

Exploring the Influence of Big Five Personality Traits on Entrepreneurial Intention among University Students

Pang Chia Xuan¹, Shiau Wei Chan^{1*}, Ahmad Nur Aizat Ahmad¹, Md Fauzi Ahmad¹, Fadillah Ismail¹, Izzuddin Zaman²

¹ Department of Production and Operation Management, Faculty of Technology Management and Business, University Tun Hussein Onn Malaysia, Parit Raja, Batu Pahat, Johor, 86400, MALAYSIA.

² Department of Mechanical Engineering, Faculty of Mechanical and Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia, Parit Raja, Batu Pahat, Johor, 86400, MALAYSIA.

*Corresponding Author: swchan@uthm.edu.my

DOI: <https://doi.org/10.30880/rmtb.2025.06.01.021>

Article Info

Received: 31 March 2025

Accepted: 30 April 2025

Available online: 30 June 2025

Keywords

Big Five personality traits, entrepreneurial intention, extraversion, agreeableness, conscientiousness, neuroticism and openness to experience

Abstract

Entrepreneurship is critical for economic growth, innovation, and job creation, particularly in emerging economies like Malaysia. Despite high employability rates, many Universiti Tun Hussein Onn Malaysia (UTHM) graduates opt for traditional employment over entrepreneurial ventures. Thus, this study examines the levels of the Big Five personality traits and entrepreneurial intention (EI) among UTHM students, assesses the relationships between these traits and EI, and evaluates their effects on EI. A quantitative research design was employed, with data collected from 320 Faculty of Technology Management and Business (FPTP) students through an online survey. The survey utilized validated instruments measured on a five-point Likert scale, and the data were analyzed using SPSS version 27 through descriptive statistics, correlation, and regression analysis. The descriptive analysis revealed that UTHM students exhibit high levels of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The correlation analysis indicated significant positive relationships between extraversion, agreeableness, conscientiousness, and openness to experience with EI, while neuroticism showed a negative correlation with EI. Regression analysis further identified extraversion, neuroticism, and openness to experience as significant predictors of EI, with openness to experience being the strongest positive predictor. In contrast, agreeableness and conscientiousness did not have significant effects on EI. These results align with the research objectives and suggest that fostering traits such as openness to experience and extraversion through targeted educational strategies and policies could enhance students' entrepreneurial intention, equipping them with skills to pursue entrepreneurial careers and contribute to Malaysia's economic growth and innovation.

1. Introduction

To foster youth entrepreneurship, governments and educational institutions around the world are actively promoting entrepreneurship, especially among students, to address economic challenges and promote economic

growth (Awwad & Al-Aseer, 2021). Especially in Malaysia, there is a concerted effort to encourage more students to consider entrepreneurship as a viable career option (Martínez-González *et al.*, 2019). The Malaysian government has implemented Various favorable policy measures (Syuhada Musa *et al.*, 2023). For example. the Ministry of Higher Education has developed Entrepreneurship Action Plans for Higher Education Institutions (EAP-HEIs) 2021-2025 to promote entrepreneurship among students (Shariff & Aniza, 2020). Additionally, the Malaysian government also offers financial aid and grants to support aspiring student entrepreneurs (Syuhada Musa *et al.*, 2023). For instance, last year, the Ministry of Entrepreneurship Development and Cooperation (KUSKOP) allocated RM5 million for implementing entrepreneurship programs aimed at graduates (Malay Mail, 2023). Entrepreneurship is rapidly evolving, attracting substantial attention from scholars and researchers. However, the motivations behind individuals becoming entrepreneurs have remained a key focus area for scholars in the field (Anjum *et al.*, 2021). Recent studies have underscored the importance of identifying the determinants of entrepreneurial intention to foster entrepreneurship. Notably, personality traits have emerged as significant factors (Awwad & Al-Aseer, 2021). Personality comprises the inherent patterns of thought, behavior, and emotions molded by biological and environmental influences (Weligodapola *et al.*, 2023). Research on the connection between personality traits and entrepreneurial intention has gained traction in recent years. Prior research has shown a clear link between personality traits and the decision of students to pursue entrepreneurship as a career (Juhari *et al.*, 2023). As indicated by several meta-analysis, an entrepreneur's success is largely determined by their personality traits. These traits shape their behavior and decision-making processes, thus significantly influencing their level of success (Awwad & Al-Aseer, 2021).

Additionally, according to Ahmad & Gul (2021), specific personality traits motivate both men and women to embark on new business ventures. Scholars such as Kerr *et al.* (2017) have extensively examined the connection between personality traits and entrepreneurship, laying the groundwork for understanding the role of individual differences in shaping entrepreneurial behavior. Furthermore, investigations have delved into the Big Five personality traits and their impact on individuals' intention to initiate new business ventures (Mathushan & Gamage, 2022). Besides, Awwad & Al-Aseer (2021) highlights the significant correlation between entrepreneurial intention and personality traits, particularly the Big Five personality traits. Some scholars suggest that the Big Five personality traits provide a comprehensive representation of an individual's personality due to the stable measurement scale employed. Additionally, these traits can be utilized to evaluate an individual's potential for entrepreneurship. This study specifically focuses on the Faculty of Technology Management and Business (FPTP) at Universiti Tun Hussein Onn Malaysia (UTHM). UTHM was selected due to its strong graduate employability, ranking among the top 10 out of 20 public universities in Malaysia, as reported by the Centre for Career Advancement and Alumni, UTHM. According to statistical data from the Centre for Career Advancement and Alumni, UTHM presented in Table 1, FPTP at UTHM recorded a high graduate employability rate (GE) of 90.1% in 2023. However, only 6.2% of FPTP graduates pursued entrepreneurship, whereas a significant 85.6% opted for traditional employment. This trend reflects broader concerns regarding youth unemployment and underemployment within Malaysia's economic landscape.

Table 1 Information about UTHM Graduate Employment (Centre of Career Advancement and Alumni, 2024)

Information	2019	2020	2021	2022	2023
Graduate Employability (GE) Rate	96.5	91.8	93.2	94.0	90.1
%work for others	86.6	85.7	87.8	89.6	85.6
%own business	13.5	9.8	7.9	9.8	6.2
UTHM GE Ranking among public universities	3/20	2/20	7/20	10/20	

While global studies have explored the relationship between personality traits and entrepreneurial intention, providing valuable insights (Luc, 2022), research specifically focused on UTHM students remains limited. This gap hinders the development of targeted educational strategies and policies that could foster entrepreneurial intention among students. Understanding these dynamics is crucial for designing effective interventions that align with students' career aspirations, promote a culture of entrepreneurship within the university, and contribute to Malaysia's economic growth and innovation. Therefore, this study aims to examine the impact of the Big Five Personality Traits on the entrepreneurial intention of UTHM students.

2 Literature Review

2.1 Entrepreneurship in Malaysia

Entrepreneurship greatly impacts economic development, which is crucial in determining our economic future (Hassan *et al.*, 2020). It significantly contributes to the production of jobs, but it also shapes society, encourages

innovation, and propels sustainable progress (Pérez-Macías *et al.*, 2023). The growth of entrepreneurship as an idea and a practice has gained significance in Malaysia (Rahman *et al.*, 2023). Malaysia can generate new sources of income, draw in investment, and add jobs in several industries by cultivating a dynamic ecosystem that encourages creative pursuits (Kasim, 2024). Not only that, the various policies and processes that promote entrepreneurs, such as funding, physical infrastructure, and business advising services, demonstrate the belief that entrepreneurship is essential to the expansion of Malaysia's economy (Aida, 2022). Additionally, the Ministry of Entrepreneur Development was established in 1995 to emphasize the government's commitment to entrepreneurship and to highlight the importance of entrepreneurship in general and entrepreneur development in particular (Ariffin, 2021).

2.2 Entrepreneurial Intention (EI)

The intention is an intellectual state, or state of mind, in which people become motivated to focus on a particular goal (Chhabra, 2020). Hossain *et al.* (2023) underscored that intention is a direct precursor to actual behavior, with stronger intentions strongly predicting subsequent actions. Furthermore, the intention theory originates from cognitive psychology, which emphasizes beliefs, value systems, and attitudes toward behavior and their conversion into future behavioral actions (Bonsie & Naruseb, 2023; Lu *et al.*, 2021). Thus, it is crucial to understand the role played by intention in the entrepreneurial journey (Awwad & Al-Aseer, 2021). Entrepreneurial intention (EI) embodies individuals' inclination towards entrepreneurial pursuits, such as initiating new ventures or pursuing self-employment (Bazkiaei *et al.*, 2020). Additionally, it also reveals an individual's expressed belief in creating a new business in the future (Arshad *et al.*, 2023; Hong *et al.*, 2020). Previous studies have emphasized the pivotal role of entrepreneurial intention in the formation of new entrepreneurs (Sutiadiningsih & Mahfud, 2023). It has been demonstrated that individuals with significant entrepreneurial intention are the ones who possess the capability to engage in entrepreneurship (Wang & Huang, 2019). It's noted that while individuals may possess the potential to become entrepreneurs, actual entrepreneurial behavior often hinges on the presence of such intention (Bazkiaei *et al.*, 2020). Mohan (2022) further highlights the positive impact of EI states that individuals who are entrepreneurially inclined tend to exhibit a greater ability to identify economic opportunities. Moreover, entrepreneurial intention and activities not only facilitate financial autonomy and decision-making authority but also contribute to broader economic advantages, including job creation, increased job opportunities, enhanced welfare, and the promotion of economic equality (Qing Xuan, 2022).

2.3 Big Five Personality Traits

The Big Five personality traits represent a psychological research framework that highlights certain tendencies observed in individual psychological characteristics (Zhang *et al.*, 2022). Furthermore, this model provides a universal framework for understanding personality structures across cultures (Sahrah *et al.*, 2023). Widely acknowledged as crucial in assessing entrepreneurial propensity, the Big Five traits are pivotal factors influencing entrepreneurial intention (Laouiti *et al.*, 2022). Previous studies suggest that among various personality models, the Big Five personality traits model is the most suitable for explaining entrepreneurial intention. This model is widely regarded as one of the most applicable frameworks for assessing individual personality (Antoncic, 2020; López-Núñez *et al.*, 2020). The Big Five traits encompass dimensions such as extraversion, openness to experience, conscientiousness, agreeableness, and neuroticism (Pollak *et al.*, 2020). These traits not only shape individuals' perspectives on entrepreneurship but also motivate them to pursue entrepreneurial endeavors, potentially leading to the establishment of new businesses (Bazkiaei *et al.*, 2021). Thus, having the right personality traits is very important and can guarantee individuals' success in their respective business domains (Mazlina *et al.*, 2021). However, having the Big Five model effectively captures personality traits linked to entrepreneurial intention, its construct robustness is challenged by the presence of more complex personality profiles (Laouiti *et al.*, 2022). The following paragraphs will further explain each dimension in the Big Five personality traits and their relationship with entrepreneurial intention.

2.3.1 Extraversion

Extraversion, as one dimension of the Big Five personality dimensions, embodies an energetic approach to the social and material realms, encompassing traits like sociability, assertiveness, and positive emotionality (Udayanganie *et al.*, 2019). This personality trait significantly correlates with entrepreneurial intention (Elatrachi & Oukarfi, 2020). Individuals high in extraversion, commonly referred to as extroverts (Saptadjaya & Gunawan, 2020), exhibit a natural inclination towards social interaction and active participation in social situations. They often engage in extracurricular activities and prefer outdoor pursuits, reflecting their outgoing nature. This propensity for social engagement contributes to their greater social accomplishments compared to introverts, who typically shy away from such activities (Chan & Lim, 2017). Intrinsically, an entrepreneurial career demands specific personality traits that facilitate direct interaction with diverse stakeholders, including

venture capitalists, partners, employees, and customers (Laouiti *et al.*, 2022). Extroverts are particularly suited to entrepreneurship due to their tendency to perceive challenges rather than threats (Saptadjaya & Gunawan, 2020). Consequently, extroverted entrepreneurs often demonstrate self-confidence, enthusiasm, and exceptional social skills in various social settings, thereby assuming a dominant role in the entrepreneurial process (Zhang *et al.*, 2022). Moreover, the sociable and positive nature commonly observed in extroverted individuals facilitates the development of social networks crucial for entrepreneurial ventures. Entrepreneurs are tasked not only with presenting their business ideas to others but also with establishing extensive networks, essential for success in their ventures (Laouiti *et al.*, 2022; Schlaegel *et al.*, 2021).

2.3.2 Agreeableness

Agreeableness, as another dimension in the Big Five personality traits, encompasses a range of behaviors that shape individuals' interactions with others (Elatrachi & Oukarfi, 2020). Such traits include altruism, warmth, generosity, trust, and cooperation, which are pivotal for entrepreneurs in fostering and sustaining cooperative relationships essential for the long-term development of new enterprises (Sharma, 2022; Zhang *et al.*, 2022). However, according to Salameh *et al.* (2022), individuals with agreeable traits are more concerned with occupations that have public connections, such as social work and teaching, than with becoming entrepreneurs. Due to a high ability to adjust to the norms, policies, systems, and culture of the status quo, an entrepreneurial career might require people who are characteristically less agreeable due to slimmer margins for error and show a strong bias to get the job done over winning consensus (Laouiti *et al.*, 2022).

Additionally, studies by Awwad & Al-Aseer (2021) further illustrate that individual high in agreeableness exhibit qualities such as civility, collaboration, consideration, and adaptability. They will not be self-centered, as they will respect the opinions and suggestions of other people. Additionally, they prioritize understanding and empathy, actively considering the feelings, ideas, and needs of those around them. This empathetic approach not only fosters harmony but also helps to avoid conflict as they navigate interactions with a focus on mutual understanding and respect (Elatrachi & Oukarfi, 2020; Chan & Lim, 2017). This inclination towards the accommodation of others can sometimes lead to excessive compliance and a tendency to change their behavior (Udayanganie *et al.*, 2019). Conversely, those low in agreeableness may be perceived as self-centered and distrustful (Weligodapola *et al.*, 2023). They tend to show a lack of respect for the thoughts, needs, and suggestions of others, as they are unwilling to acknowledge the opinions of others (Chan & Lim, 2017).

2.3.3 Conscientiousness

Conscientiousness, as the third dimension of the Big Five personality traits, encompasses a spectrum of socially endorsed behaviors crucial for effective task management and goal pursuit (Mazlina *et al.*, 2021). Defined by characteristics such as accountability, dependability, and deliberation, conscientiousness serves as a linchpin for moral integrity, both in personal conduct and in relationships with others (Sharma, 2022). Researchers have generally concluded that conscientiousness is a measure of the reliability of an individual (Awwad & Al-Aseer, 2021). Individuals demonstrating high levels of conscientiousness are often commended for their reliability and punctuality, embodying traits such as efficiency, obedience, and discipline, while those scoring lower on this trait may exhibit tendencies toward impulsivity and a preference for flexibility over adherence to plans (Pandey *et al.*, 2023; Sharma, 2022). Moreover, conscientious individuals are distinguished by their industriousness, adept planning abilities, and steadfast commitment to fulfilling responsibilities to achieve personal and professional goals (Şahin *et al.*, 2019). Conscientious people are industrious, strive for success, and are determined with the aid of a strong knowledge of responsibility that encourages their dependability at work (Salameh *et al.*, 2022).

Furthermore, individuals high in conscientiousness are known for setting clear goals and exerting significant effort to achieve them, reinforcing their reputation for reliability and conscientious behavior. This inherent sense of responsibility not only propels individuals toward personal success but also cultivates a tendency to act in the best interest of others (Udayanganie *et al.*, 2019). This link between conscientiousness and goal attainment also extends to entrepreneurial endeavors, where individuals with a high need for achievement and motivation are inclined to pursue entrepreneurial opportunities (Luc, 2022; Salameh *et al.*, 2022; Saptadjaya & Gunawan, 2020). Individuals high in conscientiousness exhibit a remarkable ability to meticulously plan their work, establish concrete goals, and consistently deliver outstanding performance. This inclination also makes them more likely to pursue entrepreneurial endeavors compared to individuals low in conscientious traits (Salameh *et al.*, 2022). Additionally, individuals characterized by high conscientiousness levels are notably poised to tackle the challenges posed by the entrepreneurial environment (Schlaegel *et al.*, 2021).

2.3.4 Neuroticism

The Big Neuroticism, as the fourth dimension of the Big Five personality trait, encompasses emotional stability and varies widely from individuals who are calm and self-assured to those prone to anxiety and negative affect (Ahmed *et al.*, 2022; Laouiti *et al.*, 2022). High levels of neuroticism are associated with experiencing a range of

negative emotions such as anxiety, hostility, depression, impulsiveness, and vulnerability (Abdullah Khar & Irfan, 2021; Ahmad & Gul, 2021). Moreover, individuals high in neuroticism often experience intense apprehension when faced with challenges that entail a risk of failure (Salameh *et al.*, 2022). Thus, they often avoid situations in which they believe they will fail because they lack confidence in their abilities to deal with the social and task-related risks associated with creative endeavors (Sharma, 2022). This stands in opposition to the characteristics associated with entrepreneurship, as individuals embodying these traits typically shy away from risk-taking (Bazkiaei *et al.*, 2021). Given that launching and managing a business involves facing new, unpredictable challenges, uncertain outcomes, and substantial responsibility for results, individuals with high neuroticism are unlikely to embrace an entrepreneurial role (Elatrachi & Oukarfi, 2020). Apart from that, those high in neuroticism often view minor setbacks as insurmountable challenges and ordinary circumstances as menacing (Awwad & Al-Aseer, 2021). Thus, they frequently react impulsively and irrationally to stressors (Sharma, 2022). This trait reflects a predisposition to respond negatively to threats, anxiety, and loss, often with ineffective coping strategies and low self-assurance (Bazkiaei *et al.*, 2021).

Conversely, individuals with low neuroticism exhibit emotional stability, confidence, and a relaxed disposition (Laouiti *et al.*, 2022; Sahrah *et al.*, 2023). While entrepreneurs are characterized by their self-assurance and inclination toward innovation (Ahmed *et al.*, 2022). Scholars and practitioners widely agree that the successful establishment and management of a new venture require individuals to possess high levels of self-confidence, perseverance, resilience, and effective stress management skills (Şahin *et al.*, 2019). Furthermore, according to popular literature, entrepreneurs emerge as optimistic individuals who exhibit unwavering resolve in the face of social pressure, uncertainty, or stress. They demonstrate a readiness to shoulder both emotional and physical burdens, persisting even when others might falter due to self-doubt (Awwad & Al-Aseer, 2021; Elatrachi & Oukarfi, 2020). Entrepreneurs frequently encounter the myriad challenges and complexities inherent in launching and sustaining a new business. Consequently, they must bear the physical and emotional weight of obstacles, the risk of failure, and moments of wavering confidence. These traits highlight the inherent low neuroticism often observed among entrepreneurs (Luc, 2022). Moreover, Zhang *et al.* (2022) indicate that low neuroticism plays a crucial role in nurturing positive interpersonal relationships within entrepreneurial activities.

2.3.5 Openness to Experience

Openness to experience is the last dimension of the Big Five personality traits, encompassing traits such as creativity, intellectual curiosity, and a penchant for adventure and unconventional ideas (Şahin *et al.*, 2019; Saptadjaya & Gunawan, 2020). It becomes evident that individuals exhibiting high levels of this trait demonstrate unpredictability and a propensity for risk-taking while also valuing spiritual and artistic pursuits. This attribute is closely linked to academic success among students and performance in the workplace (Elatrachi & Oukarfi, 2020). Those scoring high on openness to experience are anticipated to possess a vivid imagination, creativity, and a unique cognitive style, coupled with a fervent inclination toward exploring novel concepts (Şahin *et al.*, 2019). Embarking on a new venture often necessitates entrepreneurs to navigate ideas using their creativity (Ahmed *et al.*, 2022). Hence, creativity holds significance in entrepreneurship as innovative entrepreneurs employ creative methods to tackle the challenges, they encounter (Awwad & Al-Aseer, 2021). For instance, emerging businesses rely on entrepreneurs to explore fresh concepts and devise innovative business strategies. Leveraging their creativity enables them to address various issues and employ advanced methods to develop goods, services, and products (Bazkiaei *et al.*, 2021).

Furthermore, individuals high in openness exhibit a favorable attitude toward learning, driven by an inherent curiosity about their environment, and are inclined to acquire knowledge, techniques, and experiences from others, readily embracing new ideas and perspectives (Sharma, 2022). Their creative imagination empowers them to generate innovative concepts and seize emerging opportunities. Conversely, individuals low in openness tend to resist change, favoring traditional behaviors and exhibiting narrow-mindedness and rigidity in their thinking. This reluctance to embrace new ideas and knowledge impedes their cognitive growth and innovation potential (Chan & Lim, 2017; Sharma, 2022).

2.4 Hypotheses Development

2.4.1 Extraversion and EI

Extraversion, defined by assertiveness, enthusiasm, and sociability, has been the subject of numerous studies investigating its impact on EI (EI). Sharma (2022) discovered that extraversion positively correlates with EI among postgraduate management students in Kathmandu Valley; however, the relationship was not statistically significant. Similarly, Salameh *et al.* (2022) observed that extraversion has a positive impact on EI in Pakistani students. However, other studies, such as those by Mazlina *et al.* (2021), reported a significant influence. Additionally, a study conducted by Juhari *et al.* (2023) among vocational college students demonstrated a positive correlation, supporting the notion that extroverted individuals are more inclined toward

entrepreneurial pursuits. This implies that the EI of extroverts may be motivated by their inherent propensity for assertiveness and social interaction, although the level of significance may differ among various contexts and populations. As a result of the previous studies showing the positive relationship between extraversion and EI, thus,

H1: There is a relationship between extraversion and EI.

H1a: Extraversion is positively related to EI.

H1b: Extraversion has a significant effect on EI.

2.4.2 Agreeableness and EI

The relationship between agreeableness and EI has yielded inconsistent results. This trait incorporates traits such as empathy, cooperation, and kindness. Sharma (2022) observed a positive and significant correlation between agreeableness and EI among management students in Nepal. However, Salameh *et al.* (2022) reported that agreeableness produced inconsistent results, which had a negative impact on EI. In the 2021 study conducted by Mazlina *et al.* (2021), agreeableness had a significant influence on EI, thereby underscoring its importance in entrepreneurial environments. This variation may be the result of various cultural and contextual factors that influence the perception of agreeableness and its ability to influence entrepreneurial behavior. In general, agreeableness can promote cooperation and collaboration, which are essential for entrepreneurial success; however, its influence may be contingent upon the context. Most of the previous studies show a positive relationship between agreeableness and EI, thus,

H2: There is a relationship between agreeableness and EI.

H2a: Agreeableness is positively related to EI.

H2b: Agreeableness has a significant effect on EI.

2.4.3 Conscientiousness and EI

Higher EI is consistently associated with conscientiousness, which is characterized by dependability, organization, and diligence. Sharma (2022) discovered a positive correlation between conscientiousness and EI, although it was not statistically significant. In contrast, Mazlina *et al.* (2021) and Awwad & Al-Aseer (2021) identified conscientiousness as a significant factor in influencing EI, emphasizing its importance in the development of a strong work ethic and persistence that are essential for entrepreneurial success. Ahmed *et al.* (2022) also underscored the importance of conscientiousness as a substantial positive predictor of EI among Pakistani students. This consistency across studies suggests that conscientious individuals are more likely to pursue and prosper in entrepreneurial ventures due to their inherent discipline and reliability. As a result of the previous studies showing the positive relationship between conscientiousness and EI, thus,

H3: There is a relationship between conscientiousness and EI.

H3a: Conscientiousness is positively related to EI.

H3b: Conscientiousness has a significant effect on EI.

2.4.4 Neuroticism and EI

EI is generally negatively correlated with neuroticism, which is associated with emotional instability and negative emotions. According to Sharma (2022) and Salameh *et al.* (2022), there is a negative correlation between neuroticism and EI, although it is not statistically significant. This implies that while higher levels of neuroticism could hinder EI, the effect is not definitive. Neuroticism was found to have a substantial impact on EI in studies conducted by Juhari *et al.* (2023), which further supports the notion that emotional instability may hinder EI. However, Udayanganie *et al.* (2019) discovered a positive association between neuroticism and EI. Emotional stability is essential for risk-taking and resilience that are essential in entrepreneurship, and the negative effects of neuroticism are consistent across a variety of contexts. As a result of the previous studies showing the negative relationship between neuroticism and EI, thus,

H4: There is a relationship between neuroticism and EI.

H4a: Neuroticism is negatively related to EI.

H4b: Neuroticism has a significant effect on EI.

2.4.5 Openness to experience and EI

Openness to experience, which is characterized by creativity, curiosity, and an openness to new ideas, is frequently associated with higher EI (EI). Among management students in Nepal, Sharma (2022) identified openness as the most influential factor in determining EI. Similarly, Khan *et al.* (2021) and Juhari *et al.* (2023) discovered positive correlations between openness and EI, underscoring its importance in the development of adaptability and innovative thinking, which are essential for entrepreneurship. However, Mazlina *et al.* (2021) reported that openness had an insignificant impact on EI, indicating that contextual variations exist. EI are

generally improved by an openness to experience, which fosters adaptability and inventive problem-solving, which are critical attributes for entrepreneurial success. Most of the previous studies show a positive relationship between openness to experience and EI, thus,

H5: There is a relationship between openness to experience and EI.

H5a: Openness to experience is positively related to EI.

H5b: Openness to experience has a significant effect on EI.

2.5 Conceptual Framework

The study explores the influence of the Big Five personality traits on entrepreneurial intention and develops five hypotheses. The dependent variable for the study is the entrepreneurial intention, while the independent variable is the Big Five personality traits, which are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Fig. 1 shows the conceptual framework.

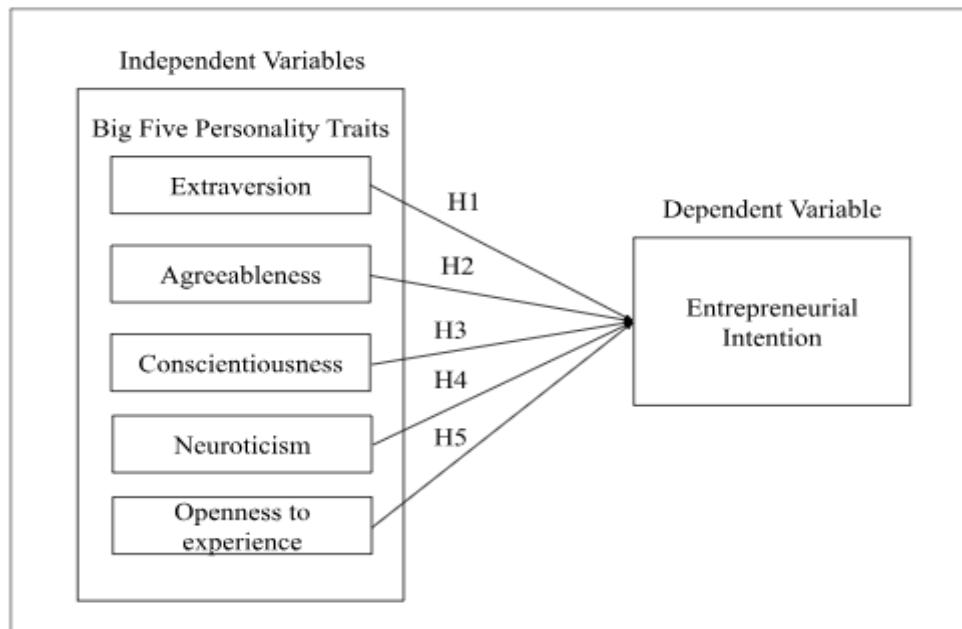


Fig. 1 Conceptual Framework of the study

3. Research Methodology

3.1 Research Design

Research design refers to the structured process undertaken by researchers before initiating data collection and analysis, ensuring the validity of the research objectives (Asenahabi, 2019). It provides a structured framework, outlining research objectives, data requirements, target populations, data collection and analysis methods, and how these components address the research questions (McCombes, 2021). Furthermore, research design is categorized into three main groups: quantitative, qualitative, and mixed-method research designs (Asenahabi, 2019). Quantitative research was used in this study because it is a suitable method for exploring the influence of the Big Five personality traits on entrepreneurial intention among UTHM students. Quantitative research is a methodology devised to gather numerical data to measure variables. The resulting quantitative data should be organized and statistical, allowing for objective and conclusive findings through systematic data analysis (Bhandari, 2020). The survey questionnaire was distributed to the respondents to collect the data via Google Forms, and the data collected were analyzed quantitatively by using SPSS version 27.

3.2 Population and sampling

When researching a group of people, it's often impractical to gather data from every individual within that group. Instead, researchers can select a sample, which represents the individuals participating in the study. Besides, researchers must meticulously determine the method by which they will select a sample representative of the entire group to ensure the results yield valid conclusions (McCombes, 2019). In this research, a simple random sampling method was utilized. In this sampling method, every member of the population has an equal probability of being chosen (Thomas, 2020). To implement the simple random sampling method, the researcher first obtained a comprehensive list of all students enrolled in the Faculty of Technology Management and

Business (FPTP) at UTHM from the Academic Management Office. Each student on the list was assigned a unique identification number. Using a computer-based random number generator, 320 students were randomly selected from the list to participate in the survey. This method ensured that each student had an equal and unbiased chance of being selected, thus eliminating selection bias and enhancing the generalizability of the findings.

The selected students were contacted via their official university email addresses with an invitation to participate in the study. The email included an explanation of the research purpose, assurances of confidentiality, and a link to the online questionnaire hosted on Google Forms. Follow-up reminder emails were sent one and two weeks after the initial invitation to encourage participation. This process helped achieve a sufficient response rate and ensured that the sample was representative of the target population. According to the Academic Management Office UTHM, UTHM's total population is 23,500 students, with the Faculty of Technology Management and Business (FPTP) contributing 1,884 students. The minimum number of respondents, 320, was determined based on Krejcie & Morgan (1970) guidelines for sample size determination. This systematic sampling approach reinforced the study's validity by ensuring randomness and fairness in participant selection, thereby supporting the reliability and credibility of the research findings.

3.3 Research Instrument

The study utilized a survey method to gather new data from the target population. This survey data was collected through an online questionnaire comprising three sections, which will be distributed to the respondents. The first section of the questionnaire gathered demographic information from respondents, while the second section focused on assessing the Big Five personality traits. This encompassed five items for extraversion, seven items for agreeableness, four items for conscientiousness, five items for neuroticism, and nine items for openness to experience. The third section aimed to collect data on entrepreneurial intention, consisting of 6 items. Respondents are required to rate each question using a five-point Likert scale, ranging from 1 for "strongly disagree" to 5 for "strongly agree." The questionnaire and essential information will be adapted from the previous study by Sharma (2022). Additionally, the online questionnaire consists of closed-ended questions, allowing respondents to provide answers through Google Forms. All questions are in multiple-choice format and anonymous to safeguard respondents' privacy.

3.3.1 Content Validity

Validity ensures that a measurement tool accurately reflects the purpose of the research and provides meaningful data for interpretation (SÜRÜCÜ & MASLAKÇI, 2020). There are four main types of validity used to assess questionnaires: face, content, criterion, and construct validity (C4, 2020). For this study, content validity was selected as the most appropriate method. As explained by Yusoff (2019), content validity evaluates whether the assessment instrument adequately covers all the important aspects of the constructs being studied. Feedback was gathered from two experts to assess this. Expert A, an Associate Professor at Universiti Tun Hussein Onn Malaysia with expertise in business management and innovation, and Expert B, a senior lecturer at the same university specializing in operations management, reviewed the questionnaire. While Expert A had no additional comments, Expert B provided suggestions on improving the clarity of certain questions. Based on this feedback, revisions were made to the demographic section, while the core constructions from the previous study were retained, as Expert A found no issues with them.

3.3.2 Pilot Test

Before proceeding with the main study, a pilot test, also known as a pilot study, is essential to evaluate the validity and reliability of the questionnaire. The researcher must assess, refine, and ensure the clarity of the language used in the questionnaire items before its distribution (Simkus, 2023). The pilot study typically involves a smaller scale of respondents compared to the full-scale study (Dovetail Editorial Team, 2023); thus, approximately 30 respondents will be involved in this phase. Interested participants were recruited for the pilot test to gather preliminary data. Subsequently, the reliability of the questionnaire was assessed using inter-item consistency, with the results evaluated through Cronbach's alpha. A Cronbach's Alpha value of at least 0.6 is generally considered acceptable for ensuring scale reliability (SÜRÜCÜ & MASLAKÇI, 2020). The study involved six construct variables, and data from 30 respondents in the pilot test were used to assess reliability and consistency. As shown in Table 3, Cronbach's alpha values for all variables are greater than 0.6, indicating acceptable reliability. The Cronbach's alpha values for Extraversion and Agreeableness are 0.895 and 0.887, respectively, each measured with 5 and 7 items. These values indicate a very good level of reliability. For the variable Conscientiousness, Cronbach's alpha value is 0.656, based on four items, which indicates a moderate level of reliability. The Cronbach's alpha value for Neuroticism is 0.871, measured with five items, and is also considered very good. Finally, Cronbach's alpha values for Openness to Experience and Entrepreneurial

Intention are 0.928 and 0.954, respectively, with 9 and 6 items indicating excellent reliability. Given that the questionnaire satisfied the criteria for both validity and reliability, it was considered suitable for distribution to the target population for data collection.

Table 2 Cronbach's Alpha Coefficient table (Mat Nawi et al., 2020)

Alpha Coefficient Range	Strength of Association	Alpha Coefficient Range
< 0.6	Poor	< 0.6
0.6 to < 0.7	Moderate	0.6 to < 0.7
0.7 to < 0.8	Good	0.7 to < 0.8
0.8 to < 0.9	Very Good	0.8 to < 0.9
0.9 >	Excellent	0.9 >

Table 3 Pilot test result

Variables	No. of items	Cronbach's alpha	Result Interpretation
Extraversion	5	0.895	Very Good
Agreeableness	7	0.887	Very Good
Conscientiousness	4	0.656	Moderate
Neuroticism	5	0.871	Very Good
Openness to experience	9	0.928	Excellent
Entrepreneurial Intention	6	0.954	Excellent

4. Results and Discussion

4.1 Descriptive Analysis

Descriptive analysis is a fundamental method researchers use to summarize, organize, and present data clearly and clearly (Rawat, 2021). This technique involves using summary statistics that provide a quantitative description of the main features of a dataset. In this study, data collected from respondents using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), were analyzed using SPSS software to compute the mean and standard deviation. The mean is calculated to assess the average score of the responses for each item, while the standard deviation measures the variability or dispersion of the responses. The lower dispersion reveals that the closer of data is to the mean or average value. The mean level of agreement was measured by the central tendency and is shown in Table 4.

Table 4 Level of Agreement Mean Measurement (Burdeos et al., 2022)

Range of Values (Mean)	Interpretation
4.01 – 5.00	Very High
3.01 – 4.00	High
2.01 – 3.00	Moderate
1.01 – 2.00	Low
0.01 – 1.00	Very Low

4.1.1 Descriptive Analysis: Extraversion

Table 5 shows the mean and standard deviation for Extraversion. The highest mean score is 3.70 for E5, which suggests that respondents most agree with this statement, which is "I see myself as someone who is reserved," which is related to Extraversion compared to other items. This indicates that this aspect of Extraversion is most prominent among the respondents. Similarly, the lowest mean score is 3.51 for E2, implying that this is the least agreed-upon statement, which is "I see myself as someone who generates a lot of enthusiasm," although the difference between the mean scores is relatively small, showing general agreement on all aspects of

Extraversion measured. The highest standard deviation is 1.073 for E1, indicating that respondents' opinions are most varied for this item. A higher standard deviation reflects more significant variability, implying that there are differing views about this statement, which is "I see myself as someone who is talkative" among the respondents. On the other hand, the lowest standard deviation is 0.829 for E5, which shows the lowest variability, suggesting that respondents' answers are more consistent regarding this item.

Table 5 Descriptive Analysis: Extraversion

Items	Mean	Std. Deviation
E1	3.62	1.073
E2	3.51	0.834
E3	3.60	0.891
E4	3.68	0.989
E5	3.70	0.829
Average mean	3.62	0.923

4.1.2 Descriptive Analysis: Agreeableness

As presented in Table 6, the highest mean score is 4.03 for the A4, indicating that this statement, which is "I see myself as someone who is considerate and kind to everyone," is the most agreed upon among the respondents when it comes to Agreeableness. This suggests that the characteristics measured by A4 are the most prominent aspects of Agreeableness among the respondents. On the other hand, the lowest mean score is 3.63 for the A2, indicating that this item received relatively less agreement, though the variation is minimal, showing a general agreement with all statements. Regarding variability, the highest standard deviation is 0.839 for A1, meaning that respondents' answers varied the most for this item. A higher standard deviation reflects more significant differences in respondents' views. The lowest standard deviation is 0.793 for A2, indicating that respondents' answers were more consistent for this item, with less variability in opinion.

Table 6 Descriptive Analysis: Agreeableness

Items	Mean	Std. Deviation
A1	3.79	0.839
A2	3.63	0.793
A3	3.91	0.824
A4	4.03	0.826
A5	3.93	0.824
A6	3.90	0.889
A7	4.04	0.833
Average mean	3.89	0.833

4.1.3 Descriptive Analysis: Conscientiousness

Based on the descriptive analysis in Table 7, the mean and standard deviation of conscientiousness are presented. The highest mean score is 3.88 for C3, indicating that respondents most strongly agree with this statement, which is "I see myself as someone who does things efficiently," which is related to conscientiousness compared to the other items. This suggests that this aspect of conscientiousness is particularly prominent among participants. Conversely, the lowest mean score is 3.74 for C2, implying that this statement which "I see myself as someone who perseveres until the task is finished," received the least agreement, although the differences between the mean scores are relatively small, reflecting a consensus on the conscientiousness items measured. The standard deviations for these items range from 0.773 to 0.848, with the highest standard deviation of 0.848 for C4. This indicates that respondents' opinions about C4 are the most varied, suggesting differing views regarding this aspect of conscientiousness. In contrast, the lowest standard deviation of 0.773 for C2 reflects more consistent participant responses.

Table 7 Descriptive Analysis: Conscientiousness

Items	Mean	Std. Deviation
-------	------	----------------

C1	3.82	0.773
C2	3.74	0.792
C3	3.88	0.814
C4	3.75	0.848
Average mean	3.80	0.807

4.1.4 Descriptive Analysis: Neuroticism

Table 8 presents the mean and standard deviation for neuroticism. The highest mean score is 3.72 for both items N1 and N4, indicating that respondents strongly agree with these statements, which are "I am not a depressed and blue person" and "I see myself as someone who is emotionally stable, not easily upset" related to neuroticism compared to the other items. This suggests that these aspects of neuroticism are particularly significant for participants. In contrast, item N2 has the lowest mean score of 3.58, implying that this statement, which is "I am not a tense person," received the least agreement, although the differences between the mean scores are relatively small, reflecting a consensus on the neuroticism items measured. The standard deviations for the items range from 0.834 to 0.903, with the highest standard deviation of 0.903 for item N1. This indicates that respondents' opinions about N1 are the most varied, suggesting differing views regarding this aspect of neuroticism. Conversely, item N2 exhibits the lowest standard deviation of 0.834, reflecting more consistent participant responses.

Table 8 Descriptive Analysis: Neuroticism

Items	Mean	Std. Deviation
N1	3.72	0.903
N2	3.58	0.834
N3	3.69	0.868
N4	3.72	0.847
N5	3.71	0.842
Average mean	3.68	0.859

4.1.5 Descriptive Analysis: Openness to Experience

The mean and standard deviation for openness to experience are indicated in Table 9. OTE4 has the highest mean score of 3.92, indicating that respondents most strongly agree with this statement: "I see myself as someone who is curious about many different things", highlighting a significant aspect of openness that resonates with participants. In contrast, item OTE2 has the lowest mean score of 3.55, suggesting that this statement which is "I see myself as someone who likes to reflect, play with ideas" received the least agreement; however, the difference in mean scores across the items is relatively small, reflecting a consensus on the characteristics of Openness to Experience. The standard deviations for the items range from 0.772 to 0.961, indicating some variability in responses. OTE3 has the highest standard deviation at 0.961, suggesting that opinions on this statement which is "I see myself as someone who is sophisticated in art, music or literature." are the most varied among respondents, which may indicate differing views about this aspect of openness to experience. On the other hand, item OTE9 shows the lowest standard deviation of 0.772, reflecting more consistent responses among participants regarding this statement.

Table 9 Descriptive Analysis: Openness to Experience

Items	Mean	Std. Deviation
OTE1	3.63	0.824
OTE2	3.55	0.833
OTE3	3.65	0.961
OTE4	3.92	0.854
OTE5	3.76	0.815
OTE6	3.69	0.876
OTE7	3.64	0.844

OTE8	3.79	0.817
OTE9	3.89	0.772
Average mean	3.72	0.844

4.1.6 Descriptive Analysis: Entrepreneurial Intention

The mean and standard deviation for the entrepreneurial intention is summarised in Table 10. Based on the results, EI3 has the highest mean score of 3.79, suggesting that respondents most strongly agree with the statement “I will make every effort to start and run my own business” related to entrepreneurial intention. This implies that this aspect of entrepreneurial intention is especially salient among the participants. Conversely, item EI2 has the lowest mean score of 3.68, indicating that this statement, which is “My goal is to have my own business,” received slightly less agreement compared to the others. However, the differences in mean scores across the items are relatively small, reflecting a consensus on the various facets of entrepreneurial intention being measured. The standard deviations for the items range from 0.937 to 1.003, indicating some variability in the responses. The highest standard deviation of 1.003 for item EI1 suggests that respondents' opinions about the statement “I am ready to do anything to have my own business” vary significantly, indicating differing levels of agreement or disagreement. In contrast, EI6 has the lowest standard deviation of 0.937, reflecting more consistent responses among participants regarding this statement: “I have every intention of starting a Business one day”.

Table 10 Descriptive Analysis: Entrepreneurial Intention

Items	Mean	Std. Deviation
EI1	3.72	1.003
EI2	3.68	0.979
EI3	3.79	0.957
EI4	3.78	0.954
EI5	3.74	0.991
EI6	3.78	0.937
Average mean	3.75	0.970

The first objective of this study was to identify the levels of the Big Five personality traits and entrepreneurial intention among UTHM students. According to the descriptive analysis, extraversion had a high average mean of 3.62 (SD = 0.923), suggesting that students had a moderately extroverted disposition, with social engagement being a notable trait but not overwhelmingly dominant. The highest mean for extraversion was for the item “I see myself as someone who is reserved” (M = 3.70), indicating that students did not strongly associate with extreme sociability but moderately identified with reserved behaviors. Agreeableness was high, with an average mean of 3.89 (SD = 0.833), suggesting that students were cooperative, empathetic, and trustworthy. Among the items, “I see myself as someone considerate and kind to everyone” (M = 4.03) was the most agreed upon, reflecting strong tendencies toward empathy and kindness. Conscientiousness had a high average mean of 3.80 (SD = 0.807), reflecting moderate levels of discipline, responsibility, and goal-oriented behavior. The highest mean was “I see myself as someone who does things efficiently” (M = 3.88), emphasizing the participants' organization and task effectiveness. Neuroticism, with a high average mean of 3.68 (SD = 0.859), was relatively low, suggesting emotional stability among students, particularly in aspects like “I see myself as someone who is emotionally stable, not easily upset” (M = 3.72). Openness to experience had a high average mean of 3.72 (SD = 0.844), indicating that students showed a reasonable degree of creativity and curiosity, with the highest mean being for “I see myself as someone who is curious about many different things” (M = 3.92). Besides, entrepreneurial intention has a high average mean of 3.75 (SD = 0.970), which suggests that UTHM students possess a strong entrepreneurial inclination and are generally interested in entrepreneurial activities but may still require further motivation and support to transform this intention into action. This high level of entrepreneurial intention reflects a positive outlook toward entrepreneurship, which could be further nurtured through targeted programs, mentorship, and practical exposure.

These results align with past research. For instance, Sharma (2022) and Bazkiaei *et al.* (2021) found that openness and conscientiousness are often associated with entrepreneurial intention, as these traits foster creativity, goal setting, and the willingness to take risks, all of which are critical in entrepreneurship. Additionally, Mazlina *et al.* (2021) suggested that conscientiousness is a strong predictor of entrepreneurial success due to the traits of discipline and perseverance it entails. In contrast, the high levels of agreeableness found among UTHM students are consistent with research by Awwad & Al-Aseer (2021). However, Laouiti *et al.*

(2022) and Sharma (2022) argue that high agreeableness, while beneficial for teamwork, may not strongly drive individual entrepreneurial intent, as it may limit risk-taking and assertiveness. The low levels of neuroticism support Bazkiaei *et al.* (2021) and Sharma (2022), who emphasized that emotional stability is crucial for managing uncertainties and risks in entrepreneurship.

In conclusion, UTHM students show promising traits such as openness ($M = 3.72$) and conscientiousness ($M = 3.80$), which are linked to entrepreneurial intention, and their overall entrepreneurial intention was also high. This aligns with findings by Sharma (2022), who observed similar trends among postgraduate students in Nepal, suggesting that limited opportunities and risk aversion might hinder entrepreneurial ambition. Similarly, Bazkiaei *et al.* (2021) found low entrepreneurial intention among Malaysian students despite their supportive personality traits, largely due to a lack of strong entrepreneurial culture and institutional support. On the other hand, Laouiti *et al.* (2022) highlighted that entrepreneurial intention can be significantly improved when traits like openness and conscientiousness are paired with strong educational and institutional backing, as seen in French students. These insights suggest that while UTHM students have the right foundation, fostering entrepreneurial intention requires more robust programs, mentorship opportunities, and access to resources to create a supportive environment for entrepreneurship.

4.2 Correlation Analysis

In statistics, correlation refers to the predictive relationship between two variables. It helps determine the nature, direction, and strength of the association between these factors (Kumar & Gautam, 2020). This section focuses on analyzing the direction and strength of the relationships between various pairs of variables, providing insight into how they are connected. To achieve this, a correlation analysis has been conducted to assess the dependencies between these variables. The degree of correlation coefficient and strength is shown in Table 11.

Table 11 *Correlation Coefficient and Strength (Yee et al., 2015)*

Correlation Range	Strength of Associate
± 0.91 to ± 1.0	Very Strong
± 0.71 to ± 0.90	Strong
± 0.51 to ± 0.70	Moderate
± 0.31 to ± 0.50	Weak
± 0.01 to ± 0.30	Very Weak
0.00	No Relationship

According to the results shown in Table 12, the analysis reveals significant positive correlations between the five personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience) and entrepreneurial intention. Each of these relationships is statistically significant at the 1 percent level, confirming that the correlations observed are unlikely to be due to chance. For instance, the correlation coefficient between Extraversion and Entrepreneurial Intention is 0.527, suggesting a moderately strong positive relationship. This indicates that more extroverted individuals tend to have stronger entrepreneurial intentions. Similarly, the relationship between Agreeableness and Entrepreneurial Intention is positive, with a correlation coefficient of 0.461, indicating that agreeable individuals also tend to exhibit entrepreneurial tendencies. The correlation between Conscientiousness and Entrepreneurial Intention is 0.459, demonstrating that more conscientious individuals, known for being organized and disciplined, are also more likely to pursue entrepreneurial ventures. Among the personality traits, Openness to Experience has the strongest correlation with entrepreneurial intention ($r = 0.586$), suggesting that individuals who are open to new experiences, curious, and creative are the most likely to have strong entrepreneurial aspirations. Interestingly, the correlation between Neuroticism and Entrepreneurial Intention is also positive ($r = 0.479$), though somewhat counterintuitive, as neuroticism is often associated with emotional instability.

Table 12 *Correlation Analysis Results*

Variables	Entrepreneurial Intention	
Extraversion	Correlation Coefficient	.527**
	Sig. (2-tailed)	<.001
Agreeableness	Correlation Coefficient	.461**
	Sig. (2-tailed)	<.001
Conscientiousness	Correlation Coefficient	.459**
	Sig. (2-tailed)	<.001

Neuroticism	Correlation Coefficient	.479**
	Sig. (2-tailed)	<.001
Openness to Experience	Correlation Coefficient	.586**
	Sig. (2-tailed)	<.001
Entrepreneurial Intention	Correlation Coefficient	1.000
	Sig. (2-tailed)	.

The second objective of this study was to assess the relationship between the Big Five personality traits and the entrepreneurial intention of UTHM students. Based on Pearson’s correlation analysis, openness to experience had the strongest positive correlation ($r = 0.586, p < 0.001$) with entrepreneurial intention, followed by extraversion ($r = 0.527, p < 0.001$), conscientiousness ($r = 0.459, p < 0.001$), and agreeableness ($r = 0.461, p < 0.001$). Interestingly, neuroticism, measured through positively framed items emphasizing emotional stability, also showed a positive correlation ($r = 0.479, p < 0.001$) with entrepreneurial intention. This finding suggests that emotionally stable individuals—those who are calm, resilient, and capable of managing stress—are more likely to engage in entrepreneurial activities. This interpretation aligns with the understanding that emotional stability fosters the ability to handle the uncertainties and pressures inherent in entrepreneurship.

These correlations support findings in previous studies. Sharma (2022) and Bazkiaei *et al.* (2021) indicated that openness to experience is one of the strongest predictors of entrepreneurial intention due to the creativity and willingness to take risks that open individuals display. Similarly, Sharma (2022) found that conscientiousness—which is reflected in goal setting, responsibility, and persistence—also strongly influences entrepreneurial intention. The moderate correlation between extraversion and entrepreneurial intention is in line with Laouiti *et al.* (2022) and Saptadjaya & Gunawan (2020), who argued that while extraverted individuals tend to network more easily and be more socially confident, these traits alone do not guarantee entrepreneurial behavior. The weak positive relationship with agreeableness is consistent with Sharma (2022) and Salameh *et al.* (2022), who noted that while agreeableness aids in collaboration and cooperation, it does not directly drive entrepreneurial intention, which often requires assertiveness and a higher tolerance for risk. The positive correlation with neuroticism, although unexpected, may be explained by the idea that emotionally unstable individuals might be more motivated to achieve control or self-efficacy through entrepreneurship, despite their anxiety or emotional stress (Bazkiaei *et al.*, 2021).

In conclusion, the study reveals that openness to experience and extraversion are the strongest predictors of entrepreneurial intention among UTHM students. Neuroticism also plays a significant role, highlighting the importance of emotional resilience and composure in entrepreneurial success. Meanwhile, agreeableness and conscientiousness contribute to entrepreneurial intention but to a lesser extent. These findings suggest that entrepreneurship programs should prioritize fostering creativity, adaptability, social networking, and emotional resilience to strengthen entrepreneurial ambition and capability among students.

4.3 Regression Analysis

A linear regression analysis was conducted to assess the influence of Extraversion, Agreeableness, Conscientiousness, Openness, and Neuroticism on Entrepreneurial Intention. The regression model used can be expressed as follows:

$$\text{Model 1: BI} = a + b_1E + b_2A + b_3C + b_4O + b_5N + e$$

Table 13 presents the regression analysis results, demonstrating the impact of personality traits such as Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience on entrepreneurial intention. Each independent variable’s influence on the dependent variable is analyzed through beta values, t-test values, and significance levels to determine which traits play a significant role. Firstly, the model reveals that Extraversion has a significant positive impact on entrepreneurial intention, with a beta value of 0.157, a t-value of 2.733, and a significance level of 0.007. This suggests that extroverted individuals are more likely to have higher entrepreneurial intentions. Therefore, Extraversion significantly influences entrepreneurial intention. In contrast, the analysis shows that Agreeableness does not significantly impact entrepreneurial intention. The beta value of 0.056, a t-test value of 1.041, and a significance level of 0.299 indicate that this personality trait does not play a substantial role in predicting entrepreneurial intention in this study. Similarly, Conscientiousness also shows no significant impact on entrepreneurial intention. With a beta value of 0.055, a t-test value of 0.965, and a significance level of 0.335, the results suggest that being organized and disciplined does not contribute meaningfully to entrepreneurial intention in this context. However, Neuroticism does have a significant positive impact on entrepreneurial intention, as indicated by a beta value of 0.111, a t-test value of 2.110, and a significance level of 0.036. This result implies that individuals who score higher on emotional instability may also demonstrate higher entrepreneurial intention, although the relationship is weaker compared to other traits. The strongest predictor in the model is Openness to Experience, which shows a highly significant positive effect on entrepreneurial intention. With a beta value of 0.441, a t-value of 7.577, and a

significance level of less than 0.001, this trait plays a key role in predicting entrepreneurial intention. Individuals who are more open to new ideas, creativity, and experiences are much more likely to pursue entrepreneurial ventures.

Table 13 Regression Analysis Results

Variables	Beta Value	t-test value	Significance
Extraversion	.157	2.733	.007
Agreeableness	.056	1.041	.299
Conscientiousness	.055	0.965	.335
Neuroticism	.111	2.110	.036
Openness to experience	.441	7.577	<.001

Table 14 shows a summary of the regression model, where the R Square value is 0.483. This means that 48.3% of the variation in Entrepreneurial Intention can be explained by the Big Five personality traits, which are Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. The Adjusted R Square value is 0.474, indicating that after adjusting for the number of predictors, the model still explains 47.4% of the variance in entrepreneurial intention. These values suggest that the model has a good level of explanatory power in predicting the dependent variable.

Table 14 Model Summary

Model	R Square (R ²)	Adjusted R Square
1	.483	0.474

Table 15 shows the results of the Analysis of Variance (ANOVA) for the regression model. The F-value is 58.585, and the p-value is less than 0.001, indicating that the model is statistically significant. This means that the combination of the independent variables (Big Five personality traits) significantly predicts the variation in entrepreneurial intention. Since the p-value is below the 0.05 threshold, it confirms that the model provides a good fit and that the independent variables collectively explain a significant amount of the variation in the dependent variable.

Table 15 Analysis of Variance (ANOVA)

Source	Analysis of Variance	
Model	F-value	Model
1	58.585	1

To address the third research objective, five hypotheses were developed for testing. These hypotheses were tested using appropriate statistical methods, and the results are summarized in Table 16.

Table 16 Hypothesis Testing Results

Hypothesis	Description	Result
H1	Extraversion has a significant effect on entrepreneurial intention.	Accepted
H2	Agreeableness has a significant effect on entrepreneurial intention.	Rejected
H3	Conscientiousness has a significant effect on entrepreneurial intention.	Rejected
H4	Neuroticism has a significant effect on entrepreneurial intention.	Accepted
H5	Openness to experience has a significant effect on entrepreneurial intention.	Accepted

The third objective of this study was to examine the effect of the Big Five personality traits on the entrepreneurial intention of UTHM students. Regression analysis revealed that openness to experience had the most significant positive effect on entrepreneurial intention ($\beta = 0.441$, $p < 0.001$), followed by extraversion ($\beta = 0.157$, $p = 0.007$) and neuroticism ($\beta = 0.111$, $p = 0.036$). Conscientiousness ($\beta = 0.055$, $p = 0.335$) and agreeableness ($\beta = 0.056$, $p = 0.299$) showed minimal and statistically insignificant effects on entrepreneurial

intention. The positive effect of neuroticism suggests that students who are calm, resilient, and better able to manage stress are more likely to pursue entrepreneurial ventures.

These findings are like the previous study by Sharma (2022), which found that openness to experience plays a crucial role in shaping entrepreneurial intention due to its association with creativity, risk-taking, and a willingness to explore new opportunities. The moderate effect of extraversion is supported by Laouiti *et al.* (2022) and Saptadjaya & Gunawan (2020), who argued that while extraversion aids in networking and social interactions, it is not as central as traits like openness and conscientiousness. The minimal effects of agreeableness and conscientiousness are consistent with the findings of Sharma (2022) and Laouiti *et al.* (2022), who suggested that while cooperation is beneficial in some entrepreneurial contexts, it does not strongly influence entrepreneurial intention. The positive effect of neuroticism is consistent with Bazkiaei *et al.* (2021), suggesting that individuals with higher emotional instability might be motivated to seek control or stability through entrepreneurial activities.

The results of the regression model suggest that the Big Five personality traits, particularly openness to experience, can explain a significant portion of the variation in entrepreneurial intention, with extraversion and neuroticism also playing notable roles. However, agreeableness and conscientiousness were found to have minimal effects, indicating that while these traits may support entrepreneurship in some contexts, they are less influential in driving entrepreneurial intention compared to creativity and risk-taking behaviors. In conclusion, openness to experience and extraversion have significant positive effects on entrepreneurial intention, while agreeableness and conscientiousness show minimal impact. Neuroticism also positively influences entrepreneurial intention, highlighting the importance of resilience and emotional balance in entrepreneurial success. These findings underscore the need for educational programs to cultivate creativity, social networking abilities, and emotional resilience, as these traits are crucial in motivating students to engage in entrepreneurial activities.

5. Conclusion

This study successfully examined the influence of the Big Five personality traits on entrepreneurial intention among UTHM students. The findings indicate that openness to experience and extraversion are the most significant predictors of entrepreneurial intention, whereas conscientiousness and agreeableness exert minimal effect. The unexpected positive relationship between neuroticism and entrepreneurial intention presents a novel study opportunity, indicating that emotional instability may, in some cases, drive entrepreneurial behavior as individuals seek control or stability through entrepreneurship. The results highlight the importance of traits like creativity, emotional resilience, and sociability in promoting entrepreneurial intention. All research questions have been addressed, and the research objectives have been achieved. The research not only determined the levels of the Big Five personality traits among UTHM students but also evaluated their correlations and impacts on entrepreneurial intention. This study highlights the significant influence of openness to experience, extraversion, and neuroticism on entrepreneurial intention. While factors such as agreeableness and conscientiousness were determined to exert minimal influence, the study underscores the need for a more comprehensive understanding of the interplay between various personality traits and their impact on entrepreneurial intention. This research enhances the existing information on entrepreneurial psychology and provides significant insights for future investigations, along with practical implications for academic institutions, industry professionals, and legislators. The results of this study have various significant theoretical and practical implications. From a theoretical standpoint, especially considering Malaysian students, this study helps us better understand how the Big Five personality traits affect entrepreneurial intention. The results validate that openness to experience, and extraversion are major determinants of entrepreneurial intention, in line with past research. Still, the unexpected positive correlation between neuroticism and entrepreneurial intention opens a fresh field of study. Usually considered a barrier to the success of business, emotional instability can occasionally inspire people to become entrepreneurs in search of self-efficacy or control. This result suggests a possible gap in the current hypothesis that calls for more inquiry in future studies. Furthermore, the minimal effect of conscientiousness and agreeableness challenges certain traditional assumptions on their function in encouraging entrepreneurial behaviors. Future research could look at how contextual elements, such as culture or the surroundings of an educational institution, affect the presentation of these traits and their influence on entrepreneurial intention.

From a practical standpoint, the study provides several recommendations for government, business, and higher education players. Since these are fundamental drivers of entrepreneurial intention, universities should concentrate on encouraging their student's creativity, risk-taking, and emotional resilience. Specialized programs, seminars, and mentoring chances that inspire students to investigate creative ideas and hone their entrepreneurial abilities will help them reach this goal. Those in the industry seeking entrepreneurial talent should consider assessing candidates not only for qualities like conscientiousness or agreeableness but also for attributes like inventiveness, sociability, and emotional stability, which are more closely connected to entrepreneurial success. Moreover, government ministries and agencies concentrated on education and

entrepreneurship should consider implementing policies and initiatives to give students the resources, platforms, and help required to start businesses. Such programs can provide funding for student companies, networking gatherings, or specific entrepreneurship courses designed to meet the demands of would-be business owners. Although this study offers insightful analysis, certain limitations should be admitted. First, the study's sample included just UTHM students, so the generalisability of the results was limited to other universities or areas. Although UTHM students reflect a particular cultural and educational setting, the results might not be entirely relevant to students from many backgrounds or educational institutions. A larger, more varied sample would enable a more complete knowledge of the relationship between personality traits and entrepreneurial intention among several student populations. Second, the study used a cross-sectional design—gathering information at one moment. This restricts our capacity to establish a causal relationship between entrepreneurial intention and personality traits. Longitudinal studies—which follow subjects over an extended period—would offer a more solid understanding of how these factors affect entrepreneurial intention and activities throughout time. Furthermore, future studies should guarantee more objectivity in the research methodology, such as using several researchers for data analysis or applying blind data-collecting methods to reduce possible bias. At last, the study might not have included a greater spectrum of personality tests or entrepreneurial behavior indicators due to limited resources. Including other elements that affect entrepreneurial intention, including emotional intelligence or risk tolerance, might help to provide a more holistic view of the determinants of entrepreneurial behavior.

This study offers several theoretical, methodological, and practical recommendations for future research and implementation. Future research should investigate more psychological traits that could affect entrepreneurial intention, including emotional intelligence, risk tolerance, and self-efficacy. Comprehending the interaction of these traits with the Big Five may facilitate the creation of a more comprehensive model of entrepreneurial behavior. Furthermore, future research should explore the influence of neuroticism on entrepreneurship, considering the unexpected positive correlation identified in this study. Researchers should examine if neuroticism can occasionally compel individuals to pursue control or stability via entrepreneurial activities, especially in uncertain contexts. Future studies could benefit from utilizing longitudinal or experimental approaches to elucidate the causal relationships between personality traits and entrepreneurial intention. These research designs would provide a comprehensive analysis of the evolution of these traits over time and their impact on entrepreneurial decisions at various periods of an individual's life or career. Moreover, broadening the sample to encompass students from various cultural and educational backgrounds will augment the external validity of the results and yield insights into the influence of personality factors on entrepreneurial intention across different situations. Practical and managerial advice emphasizes the application of findings by academic stakeholders, industry practitioners, and government organizations. Universities should incorporate activities and programs that promote creativity, risk-taking, and social engagement—traits that significantly correlate with entrepreneurial intention. This may encompass innovation laboratories, networking gatherings, mentorship initiatives, and entrepreneurial curricula that prioritize creative cognition and resilience. Industry professionals should acknowledge that characteristics like openness to experience and extraversion, rather than solely conscientiousness or agreeableness, may more accurately reflect entrepreneurial potential. Hiring methods may be modified to prioritize applicants exhibiting creativity, emotional resilience, and social confidence. Government agencies and relevant ministries should support entrepreneurship by offering student networking venues, financing for student-operated firms, and rules promoting entrepreneurial activities inside the educational sector. These measures would foster a more resilient entrepreneurial ecosystem and motivate students to engage in entrepreneurial ventures.

Acknowledgement

The authors would like to thank the Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, for its support.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of the paper.

Author Contribution

*The authors confirm their contribution to the paper as follows: **study conception and design:** Pang Chia Xuan; **data collection:** Pang Chia Xuan; **analysis and interpretation of results:** Pang Chia Xuan; **draft manuscript preparation:** Pang Chia Xuan; Shiau Wei Chan; Ahmad Nur Aizat Ahmad; Md Fauzi Ahmad; Fadillah Ismail; Izzuddin Zaman. The author reviewed the results and approved the final version of the manuscript.*

References

- Abdullah Khar, M., & Irfan, M. (2021). The Impact of Socioeconomic Factors on Consumer Buying Behavior: A Case of Mobile Phone Market of Pakistan. *Indian Journal of Economics and Business*, 20(4).
- Ahmad, I., & Gul, R. (2021). Impact of Online Service-Learning on Civic and Social Justice Behavior of Undergraduate Laboratory-Based Graduates.
- Ahmed, M. A., Khattak, M. S., & Anwar, M. (2022). Personality traits and entrepreneurial intention: The mediating role of risk aversion. *Journal of Public Affairs*, 22(1). <https://doi.org/10.1002/pa.2275>
- Aida, A. (2022). Helping family businesses to grow. *The Star*. <https://www.thestar.com.my/metro/metro-news/2022/11/02/helping-family-businesses-to-grow>
- Alya, R. S. (2021). Factors Influencing Entrepreneurial Intention Among Undergraduate Students in Indonesia.
- Anjum, T., Farrukh, M., Heidler, P., & Tautiva, J. A. D. (2021). Entrepreneurial intention: Creativity, entrepreneurship, and university support. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 1–13. <https://doi.org/10.3390/joitmc7010011>
- Antonicic, B. (2020). Entrepreneurship/Intrapreneurship, Personality Correlates of.
- Ariffin, A. S. (2021). Untapped Entrepreneurship Challenges: The Missing Linkages in Supporting the Growth of Grassroots Entrepreneurship in Developing Countries, 7(2).
- Arshad, A. S., Rahim, S. N. N. A., & Khan, Y. K. (2023). Determining Entrepreneurial Intention Among Undergraduate Students in Malaysia Using the Theory of Planned Behavior (TPB). *Malaysian Journal of Consumer and Family Economics*, 30, 415–431. <https://doi.org/10.60016/majcafe.v30.16>
- Asenahabi, B. M. (2019). Qualitative research, Mixed method research. *International Journal of Contemporary Applied Research*, 6(5).
- Awwad, M. S., & Al-Aseer, R. M. N. (2021). Big Five personality traits impact on entrepreneurial intention: the mediating role of entrepreneurial alertness. *Asia Pacific Journal of Innovation and Entrepreneurship*, 15(1), 87–100. <https://doi.org/10.1108/apjie-09-2020-0136>
- Bazkiaei, H. A., Heng, L. H., Khan, N. U., Saufi, R. B. A., & Kasim, R. S. R. (2020). Do entrepreneurial education and big-five personality traits predict entrepreneurial intention among universities students? *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1801217>
- Bazkiaei, H. A., Khan, N. U., Irshad, A. R., & Ahmed, A. (2021). Pathways toward entrepreneurial intention among Malaysian universities' students. *Business Process Management Journal*, 27(4), 1009–1032. <https://doi.org/10.1108/BPMJ-01-2021-0021>
- Bhandari, P. (2020, June 12). What Is Quantitative Research? Definition, Uses & Methods. <https://www.scribbr.com/methodology/quantitative-research/>
- Bilgiseven, E. B., & Kasimoğlu, M. (2019). Analysis of Factors Leading to Entrepreneurial Intention. *Procedia Computer Science*, 158, 885–890. <https://doi.org/10.1016/j.procs.2019.09.127>
- Bonsie, G., & Naruseb, ! (2023). Assessing Determinants of Social Entrepreneurial Intentions Among MBA Students In Windhoek.
- Burdeos, K., Permanes, S. R., Garcia, C., & Niño, E. (2022). Knowledge, Attitude and Practices on Solid Waste Management Among Households in the Urban Communities of Butuan City, Philippines. <https://www.researchgate.net/publication/369440389>
- Chan, S. W. & Lim, H. T. (2017). The Relationship Between Employees' Big Five Personality Dimensions and Job Satisfaction In Manufacturing Industry. *Journal of Technology Management and Business*, 4(2).
- Chhabra, S. (2020). The antecedents of entrepreneurial intention among women entrepreneurs in India/full/pdf?title=the-antecedents-of-entrepreneurial-intention-among-women-entrepreneurs-in-india
- Dovetail Editorial Team. (2023). What is pilot testing? <https://dovetail.com/research/pilot-testing/>
- Elatrachi, M., & Ouarkfi, S. (2020). Determinants of ICT Integration by Teachers in Higher Education in Morocco. *Springer Proceedings in Business and Economics*, 289–299. https://doi.org/10.1007/978-3-030-36126-6_32
- Elnadi, M., & Gheith, M. H. (2021). Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *International Journal of Management Education*, 19(1). <https://doi.org/10.1016/j.ijme.2021.100458>
- Hassan, A., Saleem, I., Anwar, I., & Hussain, S. A. (2020). Entrepreneurial intention of Indian university students: the role of opportunity recognition and entrepreneurship education. *Education and Training*, 62(7–8), 843–861. <https://doi.org/10.1108/ET-02-2020-0033>
- Hong, L. M., Sha'ari, M. A. A. H., Zulkiffli, W. F. W., Che Aziz, R., & Ismail, M. (2020). Determinant Factors That Influence Entrepreneurial Intention Among Students in Malaysia. *Jurnal Manajemen Dan Kewirausahaan*, 22(1), 80–86. <https://doi.org/10.9744/jmk.22.1.80-86>
- Hossain, M. I., Tabash, M. I., Siow, M. L., Ong, T. S., & Anagreh, S. (2023). Entrepreneurial intentions of Gen Z university students and entrepreneurial constraints in Bangladesh. *Journal of Innovation and Entrepreneurship*, 12(1). <https://doi.org/10.1186/s13731-023-00279-y>

- Jing, W. (2022). A Review Study on Entrepreneurial Intention, Educational Learning Settings, and Learning Motivation in Entrepreneurship Education. *Higher Education and Oriental Studies*, 2(4). <https://doi.org/10.54435/heos.v2i4.71>
- Juhari, H. S., Ismail, N., Roslan, S., & Zaremohzzabieh, Z. (2023). Personality traits, entrepreneurial self-efficacy, and entrepreneurial intention among vocational students. *International Journal of Evaluation and Research in Education*, 12(1), 9–14. <https://doi.org/10.11591/ijere.v12i1.23472>
- Kasim, A. N. C. (2024). Unleashing Potential and Growth of Creative Entrepreneurship in Malaysia. Thoughts. <https://www.bernama.com/en/thoughts/news.php?id=2289359>
- Kerr, S. P., Kerr, W. R., & Xu, T. (2017). Personality Traits of Entrepreneurs: A Review of Recent Literature. <http://www.nber.org/papers/w24097>
- Khan, S. N., Mubushar, M., Khan, I. U., Rehman, H. M., & Khan, S. U. (2021). The influence of personality traits on sustainability-oriented entrepreneurial intentions: the moderating role of servant leadership. *Environment, Development and Sustainability*, 23(9), 13707–13730. <https://doi.org/10.1007/s10668-021-01235-0>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities (Vol. 30).
- Kumar, C., & Gautam, A. (2020). Correlation. In *Encyclopedia of Animal Cognition and Behavior*. 1–4. Springer International Publishing. https://doi.org/10.1007/978-3-319-47829-6_214-1
- Laouti, R., Haddoud, M. Y., Nakara, W. A., & Onjewu, A. K. E. (2022). A gender-based approach to the influence of personality traits on entrepreneurial intention. *Journal of Business Research*, 142, 819–829. <https://doi.org/10.1016/j.jbusres.2022.01.018>
- Lim, K. X., & Leong, Y. C. (2023). Unemployment Challenges among Malaysian University Graduates: A Comprehensive Analysis.
- López-Núñez, M. I., Rubio-Valdehita, S., Aparicio-García, M. E., & Díaz-Ramiro, E. M. (2020). Are entrepreneurs born or made? The influence of personality. *Personality and Individual Differences*, 154. <https://doi.org/10.1016/j.paid.2019.109699>
- Lu, G., Song, Y., & Pan, B. (2021). How university entrepreneurship support affects college students' entrepreneurial intentions: An empirical analysis from China. *Sustainability (Switzerland)*, 13(6). <https://doi.org/10.3390/su13063224>
- Luc, P. T. (2022). The relationships between Big-Five personality traits and social entrepreneurship intention. *Cogent Business and Management*, 9(1). <https://doi.org/10.1080/23311975.2022.2137950>
- Malay Mail. (2023). Entrepreneur Development Ministry allocates RM5m to implement entrepreneurship programmes for graduates.
- Martínez-González, J. A., Kobylinska, U., García-Rodríguez, F. J., & Nazarko, L. (2019). Antecedents of entrepreneurial intention among young people: Model and regional evidence. *Sustainability (Switzerland)*, 11(24). <https://doi.org/10.3390/su11246993>
- Mat Nawi, F. A., Abdul Malek A.Tambi, Muhammad Faizal Samat, & Wan Masnieza Wan Mustapha. (2020). A Review on The Internal Consistency of a Scale: The Empirical Example of the Influence of Human Capital Investment on Malcom Baldrige Quality Principles in TVET Institutions. *Asian People Journal (APJ)*, 3(1), 19–29. <https://doi.org/10.37231/apj.2020.3.1.121>
- Mathushan, P., & Gamage, A. S. (2022). Big Five Personality Traits and Entrepreneurial Intention: An Empirical Evidence from Sri Lankan State Universities. *South Asian Journal of Business Insights*. 2022(2).
- Mazlina, M., Hatinah, A. B., Faizal, M. S., & Mariam, S. (2021). Personality Traits and Entrepreneurial Intention: Mediating Effect of Educational Support in Public Higher Education.
- McCombes, S. (2019). Sampling Methods: Types, Techniques & Examples. <https://www.scribbr.com/methodology/sampling-methods/>
- McCombes, S. (2021). What Is a Research Design: Types, Guide & Examples. <https://www.scribbr.com/methodology/research-design/>
- Mohan, P. S. (2022). An investigation into entrepreneurial intentions in Caribbean Small Island Developing States. *Journal of Innovation and Entrepreneurship*, 11(1). <https://doi.org/10.1186/s13731-022-00253-0>
- Neneh, B. N. (2022). Entrepreneurial passion and entrepreneurial intention: the role of social support and entrepreneurial self-efficacy. *Studies in Higher Education*, 47(3), 587–603. <https://doi.org/10.1080/03075079.2020.1770716>
- Newman, A., Obschonka, M., Moeller, J., & Chandan, G. G. (2021). Entrepreneurial Passion: A Review, Synthesis, and Agenda for Future Research. *Applied Psychology*. 70(2), 816–860. Blackwell Publishing Ltd. <https://doi.org/10.1111/apps.12236>
- Pandey, D. L., Uprety, S. K., & Risal, N. (2023). Personality traits and their impact on the social entrepreneurial intentions of management students: a test of big five personality approach. *Journal of Innovation and Entrepreneurship*, 12(1). <https://doi.org/10.1186/s13731-023-00342-8>
- Pérez-Macías, N., Gismera Tierno, L., & De Nicolas, V. L. (2023). Educational Innovation Boosting Students' Entrepreneurial Intentions. *SAGE Open*, 13(3). <https://doi.org/10.1177/21582440231196457>

- Pollak, A., Dobrowolska, M., Timofiejczuk, A., & Paliga, M. (2020). The effects of the big five personality traits on stress among robot programming students. *Sustainability (Switzerland)*, 12(12). <https://doi.org/10.3390/su12125196>
- Praneeth, W., Thesara, J., & Sarath, D. (2020). Personality Traits of Techno-Entrepreneurial Engineers in Sri Lanka.
- Qing Xuan, B. N. (2022). Factor Affecting Adoption Social Media in Business Among Young Entrepreneurs: Using the TAM Model.
- Rahman, A. A., Sahid, S., Mohd Nor, M. Y., & Mansor, A. Z. (2023). Entrepreneurial Mindset and Business Creation among Undergraduate Students in Malaysia Public University. *International Journal of Academic Research in Business and Social Sciences*, 13(3). <https://doi.org/10.6007/ijarbss/v13-i3/16427>
- Rawat, A. S. (2021). An overview of descriptive analysis. Analytics Step. <https://doi.org/https://www.analyticssteps.com/blogs/overview-descriptive-analysis>
- Şahin, F., Karadağ, H., & Tuncer, B. (2019). Big five personality traits, entrepreneurial self-efficacy and entrepreneurial intention: A configurational approach. *International Journal of Entrepreneurial Behaviour and Research*, 25(6), 1188–1211. <https://doi.org/10.1108/IJEBr-07-2018-0466>
- Sahrah, A., Guritno, P. D., Rengganis, R. P., Dewi, R. P., Saufi, R. A., & Permarupan, Y. (2023). Personality traits, individual resilience, openness to experience and young digital entrepreneurship intention. *International Journal of Data and Network Science*, 7(3), 1193–1204. <https://doi.org/10.5267/j.ijdns.2023.5.005>
- Salameh, A. A., Akhtar, H., Gul, R., Omar, A. Bin, & Hanif, S. (2022). Personality Traits and Entrepreneurial Intentions: Financial Risk-Taking as Mediator. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.927718>
- Saptadjaya, K., & Gunawan, L. (2020). The Effect of Self Efficacy and Big Five Personality Traits Towards Entrepreneurial Intention on International Business Management - International Class Students In Universitas Ciputra. *Jurnal Entrepreneur Dan Entrepreneurship*, 9(2), 69–84.
- Schlaegel, C., Engle, R. L., Richter, N. F., & Taureck, P. C. (2021). Personal factors, entrepreneurial intention, and entrepreneurial status: A multinational study in three institutional environments. *Journal of International Entrepreneurship*, 19(3), 357–398. <https://doi.org/10.1007/s10843-021-00287-7>
- Shariff, M., & Aniza, R. (2020). Entrepreneurship action plan Higher Education Institutions. Ministry of Higher Education. <http://irep.iium.edu.my/id/eprint/91895>
- Sharma, S. (2022). Personality Traits (Big Five Model) and Its Impact in Entrepreneurial Intention Among Post Graduate Management Students.
- Simplilearn. (2023). What Is Data Collection: Methods, Types, Tools. <https://www.simplilearn.com/what-is-data-collection-article>
- SÜRÜCÜ, L., & MASLAKÇI, A. (2020). Validity And Reliability in Quantitative Research. *Business & Management Studies: An International Journal*, 8(3), 2694–2726. <https://doi.org/10.15295/bmij.v8i3.1540>
- Sutiadiningsih, A., & Mahfud, T. (2023). Can the teaching factory model improve the entrepreneurial intentions of vocational high school students? *International Journal of Evaluation and Research in Education*, 12(3), 1654–1662. <https://doi.org/10.11591/ijere.v12i3.25652>
- Syuhada Musa, S. N., Abu Seman, A. S., & Hamzah, S. R. (2023). Entrepreneurial Intention among University Students in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 13(12). <https://doi.org/10.6007/ijarbss/v13-i12/20130>
- Taherdoost, H. (2021). Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects Hamed Taherdoost. Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects. *International Journal of Academic Research in Management (IJARM)*, 2021(1). <https://hal.science/hal-03741847>
- Thomas, L. (2020). Simple Random Sampling Definition, Steps & Examples. <https://www.scribbr.com/methodology/simple-random-sampling/>
- Tran, T., & Khuc, Q. (2021). Primary data. <https://osf.io/f25v7>
- Udayanganie, W. M. I., Jusoh, M., & Chinna, K. (2019). Impact of Big Five Personality Traits on Entrepreneurial Intention of Engineering Undergraduates. *Research in Business and Management*, 6(2), 35. <https://doi.org/10.5296/rbm.v6i2.15147>
- Udin, U., & Yuniawan, A. (2020). Psychological capital, personality traits of big-five, organizational citizenship behavior, and task performance: Testing their relationships. *Journal of Asian Finance, Economics and Business*, 7(9), 781–790. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.781>
- Van Khuc, Q., Le, T. A. T., Nguyen, T. H., Nong, D., Tran, B. Q., Meyfroidt, P., Tran, T., Duong, P. B., Nguyen, T. T., Tran, T., Pham, L., Leu, S., Phuong Thao, N. T., Huu-Dung, N., Dao, T. K., Hong, N. Van, Minh Nguyet, B. T., Nguyen, H. S., & Paschke, M. W. (2020). Forest cover change, households' livelihoods, trade-offs, and

- constraints associated with plantation forests in poor upland-rural landscapes: Evidence from north central Vietnam. *Forests*, 11(5). <https://doi.org/10.3390/F11050548>
- Van Khuc, Q., Phu, T. V, & Luu, P. (2020). Specifications Table Data converted into .xlsx format for formal analysis in Stata version 11.0 Data format Raw Analyzed Parameters for data collection The target population of the survey was inhabitants who live in seven out of eight suburban districts in Hanoi, including. *Data in Brief*, 33, 106414. <https://doi.org/10.17632/rbh7nksbtc.1>
- Vodă, A. I., & Florea, N. (2019). Impact of personality traits and entrepreneurship education on entrepreneurial intentions of business and engineering students. *Sustainability (Switzerland)*, 11(4). <https://doi.org/10.3390/SU11041192>
- Wang, L. Y., & Huang, J. H. (2019). Effect of entrepreneurial self-efficacy on the entrepreneurial intentions of students at a university in Hainan province in China: Taking social support as a moderator. *International Journal of Learning, Teaching and Educational Research*, 18(9), 183–200. <https://doi.org/10.26803/ijlter.18.9.10>
- Weligodapola, M., Weerathna, R. S., Hansini, K. G. K., Ravini, P. H. G. W., Sarathchandra, W. G. T. P., & Samarathunga, S. M. D. P. D. (2023). Personality traits empower entrepreneurial intention of generation Z in Sri Lanka. *Journal of Innovation and Entrepreneurship*, 12(1). <https://doi.org/10.1186/s13731-023-00349-1>
- Willott, C. (2019). Average survey response rate – What You Need to Know. CustomerThermometer. <https://www.customerthermometer.com/customer-surveys/average-survey-response-rate/>
- Yee, M. H., Yunos, J. Md., Othman, W., Hassan, R., Tee, T. K., & Mohamad, M. M. (2015). Disparity of Learning Styles and Higher Order Thinking Skills among Technical Students. *Procedia - Social and Behavioral Sciences*, 204, 143–152. <https://doi.org/10.1016/j.sbspro.2015.08.127>
- Zhang, Y., Wang, P., & Zhao, Y. (2022). Big Five Personality, Academic Entrepreneurial Motivation, and Academic Entrepreneurial Intention: A Research Method Based on Fuzzy Set Qualitative Comparative Analysis. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.799770>