The data for this research was collected using a questionnaire survey and the findings will provide valuable insights on the level of digital entrepreneurship among undergraduates at UTeM, as well as shed light on the role of universities in supporting digital entrepreneurship.

1.6 Limitation of Study

Research conducted in this study has successfully achieved its intended goals. However, as with any research, some limitations are inevitable, which should be acknowledged. One of the limitations of this study is limited generalizability, as the study findings may not be applicable to other universities or contexts outside of UTeM. Furthermore, the study focuses solely on a specific group of undergraduate students at UTeM, resulting in a limited sample size that may limit the generalizability of the findings to other contexts. Additionally, the study may have a limited timeframe, as it only examines the current state of digital entrepreneurship among undergraduate students at UTeM, which may not capture changes or developments over a longer timeframe. Acknowledging these limitations is essential to contextualize the findings and understand their potential limitations. However, despite these limitations, the study provides valuable insights into the role of universities in promoting digital entrepreneurship among undergraduate students.

1.7 Significant of Study

The importance of the study is to identify the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. Firstly, it aims to examine the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM. This will help in identifying the current state of digital entrepreneurship education and training at UTeM and provide insights into the areas that require further development. Secondly, the study aims to assess the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. This information can help in designing effective support systems and interventions to address these challenges and overcome the barriers. It can also help in developing policies and strategies that create an enabling environment for digital entrepreneurship.

1.8 Summary

In this chapter, the researcher delineates the aims and objectives of the study, which aim to investigate the reasons why undergraduate students at UTeM are not actively participating in digital entrepreneurship, despite the significant growth of the digital economy. Besides, the scope of the study is described, which centers on undergraduate students at UTeM, and the significant of the study is highlighted, which is provide insights into the role of universities in fostering digital entrepreneurship among students. This chapter establishes the groundwork for research and offers a well-defined framework for the ensuing chapters.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Similar and highly relevant studies have been identified by researchers. In this section, the researcher will identify keywords from the study's title and previous research. For the purpose of encouraging digital entrepreneurship among undergraduates at UTeM, researchers employ theories pertaining to the importance of universities. In order to support the theoretical framework of this study, the researcher utilized articles, thesis, journals, and other previous published materials. The objective is to acquire a deeper comprehension of the topic, identify research gaps, and formulate a research statement that explains why a new study or research is necessary.

2.1 Definition of Key Concept

To strengthen the research topic statement, the researcher also elucidated the important concepts utilized in this study. The objective is to provide comprehension for future research as a reference. The following are the most important concepts in the research topic:

2.1.1 Digital Transformation

The concept of "digital" encompasses the utilization of electronic technologies and systems to create, process, store, and communicate information (Chaffey and Smith, 2017). It encompasses a diverse range of tools and platforms, including computers, mobile devices, the internet, cloud computing, artificial intelligence, big data, and the Internet of Things. Digital technology has revolutionized our capacity to capture, store, and analyze vast amounts of data. This provides a valuable resource for generating new products, services, and experiences, as well as improving existing ones (Teece, 2018). The capacity to gather and analyze data on a vast scale has also resulted in progress in domains such as personalized marketing, predictive analytics, and artificial intelligence. Moreover, digital technology has significantly improved communication and cooperation, enabling individuals and businesses to communicate and cooperate irrespective of their geographical location.

Furthermore, digital technology has enabled unprecedented connectivity between individuals and systems, facilitating novel collaborations and unlocking new opportunities. Businesses and individuals now have unparalleled access to resources and information, driving rapid innovation and enabling the development of innovative solutions to longstanding challenges (Brynjolfsson and McAfee, 2014). This transformative impact has resulted in a more interconnected and efficient global community, empowering us to create a more advanced and dynamic world (Rifkin,

2015). Additionally, healthcare, finance, and transportation are among the sectors that have been profoundly transformed by the integration of digital technology. Online banking has simplified financial transactions, whereas telemedicine has increased the accessibility of healthcare services in remote areas. Moreover, the proliferation of ride-sharing platforms has notably diminished traffic congestion in numerous cities and revolutionized the way in which individuals commute. In addition to facilitating improved connectivity, digital technology has brought about significant transformations across various industries, resulting in enhanced convenience and efficiency for both consumers and enterprises.

In the present era, digital technologies have profoundly transformed various aspects of our lives, including work, education, communication, and consumer behavior. The rapid adoption of digital technologies has brought about significant changes, disrupted established markets and fostered innovation and growth in the realm of business and entrepreneurship (McAfee and Brynjolfsson, 2018). These technologies have introduced new business models, allowing new entrants and disruptors to access previously untapped markets. The advent of digital technology has greatly enhanced communication and cooperation, thereby dismantling geographical constraints and promoting global commerce. In addition, they have empowered people with the ability to access extensive quantities of information and resources, therefore equalizing opportunities for aspiring entrepreneurs and promoting a more inclusive economy. Moreover, digital technologies have empowered businesses to gain a deeper understanding of their customers, leading to the creation of personalized experiences tailored to their specific needs and preferences (Hofacker et al., 2016). Additionally, digital tools have enhanced operational efficiency, automated processes, and reduced costs for businesses (Fosso Wamba et al., 2015). The seamless connectivity facilitated by digital technologies has also opened up new avenues for collaboration and business opportunities (Hagiu and Wright, 2015).

In general, the research carried out by these authors underscores the significant impact of digital tools and platforms. It highlights their influence on innovation, market dynamics, consumer experiences, operational efficiency, and global interconnection. The utilization of digital tools and platforms has fundamentally

transformed the manner in which firms engage in innovation, enabling expedited and more adaptable development procedures. Additionally, they have disrupted the conventional patterns of the market, allowing fresh entrants to challenge well-established competitors and generating prospects for specialized markets to thrive. Furthermore, the uninterrupted connectivity provided by digital technology has not only enhanced consumer experiences but also empowered companies to broaden their global presence, establishing connections with customers and partners worldwide.

2.1.2 Entrepreneurship

Entrepreneurship is a dynamic and multifaceted process that involves identifying, creating, and pursuing opportunities to transform innovative ideas into thriving ventures. It requires not only the willingness to take calculated risks but also the ability to effectively organize and allocate resources while navigating uncertainties (Alvarez et al., 2012). In addition to these core elements, entrepreneurship necessitates a comprehensive understanding of the business environment, including market dynamics, customer preferences, and competitive forces (Zahra et al., 2014). This insight helps entrepreneurs find gaps and untapped possibilities in the market, allowing them to establish unique value propositions and differentiate themselves from competitors. Moreover, entrepreneurship also requires the ongoing process of adjusting and developing tactics in response to changing market circumstances and the customer's wants, guaranteeing long-term success and sustainability. Successful entrepreneurs also excel at networking and collaboration, building relationships with stakeholders to drive their ventures forward. By leveraging these relationships, entrepreneurs can gain access to valuable resources, such as funding and expertise, that can help them overcome challenges and propel their ventures towards success. Additionally, entrepreneurs must possess strong problem-solving skills and the ability to adapt quickly to changing circumstances in order to stay competitive in the dynamic business landscape.

Furthermore, entrepreneurship demands the development and execution of a well-defined business strategy that ensures profitability and sustainability. This entails aligning resources, capabilities, and market insights to create value for customers and achieve long-term objectives (Osterwalder et al., 2014). Entrepreneurs must exhibit powerful leadership abilities to efficiently oversee their staff and successfully handle uncertainties and obstacles in the business landscape. Additionally, maintaining flexibility and consistently introducing new ideas are essential for entrepreneurs to outperform their competitors and capitalize on emerging market prospects. An entrepreneurial mindset embraces resilience and adaptability, acknowledging that setbacks and failures are valuable learning opportunities. Successful entrepreneurs possess the astuteness to recognize emerging opportunities and seize them with agility, constantly adjusting their strategies to capitalize on market trends (Hill and Birkinshaw, 2012). This mindset also includes a readiness to undertake well-thought-out risks and make bold decisions, as well as the capability to adapt and change direction as required. Furthermore, successful entrepreneurs understand the need to establish robust networks and partnerships, as they acknowledge that no business can thrive in isolation. They proactively pursue partnerships and alliances to enhance their strengths and get access to new markets or resources.

Furthermore, effective risk management is an essential component of entrepreneurship. Entrepreneurs are required to identify, assess, and mitigate possible risks while making well-informed choices that include both potential rewards and challenges (Sarasvathy and Venkataraman, 2011). In addition, entrepreneurs must exhibit strong leadership abilities in order to inspire and encourage their teams. They need to possess the ability to proficiently convey their vision, assign responsibilities, and provide direction and assistance to their team. Moreover, successful entrepreneurs also recognize the need to establish a robust network of connections. They proactively pursue chances to engage with mentors, industry experts, and possible investors, using these relationships for guidance, assets, and collaborations.

2.1.3 Entrepreneurs

Entrepreneurs are individuals who possess the ability to identify opportunities and are willing to take calculated risks in order to create and manage new ventures (Grégoire et al., 2009). They are driven by the desire for financial gain, personal fulfilment, and the potential to make a positive impact on society. According to Cacciotti et al. (2016), entrepreneurs exhibit a unique mindset characterized by their propensity for innovation, proactive decision-making, and their ability to navigate uncertainty. They are not deterred by challenges but rather view them as opportunities for growth and learning. In their seminal work, Alvarez et al. (2012) highlight the importance of entrepreneurial action, emphasizing that entrepreneurs actively seek out and exploit opportunities in the market. They possess a keen sense of observation and are quick to capitalize on emerging trends and changes in consumer behaviour. Additionally, Christensen et al. (2015) introduces the concept of disruptive innovation, wherein entrepreneurs introduce ground-breaking ideas, products, or services that disrupt existing markets and create new ones. These entrepreneurs are not content with incremental improvements but strive to revolutionize industries through their innovative solutions.

Knight (2018) distinguishes between risk and uncertainty in entrepreneurship, emphasizing that entrepreneurs operate in an environment characterized by unknown outcomes and unpredictable circumstances. Successful entrepreneurs are adept at assessing and managing risks, making informed decisions based on available information and their own judgment. They discover the need to undertake deliberate risks as a fundamental aspect of business and are prepared to go beyond their comfort zones in order to seize opportunities. In addition, successful entrepreneurs consistently modify and shift their plans in reaction to evolving market circumstances, enabling them to navigate through unpredictability with resilience and agility. Covin and Miller (2014) discuss the concept of entrepreneurial orientation, which encompasses the dimensions of innovativeness, proactiveness, and risk-taking. Entrepreneurs with a strong entrepreneurial orientation are more likely to identify and exploit opportunities, challenge the status quo, and pursue growth and innovation in their ventures. Entrepreneurs with a strong entrepreneurial spirit may maintain a competitive edge

and adjust to changing market circumstances by demonstrating innovation, proactivity, and a willingness to take risks. This approach enables individuals to not only see and exploit chances but also generate novel ones, thereby driving progress and success in their ventures.

Fagerberg and Srholec (2016) introduce the concept of creative destruction, highlighting that entrepreneurs drive economic progress by introducing new products, technologies, and business models that render older ones obsolete. This constant process of innovation and renewal is essential for sustaining economic growth and competitiveness. In addition, the capacity to adjust to changing market circumstances and customer preferences is crucial for businesses. Entrepreneurs may proactively discover chances for improvement and maintain a competitive edge by consistently monitoring trends and customer feedback. Their capacity to adapt enables them to sustain a competitive advantage and guarantee long-term success in their endeavors. Furthermore, Belitski and Desai (2016) emphasize the importance of adaptability in entrepreneurship. Successful entrepreneurs are characterized by their ability to adjust their strategies and approaches in response to changes in the market and competitive landscape. They possess the flexibility to seize new opportunities and overcome challenges. This adaptability allows them to stay ahead of their competitors and continuously innovate, ensuring their products or services remain relevant and in demand. Additionally, by actively seeking and incorporating customer feedback into their decision-making processes, successful entrepreneurs can identify areas for improvement and tailor their offerings to better meet the needs and preferences of their target audience. This customer-centric approach not only enhances customer satisfaction but also fosters loyalty and repeat business, further solidifying their competitive edge in the market.

2.1.4 Digital Entrepreneurship

Digital entrepreneurship encompasses a wide range of activities and strategies aimed at leveraging digital technologies to drive business innovation and growth. According to Soltanifar et al. (2020), digital entrepreneurs actively seek out opportunities in the digital economy and employ innovative approaches to create value and gain a competitive edge. They are characterized by their ability to identify and capitalize on emerging trends, technological advancements, and changing consumer behaviors. Digital entrepreneurs demonstrate a proactive stance by embracing novel technologies and platforms in order to remain one step ahead of the dynamic digital environment. They recognize the significance of making decisions based on data and employ analytics to enhance their strategies and consumer experiences.

Another example is the development and launch of mobile applications that offer unique functionalities or services to users, such as ride-sharing apps like Grab Car or food delivery apps like Food Panda. In their study on digital entrepreneurship, Telukdarie et al. (2023) highlight the importance of developing digital products or services that meet the evolving needs and preferences of digital consumers. They emphasize the role of technology in enabling entrepreneurs to deliver personalized and engaging experiences to their target audience. Through the use of technology, entrepreneurs may gain data and discernment into customer behavior, enabling them to customize their plans and services appropriately. This not only improves client satisfaction but also boosts the probability of repeat business and favorable word-of-mouth recommendations. Remaining cognizant of the constantly evolving demands and inclinations of customers is vital for achieving business success in the present era of technology.

Digital marketing agencies are another aspect of digital entrepreneurship, where entrepreneurs establish agencies specializing in providing digital marketing services to businesses. These agencies help optimize online presence, run targeted advertising campaigns, and drive customer engagement. Building a strong online presence is a key aspect of digital entrepreneurship (Nambisan, 2017). Entrepreneurs

utilize social media platforms, websites, and online marketing strategies to reach a wider audience, build brand awareness, and establish customer relationships. They understand the power of digital platforms in facilitating customer engagement and driving sales. In the current era of technology, entrepreneurs acknowledge the significance of gaining an advantage over competitors via the use of digital marketing strategies. Businesses may use the expertise and experience of specialist firms to optimize their online presence and attract prospective customers. These firms also provide significant insights and analytics to assist businesses in making data-driven choices and improving their digital marketing efforts.

Data analytics and artificial intelligence also play a crucial role in digital entrepreneurship. According to Chae and Goh (2020), digital entrepreneurs leverage data-driven insights to make informed decisions, personalize offerings, and improve operational efficiency. They harness the power of algorithms and machine learning to automate processes, analyze market trends, and gain a competitive advantage. Through the use of data analytics and artificial intelligence, digital entrepreneurs can identify customer preferences and behaviors, enabling them to customize their goods and marketing tactics appropriately. This not only improves the entire customer experience but also boosts the probability of customer acquisition and retention. Moreover, these technologies empower digital entrepreneurs to maintain a competitive edge by continuously analyzing data and implementing proactive modifications to their company strategy.

Furthermore, the mindset of digital entrepreneurs is characterized by continuous experimentation, learning, and adaptation. Entrepreneurs embrace a growth mindset, constantly seeking feedback, iterating their strategies, and staying updated on the latest technological advancements (Sheeran and Webb, 2016). This mindset is crucial in all aspects of digital entrepreneurship, whether it's developing innovative mobile applications or creating content and monetizing it through digital platforms. In addition, digital entrepreneurs have the skill to effectively use data analytics tools and procedures to gain valuable knowledge about customer behavior and market trends. Through comprehending the data, individuals may make well-informed selections and customize their tactics to effectively address the changing

requirements of their intended audience. By using this analytical methodology, they are able to maintain a competitive edge and foster enduring expansion in the digital marketplace.

In conclusion, digital entrepreneurship involves the use of digital technologies and innovative approaches to create and manage new ventures. It encompasses activities such as developing digital products, utilizing online marketing strategies, leveraging data analytics and artificial intelligence, and adopting a mindset of continuous experimentation and adaptation. Through their endeavors, digital entrepreneurs aim to harness the potential of the digital economy and achieve sustainable growth in an ever-evolving business landscape.

2.1.5 Role of Universities in Economy

Universities, as institutions of higher education, are multifaceted entities that offer diverse academic programs, research opportunities, and resources to students, faculty, and the broader community (Hughes and Mukarutwaza, 2020). These institutions are essential in providing individuals with the information and skills required to succeed in the digital era. They provide a platform that encourages invention and cooperation, creating an atmosphere where students may freely explore novel concepts and technology. In addition, universities function as centers for research and development, driving improvements in diverse disciplines and contributing to societal advancement. According to Kezar and Maxey (2016), universities serve as dynamic centers of knowledge and learning, nurturing intellectual growth, critical thinking, and personal development. They provide formal education and training across a wide array of disciplines, encompassing the humanities, sciences, social sciences, engineering, business, and more.

An integral aspect of universities is their commitment to advancing knowledge through research and innovation. In their study on universities, Bonaccorsi (2014)

underscores the importance of research collaborations in addressing complex societal challenges and advancing human understanding. Universities actively engage in scientific inquiry, scholarly investigations, and creative endeavors, contributing to the expansion of human understanding and the generation of novel ideas, technologies, and solutions. The research activities include a wide range of fields, such as the humanities, sciences, social sciences, engineering, business, and others. Through the promotion of multidisciplinary relationships, institutions may effectively address complex issues that require a range of viewpoints and specialized knowledge. This not only improves the quality of research results but also fosters innovation and drives social advancement.

Moreover, universities function as catalysts for economic and social progress. According to Reuer et al. (2019), universities play a pivotal role as catalysts for economic progress, fostering entrepreneurship, innovation, and technology transfer. They foster an entrepreneurial spirit, promote innovation, and facilitate the transfer of technology, creating an environment conducive to start-ups, industry partnerships, and knowledge-based sectors. In addition, universities support local economies by drawing capital and generating employment prospects. They serve as central points for cooperation between academics and industry, facilitating the interchange of ideas and specialized knowledge that might result in the creation of novel goods and services. The collaborative nature of this setting facilitates the connection between theoretical knowledge and practical implementation, guaranteeing that research discoveries have tangible effects in the real world.

Furthermore, universities assume the role of vibrant hubs of cultural and social engagement. Dolgon et al. (2017) note that universities actively promote cultural diversity, artistic expression, and community involvement, contributing to vibrant social engagement. They celebrate cultural diversity, provide platforms for artistic expression, and actively foster community involvement through various outreach initiatives. These initiatives include organizing cultural festivals, art exhibits, and community service programs aimed at encouraging the active involvement of students and professors in the local community. Through this action, universities not only enhance the cultural fabric of society but also provide students with chances to apply

their academic knowledge in practical contexts. This linkage between academia and society guarantees that research findings are not limited to the realm of academics but instead have concrete impacts that benefit the wider population.

Universities fulfill the dual role of intellectual forums and societal enrichment centers, in addition to their research pursuits. By means of academic conferences, seminars, and public lectures, universities serve as forums for intellectual dialogue and contribute to the improvement of society. These activities facilitate scholarly dialogue and make a positive contribution to the collective development of society. Furthermore, universities often collaborate with industries and government agencies to conduct research that addresses real-world problems. This collaboration ensures that research findings are translated into practical solutions and innovations that directly benefit society. By actively engaging with external stakeholders, universities bridge the gap between academia and society, fostering a mutually beneficial relationship that drives societal progress.

To summarize, universities encompass the realms of formal education, research and innovation, economic development, and cultural and social engagement. They are indispensable pillars of society, nurturing the growth and development of individuals and communities alike.

2.1.6 Undergraduate

The essential meaning of “undergraduate” refers to the stage of education that follows secondary education and precedes postgraduate or graduate studies, allowing students to pursue their first bachelor’s degree (Cleaver et al., 2018). Throughout their undergraduate education, students are afforded the chance to explore several academic subjects, acquire fundamental information, and develop their abilities in critical thinking and problem-solving. This phase of study also acts as a catalyst for further specialization and professional progression in their selected domains. Undergraduate

programs offered by universities, colleges, and other institutions of higher education play a crucial role in providing a comprehensive and foundational education across a variety of academic disciplines (Bertram, 2016).

According to Hattie and Donoghue (2016), undergraduate coursework, lectures, seminars, and laboratory work contribute to the development of students' knowledge, abilities, and comprehension in their chosen field of study. The duration of a bachelor's degree program can range from three to four years, dependent on the country and program. Bachelor's degree programs often require students to complete a certain number of credits or courses in their chosen field of study in addition to fulfilling general education requirements. These programs strive to provide students with the essential skills and information required to join the workforce or seek further study at the graduate level. Bachelor's degree programs often provide internships or co-op programs as a means for students to get practical experience alongside their studies. These practical experiences enable students to use their knowledge in authentic contexts and further enhance their skills and understanding in their chosen field. The ultimate objective of these programs is to provide students with the necessary skills and knowledge to excel in their chosen fields or pursue further education.

Gregory (2018) highlights the significance of major selection in undergraduate education, which allows students to specialize in a particular area of study and develop expertise in their chosen discipline. Major selection in undergraduate education is an important decision that can shape a student's career path and future opportunities. It offers students the chance to explore their chosen field in more depth, acquiring specific expertise and abilities that might improve their career chances. Furthermore, the process of choosing a major enables students to establish connections with people who have similar interests and participate in cooperative educational opportunities within their chosen area of study. Undergraduate education exposes students to a variety of subjects and disciplines, such as the humanities, social sciences, natural sciences, business, and engineering, among others, thereby providing them with a well-rounded education (Hora, 2016).

The primary objective of undergraduate education is to equip students with the foundational knowledge and skills necessary to pursue further academic study, enter the workforce, or pursue other professional endeavors (Bressoud, 2020). Experiential learning, internships, research projects, and community engagement activities are essential components of undergraduate education because they enhance students' skills and employability. These components enable students to use their knowledge in real-life contexts, get hands-on experience, and cultivate crucial transferable abilities such as analytical thinking, solution-oriented problem-solving, and effective communication. Additionally, these chances provide students with invaluable networking contacts and the opportunity to explore prospective career routes within their selected subject of study.

Moreover, community service activities during undergraduate studies contribute to the personal and professional development of students. Students have the opportunity to participate in these activities throughout their undergraduate careers, which enhance their learning experience and prepare them for future careers or advanced study. Engaging in experiential learning, such as internships and research projects, enables students to put their theoretical knowledge into practice in real-life situations, acquiring practical skills and insights that cannot be obtained exclusively from classroom instruction. In addition, community involvement events promote social responsibility and empathy, enabling students to cultivate an in-depth perspective and successfully interact with other cohorts. These experiences not only enhance students' chances of finding employment but also encourage their personal development and overall achievement in their chosen fields.

In summation, the term "undergraduate" refers to the level of education that follows secondary school and precedes postgraduate studies, allowing students to pursue their first bachelor's degree. Undergraduate programs offered by universities, colleges, and other institutions of higher education provide a foundational and comprehensive education in a variety of academic disciplines. Undergraduates develop their knowledge, skills, and comprehension through coursework, lectures, seminars, and other activities. Major selection, experiential learning, internships,

research projects, and community engagement activities further contribute to their growth and readiness for future endeavors (Jacob et al., 2015).

2.2 Challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM.

2.2.1 Entrepreneurial Mindset

The entrepreneurial mindset is comprised of an individual's attitudes, beliefs, and perceptions regarding entrepreneurship, risk-taking, innovation, and opportunity recognition. It is a proactive, innovative, and opportunity-seeking mindset that enables individuals to recognize and pursue entrepreneurial endeavors (Alain and Gailly, 2013). The entrepreneurial mindset is essential in the current dynamic and extremely competitive business landscape. It provides individuals with the capacity to adapt to new challenges, identify opportunities, and make well-considered decisions, including taking risks. Through the development of an entrepreneurial mindset, educational institutions have the ability to provide students with the skills to think innovatively, solve problems efficiently, and handle ambiguous circumstances with assurance. This mindset not only equips individuals for success in their chosen domains but also promotes a climate of originality and entrepreneurship across society at large.

Multiple studies highlight the importance of instilling an entrepreneurial mindset in undergraduates for their success in launching and maintaining digital entrepreneurship ventures. The research indicates that students with an entrepreneurial mindset have a higher probability of seeing opportunities in the digital market, adapting to rapidly evolving technology, and proficiently managing the difficulties associated with operating a digital business. By cultivating this mindset, educational institutions may have a pivotal impact on shaping the future of entrepreneurship and driving economic expansion in the digital era. The entrepreneurial mindset, according to Obschonka et al. (2015), is a crucial factor that influences individuals' decisions to

engage in entrepreneurial activities and their ability to navigate the challenges and uncertainties associated with entrepreneurship.

Research indicates that undergraduates may encounter difficulties in developing and cultivating an entrepreneurial mindset, particularly if they possess a risk-averse or traditional mindset that places a premium on job security and stability. Liñán and Fayolle (2015) discovered that fear of failure and aversion to risk are common obstacles to the development of an entrepreneurial mindset among students. These limitations arise for several reasons, including social norms and cultural beliefs that promote stability and discourage taking risks. Moreover, a scarcity of opportunities to observe and learn from successful entrepreneurs, as well as a deficiency in available resources and support networks, might further hinder the development of an entrepreneurial mindset among undergraduate students.

To address these issues, interventions and programs designed to inculcate and nurture an entrepreneurial mindset in undergraduate students are required. Opportunities for experiential learning, such as business simulations and entrepreneurial initiatives, can encourage students to think creatively, take calculated risks, and recognize opportunities (Morris et al., 2013). Entrepreneurship courses can educate students with the necessary knowledge and skills for entrepreneurial success, while mentorship programs and exposure to successful digital entrepreneurs can provide guidance and serve as role models (Kassean et al., 2015).

Undergraduate students can surmount the challenges associated with developing an entrepreneurial mindset and be better prepared to navigate the dynamic and competitive landscape of digital entrepreneurship by encouraging a proactive and innovative mindset (Alain and Gailly, 2013). Furthermore, integrating real-life case studies and hands-on experiences into entrepreneurship courses helps enhance students' comprehension of the complexities involved in managing a digital business. In addition, networking events and industry partnerships provide students with an important opportunity to establish connections with experts in the area and acquire knowledge about the most recent trends and technology in digital entrepreneurship.

2.2.2 Social Networks and Support

The availability and intensity of social networks, mentors, and supportive environments have a significant impact on the ability of UTeM undergraduates to launch and sustain digital entrepreneurship ventures. These social networks and support systems are essential for offering guidance, advice, and resources to students, helping them navigate the difficulties and uncertainties of launching a digital business. Moreover, participating in a supportive community enables students to acquire knowledge from the experiences of others and gain useful perspectives on the sector, thereby enhancing their prospects of achieving success in the realm of digital entrepreneurship. Students may find it difficult to access resources, guidance, and opportunities for collaboration when social networks and supportive environments are limited (Zupic and Čater, 2014).

The scholarly literature emphasizes the significance of fostering strong social networks and support systems in order to overcome these obstacles. Students can gain access to mentors, industry experts, and fellow aspiring entrepreneurs by constructing entrepreneurial ecosystems within the university and wider community (Wyrwich et al., 2016). These networks can serve as sources of information, guidance, and assistance, aiding students in overcoming obstacles and navigating the complexities of digital entrepreneurship. Through the creation of entrepreneurial ecosystems, students may also gain advantages from the exchange of resources and opportunities, such as obtaining financial support or forming strategic alliances. Moreover, these networks may serve as a medium for cooperation and sharing of information, promoting originality and creativity among potential businesses in the digital realm.

Entrepreneurship societies, networking events, and incubator programs can facilitate the sharing of information, collaboration, and peer support (Guerrero, Urbano, Fayolle, et al., 2016). Entrepreneurship organizations, for instance, provide students with opportunities to network, share ideas, and learn from one another's experiences. These organizations often organize workshops and guest speaker events, during which accomplished entrepreneurs share their views and expertise with

prospective business owners. Additionally, entrepreneurship organizations provide mentoring programs that facilitate connections between students and experienced professionals who may provide guidance throughout their entrepreneurial journey. Students, alumni, and industry professionals are brought together through networking events, nurturing relationships, and establishing opportunities for mentorship and collaboration (Wyrwich et al., 2016). Incubator programs provide dedicated spaces and resources for students to develop their entrepreneurial ventures, as well as guidance, mentorship, and access to funding opportunities.

By strengthening social networks and providing a supportive environment, undergraduate students can surmount obstacles and benefit from their networks' collective wisdom and resources. Not only do these networks provide access to valuable knowledge and expertise, but they also offer emotional support, encouragement, and motivation, which are essential for navigating the inherent uncertainties and setbacks of the entrepreneurial journey (Hsu et al., 2017).

2.2.3 Education and Training

The extent to which the educational curriculum and training programs at UTeM provide digital entrepreneurship-related knowledge, skills, and resources is essential for addressing the challenges encountered by undergraduate students (Moghavvemi et al., 2018). Inadequate digital entrepreneurship-specific education and training may leave students ill-equipped to navigate the complexities of the digital business landscape and hinder their ability to launch and sustain ventures. Furthermore, the lack of digital entrepreneurship education and training might also restrict students' understanding of evolving technology and innovative business models, preventing their ability to take advantage of new prospects in the digital economy. UTeM must emphasize the incorporation of digital entrepreneurship into their curriculum to guarantee that students are well-prepared for the dynamic and competitive nature of the entrepreneurial journey.

To address this issue, academic institutions must implement comprehensive and pertinent educational programs that equip undergraduate students with the required knowledge and skills. These programs may include digital entrepreneurship, business planning, digital marketing, financial management, and innovation courses. Through the provision of these courses, UTeM can ensure that students acquire not only a solid grounding in traditional business principles but also the essential digital competencies required to excel in the contemporary market. This will provide UTeM graduates with a distinct advantage and enhance their prospects of success in the realm of digital entrepreneurship. Additionally, UTeM has the potential to engage in partnerships with industry specialists and professionals in order to provide students with valuable real-world perspectives and hands-on experiences, therefore augmenting their entrepreneurial capabilities. The curriculum should emphasize experiential learning, providing students with opportunities to engage in practical activities such as constructing business plans, conducting market research, and developing digital marketing strategies (Frederick and Kuratko, 2010).

In addition, academic-industry collaborations can help bridge the distance between theory and practice, exposing students to real-world challenges and opportunities (Osterwalder et al., 2014). The digital entrepreneurship ecosystem provides students with valuable insights, industry connections, and hands-on experience through guest lectures, industry initiatives, and apprenticeships. Industry partnerships also allow universities to remain abreast of the most recent business trends, technologies, and best practices (Moghavvemi et al., 2018). Furthermore, these partnerships can enhance the curriculum by integrating industry-specific case studies and projects, ensuring that students possess the most up-to-date knowledge and abilities demanded in the labor market. Moreover, collaborations with the industry might result in research prospects for faculty members, promote creativity, and provide tangible resolutions for practical issues in the real world.

By providing comprehensive education and training, UTeM enables undergraduates to surmount obstacles and develop the skills necessary for digital entrepreneurship success. Students can gain confidence, critical thinking, problem-solving skills, and an entrepreneurial mindset from a well-rounded educational

experience that integrates theoretical knowledge with practical implementation (Frederick and Kuratko, 2010). By integrating theoretical knowledge with practical implementation, students are able to effectively apply their learning in real-world situations, thereby preparing themselves with the necessary skills to tackle the obstacles that may arise in the digital entrepreneurship business. Furthermore, UTeM's focus on digital entrepreneurship enables students to identify and capitalize on prospects in a swiftly changing technological environment, ensuring their relevance and success in business.

2.2.4 Motivations and Incentives

The motivations and incentives of undergraduate students are essential drivers of engagement in digital entrepreneurship (Hatak et al., 2015). However, difficulties may arise if students lack intrinsic or extrinsic motivations that coincide with their goals. Societal or cultural constraints for conventional career paths can inhibit intrinsic motivations such as autonomy, passion, and a desire for creative expression (Hatak et al., 2015). If support mechanisms for financing and exhibiting entrepreneurial achievements are lacking, extrinsic motivations, such as monetary rewards and recognition, may also be limited. In the absence of these motivations, undergraduate students may exhibit less inclination to actively participate in digital entrepreneurship and may encounter difficulties in overcoming challenges or embracing risks. Universities and institutions must prioritize providing the essential support and resources to foster both intrinsic and extrinsic motivations in students, ensuring that they possess the required means and encouragement to follow their entrepreneurial aspirations.

UTeM can develop an ecosystem that fosters and rewards entrepreneurial endeavors to resolve these issues (Spigel and Harrison, 2018). By creating an environment that encourages innovation and entrepreneurship, UTeM can inspire undergraduate students to take part in digital entrepreneurship. This can be achieved through organizing workshops, networking events, and mentorship programs that

expose students to real-world entrepreneurial experiences. Grants, funding opportunities, and venture capital connections can help mitigate some of the financial difficulties faced by undergraduate students (Hatak et al., 2015). Scholarships or stipends tailored to digital entrepreneurship endeavors can encourage students to pursue their entrepreneurial goals. Scholarships might also provide students with the necessary financial support to allocate resources towards their entrepreneurial concepts and undertake ventures without concern for economic uncertainty.

Extrinsic motivations can be increased by recognizing and celebrating entrepreneurial achievements through awards, competitions, and public displays (Cardon et al., 2013). Extrinsic motivators may enhance the motivation of undergraduate students to participate in digital entrepreneurship and create a competitive atmosphere that stimulates innovation. Additionally, publicly presenting entrepreneurial accomplishments not only enhances the students' self-assurance but also attracts potential investors and collaborators who may contribute to their future success. UTeM can establish platforms to highlight the achievements of digital entrepreneurs, host presentation competitions, and invite industry professionals to evaluate and provide feedback on student ventures. Such initiatives can not only provide students with visibility and validation but also cultivate a competitive and encouraging environment that motivates them to excel.

Moreover, fostering an entrepreneurial culture within UTeM that values autonomy, creativity, and innovation can stimulate intrinsic motivations (Hatak et al., 2015). It is possible to overcome societal and cultural pressures by encouraging students to think creatively, take risks, and accept failure as a normal part of the learning process. UTeM can encourage students to think outside the box and explore new ideas by promoting a culture that values autonomy, creativity, and innovation. This may result in the creation of innovative solutions and foster a mindset that is resilient when confronted with failure. In essence, this culture of entrepreneurship may effectively prepare students for the difficulties encountered in the real world and provide them with invaluable proficiencies for their forthcoming professional endeavors. Incorporating opportunities for students to work on real-world initiatives,

collaborate with industry partners, and investigate their own digital business ideas can increase their autonomy and motivation.

By harmonizing motivations and providing incentives, UTeM can motivate and empower undergraduates to surmount obstacles and engage in digital entrepreneurship. Creating an environment that encourages and rewards their entrepreneurial endeavors can increase their motivation and likelihood of success in the digital business environment.

2.3 Conceptual/Research Framework

A conceptual framework is a theoretical structure or model that enables the comprehension and analysis of complex phenomena. It describes the main concepts, variables, relationships, and theories that serve as the foundation for research or analysis in a specific field of study. According to Miles et al. (2019), a conceptual framework "sets forth the key factors, constructs, or variables and their presumed relationships, and specifies the range of variation (and, in some cases, direction) among these elements that is relevant to the inquiry."

In this study, the independent variables were entrepreneurial mindset, social networks and support, education and training, and motivation and incentives, while the dependent variables were challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM.

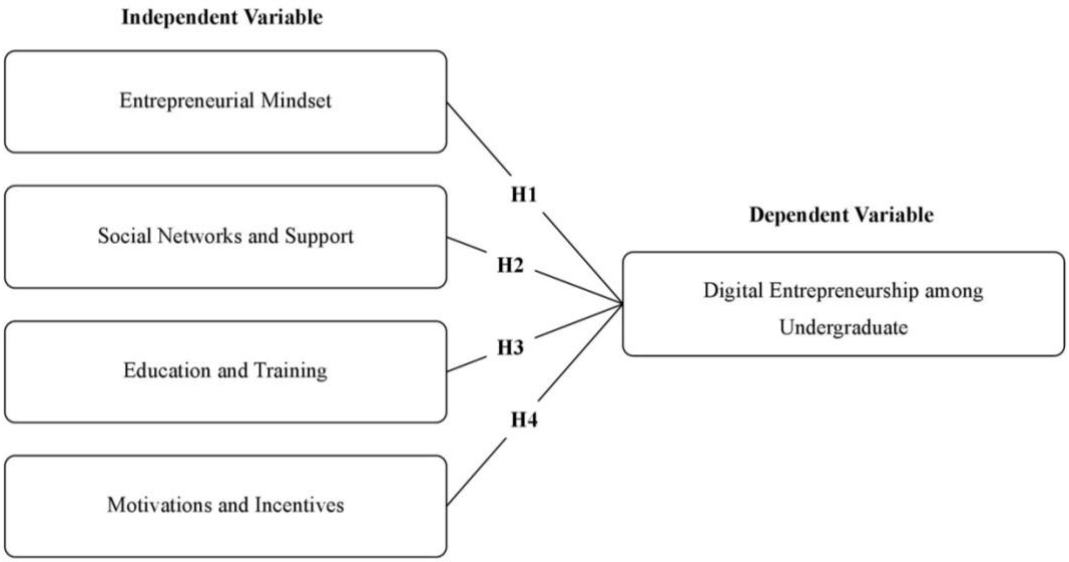

Figure 2.1: Proposal Conceptual Framework

Source: (Own Illustration)

2.4 Research Hypotheses

Hypotheses are formulated on the basis of a theoretical framework and are used to examine the relationships between variables. Hypothesis statements consist typically of a null hypothesis and alternate hypothesis. The null hypothesis suggests the absence of a relationship or influence whereas the alternate hypothesis postulates the existence of such a connection.

The following hypotheses have been devised to examine the relationship between the variables, based on a comprehensive analysis and support from the existing literature:

Hypothesis 1: Entrepreneurial Mindset

H_{01}: There is no significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate.

H_{a1}: There is a significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate.

Hypothesis 2: Social Networks and Support

H_{02}: There is no significant relationship between social networks and support with digital entrepreneurship among undergraduate.

H_{a2}: There is a significant relationship between social networks and support with digital entrepreneurship among undergraduate.

Hypothesis 3: Education and Training

H_{03}: There is no significant relationship between education and training with digital entrepreneurship among undergraduate.

H_{a3}: There is a significant relationship between education and training with digital entrepreneurship among undergraduate.

Hypothesis 4: Motivations and Incentives

H_{04}: There is no significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.

H_{a4}: There is a significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.

2.7 Summary

In general, this chapter is derived from secondary data where researchers get all the information from online articles, journals, and thesis. This chapter has also discussed the concepts and different definitions according to the previous researcher related to this research topic which is the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. Furthermore, a conceptual framework is outlined in this chapter, which categorizes the independent variables into four categories: entrepreneurial mindset, social networks and support, education and training, and motivations and incentives. These independent variables are examined in relation to the dependent variables, which are challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

The importance of research methodology in any study cannot be overstated, as it offers an in-depth understanding of the processes involved in conducting research. The concept consists of various parts, including the research design, methodology selection, data collection, and data analysis. This chapter outlines the researcher's methodology for carrying out the study, highlighting key components such as the development of questionnaires, determination of sample size, conducting the pilot testing, and method analysis. The researcher endeavors to ensure a comprehensive and strong research process by observing to these elements.

3.1 Research Design

A research design is a systematic and deliberate structure that outlines the approach for conducting a research study. The term refers to a variety of methodologies, approaches, and tools utilized for the purpose of gathering and analyzing data. According to Ishtiaq (2019), the provision of a systematic and organized roadmap to researchers enables the methodical attainment of research objectives and effectively addresses research questions.

The study of research methodology recognizes four fundamental research designs, which are exploratory, descriptive, explanatory, and evaluative. Exploratory research is an effective method for gaining a deeper comprehension of a topic or subject (Creswell, 2013). In contrast, descriptive research attempts to characterize and describe the characteristics of a specific population or group (Neuman, 2000). Explanatory research attempts to determine the reasons behind why certain phenomena occur (Shadish et al., 2002). Last but not least, evaluative research is conducted to evaluate and assess the efficacy of programs or interventions (Rossi et al., 2019).

According to the selected research design, researchers can utilize an appropriate methodology to conduct their study efficiently. In this study, the researcher went for a descriptive approach.

3.1.1 Descriptive Research

In terms of classification, descriptive research is classified as a fundamental research design type. The approach referred to is a quantitative research methodology that is deemed conclusive and used to evaluate a particular hypothesis, as well as to define its characteristics and functionality. In order for descriptive research to be considered methodologically sound, it is imperative that the research questions or problems are formulated in a clear and precise manner. According to Loeb et al. (2017), descriptive research is a method used to characterize or observe phenomena in the world. The objective is to identify patterns within the dataset with the purpose of dealing with questions related to the individuals, entities, locations, and time frame aspects of the observed phenomenon. The chosen research methodology aims to provide an in-depth description of the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM.

Descriptive research can manifest in either quantitative or qualitative design. The method can involve gathering quantitative information that can be presented in numerical data, for instance, determine the number of UTeM undergraduate students who are aware of and have an understanding of digital entrepreneurship. Descriptive statistics play a crucial role in simplifying large raw data into a more understandable design, as the human mind is limited in its capacity to process extensive amounts of information. This is due to the fact that by utilizing this approach, researchers are able to formulate and construct questions that are understandable and straightforward for respondents to comprehend and effectively complete the survey.

Hence, this study uses a descriptive research design to determine the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. According to Sileyew (2019), descriptive research relates to the representation of an accurate portrayal of an individual, occurrence, or circumstance. The previous design provides researchers with a comprehensive overview of important aspects of the phenomenon under investigation, encompassing individual, organizational, and industry perspectives.

3.2 Methodologies Choices

The research methodology consists of three types, which are qualitative, quantitative, and mixed. According to Amaratunga and Baldry (2002), qualitative research involves extended or extensive engagement with specific circumstances or the real world. Qualitative research is identified by its appropriateness for limited sample sizes and the non-measurable quality of its outcomes. According to Spies (2010), the rationale behind the logical nature of quantitative methods is rooted in the analysis of statistical hypothesis testing, which ultimately contributes to the understanding of the overall features of a population. Mixed methods research is a research methodology that involves the systematic gathering, analysis, and synthesis of both quantitative and qualitative research. The combination of multiple research methodologies is used when it produces a deeper understanding of the research problem than any individual method in isolation.

According to the selected methodologies choices, researchers can utilize an appropriate methodology to conduct their study efficiently. In this study, the researcher went for quantitative research.

3.2.1 Quantitative Research

This study uses a quantitative research design to investigate the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. Specifically, a survey is used to determine the extent of the universities' impact on this phenomenon. According to Ahmad et al. (2019) proposed that quantitative research is a scientific approach that utilizes numerical data and unbiased facts, drawing on methods commonly employed in the natural sciences. This form of investigation is commonly referred to as empirical research due to its capacity for accurate and precise measurement.

In this study, the researcher aimed to investigate the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. Given that the researcher's intended sample consists of undergraduate students who possess an awareness and understanding of digital entrepreneurship, the application of a quantitative methodology is deemed to be highly effective in gathering data from the respondents. This methodology can enable the researcher to efficiently gather data and conveniently categorize it into multiple groups. According to Ahmad et al. (2019), the utilization of quantitative research may enable the creation of graphs and tables containing raw data, thereby simplifying the process of result analysis for researchers.

As previously stated, quantitative research is focused on data analysis. There exist two different approaches to conducting quantitative research, such as primary quantitative research methods and secondary quantitative research methods. In this study, the researcher employed both methodologies. The reason for this is that primary quantitative research is the predominant approach used in the field of market research. Primary research is defined by the researcher's prioritizing of collecting data firsthand, rather than depending on data acquired from previous research. The objective of this research is to determine the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM. This is due to its potential to speed up data collection from respondents within a brief timeframe, which can be advantageous for researchers. Furthermore, computerized statistical packages can be utilized to compute and process data, resulting in significant conservation of energy and resources (Daniel, 2016).

The secondary quantitative research methodology is related to the application of pre-existing data or secondary data for research purposes. The available data was streamlined and collected with the aim of improving the overall efficiency of the research. Researchers use this approach to collect data related to digital entrepreneurship among undergraduate students. Researchers also utilize this approach to provide additional assisting to the purpose of the study. The research methodology used in this study involves the systematic gathering and analysis of numerical data obtained from various sources, including but not limited to online databases and published research materials. Secondary quantitative research serves to verify the data

obtained from primary quantitative research and also assists in substantiating previously gathered data.

3.3 Data Collection

The data collection method refers to the systematic process of gathering data, which involves determining the right spot and method for data collection, observing a continuous phenomenon, recording, selecting, sorting, and understand data, as well as identifying the optimal time for data utilization. The process in question is characterized by superposition. It is recommended that researchers consistently make reference to both the research questions and research objectives. During the data collection process, it is essential to put a higher priority on monitoring the actions of researchers as instead of solely gathering data.

There are present two different types of data sources, which are primary data and secondary data. Primary data relates to the original information that researchers gather through various approaches such as questionnaires, surveys, and observations. The utilization of pre-existing sources, such as past research, journal articles, books, or newspapers, is a research method known as secondary data. This approach is frequently used by researchers to obtain information and details.

In order to conduct this study, the researcher obtained primary and secondary data through different methods, including but not limited to questionnaires, journal articles, books, online sources, and other relevant resources.

3.3.1 Primary Data

Primary data refers to the initial data that is gathered directly from the source for a specific research study or analysis. This refers to unpublished or unprocessed data that has not been made available to the public or undergone any form of examination or analysis by external parties. In academic research, primary data is commonly gathered through various techniques including surveys, interviews, observations, experiments, and measurements. The purpose of collecting primary data is to obtain firsthand information regarding to a specific phenomenon or research inquiry (Archer, 2023).

In this study, the primary data will be gathered through a questionnaire survey distributed to undergraduate students at UTeM. The questionnaires will be designed with care to elicit specific, first-hand information from the respondents. In order to gather primary data, questionnaires will be distributed to a representative sample of UTeM undergraduate students. The questionnaire will consist of systematic inquiries formulated to extract fundamental elements of digital entrepreneurship. These questions will examine the students' level of awareness and understanding of digital entrepreneurship and assess the challenges they face when starting and sustaining digital entrepreneurship ventures.

To ensure that participants can readily understand and respond to the queries, priority will be placed on their plain and comprehensible design. The questionnaire will contain a variety of question types, including multiple-choice, Likert scale, and open-ended questions, allowing for the collection of quantitative data. Taking into consideration the convenience and inclinations of the participants, the questionnaires will be administered electronically or on paper, whichever is preferred.

The research study will acquire firsthand insights and perspectives from UTeM undergraduates by accumulating primary data through questionnaires. This methodology will allow for a comprehensive analysis of their experiences, perceptions, and attitudes regarding digital entrepreneurship. The collected data will

be subjected to quantitative analysis, allowing the researcher to draw meaningful conclusions and make evidence-based recommendations regarding the role of universities in promoting digital entrepreneurship among UTeM undergraduates.

3.3.2 Secondary Data

Secondary data refers to information collected by other researchers or organizations for objectives other than the current study. The review of secondary data will involve accessing and analyzing a variety of scholarly sources, such as journal articles, books, and thesis. This will serve multiple purposes within the scope of the research study. It will first provide valuable insights into the extant knowledge and research on digital entrepreneurship, university initiatives, and challenges faced by undergraduate in starting and sustaining. By examining the findings and conclusions of prior studies, the current research can be informed and firmly grounded in theory.

In addition, the secondary data review will uncover empirical evidence and case studies highlighting successful practices and strategies for encouraging digital entrepreneurship among undergraduates. These insights can help universities identify the best practices and areas where they can enhance their efforts to promote digital entrepreneurship among students.

Furthermore, the review of secondary data will provide the context and background knowledge of the research topic. This comprehensive perspective will allow the researcher to acquire a deeper understanding of the topic and identify any voids, contradictions, or areas requiring additional research. In turn, this will direct the formulation of research queries and hypotheses.

Overall, the collection and analysis of secondary data will enrich the findings of the research study, deepen the understanding of the role of universities in encouraging digital entrepreneurship among undergraduates at UTeM.

3.4 Research Strategy

Researchers frequently use survey methodology to collect data and subsequently analyze the acquired findings. According to Loeb et al. (2017), the acquisition of quantitative data analysis skills involves the instruction of three primary pedagogical goals. These objectives include the ability to identify relevant queries throughout all stages of data analysis, the capacity to evaluate the significance of potential questions, and the ability to understand the underlying relationships within the data.

3.4.1 Survey

The researcher utilizes a questionnaire in a survey to collect data from respondents in order to address the research questions. The utilization of questionnaires is a highly convenient approach for collecting data from a large number of individuals over a specified timeframe. Hence, the design of questionnaires provides significant importance in ensuring the collection of precise data, thus enabling the interpretation and generalization of results. Questionnaires have been recognized as an achievable approach for evaluating the behavior, attitudes, preferences, viewpoints, and intentions of a significant number of respondents in a cost-effective and time-efficient manner relative to alternative techniques. Questionnaires typically use a blend of open-ended and closed-ended inquiries to collect data and insights. This represents a positive result as it enables the collection of both quantitative and qualitative data.

The researcher intends to distribute an online questionnaire using Google Form to the target respondents, who are undergraduates enrolled at UTeM. Nawi et al. (2019) indicated that the online survey questionnaire was developed with straightforward and impartial language to improve the respondents' understanding of the questions. The researcher has utilized previous studies to construct a questionnaire that relates to the function of universities in fostering digital entrepreneurship among undergraduate

students. The researcher formulates the questionnaire in alignment with the research objectives. The researcher intends to distribute a questionnaire to the target respondents and will randomly allocate 169 questionnaire surveys to undergraduate students.

According to the previous researcher, Google Forms was used as a survey tool to gather data from respondents. The implementation of online surveys offers a further advantage to researchers, as it affords a beneficial process for both the researcher and the respondent. The researcher's use of social media or email to distribute the survey to respondents assisted the efficiency and comprehensiveness of the survey distribution and response process. Furthermore, the costs incurred are relatively low, and it provides a cost-effective solution for researchers. According to Ball (2019), respondents tend to prefer completing survey questionnaires online as it allows them to answer questions at their own pace, resulting in a higher response rate and increased satisfaction.

Once establishing the research methodology, specifically utilizing a survey approach, the researcher is tasked with formulating a set of questions to be disseminated to the target respondents. The significance of the questionnaire lies in its ability to ease the acquisition of data and enable the researcher to analyze the objectives of the study. Jones et al. (2013) suggest that it is important to arrange questions in a logical sequence, grouping questions on the same topic together and dividing them into appropriate sections if they are lengthy enough to require such organization. Incorporating introductory and summary questions into a survey can be advantageous for initiating and concluding the data collection process. The findings indicate that the formulation of the questions is crucial in enabling the respondents to provide responses with ease and convenience.

3.5 Research Location

The study on the significance of universities in encouraging digital entrepreneurship among undergraduates at UTeM will be conducted at the Universiti Teknikal Malaysia Melaka (UTeM) research location. UTeM is the chosen institution where the research is carried out, serving as the primary setting for data gathering, analysis, and interpretation. Researchers may choose to concentrate on UTeM due to its relevance and significance in the field of digital entrepreneurship among undergraduates.

3.6 Time Horizon

The time horizon refers to a systematic collection of numerical data at consistent intervals throughout a specific duration. The time horizon can be shown on an annual, monthly, weekly, or daily basis. The researcher will be using a cross-sectional design in this study.

3.6.1 Cross Sectional Studies

Creswell and Guetterman (2018) states that the cross-sectional study is a type of observational research that gathers data from a population at a specific moment in time to investigate the correlation between variables. Undergraduate students at UTeM will be surveyed during a specified time period for the purposes of this study. The emphasis will be on gathering information regarding the significance of universities in encouraging digital entrepreneurship among these students. The collected data will provide a survey of perceptions, attitudes, and experiences of students regarding digital entrepreneurship and the role of universities in fostering this field.

In order to conduct cross-sectional research, data will be collected through questionnaires. The data collection instruments will be designed to collect pertinent information regarding students' participation in digital entrepreneurship activities, their access to university resources and support, and their perceptions of the impact university initiatives have on their entrepreneurial journey.

To examine patterns, correlations, and associations between variables of interest, the collated data will be analyzed using statistical methods. The findings will provide insights into the role of universities in encouraging digital entrepreneurship among UTeM undergraduates, cast light on the efficacy of current university initiatives, and identify areas for improvement.

Overall, the cross-sectional study design will permit a thorough comprehension of the current condition of digital entrepreneurship among UTeM undergraduates and the function of universities in this context. It will help universities, policymakers, and other stakeholders develop strategies and interventions that effectively promote digital entrepreneurship among undergraduate students and contribute to their success in this field.

3.7 Research Instrument

3.7.1 Questionnaire Design

Questionnaires are a crucial part of research, particularly in the context of quantitative methodologies. A questionnaire is a methodical collection of written inquiries designed to systematically acquire information regarding individuals' attitudes, preferences, beliefs, anticipations, and actions. This instrument is commonly used in research studies for the purpose of gathering information. The questionnaire comprises three distinct sections. Section A of the survey relates to the collection of demographic data, including information on age, gender, academic level, the field of

study, prior entrepreneurial experience, and formal entrepreneurship education or training. Section B of the study will enable the researcher to assess the level of awareness and understanding related to digital entrepreneurship. Meanwhile, Section C will assist in the measurement of the challenges faced by undergraduates in starting and sustaining digital entrepreneurship ventures at UTeM.

The researcher used a Likert scale consisting of response options that includes strongly disagree, disagree, neutral, agree and strongly agree in sections B and C. The researchers developed questionnaires in accordance with the research objectives. The survey instrument will be given to the target respondents, with a total of 169 questionnaires being distributed to the intended sample. Menold et al. (2018) have proposed an assessment scale to be used as a criterion in a questionnaire for determining continuity approval. This scale will consider factors such as agreement, intensity, frequency, and satisfaction among respondents. The respondents will evaluate the questions and elements by electing appropriate classifications, commonly linked to personal attributes, perspectives, and conduct.

Section B: Level of Awareness and Understanding of Digital Entrepreneurship

Table 3.1: Measurement Items Level of Awareness and Understanding

Source: (Own Illustration)

Category	Questions
LA1	I have a good understanding of what digital entrepreneurship entails.
LA2	I am aware of the potential opportunities and benefits of engaging in digital entrepreneurship.
LA3	I feel confident in my knowledge and skills related to digital entrepreneurship.
LA4	I believe that digital entrepreneurship is a viable career option.

LA5	I am familiar with the resources and support available for digital entrepreneurship at UTeM.

Section C: The Challenges Faced by Undergraduate Students in Starting and Sustaining Digital Entrepreneurship Ventures at UTeM.

EM: Entrepreneurial Mindset

SN: Social Networks and Support

ET: Education and Training

MI: Motivations and Incentives

Table 3.2: Measurement Items of Challenges Faced by Undergraduate Students Starting and Sustaining

Source: (Own Illustration)

Category	Questions
EM1	I feel confident in my ability to identify and pursue entrepreneurial opportunities.
EM2	I am willing to take calculated risks to achieve entrepreneurial success.
EM3	I believe in my capability to overcome obstacles and setbacks in entrepreneurship.
EM4	I possess a strong drive and motivation to succeed as an entrepreneur.
EM5	I am open-minded and embrace innovation and change in entrepreneurship.

SN1	I have access to a supportive network of mentors, advisors, or experienced entrepreneurs.
SN2	I received guidance and feedback from peers who are also involved in entrepreneurship.
SN3	I feel supported by my family and friends in my entrepreneurial endeavors.
SN4	I have opportunities to collaborate and network with other aspiring entrepreneurs.
SN5	I can rely on a community or organization that provides resources and support for entrepreneurs.
ET1	I have received adequate education or training in the fundamental principles of entrepreneurship.
ET2	I have access to courses or programs that specifically focus on digital entrepreneurship.
ET3	I have participated in workshops or training sessions on digital business models and strategies.
ET4	The university provides resource, such as online materials or libraries, for entrepreneurship education.
ET5	I have been exposed to successful digital entrepreneurs through guest lectures or industry events.
MI1	I am motivated to start a digital entrepreneurship venture to achieve financial independence.
MI2	The potential for personal growth and self-fulfillment drives my interest in digital entrepreneurship.
MI3	I am attracted to the flexible lifestyle and freedom that digital entrepreneurship can offer.
MI4	I believe that digital entrepreneurship can lead to making a positive impact on society.

MI5	The availability of grants, funding opportunities, or incentives encourages me to pursue digital entrepreneurship.

3.8 Sampling Design

3.8.1 Target Population

The target population in this study consists of UTeM undergraduate students pursuing a variety of academic disciplines. Understanding the experiences, perceptions, and attitudes of these undergraduate students regarding digital entrepreneurship and the significance of universities in nurturing it is the focus of this study.

Individuals who are presently enrolled as full-time or part-time undergraduate students at UTeM constitute the target audience. These students may come from a variety of faculties, academic programs, and academic backgrounds, reflecting the diversity of the UTeM undergraduate population. They may have varying degrees of exposure and participation in digital entrepreneurship activities, spanning from those who are actively engaged in digital ventures to those with limited or no prior experience in this area.

A representative sample of undergraduate students at UTeM will be surveyed to assure that the findings are applicable to the entire undergraduate population. By including students from a variety of academic disciplines, the study aims to provide a comprehensive understanding of the significance universities play in fostering digital entrepreneurship in diverse academic fields. The results of this study will provide universities, educators, policymakers, and stakeholders at UTeM with valuable information that will enable them to develop targeted interventions, programs, and

support mechanisms that effectively promote digital entrepreneurship among undergraduate students and contribute to their overall success in this field.

3.8.2 Sampling Size

The term “sample size” relates to the number of individuals who participate in a research or observational study. Delİce (2001) states that sample size is specific significance in data analysis methods that require a substantial number of respondents. This research used a convenience sampling technique, which is a straightforward approach for managing substantial volumes of data. The methodology used by Krejcie and Morgan (1970) was applied to determine the sample size for this research. Krejcie and Morgan (1970) have developed tables to facilitate the determination of sample sizes for larger populations. The tables mentioned earlier serve as a valuable resource for researchers who aim to identify an optimal sample size for their respective studies.

In this research, the researcher showed that the estimated count of undergraduate students in UTeM is 12,201, as reported by the institution. In spite of the large size of the population, the researchers decided to select a sample of 300 individuals in order to obtain more accurate data. The population of interest consists of undergraduate students who have knowledge and experience in the domain of digital entrepreneurship, as determined by the researcher. The level of awareness and comprehension of digital entrepreneurship among individuals can be assessed through the administration of a survey. According to the Krejcie and Morgan (1970) Table, a researcher would require a sample size of 169.

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Figure 3.1: Krejcie and Morgan (1970) Sample Size Formula

Source: (McNaughton and Cowell, 2018)

3.9 Pilot Test

In the realm of academic research, an initial analysis known as a pilot study is carried out on a specific topic before the initiation of the primary or comprehensive study (In, 2017). The purpose of this study is to evaluate the viability of the research methodology, that includes the safety of interventions or treatments, the potential for recruitment, the procedures of randomization and blinding, as well as the researchers' competence in applying the study's methods. In addition, initial research, commonly referred to as a pilot study, offers approximate values for determining the required sample size and enables the creation and modification of the initial research. The incorporation of additional studies is beneficial to enhancing the quality and efficacy of the initial investigation and is a crucial component in evaluating the authenticity of deep clinical studies.

Typically, the researcher will administer a survey to a limited sample of respondents, comprising related family members and colleagues, as a means of conducting initial testing. The pilot test was utilized by researchers to assess the accuracy and reliability of questionnaires prior to their distribution to authentic respondents. This approach aims to assess the clarity of the questionnaire in terms of comprehensibility for the respondents, thereby ensuring the provision of accurate data for the researcher.

It is essential for researchers to recognize the significance of conducting a pilot test prior to starting their research, as this may assist in gaining of valuable information for the study. In addition to this, the implementation of a pilot test can assist the researcher in determining the research question and ensuring that the study conducted is not a misuse of the researcher's resources and time. Initial investigations can additionally serve as an alert mechanism and enable researchers to enhance the questionnaire by identifying issues that may have found a negative impact on the study.

3.10 Data Analysis

3.10.1 Statistical Package for Social Science (SPSS)

The term commonly used to refer to each data point that has been subjected to statistical analysis through software is SPSS. The acronym SPSS indicates a software program designed for the social science statistics package. It performs a crucial function in the process of reviewing and inspecting software designed to handle diverse forms of data. The SPSS software is capable of supporting the analysis and manipulation of various forms of data, including structured data formats. Furthermore, SPSS is a software tool utilized for conducting statistical analysis. SPSS is generally capable of effectively handling large amounts of data and enabling the successful conclusion of research studies. After the data collection process is finished, the researcher will proceed with the analysis of the data by utilizing the SPSS.

3.10.2 Pearson's Correlation Coefficient Analysis

The Pearson correlation coefficient is a statistical metric that analyzes the degree of linear relationship between two continuous variables. The process of determining the population correlation involves the utilization of the sample correlation coefficient referred to as *r*. The correlation coefficient, referred to as "*r*", results in a numeric measure that ranges between +1 and -1. As the value of the correlation coefficient (*r*) tends towards zero, the deviation of the data from the regression line will increase. By contrast, as the value of r approaches +1 or -1, the data will demonstrate decreased variability from the line of best fit.

3.10.3 Multiple Regression Analysis

According to Uyanık and Güler (2013), regression analysis is a statistical technique used to estimate the connection between variables that demonstrate a causal relationship. The methodology previously used involved examining the correlation between one independent variable and a dependent variable, and subsequently constructing a linear equation that reflects the relationship between the two variables. Furthermore, multilinear regression is related to regression models which consist of numerous independent variables and a single dependent variable. The researcher utilizes the multiple regression model in their study to evaluate the degree of correlation between indicators and criterion variables, as well as to explore the various types of relationships that exist between them.

3.11 Validity

According to Middleton (2019) provides a definition of validity as the extent to which a specific technique or test effectively measures the intended design. The evaluation refers to the extent to which the outcomes obtained from a measurement accurately reflect the underlying concept or construct according to research. The validity of a measurement can be determined by its ability to generate outcomes that are both significant and precise.

3.11.1 Construct Validity

According to Bhandari (2022) determines construct validity as the degree to which the chosen variables and measurements accurately represent the underlying theoretical concepts under studies. The process involves assessing the relationship among variables, selecting appropriate measurement scales, and utilizing established measurement tools or developing new ones with strong psychometric properties.

In order to establish construct validity, it is essential for researchers to take into account various types of construct validity, including but not limited to convergent validity, which requires demonstrating that measures of the same construct are highly correlated, and discriminant validity, which involves demonstrating that measures of different constructs are not strongly correlated. Furthermore, it is vital to acknowledge and reduce potential threats to the construct validity of a study, such as measurement error, selection bias, or confounding variables, through careful consideration and implementation of the research design.

3.11.2 Internal Validity

According to Feola et al. (2021) claim that the term of internal validity refers to the degree to which research studies can establish a causal association between variables. In order to determine a cause-and-effect relationship between university initiatives and the promotion of digital entrepreneurship among undergraduate students, it is recommended that researchers utilize suitable research designs, such as experimental or quasi-experimental designs, while also controlling for confounding variables. This method is used in research as a criterion to determine the reliability of conducted studies. The issue relates to the number of erroneous variables present in the researcher's experimental design. According to Trochim (2007) statements, a study's internal validity may be compromised by several factors, including measurement errors and selection biases. Therefore, researchers must be alert in

identifying and reducing these potential errors to ensure the integrity of their findings. Once the researcher has ensured the internal validity of a study, they may then proceed to contemplate issues related to its external validity.

3.11.3 External Validity

The concept of external validity refers to the degree to which the outcomes of a research study can be generalized to larger populations or comparable contexts. It is crucial that researchers give careful consideration to the sampling methodology and ensure the sample accurately reflects the target population, specifically, undergraduate students at UTeM. In order to ease the evaluation of the relevance of research outcomes to other contexts, it is crucial to provide an in-depth description of the research methods and findings.

The results indicate that external bias, which is a component of external validity, may arise if there is an inconsistency in the distribution of treatment effect modifiers between the study sample and the population being studied (Lesko et al., 2020). Researchers can improve the external validity of their study by using various techniques, including outcome modeling, sample membership modeling, and the implementation of doubly robust methods.

3.12 Reliability

In the realm of quantitative research, the concept of “reliability” relates to the degree to which a specific methodology consistently evaluates a chosen study. Reliability of measurement is established when the same method is used under identical conditions and produces consistent outcomes. Taherdoost (2018) argues that the significance of testing reliability lies in its ability to assess the consistency of the

measurement parts of an instrument. The internal consistency reliability of the scale was found to be high when the item scale was unified and measured the same construct. The Cronbach alpha coefficient is a frequently utilized metric for assessing internal consistency. The use of the Likert scale is commonly associated with the perception of its highest degree of accuracy in evaluating reliability.

3.12.1 Cronbach's Alpha

The Cronbach's alpha test is a simple tool utilized to evaluate the internal consistency or reliability of a composite score. The application of this method depends on the researcher possessing multiple items that measure a common underlying construct. According to Factor et al. (2015) used Cronbach's alpha to determine the dependability of different concepts for measuring internal consistency and determining the accuracy with which diverse items can measure. Moreover, the alpha coefficient ranges from 0 to 1, indicating a higher level of internal consistency.

Table 3.3: Cronbach's Alpha Coefficient Range

Source: (Saunders et al., 2015)

Cronbach's Alpha Coefficient Range	The Strength of Association
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

3.13 Summary

This chapter encompasses the various methodologies utilized by researchers in the conducted study. The researcher employed quantitative methods to gather data for this study, which was distributed through questionnaires given to undergraduate students at UTeM. Moreover, researchers utilize descriptive research as the chosen research design. The study used two distinct approaches for gathering data, specifically primary and secondary data. The researcher utilized the SPSS software to assist with data analysis in this study. The various methodologies utilized in research significantly assist the researcher in acquiring sufficient data.

CHAPTER 4

DATA ANALYSIS

4.0 Introduction

In this chapter, the researcher conducts an analysis of the data using quantitative methods. The researcher distributed the questionnaire to 169 respondents, specifically undergraduate students at UTeM, by using a Google Form. The researcher will use SPSS version 29 to examine the data and accomplish the research objectives. This chapter includes pilot testing for all variables, reliability tests, descriptive analysis, Pearson correlation analysis, multiple regression analysis, a profile of respondent variables, and descriptive statistical results for each independent and dependent variable.

4.1 Pilot Test

The purpose of pilot testing is to evaluate the reliability and validity of the questionnaire, making sure that it can be easily understood by previous respondents who will be distributing it on a large scale. Pilot testing can be done by distributing questionnaires to a small group of respondents and analyzing the data using the Statistical Package for Social Sciences (SPSS). The data collected will be assessed using Cronbach's alpha to establish its reliability.

Table 4.1 shows the Cronbach's alpha values that the researchers may use as a guide to evaluate the reliability of the analysis's findings. Values below 0.70 indicate questionable and poor quality, whereas the proper minimum value for Cronbach's alpha is 0.70, which shows it is acceptable. It is suggested to use an alpha value of 0.80 to 0.90. In a pilot test, 30 respondents each received a questionnaire from the researchers. Ensuring that every respondent understands the questions provided is essential for the researcher to carry out her research.

Table 4.1: Cronbach's Alpha Coefficient Range

Source: (Saunders et al., 2015)

Cronbach's Alpha Coefficient Range	The Strength of Association
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

According to Table 4.2, the questionnaire was answered by a total of 30 respondents. The Cronbach's alpha value of 0.980 indicates a high level of reliability and validity, exceeding the recommended minimum level of 0.7.

Table 4.2: Reliability Statistic for Pilot Test of 30 Respondents

Source: SPSS Output

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.980	.981	20

4.1.1 Entrepreneurial Mindset

Based on Table 4.3, the Cronbach's alpha value for entrepreneurial mindset is 0.919, demonstrating a strong level of understanding among the respondents. This can be shown by a Cronbach's alpha value that is greater than 0.7.

Table 4.3: Reliability Statistic for EM Pilot Test

Source: SPSS Output

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.919	.920	5

Table 4.4: Item Total Statistics for EM Pilot Test

Source: SPSS Output

Item-Total Statistic					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EM1	16.6000	10.869	.871	.976	.885
EM2	16.8333	13.385	.748	.832	.913
EM3	16.6333	10.654	.850	.951	.891
EM4	16.8667	14.120	.625	.845	.932
EM5	16.6667	10.713	.917	.990	.874

4.1.2 Social Networks and Support

According to Table 4.5, the Cronbach's alpha coefficient for social networks and support is 0.881. The researcher may consider utilizing this variable since its alpha value exceeds the minimum requirement of 0.7.

Table 4.5: Reliability Statistic for SN Pilot Test

Source: SPSS Output

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.881	.891	5

Table 4.6: Item Total Statistics for SN Pilot Test

Source: SPSS Output

Item-Total Statistic					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SN1	16.4667	10.326	.722	.883	.858
SN2	16.3333	8.506	.713	.890	.862
SN3	16.4333	10.116	.745	.890	.853
SN4	16.1667	8.351	.763	.891	.846
SN5	16.4667	9.913	.712	.558	.857

4.1.3 Education and Training

Based on the data in Table 4.7, the Cronbach's alpha value for education and training is 0.926. The findings revealed that the respondents had an excellent understanding of the questionnaire instructions.

Table 4.7: Reliability Statistic for ET Pilot Test

Source: SPSS Output

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.926	.927	5

Table 4.8: Item Total Statistics for ET Pilot Test

Source: SPSS Output

Item-Total Statistic					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ET1	16.5333	10.602	.938	.940	.882
ET2	16.7667	13.289	.751	.856	.921
ET3	16.7667	11.220	.881	.927	.894
ET4	17.0000	14.759	.623	.829	.943
ET5	16.6667	10.575	.897	.964	.892

4.1.4 Motivations and Incentives

Based on Table 4.9, it was found that the Cronbach's alpha coefficient for motivations and incentives is 0.910. The high value indicates that the questionnaire utilized in this research shows a strong level of validity and reliability.

Table 4.9: Reliability Statistic for MI Pilot Test

Source: SPSS Output

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.910	.918	5

Table 4.10: Item Total Statistics for MI Pilot Test

Source: SPSS Output

Item-Total Statistic					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MI1	16.6667	10.575	.822	.963	.881
MI2	16.8000	9.890	.760	.939	.895
MI3	16.9000	11.266	.788	.948	.891
MI4	16.7000	9.941	.723	.930	.906
MI5	16.8000	10.786	.831	.869	.881

4.2 Descriptive Statistic Analysis

The researcher applied descriptive analysis to provide a comprehensive description of the data sample. Researchers have used tables and pie charts to effectively present and gather data findings, enhancing reader comprehension of the information obtained through the questionnaire. The selected sections from the questionnaire were evaluated. Section A focused on the demographic profiles of the respondents. Section B examined the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM. Lastly, Section C explored the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM.

4.2.1 Respondent Demographic Profile

The respondent's personal background, which includes age, gender, academic level, field of study, prior entrepreneurial experience, and formal entrepreneurship education or training, has been discussed in detail in this section. The frequency of all questions in the score value to be obtained on the group demographics indicates a demographic analysis of the data.

4.2.2 Age

Table 4.11 shows the analysis of respondents' data classified by age. From the total of 169 respondents, there are 49 respondents (29.0%) were under 20 years old, 84 respondents (49.7%) were between 21 to 23 years old, and 36 respondents (21.3%) were between 24 to 26 years old. It appears that the age range of 21 to 23 is the most prevalent among the respondents, which represents the majority of the total. It can be concluded that most of the participants belong to the age group of early to mid-twenties. This part is significant because different age represents diversity maturity, resiliency, exposure and readiness in digital entrepreneurship ventures.

Table 4.11: Frequency and Percentage of Age

Source: SPSS Output

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 20 years	49	29.0	29.0	29.0
	21-23 years	84	49.7	49.7	78.7
	24-26 years	36	21.3	21.3	100.0
	Total	169	100.0	100.0	

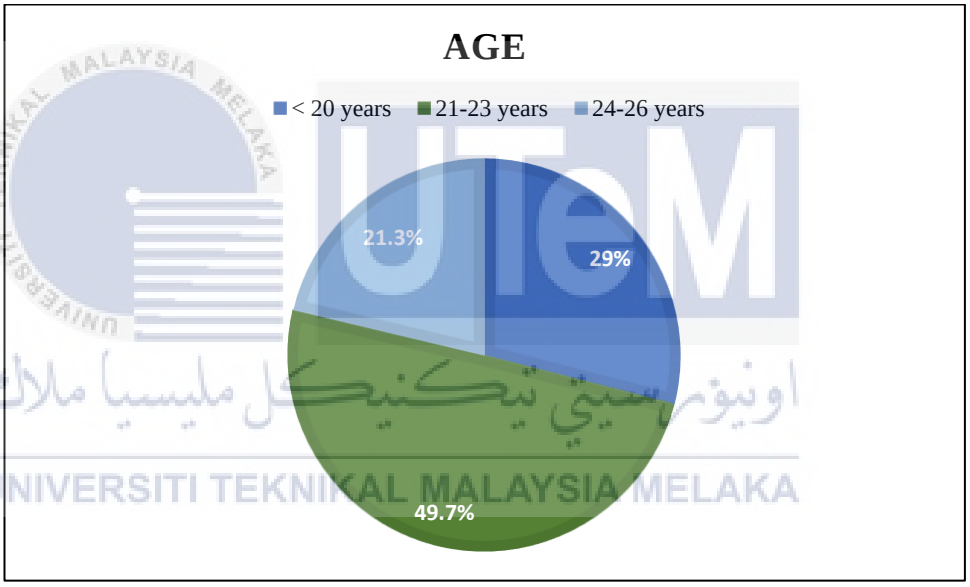

Figure 4.1: Age of Respondents

4.2.3 Gender

Table 4.12 shows the analysis of respondents' data based on gender. From the total of 169 respondents, 98 were female respondents (58.0%) and 71 were male respondents (42.0%) who were involved in this data collection process. The number of male and female respondents differs by not so many numbers. This is interesting to validate the result of which gender is well in startup and sustainability of digital entrepreneurship ventures between male and female UTeM students.

Table 4.12: Frequency and Percentage of Gender

Source: SPSS Output

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	98	58.0	58.0	58.0
	Male	71	42.0	42.0	100.0
	Total	169	100.0	100.0	

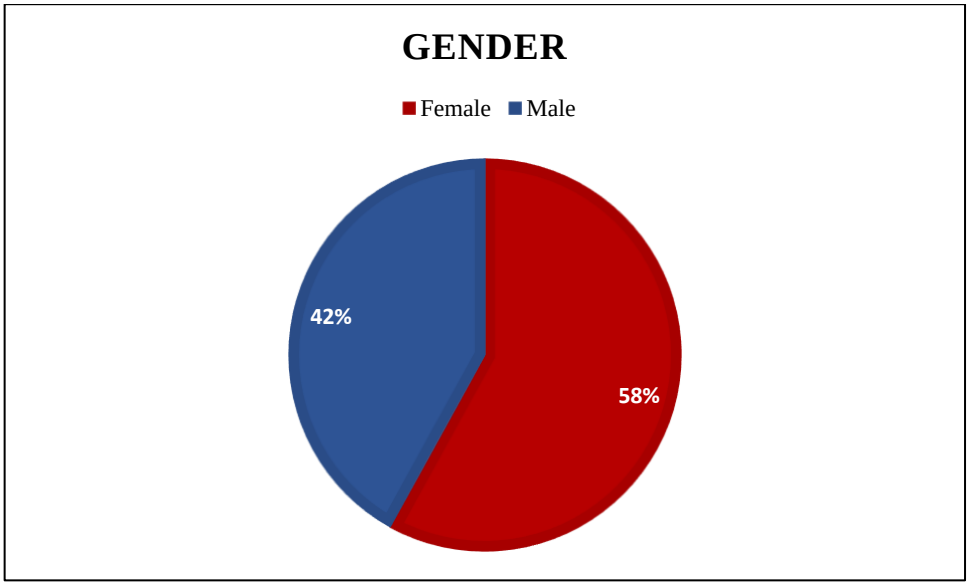

Figure 4.2: Gender of Respondents

4.2.4 Academic Level

Table 4.13 shows the analysis of respondents' data based on their academic level. From the total of 169 respondents, the majority, 111 respondents (65.7%) hold degrees while the remaining 58 respondents (34.3%) have diplomas. The data indicates that the degree level is higher than others. This part is important because diploma and degree students came from different lane of education background which will give assortment of results.

Table 4.13: Frequency and Percentage of Academic Level

Source: SPSS Output

Academic Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Degree	111	65.7	65.7	65.7
	Diploma	58	34.3	34.3	100.0
	Total	169	100.0	100.0	

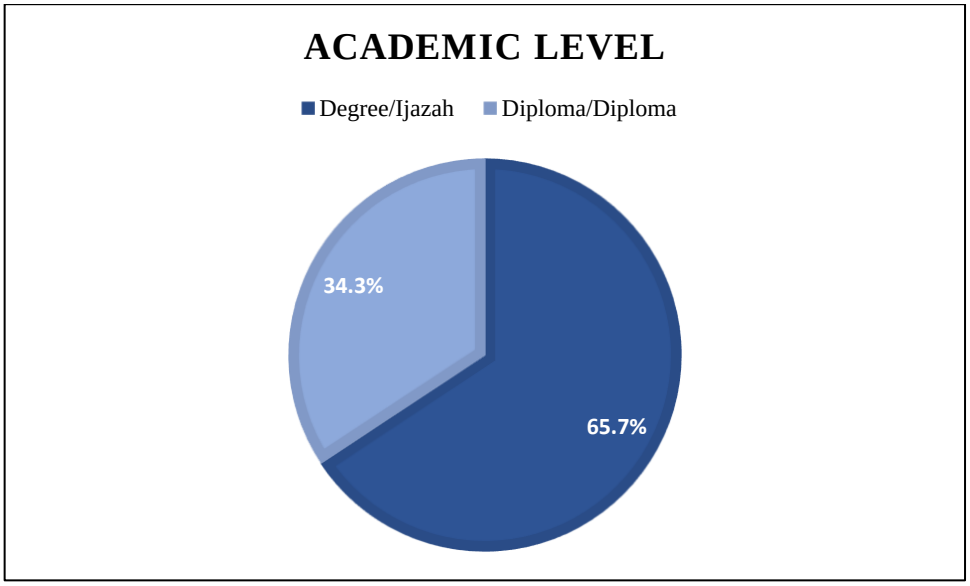

Figure 4.3: Academic Level of Respondents

4.2.5 The Field of Study

Table 4.14 shows the analysis of the data provided by those who responded, classified according to their respective fields of study. From the total of 169 respondents, there are 58 respondents (34.3%) who are from FPTT, 31 respondents (18.3%) from FTKE, 28 respondents (16.6%) from FTMK, 24 respondents (14.2%) from FTKM, 16 respondents (9.5%) from FTKIP, and 12 respondents (7.1%) from FTKEK. The data shows that the field of study known as FPTT has the highest number of respondents, with FTKE and FTMK following closely behind. The disciplines of study with the lowest representation are FTKIP and FTKEK. This data offers valuable understanding on the distribution of respondents across different academic fields. The result of survey could be so interesting since only those from FPTT would like to understand the idea of digital entrepreneurship if compared to others who are from engineering and technological background.

Table 4.14: Frequency and Percentage of Field of Study

Source: SPSS Output

Field of Study					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FPTT	58	34.3	34.3	34.3
	FTKE	31	18.3	18.3	52.7
	FTKEK	12	7.1	7.1	59.8
	FTKIP	16	9.5	9.5	69.2
	FTKM	24	14.2	14.2	83.4
	FTMK	28	16.6	16.6	100.0
	Total	169	100.0	100.0	

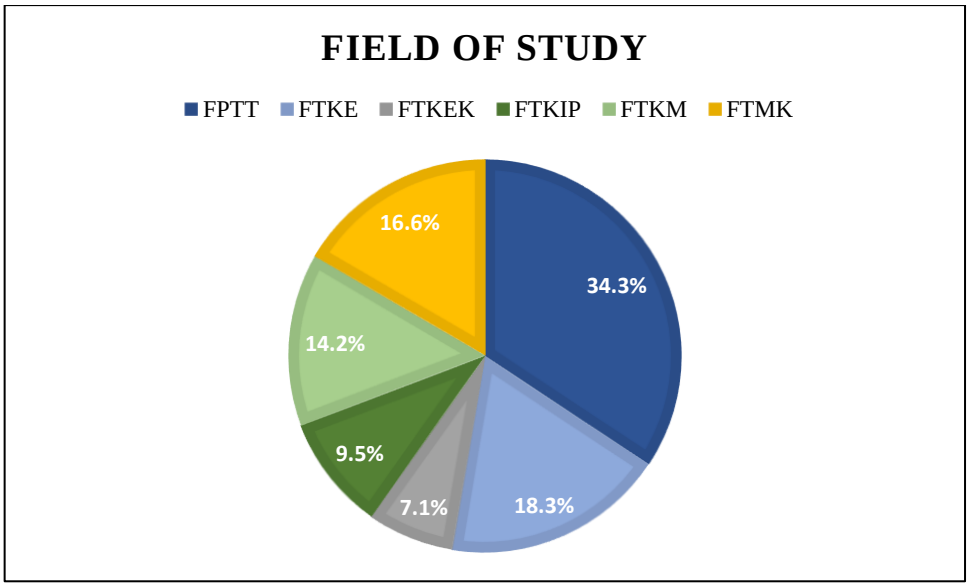

Figure 4.4: Field of Study of Respondents

4.2.6 Do you have any Prior Entrepreneurial Experience?

Table 4.15 shows the analysis of data provided by the respondents, specifically on their prior entrepreneurial experience. There is a huge difference between the two data sets, with a higher level of respondent engagement seen in the dark green chart. A total of 130 respondents (76.9%) have experience in entrepreneurship, whereas the remaining 39 respondents (23.1%) have not. The data indicates a significant number of the respondents had previous experience in entrepreneurship. This shows important level of interest and dedication for entrepreneurship among the studied population.

Table 4.15: Frequency and Percentage of do you have any Prior Entrepreneurial Experience

Source: SPSS Output

Prior Entrepreneurial Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	39	23.1	23.1	23.1
	Yes	130	76.9	76.9	100.0
	Total	169	100.0	100.0	

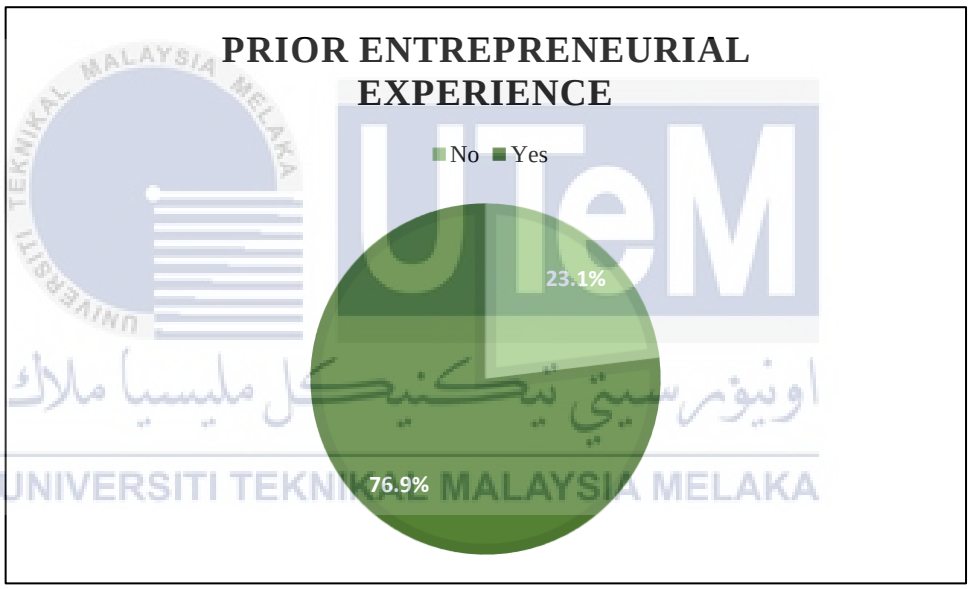

Figure 4.5: Do you have any Prior Entrepreneurial Experience of Respondents

4.2.7 Have you received any Formal Entrepreneurship Education or Training?

Table 4.16 shows the analysis of the data provided by the respondents about their participation in formal entrepreneurship education or training. There is a huge difference between the two data sets, with a higher level of respondent engagement

seen in the dark orange chart. A total of 130 respondents (76.9%) have had formal entrepreneurship education or training, whereas the remaining 39 respondents (23.1%) have not.

Table 4.16: Frequency and Percentage of have you received any Formal Entrepreneurship Education or Training

Source: SPSS Output

Entrepreneurship Education and Training					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	39	23.1	23.1	23.1
	Yes	130	76.9	76.9	100.0
	Total	169	100.0	100.0	

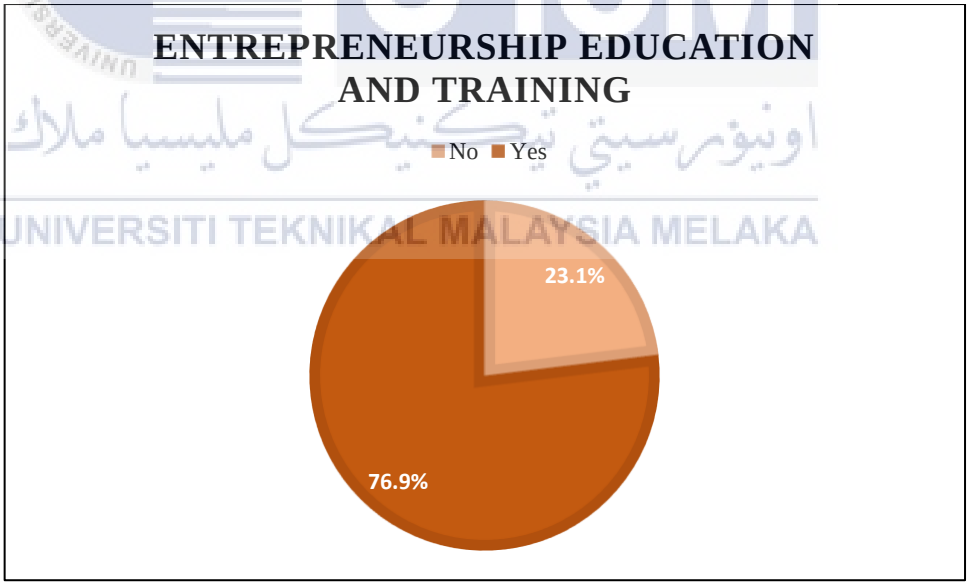

Figure 4.6: Have you received any Formal Entrepreneurship Education or Training of Respondents

4.2.8 Descriptive Analysis

The main objective of descriptive statistics is to present a summary of the analysis of research data. According to the table below, the result of the analysis of the data analyzed using SPSS includes all variables. Based on the table shown below, the mean for motivations and incentives is 3.4970, which becomes the highest mean value among other variables. Therefore, a lot of respondents agree that motivations and incentives have become the most influential factors in the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. The second highest is the mean value for entrepreneurial mindset, which is 3.4639, while level of awareness and understanding of digital entrepreneurship becomes the third rank for the mean value, which is 3.4592. The mean value for education and training is 3.4178, and social networks and support have the lowest value of the mean, which is 3.3988.

Table 4.17: Descriptive Analysis

Source: SPSS Output

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Entrepreneurial Mindset	169	1.40	4.80	3.4639	1.17865
Social Networks and Support	169	1.40	4.60	3.3988	1.12620
Education and Training	169	1.40	4.80	3.4178	1.14597
Motivations and Incentives	169	1.40	4.80	3.4970	1.16927
Level of Awareness and Understanding of Digital Entrepreneurship	169	1.40	4.60	3.4592	1.16345
Valid N (listwise)	169				

4.3 Research Validity

The validity of research in a survey is determined by how well the survey captures the intended elements for measurement. In essence, validity relates to the accuracy of an instrument in measuring the intended subject. The researcher utilized Pearson correlation to determine the validity of the questionnaire employed in this study.

4.3.1 Pearson Correlation Coefficient Analysis

The research included conducting a Pearson correlation coefficient analysis to address the second objective of assessing the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. The primary purpose of Pearson correlation coefficient analysis is to determine the relationship between independent variables and research-dependent variables. There are three different types of correlations that can exist between variables: neutral, negative, and positive. A negative correlation of -1 would be considered a perfect negative correlation, falling within the range of r values from -1 to 1. A correlation of 1 signifies a strong positive connection between the independent and dependent variables, while a correlation of 0 suggests no relationship between the independent and dependent variables.

4.3.1.1 Pearson Correlation Between Variables

In this study, Table 4.18 shows the correlation coefficients between the independent and dependent variables. Based on the findings, it is evident that all independent variables display a positive and statistically significant correlation with

the level of awareness and understanding of digital entrepreneurship. The independent variables exhibited a significant positive relationship with the dependent variable, as indicated by a correlation coefficient (r) greater than 0 but less than 0.5.

Table 4.18: Pearson Correlation Between Variables

Source: SPSS Output

Correlations						
		Entrepreneurial Mindset	Social Networks and Support	Education and Training	Motivations and Incentives	Level of Awareness and Understanding of Digital Entrepreneurship
Entrepreneurial Mindset	Pearson Correlation	1	.990**	.991**	.986**	.990**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	169	169	169	169	169
Social Networks and Support	Pearson Correlation	.990**	1	.981**	.988**	.989**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	169	169	169	169	169
Education and Training	Pearson Correlation	.991**	.981**	1	.989**	.980**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	169	169	169	169	169
Motivations and Incentives	Pearson Correlation	.986**	.988**	.989**	1	.986**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	169	169	169	169	169
Level of Awareness and Understanding of Digital Entrepreneurship	Pearson Correlation	.990**	.989**	.980**	.986**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	169	169	169	169	169
**. Correlation is significant at the 0.01 level (2-tailed).						

4.4 Research Reliability Test

A reliability test deals with the consistent testing of a system. Reliability testing plays a crucial role in research as it allows the researcher to ensure the accuracy and acceptability of the question before distributing the questionnaire to actual respondents. If test results fall below a Cronbach's alpha of 0.7, it is advisable for researchers to review the questions and make necessary adjustments until the test results can achieve a Cronbach's alpha of 0.7 or higher.

4.4.1 Reliability Test for 169 Respondents

According to Table 4.19, the questionnaire was answered by a total of 169 respondents. The Cronbach's alpha value of 0.990 indicates a high level of reliability and validity, exceeding the recommended minimum level of 0.7.

Table 4.19: Reliability Test for 169 Respondents

Source: SPSS Output

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.990	.990	20

According to Table 4.20, the Cronbach's alpha value for each independent and dependent variable is displayed. The variables of motivations and incentives demonstrate the highest alpha value of the result, which is 0.959. The entrepreneurial mindset emerges as the second highest alpha value, reaching an impressive 0.958. The

level of awareness and understanding of digital entrepreneurship reaches a remarkable alpha value of 0.957, making it the third highest. The education and training variables have an alpha value of 0.955, whereas social networks and support have an alpha value of 0.947.

Table 4.20: Reliability Statistic for 169 Respondents

Source: SPSS Output

All Variables	Reliability Statistic	
	Cronbach's Alpha Value	**N of items**
Entrepreneurial mindset	.958	5
Social networks and support	.947	5
Education and training	.955	5
Motivations and incentives	.959	5
Level of awareness and understanding of digital entrepreneurship	.957	5

4.5 Multiple Regression Analysis

In this research, multiple regression analysis was utilized to accomplish the second objective of evaluating the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. The purpose of multiple regression analysis is to determine the relationship between significant variables in this research. The multiple regression method is widely used to establish the relationship between independent and dependent variables in this study. It helps determine the straight lines that best represent this relationship. The estimates of regression coefficients were calculated using the formula for the equation that has been explained in Chapter 3.

4.5.1 Multiple Regression Analysis Model Summary

Table 4.21 presents the model summary table. The strength of the relationship between the independent variable and the dependent variable can be determined by examining the correlation coefficient (R) in the table. A higher value of R indicates a stronger influence of the independent variable on the dependent variable. The correlation coefficient (R) is considered strong due to its value of 0.993, which far exceeds the minimum value of 0.5. Based on the data collected, it is clear that there exists a significant relationship among all the variables examined in this study. The square of R for the result is 0.986, indicating that the independent variables of the study, such as entrepreneurial mindset, social networks and support, education and training, and motivations and incentives, explain 98.6% of the variation in people's knowledge and understanding of digital entrepreneurship.

Table 4.21: Model Summary

Source: SPSS Output

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993[a]	.986	.986	.13764

a. Predictors: (Constant), Entrepreneurial Mindset, Social Networks and Support, Education and Training, Motivations and Incentives

b. Dependent Variable: Level of Awareness and Understanding of Digital Entrepreneurship

4.5.2 ANOVA Analysis

Based on the ANOVA analysis in Table 4.22, it can be observed that the F test value is 2959.824 and the significant level is 0.001. The significance level is below 0.05, indicating a significant relationship between the level of awareness and understanding of digital entrepreneurship and factors such as the entrepreneurial mindset, social networks and support, education and training, and motivations and incentives.

Table 4.22: ANOVA Analysis

Source: SPSS Output

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	224.301	4	56.075	2959.824	<.001[b]
	Residual	3.107	164	.019		
	Total	227.408	168			

a. Dependent Variable: Level of Awareness and Understanding of Digital Entrepreneurship

b. Predictors: (Constant), Entrepreneurial Mindset, Social Networks and Support, Education and Training, Motivations and Incentives

4.6 Hypothesis Testing

The evaluation of hypothesis testing involved the utilization of regression analysis in SPSS. The hypothesis is considered valid if the t-value is greater than 1.96 and the p-value is less than 0.05. The table provided displays the coefficients for all variables.

This research has developed four hypotheses to identify the major challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. These hypotheses are outlined below. Based on the table provided, it is clear that the primary challenge for undergraduate students starting and sustaining digital entrepreneurship ventures at UTeM is their entrepreneurial mindset. This is supported by the highest beta value of 0.651 among the other independent variables, with a significant value of 0.001.

Table 4.23: Coefficient Table

Source: SPSS Output

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.024	.034		.702	.484
	Entrepreneurial Mindset	.642	.094	.651	6.867	<.001
	Social Networks and Support	.293	.080	.284	3.641	<.001
	Education and Training	-.241	.086	-.238	-2.821	.005
	Motivations and Incentives	.297	.078	.299	3.791	<.001
Dependent Variable: Level of Awareness and Understanding of Digital Entrepreneurship						

Hypothesis 1

H_{01}: There is no significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate.
H_{a1}: There is a significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate.

Table 4.23 shows the regression analysis of entrepreneurial mindset in connection with the level of awareness and understanding of digital entrepreneurship. It shows that the beta value is 0.651, while the significant value of the p-value is 0.001 which means that entrepreneurial mindset has a significant relationship with the level of awareness and understanding of digital entrepreneurship. From the result, the researcher accepted the alternative hypothesis (H_{a1}) and rejected the null hypothesis (H_{01}).

Hypothesis 2

H_{02}: There is no significant relationship between social networks and support with digital entrepreneurship among undergraduate.
H_{a2}: There is a significant relationship between social networks and support with digital entrepreneurship among undergraduate.

Table 4.23 shows the regression analysis of social networks and support in connection with the level of awareness and understanding of digital entrepreneurship. It shows that the beta value is 0.284, while the significant value of the p-value is 0.001 which means that social networks and support has a significant relationship with the level of awareness and understanding of digital entrepreneurship. From the result, the researcher accepted the alternative hypothesis (H_{a2}) and rejected the null hypothesis (H_{02}).

Hypothesis 3

H_{03}: There is no significant relationship between education and training with digital entrepreneurship among undergraduate.
H_{a3}: There is a significant relationship between education and training with digital entrepreneurship among undergraduate.

Table 4.23 shows the regression analysis of education and training in connection with the level of awareness and understanding of digital entrepreneurship. It shows that the beta value is -0.238, while the significant value of the p-value is 0.005 which means that education and training has a significant relationship with the level of awareness and understanding of digital entrepreneurship. From the result, the researcher accepted the alternative hypothesis (H_{a3}) and rejected the null hypothesis (H_{03}).

Hypothesis 4

H_{04}: There is no significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.
H_{a4}: There is a significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.

Table 4.23 shows the regression analysis of motivations and incentives in connection with the level of awareness and understanding of digital entrepreneurship. It shows that the beta value is 0.299, while the significant value of the p-value is 0.001 which means that motivations and incentives has a significant relationship with the level of awareness and understanding of digital entrepreneurship. From the result, the researcher accepted the alternative hypothesis (H_{a4}) and rejected the null hypothesis (H_{04}).

Table 4.24: Summary of Hypothesis Testing

Hypothesis	Results
Hypothesis 1: **H_{01}:** There is no significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate. **H_{a1}:** There is a significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate.	**H_{01} is rejected.** **H_{a1} is accepted.**
Hypothesis 2: H_{02}: There is no significant relationship between social networks and support with digital entrepreneurship among undergraduate. H_{a2}: There is a significant relationship between social networks and support with digital entrepreneurship among undergraduate.	**H_{02} is rejected.** **H_{a2} is accepted.**
Hypothesis 3: H_{03}: There is no significant relationship between education and training with digital entrepreneurship among undergraduate. H_{a3}: There is a significant relationship between education and training with digital entrepreneurship among undergraduate.	**H_{03} is rejected.** **H_{a3} is accepted.**
Hypothesis 4: H_{04}: There is no significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.	**H_{04} is rejected.**

H_{a4}: There is a significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.	**H_{a4} is accepted.**

4.7 Summary

In conclusion, this chapter has analyzed and explained the results of a survey carried out by researchers on the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. The researcher did several analyses to examine the data, including descriptive analysis, reliability testing, Pearson correlation analysis, and multiple regression analysis. IBM SPSS Statistics 29 was used by the researchers as a statistical tool to evaluate all the data in this research. The researchers exported all the findings computed by SPSS for this study and analyzed the data in order to determine the relationship between the independent variable and the dependent variable in this research. The hypotheses developed in Chapter 2 were tested by determining the significance level of both the independent variables and the dependent variable. All hypotheses were accepted based on the findings of hypothesis testing, as the significance level value was found to be less than 0.05.

CHAPTER 5

DISCUSSION, IMPLICATION AND CONCLUSION

5.0 Introduction

This chapter will describe and summarize the results of the data analysis that has been done in Chapter 4. The objectives of the study that have been stated in Chapter 1 will be answered in this chapter according to the results of previous chapter. Other than that, there are a number of discussions that will be elaborated on in this chapter, which is intended as a conclusion for this research study. These include a descriptive statistical analysis summary, discussion of hypothesis tests, research implications, research limitations, recommendations for future research, and finally the conclusion.

5.1 Descriptive Statistical Analysis Summary

There was a total of 169 respondents who were involved in the data collection process for this research studies. According to Table 5.1, the age of the respondents with the highest frequency is between the ages of 21-23 years old is a total of 84 respondents (49.7%). For gender, more female respondents were involved than male respondents who namely 98 respondents (58%). Most of the respondents involved are degree standard, which is a total of 111 respondents (65.7%). The field of study of the respondents with the highest frequency is related to management and entrepreneurship with a total of 58 respondents (34.3%). The majority of respondents that is 130 respondents (76.7%) do have prior entrepreneurial experience and received formal entrepreneurship education or training.

Table 5.1: Descriptive Analysis of Respondent's Demographic

Demographic	**Frequency with Highest Value**	**Frequency (n = 169)**	**Percent (%)**
Age	21-23	84	49.7
Gender	Female	98	58.0
Academic Level	Degree	111	65.7
Field of Study	FPTT	58	34.3
Do you have any prior entrepreneurial experience?	Yes	130	76.9
Have you received any formal entrepreneurship education or training?	Yes	130	76.9

5.2 Discussion

The focus of this study to determine the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. Based on data analysis in Chapter 4, respondents will answer the each independent of this research as follows.

5.2.1 Hypothesis 1: There is a significant relationship between entrepreneurial mindset with digital entrepreneurship among undergraduate.

This study provides insights into effect of the entrepreneurial mindset on digital entrepreneurship among undergraduate students. Furthermore, it demonstrates a clear relationship between these two variables. By examining multiple regression analysis, it becomes evident that the p-value of the entrepreneurial mindset is 0.001, which is below a minimum value of 0.05. This shows a positive relationship between the entrepreneurial mindset and digital entrepreneurship among undergraduate students.

Based on previous research conducted by Sarasvathy (2001), it was discovered that there is a positive relationship between having an entrepreneurial mindset and engaging in digital entrepreneurship among undergraduate students. A mindset that is entrepreneurial frequently involves being prepared to embrace innovation and take calculated risks. In the field of digital entrepreneurship, where staying ahead of the curve is essential, students who possess an entrepreneurial mindset may be more willing to venture into the world of digital business opportunities. The expected result is the creation of new and innovative digital products or services, along with the capacity to adapt and thrive in a rapidly changing digital environment. Furthermore, building a mindset of innovation and creativity can foster a proactive and solution-oriented approach, which is crucial for recognizing and leveraging digital market trends and opportunities.

Shane and Venkataraman (2000) conducted another study that reinforces the idea of an entrepreneurial mindset being beneficial for digital entrepreneurship among undergraduate students. It is stated that entrepreneurs are generally proactive in their pursuit of opportunities. A proactive mindset can motivate students to actively pursue understanding and engage in initiatives related to digital entrepreneurship, thereby enhancing their awareness and comprehension. Participating in such proactive behavior could encourage the development of invaluable skills like critical thinking, problem-solving, and adaptability, all of which are crucial in managing the ever-evolving digital landscape. Through developing a mindset that embraces innovation and entrepreneurship, universities have the ability to empower students to not only identify emerging trends in the digital market, but also embrace the opportunity to develop groundbreaking solutions and ventures.

5.2.2 Hypothesis 2: There is a significant relationship between social networks and support with digital entrepreneurship among undergraduate.

This research evaluates the effect of social networks and support on digital entrepreneurship among undergraduate students, identifying a strong connection between these variables. The multiple regression analysis shows a statistically significant relationship between social networks and support, as shown by the p-value of 0.001, which is below the minimum value of 0.05. There is a positive relationship between social networks and support for digital entrepreneurship among undergraduate students.

The results of this study are consistent with previous research done by Burt (1992), which highlights the pivotal role that social networks and support play in influencing the interest of undergraduate students in digital entrepreneurship. Burt's study demonstrates the significance of social networks for encouraging collaboration and the establishment of partnerships. It provides a platform for students to connect with potential collaborators, mentors, and co-founders who possess valuable skills,

knowledge, and support for their digital entrepreneurship ventures. The observed evidence underlines the substantial impact of social networks and support in creating an ideal environment for digital entrepreneurship among undergraduate students. By using their social networks, students are able to access a wide range of resources and skills, greatly improving their entrepreneurial pursuits. Moreover, the encouragement and guidance offered within these networks develop the motivated self-confidence required for students to successfully pursue their digital entrepreneurial ventures.

In the meantime, active engagement in social networks creates an environment conducive to the sharing of knowledge and the development of skills, which is particularly beneficial for those attempting to become digital entrepreneurs. Through these networks, students may get valuable insights from the experiences of peers and mentors, enhancing their understanding of the complexities involved in digital entrepreneurship. The collaborative characteristics of social interactions on these platforms also serve as a basis for developing essential skills needed for the rapidly changing digital environment. Continuously engaging in this process of learning enables students to keep updated on the most recent developments in the sector, technical progress, and optimal methods. In the world of digital entrepreneurship, which is known for its focus on innovation and flexibility, the skillful use of social networks for acquiring information and enhancing skills is an essential element in driving the success of emerging entrepreneurs.

5.2.3 Hypothesis 3: There is a significant relationship between education and training with digital entrepreneurship among undergraduate.

This research evaluates the effect of education and training on digital entrepreneurship among undergraduate students, identifying a strong connection between these variables. The multiple regression analysis shows a statistically significant relationship between education and training, as shown by the p-value of 0.005, which is below the minimum value of 0.05. There is a positive relationship

between education and training for digital entrepreneurship among undergraduate students.

The significant relationship between education and training in digital entrepreneurship among undergraduate students can be attributed to several interconnected factors. Firstly, formal education provides students with the foundational knowledge and critical thinking skills that are essential for entrepreneurial pursuits (Shane and Venkataraman, 2000). Academic programs, especially those focusing on business, technology, and innovation, provide students with theoretical frameworks and strategic insights, establishing a solid foundation for their comprehension of the digital business landscape.

Additionally, training initiatives provide valuable practical experiences that complement formal education. Through workshops, seminars, and specialized training programs, students are given the opportunity to apply their theoretical knowledge to real-world scenarios. This helps them develop essential skills for digital entrepreneurship, including digital marketing, coding, and project management. The combination of theoretical education and practical training results in a well-rounded set of skills, which prepares students to thrive in the fast-paced and competitive digital entrepreneurial ecosystem.

Furthermore, the positive relationship is further supported by the development of a mindset focused on entrepreneurship through educational programs and training. Entrepreneurial courses frequently highlight the importance of creativity, adaptability, and problem-solving abilities. These courses aim to cultivate a mindset that is well-suited for identifying opportunities and addressing challenges in the digital world (Sarasvathy, 2001). Education and training are crucial for acquiring skills and developing a mindset that is adaptable and creative, which are key attributes for success in the ever-evolving world of digital entrepreneurship.

The statistical significance highlighted by the low p-value (0.005) in the multiple regression analysis emphasizes the strength of the relationship between education and training and digital entrepreneurship. Based on the statistical evidence given, it appears that the observed positive association is highly unlikely to be a result of random chance. It shows the importance of a purposeful and meaningful connection between educational experiences and training opportunities offered to undergraduate students and their ability to actively participate and succeed in the domain of digital entrepreneurship. Essentially, education and training serve as the foundational pillars that provide students with the necessary knowledge, skills, and entrepreneurial mindset to thrive in the dynamic and innovative field of digital entrepreneurship.

5.2.4 Hypothesis 4: There is a significant relationship between motivations and incentives with digital entrepreneurship among undergraduate.

This research evaluates the effect of motivations and incentives on digital entrepreneurship among undergraduate students, identifying a strong connection between these variables. The multiple regression analysis shows a statistically significant relationship between motivations and incentives, as shown by the p-value of 0.001, which is below the minimum value of 0.05. There is a positive relationship between motivations and incentives for digital entrepreneurship among undergraduate students.

The relationship between the motivations and incentives of undergraduates and their aspirations to engage in digital entrepreneurship can be addressed for a variety of significant reasons. First of all, motives serve as internal drivers that encourage individuals to pursue entrepreneurial ventures. According to Shane and Venkataraman (2000), students that possess intrinsic motivation, such as having a passion for innovation, problem-solving, or making a positive impact, are more likely to engage in digital entrepreneurial initiatives. This internal motivation serves as a foundation

for determination, resilience, and creativity while overcoming the difficulties presented by the digital business environment.

Motivations and incentives work together as external factors that encourage and reinforce entrepreneurial behavior. Financial incentives, recognition, and the potential for personal and professional growth can significantly influence students' decisions to embark on digital entrepreneurship endeavors (Ilyés, 2018). External incentives provide a conducive atmosphere that validates and acknowledges the dedication put into digital entrepreneurial activities, therefore encouraging and inspiring students to continue and maintain their ventures.

Furthermore, the relationship between motivations and incentives is reinforced by the beneficial impact they perform on one another. Motivated individuals are more likely to react positively to incentives, seeing them as tangible acknowledgments of their entrepreneurial efforts (Vander Schee, 2009). On the other hand, incentives have the ability to enhance and direct motivations by offering concrete benefits that validate the significance of engaging in digital entrepreneurship. The mutual reinforcement between individuals and digital entrepreneurial activity creates a positive feedback loop, which promotes continued and active engagement.

5.3 Implications of Research

The first implication of this study is significant for the researcher, as it offers valuable insights into the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM. It is essential for the researcher to assess the present level of awareness and understanding within the student population. Through the analysis of this component, the researcher acquires essential information on potential gaps in understanding and areas that require more focus or effort. This knowledge allows the researcher to make valuable contributions

to both the theoretical comprehension of digital entrepreneurship and its actual implementation by identifying particular areas for educational interventions. Furthermore, gaining a deeper understanding of students' levels of awareness might direct the creation of focused educational programs and activities with the goal of improving digital entrepreneurial literacy among undergraduate students at UTeM. As a result, this implication provides the researcher with useful data that can be used to inform both academic discussions and practical actions in the field of digital entrepreneurship education.

Secondly, the study's implications focus on the factors that may contribute to the success of digital entrepreneurship among undergraduate students. This presents a chance for the researcher to get an extensive understanding of the factors that impact the success of digital entrepreneurship initiatives among undergraduate students. By going into these factors, the researcher may get an in-depth understanding of the delicate dynamics that play vital roles in establishing a suitable atmosphere for success in the area of digital entrepreneurship. Exploration offers the researcher a systematic framework for research, enabling a thorough inquiry into the specific role of each identified aspect in the overall process of digital entrepreneurship. The results of this research provide more than just theoretical knowledge. They also have practical implications that may guide educational methods, support services, and policy efforts aimed at increasing the chances of success for undergraduate students in the dynamic area of digital entrepreneurship. The researcher has the potential to acquire useful information that connects theoretical concepts with real-world implementation. This knowledge will contribute to the progress of academic discussions and practical approaches to encouraging success in digital entrepreneurship among undergraduate students.

The final outcome of this research centers on understanding the challenges that contribute to successful digital entrepreneurship among undergraduate students, including the entrepreneurial mindset, social networks and support, education and training, and motivations and incentives. This comprehensive analytical framework provides researchers with a systematic approach to deeply examine the complex

challenges that are crucial in creating a favorable environment for digital entrepreneurial success. Exploring the development of an entrepreneurial mindset exposes psychological characteristics and attitudes that are essential for achieving success, providing guidance for developing strategies to encourage this mindset among students. The study of social networks and support shows the significance of interpersonal relationships and external assistance, enabling the researcher to understand how using social networks may have a favorable influence on the entrepreneurial journey. Highlighting the importance of education and training uncovers the value of academic preparation and the development of skills, providing an understanding of certain elements that contribute to achievement. Finally, the research examines the motivations and incentives that are crucial for creating strategies that are in line with the challenges that encourage students to engage in and maintain digital entrepreneurship. As a result, the outcomes have practical implications for improving teaching methods, support services, and legislative activities in order to increase the chances of success for undergraduate students in the field of digital entrepreneurship.

5.4 Limitations of Research

The research encounters several limitations throughout the process of data collection and information gathering. Firstly, the researcher is greatly impacted by a significant time limitation, particularly when it comes to collecting secondary data. This obstacle develops due to a lack of time to properly collect secondary data, which may impact the research's depth and breadth. In order to tackle this difficulty, the researcher must give priority to data sources, carefully choosing them in order to make the most of the given time. In addition, the limited time available emphasizes the need to use effective data collection techniques, such as targeted sampling and focused literature reviews, to extract valuable insights within the given time period. Hence, these time limitations not only pose difficulties but also require strategic planning and methodological accuracy to maximize the research outcomes.

Secondly, the researcher encounters a problem due to insufficient knowledge of the theoretical framework. Therefore, researchers must construct it independently since the current collection of literature does not provide a comprehensive basis. Due to the limited availability of knowledge, the researcher must go into new areas and construct the framework independently. To do this task, researchers must engage in a great intellectual effort and acquire an in-depth understanding of the specific field of study. The researcher must synthesize different theoretical frameworks and integrate multiple sources of information. The complexity of constructing the framework is further complicated by the shortage of specific guidance in a field that lacks established principles, hence highlighting the challenges encountered in developing a theoretical framework.

The researcher must allocate resources to purchase the Statistical Package for Social Science (SPSS) software, which is crucial for the fulfillment of Chapter 4, thus presenting a third limitation in the form of a financial obligation. The researcher may be obligated to distribute resources carefully due to this financial requirement, which creates a challenge to their budgetary planning. A strategic decision that requires careful planning to ensure the most efficient utilization of resources, the purchase of Statistical Package for Social Science (SPSS) software comprises more than a mere financial investment. Prior to incorporating this indispensable instrument into the research process, the researcher must evaluate the budgetary implications, investigate alternatives that are more cost-effective, and formulate a financial strategy. The research undertaking is further complicated by this complex financial challenge, which requires the researcher to strike a balance between effective financial management and the utilization of sophisticated analytical tools.

Finally, a practical limitation occurs when the researcher chooses to collect data in person. This decision is motivated by the awareness that certain individuals may not be attracted to participation in online surveys, which might possibly compromise the accuracy and reliability of the collected results. Therefore, the researcher takes on the task of doing in-person data gathering, which adds an extra level of complexity to the research process. To address this practical limitation, the

researcher must take into account logistical factors like transportation, scheduling, and creating a suitable setting for conducting surveys. The decision to actively include respondents in the data collection process enhances the quality of the study by allowing the researcher to gain deeper insights and a greater understanding of respondents' viewpoints. Nevertheless, it requires careful and thorough planning to tackle certain obstacles linked to face-to-face interactions, such as limited time availability and logistical complexities. The researcher's purposeful approach to data collection demonstrates their dedication to acquiring comprehensive and contextually significant information while also acknowledging the practical difficulties associated with this methodological choice.

5.5 Recommendations for Future Research

In order to conduct a deeper analysis of research issues, an important recommendation is to broaden the scope of respondents. It is proposed that future research should change its main focus from undergraduates to include postgraduate participation. The objective of this evolution in participant selection is to enhance the knowledge of the subject matter by including a wide range of viewpoints and experiences that naturally differ across different academic levels. The involvement of postgraduate participants provides a unique perspective for researchers to get insights from individuals with high-level academic and professional backgrounds. These volunteers are expected to provide insightful viewpoints, enhancing their deep understanding of the complexities related to the research topic. Moreover, analyzing the educational path from undergraduate to postgraduate levels allows for an in-depth investigation, revealing how attitudes and perspectives change during the academic journey.

Furthermore, an important component of improving future research is the comprehensive evaluation of methodological choices. Researchers are encouraged to consider a change in their methodology, such as preferring qualitative methods like

interviews. Qualitative methods, particularly interviews, provide an exceptional chance to explore the details of participants' experiences, perspectives, and insights in an unparalleled manner. By adding this methodological diversity, researchers may discover rich and contextually embedded data, which allows for a more detailed comprehension of the phenomena being studied. Interviews provide a dynamic exchange between researchers and participants, enabling the study of underlying motivations, environmental influences, and the fundamental nature of participants' experiences. The abundance of methodologies used may greatly increase the depth and authenticity of the study outcomes, providing a more comprehensive and detailed narrative.

Lastly, future research initiatives should emphasize a solid understanding of the conceptual and theoretical framework that forms the basis of research. Exploring the framework extensively is not only an intellectual activity but a crucial strategic need for researchers. A broad understanding of the topic matter forms the foundation for refining research questions, interpreting findings, and guaranteeing that the study provides significant value to the current pool of knowledge. Researchers should consider the framework as a flexible tool that offers a theoretical framework for making observations and generating interpretations. Researchers may enhance their ability to navigate the research environment and ensure coherence in study design and analytical rigor by dedicating time and effort to understanding the basic concepts that support their investigation.

5.6 Conclusions

In conclusion, the objectives of this research were successfully achieved using quantitative method. Once the data were analyzed, it was proven that independent variables such as entrepreneurial mindset, social networks and support, education and training, and motivations and incentives have significant relationship with digital entrepreneurship among undergraduate students. Other than that, all variables also have positive relationships with each other in this research. Based on the results, entrepreneurial mindset be the most challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. Finally, this chapter has also discussed its limitations which the researcher experienced while conducting this research as well as recommendations for future study.

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APPENDICES

APPENDIX A

QUESTIONNAIRE ON THE SIGNIFICANCE OF UNIVERSITIES IN ENCOURAGING DIGITAL ENTREPRENEURSHIP AMONG UNDERGRADUATES AT UTeM

Assalamualaikum and hello to everyone,

I am Nurain Najihah binti Hasran (B062010471) a final year student from course Bachelor of Technology Management and Technopreneurship (BTEC) in Universiti Teknikal Malaysia Melaka (UTeM). I am currently pursuing my research on **The Significance of Universities in Encouraging Digital Entrepreneurship among Undergraduates at UTeM** under supervision of Dr. Norun Najjah binti Ahmat. My focus on this research is to get an overview from the undergraduate students in UTeM about the significance of digital entrepreneurship. Therefore, I need your cooperation and feedback by answering my form analysis survey.

This questionnaire consists of three (3) main sections. Tick the answer in the box and complete in the space provided. This survey will take only 5 to 8 minutes to be completed and your participation is highly appreciated. Thank you in advance for the willingness to spend your precious time to assist me in my research. The information that will be collected is for the use of academic purpose and the private information is highly confidential.

You may contact:

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Email: najjah@utem.edu.my

SECTION A: DEMOGRAPHIC BACKGROUND

BAHAGIAN A: LATAR BELAKANG DEMOGRAFI

In this section, please choose **ONE** which represents you being placing **TICK** (/).

*Di bahagian ini, sila pilih **SATU** yang mewakili anda dengan meletakkan **TANDA (/)**.*

1. **Age**

   Umur

< 20 years *< 20 tahun*	
21-23 years *21-23 tahun*	
24-26 years *24-26 tahun*	
> 27 years *> 27 tahun*	

2. **Gender**

   Jantina

Male *Lelaki*	
Female *Perempuan*	

3. **Academic Level**

   Peringkat Akademik

Diploma *Diploma*	
Degree *Ijazah*	

4. **Field of Study**

Bidang Pengajian

FTKEK	
FTKE	
FTKM	
FTKIP	
FTMK	
FPTT	

5. **Do you have any prior entrepreneurial experience?**

Adakah anda mempunyai pengalaman keusahawanan sebelum ini?

Yes *Ya*	
No *Tidak*	

6. **Have you received any formal entrepreneurship education or training?**

Adakah anda pernah menerima pendidikan atau latihan keusahawanan formal?

Yes *Ya*	
No *Tidak*	

SECTION B: LEVEL OF AWARENESS AND UNDERSTANDING OF DIGITAL ENTREPRENEURSHIP

BAHAGIAN B: TAHAP KESEDARAN DAN KEFAHAMAN TENTANG KEUSAHAWANAN DIGITAL

This section is intended to examine the level of awareness and understanding of digital entrepreneurship among undergraduate students at UTeM. In this section, please choose **ONE** which represents you by placing **TICK (/)**.

*Bahagian ini bertujuan untuk mengkaji tahap kesedaran dan kefahaman tentang keusahawanan digital dalam kalangan pelajar sarjana muda di UTeM. Di bahagian ini, sila pilih **SATU** yang mewakili anda dengan meletakkan **TANDA (/)**.*

Please rate your opinion based on:

Sila nilaikan pendapat anda berdasarkan:

1 = Strongly Disagree
1 = Sangat Tidak Setuju

2 = Disagree
2 = Tidak Setuju

3 = Neutral
3 = Berkecuali

4 = Agree
4 = Setuju

5 = Strongly Agree
5 = Sangat Setuju

Level of Awareness and Understanding of Digital Entrepreneurship.

Digital entrepreneurship encompasses a wide range of activities and strategies aimed at leveraging digital technologies to drive business innovation and growth.

Keusahawanan digital merangkumi pelbagai aktiviti dan strategi bertujuan untuk memanfaatkan teknologi digital bagi memacu inovasi dan pertumbuhan perniagaan.

No	Level of Awareness and Understanding of Digital Entrepreneurship.	1	2	3	4	5
LA1	I have a good understanding of what digital entrepreneurship entails. *Saya mempunyai pemahaman yang baik tentang apa yang terlibat dalam keusahawanan digital.*					
LA2	I am aware of the potential opportunities and benefits of engaging in digital entrepreneurship. *Saya sedar akan peluang dan manfaat berpotensi apabila melibatkan diri dalam keusahawanan digital.*					

LA3	I feel confident in my knowledge and skills related to digital entrepreneurship. *Saya berasa yakin dengan pengetahuan dan kemahiran saya berkaitan dengan keusahawanan digital.*					
LA4	I believe that digital entrepreneurship is a viable career option. *Saya percaya bahawa keusahawanan digital merupakan pilihan kerjaya yang berdaya maju.*					
LA5	I am familiar with the resources and support available for digital entrepreneurship at UTeM. *Saya amat memahami sumber dan sokongan yang tersedia bagi keusahawanan digital di UTeM.*					

SECTION C: THE CHALLENGES FACED BY UNDERGRADUATE STUDENTS IN STARTING AND SUSTAINING DIGITAL ENTREPRENEURSHIP VENTURES AT UTeM

BAHAGIAN C: CABARAN YANG DIHADAPI OLEH PELAJAR SARJANA MUDA DALAM MEMULAKAN DAN MENGEKALKAN USAHA KEUSAHAWANAN DIGITAL DI UTeM

This section is intended to assess the challenges faced by undergraduate students in starting and sustaining digital entrepreneurship ventures at UTeM. In this section, please choose **ONE** which represents you by placing **TICK (/)**.

*Bahagian ini bertujuan untuk menilai cabaran yang dihadapi oleh pelajar sarjana muda dalam memulakan dan mengekalkan usaha keusahawanan digital di UTeM. Di bahagian ini, sila pilih **SATU** yang mewakili anda dengan meletakkan **TANDA (/)**.*

Please rate your opinion based on:

Sila nilaikan pendapat anda berdasarkan:

1 = Strongly Disagree
1 = Sangat Tidak Setuju

2 = Disagree
2 = Tidak Setuju

3 = Neutral
3 = Berkecuali

4 = Agree
4 = Setuju

5 = Strongly Agree
5 = Sangat Setuju

1. Entrepreneurial Mindset

Entrepreneurial mindset is comprised of an individual's attitudes, beliefs, and perceptions regarding entrepreneurship, risk-taking, innovation, and opportunity recognition.
Minda keusahawanan terdiri daripada sikap, kepercayaan dan persepsi individu mengenai keusahawanan, mengambil risiko, inovasi dan pengiktirafan peluang.

No	Statement	1	2	3	4	5
EM1	I feel confident in my ability to identify and pursue entrepreneurial opportunities. *Saya berasa yakin dengan keupayaan saya untuk mengenal pasti dan mengejar peluang keusahawanan.*					
EM2	I am willing to take calculated risks to achieve entrepreneurial success. *Saya sanggup mengambil risiko yang dikira untuk mencapai kejayaan keusahawanan.*					
EM3	I believe in my capability to overcome obstacles and setbacks in entrepreneurship. *Saya percaya dengan keupayaan saya untuk mengatasi rintangan dan kegagalan dalam keusahawanan.*					

EM4	I possess a strong drive and motivation to succeed as an entrepreneur. *Saya mempunyai dorongan dan motivasi yang kuat untuk berjaya sebagai seorang usahawan.*					
EM5	I am open-minded and embrace innovation and change in entrepreneurship. *Saya berfikiran terbuka dan menerima inovasi serta perubahan dalam keusahawanan.*					

2. Social Networks and Support

The availability and intensity of social networks, mentors, and supportive environments have a significant impact on the ability of UTeM undergraduates to launch and sustain digital entrepreneurship ventures.
Ketersediaan dan keintensifan rangkaian sosial, mentor dan persekitaran yang menyokong memberi impak yang signifikan terhadap keupayaan pelajar sarjana muda UTeM untuk memulakan dan mengekalkan usaha keusahawanan digital.

No	Statement	1	2	3	4	5
SN1	I have access to a supportive network of mentors, advisors, or experienced entrepreneurs. *Saya mempunyai akses kepada rangkaian sokongan daripada mentor, penasihat atau usahawan berpengalaman.*					
SN2	I received guidance and feedback from peers who are also involved in entrepreneurship. *Saya menerima panduan dan maklum balas daripada rakan sebaya yang turut terlibat dalam bidang keusahawanan.*					
SN3	I feel supported by my family and friends in					

	my entrepreneurial endeavors. *Saya berasa disokong oleh keluarga dan rakan-rakan dalam usaha keusahawanan saya.*					
SN4	I have opportunities to collaborate and network with other aspiring entrepreneurs. *Saya mempunyai peluang untuk bekerjasama dan membina rangkaian dengan usahawan lain yang bercita-cita tinggi.*					
SN5	I can rely on a community or organization that provides resources and support for entrepreneurs. *Saya boleh bergantung kepada sebuah komuniti atau organisasi yang menyediakan sumber dan sokongan untuk usahawan.*					

3. Education and Training

The extent to which the educational curriculum and training programs at UTeM provide digital entrepreneurship-related knowledge, skills, and resources is essential for addressing the challenges encountered by undergraduate students.

Tahap di mana kurikulum pendidikan dan program latihan di UTeM menyediakan pengetahuan, kemahiran dan sumber berkaitan keusahawanan digital adalah penting untuk mengatasi cabaran yang dihadapi oleh pelajar sarjana muda.

No	Statement	1	2	3	4	5
ET1	I have received adequate education or training in the fundamental principles of entrepreneurship. *Saya telah menerima pendidikan atau latihan yang mencukupi dalam prinsip-prinsip asas keusahawanan.*					
ET2	I have access to courses or programs that					

	specifically focus on digital entrepreneurship. *Saya mempunyai akses kepada kursus atau program yang secara khusus memberi tumpuan kepada keusahawanan digital.*					
ET3	I have participated in workshops or training sessions on digital business models and strategies. *Saya telah mengambil bahagian dalam bengkel atau sesi latihan mengenai model perniagaan digital dan strategi.*					
ET4	The university provides resource, such as online materials or libraries, for entrepreneurship education. *Universiti menyediakan sumber-sumber, seperti bahan-bahan dalam talian atau perpustakaan, untuk pendidikan keusahawanan.*					
ET5	I have been exposed to successful digital entrepreneurs through guest lectures or industry events. *Saya telah didedahkan kepada usahawan digital yang berjaya melalui ceramah jemputan atau acara industri.*					

4. Motivations and Incentives

The motivations and incentives of undergraduate students are essential drivers of engagement in digital entrepreneurship.
Motivasi dan insentif pelajar sarjana muda merupakan pemacu penting penglibatan dalam keusahawanan digital.

No	Statement	1	2	3	4	5
MI1	I am motivated to start a digital					

	entrepreneurship venture to achieve financial independence. *Saya bercita-cita untuk memulakan usaha keusahawanan digital bagi mencapai kebebasan kewangan.*					
MI2	The potential for personal growth and self-fulfillment drives my interest in digital entrepreneurship. *Peluang untuk pertumbuhan diri dan pencapaian diri mendorong minat saya dalam keusahawanan digital.*					
MI3	I am attracted to the flexible lifestyle and freedom that digital entrepreneurship can offer. *Saya tertarik dengan gaya hidup fleksibel dan kebebasan yang boleh ditawarkan oleh keusahawanan digital.*					
MI4	I believe that digital entrepreneurship can lead to making a positive impact on society. *Saya percaya bahawa keusahawanan digital boleh membawa kepada kesan positif terhadap masyarakat.*					
MI5	The availability of grants, funding opportunities, or incentives encourages me to pursue digital entrepreneurship. *Ketersediaan geran, peluang pembiayaan atau insentif mendorong saya untuk meneruskan keusahawanan digital.*					

APPENDIX B GANTT CHART FYP 1

FYP 1	WEEK														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Proposal for Supervisor Selection															
Title Verification Form to Supervisor															
Seminar: Boost Your Skill in Developing Research Title															
Submitting Draft Chapter 1															
Correction for Draft Chapter 1															
Submitting Draft Chapter 2															
Correction for Draft Chapter 2															
Submitting Draft Chapter 3															
Correction for Draft Chapter 3															
Submitting Full Report (Chapter 1 to Chapter 3)															
Correction for Full Report (Chapter 1 to Chapter 3)															
FYP Presentation															
Submission Final Report															

APPENDIX C GANTT CHART FYP 2

FYP 2	WEEK														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Submitting Draft Questionnaire															
Correction for Draft Questionnaire															
Webinar: Progress PSM 2															
Webinar: PSM Chapter 4 & 5															
Submitting Draft Chapter 4															
Correction for Draft Chapter 4															
Submitting Draft Chapter 5															
Correction for Draft Chapter 5															
Submitting Full Report (Chapter 1 to Chapter 5)															
FYP Presentation															
Correction for Full Report (Chapter 1 to Chapter 5)															
Submission Final Report															