

Fostering Youth Interest and Resilience in Agro-Entrepreneurship Through Value-Based TVET

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Abstract

Technical and Vocational Education and Training (TVET) plays a significant role in fostering youth interest and increasing participation in agro-entrepreneurship through a value-driven TVET MADANI approach. The focus is on integrating entrepreneurial values, strengthening human capital development, improving access to financing, and addressing resilience challenges among young agropreneurs. Case studies of the Young Agropreneur Program (*Program Agropreneur Muda - PAM*) and Agrobank initiatives are presented as key empowerment mechanisms for youth entrepreneurship. The article emphasizes the need for comprehensive policy reform, encompassing cross-sector collaboration among training institutions, financing agencies, and local communities. Accordingly, this paper proposes a policy framework that is integrated, responsive, and sustainable to strengthen agro-entrepreneurship as a new pillar for rural economic development and national food security.

Keywords: agricultural entrepreneurship, TVET MADANI, young agropreneurs, youth resilience

1. Introduction

In the era of technological transformation and economic globalization, higher education carries a broader mandate than merely producing employable graduates. The education system must cultivate individuals who are capable of creating new economic opportunities and adapting to increasingly complex labor markets. Technical and Vocational Education and Training (TVET) has emerged as a strategic approach for developing skilled, innovative, and industry-relevant human capital. TVET is no longer viewed as a secondary pathway but as a primary driver of economic growth through competency-based training aligned with current employment realities (Noordin et al., 2024).

A key dimension in the contemporary TVET landscape is the emphasis on entrepreneurship. Entrepreneurship is defined as the ability to integrate technical skills with business strategies to create value-added products or services. The TVET MADANI approach strengthens this dimension by incorporating values such as social responsibility, sustainability, and effective action into technical training. This integration between vocational education and entrepreneurship enables students to explore fields such as agrotechnology, green innovation, and digital enterprise, aligning with the national sustainable development goals (Noordin et al., 2024).

Despite its potential, the agricultural sector continues to face low youth participation rates, even though it promises good returns. Agriculture is still perceived as a traditional, low-prestige profession that lacks financial stability, which diminishes youth interest (Lai et al., 2021). The lack of early exposure and the disconnect between technical training and real-world practices further complicate the issue. Although initiatives such as AgroYouth and the Young Agropreneur Grant have been introduced, the Ministry of Agriculture's Bulletin (*Buletin Kementerian Pertanian dan Keterjaminan Makanan*) reports that the impact has yet to shift youth perceptions meaningfully (Kementerian Pertanian dan Keterjaminan Makanan, 2023).

In this context, TVET institutions play a crucial role as incubators for shaping young agropreneurs. Students are equipped not only with technical competencies such as crop management and agricultural automation, but also with skills in business innovation and management. Programs like the Talent Enhancement Programme (TEP), which embrace the "doing business while studying" concept, illustrate strong potential in producing graduates who are entrepreneurial, resilient, and ready for real-world challenges (Noordin et al., 2024; Mohamed, 2019). Thus, agriculture can be repositioned as a viable and progressive career, rather than merely a fallback option.

Aligned with the principles of Malaysia MADANI, youth entrepreneurship is expanded through a value-based approach that balances economic development with social and environmental sustainability. This approach aims to develop entrepreneurs who are not only technically competent but also ethical, socially responsible, and community-oriented. In the agricultural context, such values strengthen the vision of nurturing sustainable young agropreneurs rooted in community values.

Nonetheless, interest alone is insufficient to ensure sustainability in agro-entrepreneurship.

Student perseverance in this field is significantly influenced by early exposure, a supportive learning environment, and consistent engagement throughout the educational process (Mohamed, 2019). However, despite increasing awareness of agriculture's potential, many young people remain hesitant to pursue it as a viable career path due to perceived instability, limited market access, and lack of professional recognition. Therefore, this study seeks to critically examine how youth interest in agriculture can be strengthened through strategic entrepreneurial opportunities, value-based education, and inclusive institutional support within the TVET ecosystem.

2. Methodology

This study employed a directed literature review approach to focus the search and analysis of relevant literature based on predetermined research questions, integrating both empirical and conceptual sources in a structured manner (Paul & Criado, 2020; Snyder, 2019). This methodology was chosen because it allows the researcher to selectively review and synthesize literature that is most relevant to the research objectives, rather than attempting to capture all available studies as in a full systematic review. Such an approach is particularly suitable when the aim is to explore an emerging area of research, map key concepts, and develop a conceptual framework grounded in existing evidence while remaining adaptable to contextual needs. It also enables the integration of theoretical perspectives with practical insights, which is essential for addressing the multidimensional nature of value-based TVET (TVET MADANI). While it is not a complete systematic review, structured elements were applied to enhance transparency, minimize selection bias, and strengthen the reliability of the findings.

Data collection in this study involved retrieving secondary sources from reputable academic and institutional databases, including Scopus, Web of Science, Google Scholar, ERIC, and DOAJ, as well as local repositories such as MyJurnal, the UPM Institutional Repository, and relevant ministry reports. Keywords in both English and Malay were applied, for example: "TVET", "TVET MADANI", "agropreneur", "youth entrepreneurship", "value-based education", and "resilience". This search strategy was guided by the recommendations of Xiao and Watson (2019), who emphasize the importance of clearly defining the scope of search terms to ensure relevant literature is captured.

Sample selection was based on explicit inclusion and exclusion criteria. The inclusion criteria covered peer-reviewed journal articles, conference proceedings, official government reports, and policy documents published between 2018 and 2024, in either English or Malay, and addressing themes related to TVET, youth entrepreneurship, or agro-entrepreneurship. The exclusion criteria removed materials that discussed general entrepreneurship without a TVET or agricultural focus, or that lacked empirical evidence or conceptual relevance. The selection process was guided by the PRISMA 2020 framework (Page et al., 2021) to maintain transparency and replicability.

The literature identified was synthesized using thematic analysis, following the six-phase framework outlined by Braun and Clarke (2021). This method was selected for its flexibility and suitability in identifying and interpreting patterns within qualitative data, as well as its capacity to integrate findings from diverse sources into coherent themes. Initial codes were

generated to capture recurring concepts such as TVET MADANI values, youth engagement challenges, resilience factors, government policies, and institutional support. These codes were then reviewed, refined, and organized into broader themes aligned with the research objectives, allowing for a deeper understanding of how these elements interact within the context of youth agro-entrepreneurship. Thematic analysis was particularly valuable in this study as it provided a structured yet adaptable process to draw meaningful connections between empirical evidence and conceptual perspectives, ensuring that the resulting framework reflects both academic rigor and practical relevance.

3. The Malaysia MADANI Concept as a Foundation for Value-Based Entrepreneurship Development

Malaysia MADANI is a national development framework introduced by the 10th Prime Minister, Datuk Seri Anwar Ibrahim, in January 2023. It is designed as a holistic approach that balances economic growth, social justice, and humanistic values through the internalization of six core pillars: Sustainability (*keMampanan*), Well-being (*kesejAhteraan*), Innovation (*Daya Cipta*), Respect (*hormAt*), Confidence (*keyakiNan*), and Compassion (*Ihsan*). These values emphasize the development of a society that is progressive in both material and spiritual dimensions, and committed to ethical conduct in all aspects of life (Nik Anis et al., 2023). The MADANI vision places a strong emphasis on empowering grassroots communities through inclusive and value-driven policies.

From an economic standpoint, the MADANI Economic Framework (*Ekonomi MADANI*), launched in July 2023, outlines a new direction to position Malaysia among the world's top 30 economies (Kementerian Kewangan Malaysia, 2023). Key priorities include enhancing female workforce participation, increasing employee compensation to 45% of GDP, and supporting small and medium-sized enterprises. This strategy also emphasizes the enhancement of productivity, development of entrepreneurship, and the strengthening of social safety nets as pillars of equitable and sustainable economic growth (Kementerian Kewangan Malaysia, 2023). It reflects the government's commitment to grounding national development, including education and skills training, in strong ethical values.

Aligned with these aspirations, the Economic Outlook 2024 emphasizes the importance of sustained investment in developing a highly skilled workforce as a foundation for long-term economic sustainability. In this context, TVET MADANI emerges as a key driver, integrating technical training with the formation of ethical and social values. TVET graduates are not only prepared to become skilled workers, but are also expected to become responsible job creators who contribute to community well-being. Therefore, entrepreneurship education within TVET should not be viewed as a supplementary component, but rather should be mainstreamed as a national development strategy (Unit Perancang Ekonomi, 2023).

Furthermore, the MADANI approach introduces a new interpretation of entrepreneurship, framed through the lens of social responsibility and sustainability. MADANI entrepreneurship refers to business practices rooted in integrity, concern for societal and environmental well-being, and a commitment to creating positive change. A MADANI entrepreneur not only generates profit but also strengthens the social fabric and community values. This perspective

is highly relevant for integration into TVET entrepreneurship programs, so that students cultivate ethical business mindsets from the outset of their training.

As a manifestation of MADANI values in economic empowerment, initiatives such as the MADANI Micro Programme were introduced to expand financial access for microenterprises, especially among rural youth and the B40 income group. Beyond providing financial aid, these initiatives aim to enhance entrepreneurial resilience through inclusive and value-added support. Such models should serve as reference points for agropreneurship development in TVET, as they represent a comprehensive entrepreneurial foundation—grounded not only in technical competencies, but also in social ethics and values (SME Asia, 2023).

Accordingly, before designing targeted strategies to advance entrepreneurship through TVET, it is crucial to understand the policy context in which such efforts are situated. TVET MADANI operates within an educational ecosystem that demands technical training not only to respond to industry needs but also to shape well-rounded individuals with skills, ethics, and a sense of patriotism. Thus, TVET must be positioned not merely as a platform for workforce preparation but as a vital instrument for human capital development and national progress rooted in MADANI values.

4. The Role of TVET in Human Capital Development

TVET stands as a strategic foundation in the national development agenda, particularly in nurturing highly skilled human capital that aligns with the demands of a digital and industrialized economy. In line with the shift towards a knowledge-based economy, a competent, flexible, and responsive workforce is increasingly vital. Baharodin et al. (2025) emphasize that TVET is no longer just a platform for technical training but also plays a critical role as a catalyst for social transformation, thereby reinforcing national competitiveness.

The Malaysian TVET system has undergone significant evolution, from the colonial era to the current phase of Industry 5.0. This transformation encompasses multiple major phases, each aligned with national policy shifts and global industrial demands. The latest phase integrates cutting-edge technologies, including the Internet of Things (IoT), artificial intelligence, and data analytics, into TVET curricula. Policies such as Industry 4.0 and Community Education 5.0 have steered TVET toward a more future-oriented and humanistic direction. Institutions like Community Colleges and Polytechnics play pivotal roles in realizing this vision through training delivery that merges technological competence with ethical values.

However, TVET policy implementation continues to face structural and perceptual challenges. Policy misalignment and overlapping roles among executing agencies compromise system efficiency, while societal stigma persists in viewing TVET as a secondary pathway (Hamid et al., 2023). Ridzuan and Rahman (2022) advocate for comprehensive policy reform, including governance restructuring and the establishment of a more integrated accreditation mechanism among government bodies, industries, and training institutions. Such reforms are crucial to enhancing both the attractiveness and the long-term effectiveness of the TVET system.

Graduate employability remains a pressing issue that warrants immediate attention. There is often a mismatch between graduate competencies and actual industry needs, particularly in soft

skills such as communication and problem-solving. As such, closer collaboration between TVET institutions and industry is essential to ensure that curricula are more aligned with labor market expectations. Active participation of industry players in the design and delivery of training programs will enhance both the relevance and impact of technical education.

Several initiatives have been introduced to bridge this gap. For instance, some institutional models integrate academic learning, practical training, professional skills, and industry collaboration within a unified framework. As a result, a high proportion of academic programs in such models are aligned with labor market demands, thereby improving graduate flexibility and competitiveness. This approach should be scaled up across all TVET institutions to ensure a more uniform level of achievement across the system.

In the sphere of student entrepreneurship, TVET institutions are also tasked with developing creative and resilient learners. Limitations in curriculum design and support systems can constrain the effectiveness of existing entrepreneurship education. An integrated approach that combines the potential of technological fields with behavioral science theories can produce students who are not only technically skilled but also innovative and adaptable in facing entrepreneurial challenges.

Student personality traits have a significant influence on success in TVET. The study by Ahmad et al. (2022) reveals that assessing generic skills such as self-efficacy and career inclination helps to design targeted and holistic student development interventions. This underlines the importance of incorporating psychosocial elements into TVET education, beyond purely technical training.

Furthermore, the implementation of the TVET policy requires a results-based approach. Despite numerous strategies being outlined, Ridzuan and Rahman (2022) report that misalignment among implementing agencies and limited resource capacity remain major obstacles. Therefore, performance-based implementation guided by reliable data and transparent monitoring systems must be prioritized to ensure sustained policy effectiveness.

Finally, sustainability within the TVET system deserves serious attention. Rus et al. (2023) identify rigid curriculum structures, inadequate responsiveness to current needs, skill mismatches, and insufficient industry involvement as root causes of low graduate employability. Thus, regular curriculum reviews and strengthened strategic partnerships with industry and communities should become a permanent culture in TVET systems to ensure continued relevance and impact.

5. Entrepreneurship in the Context of TVET MADANI

TVET MADANI is a critical component in the implementation of the MADANI Economic Framework, which prioritizes the economic empowerment of the people through value-based education, skill development, and societal well-being. In this context, entrepreneurship is no longer seen as a supplementary element in the curriculum but is instead positioned as a central pillar for developing learners who are capable of becoming job creators. The National TVET Policy 2030 emphasizes the importance of strengthening technical training by developing comprehensive entrepreneurial thinking (Sekretariat Majelis TVET Negara, 2024). The

principle of “raising the floor and raising the ceiling” emphasizes inclusive youth participation and the creation of career pathways in high-impact sectors such as technology, renewable energy, and the digital economy.

However, the implementation of entrepreneurship education in TVET institutions continues to face challenges. Norffadhillah and Rohana (2024) point out that peer influence often outweighs formal mentoring, suggesting the need for active, experiential learning approaches that mirror real-world situations. Furthermore, the entrepreneurial mindset among TVET students remains at a moderate level, indicating a need for improvements in teaching strategies and curriculum delivery (Dahalan et al., 2018; Azmi & Zakaria, 2023). Action learning and authentic real-world integration must be strengthened to enable students to gain meaningful and practical experiences.

In alignment with the aspiration to develop holistic learners, approaches such as the Holistik-E model proposed by Mohamad et al. (2019), which incorporates spiritual elements into intrinsic motivation, have demonstrated positive effects in cultivating entrepreneurial identity. At the implementation level, initiatives such as the Academy in Factory (AiF) and the National Dual Training System (SLDN) provide effective real-world learning environments. However, complementary elements such as character development, social impact assessment, and risk management should also be integrated into entrepreneurial training through structured educational frameworks to ensure long-term sustainability and relevance.

In an increasingly complex global environment, TVET entrepreneurship must evolve into a more relevant conceptual framework. Mohamed Nor and Ismail (2024), along with Cascio (2020), propose that the VUCA model should be replaced by the BANI framework, which better reflects the post-pandemic uncertainty characterized by fragility, anxiety, non-linearity, and incomprehensibility. Therefore, entrepreneurship training systems should place greater emphasis on mental resilience, adaptability in problem-solving, and technological mastery as strategic components in preparing students to navigate challenging realities.

Ultimately, entrepreneurship within the context of TVET MADANI should not merely be viewed as an alternative to salaried employment but as a strategic mechanism for nurturing a generation of innovative, ethical, and value-conscious youth. The integration of MADANI values, sustainable development philosophy, and pragmatic thinking into technical education has the potential to produce young entrepreneurs who are not only economically successful but also committed to social and environmental responsibility. This approach supports the government’s broader vision of building an inclusive, just, and sustainable society.

6. Factors Influencing Youth Engagement in Agro-Entrepreneurship

Encouraging youth involvement in commercial agriculture remains a strategic priority in revitalizing the sector. Although farming offers strong economic prospects, young people often perceive it as traditional, unstable, and lacking prestige. Bureaucratic hurdles, limited access to financing, and insufficient technical support further deter their interest. Consequently, the potential for youth-driven innovation in shaping modern agro-ecosystems remains unrealized. Identifying these critical drivers is therefore essential for fostering sustainable youth

participation in the sector.

A major motivating factor is exposure to smart agriculture technologies, which align with the principles of Industry 4.0. Innovations such as vertical farming, IoT-based monitoring systems, and artificial intelligence heighten the appeal of agriculture by framing it as a modern science and technology sector. These technologies also address labor shortages and shrinking arable land due to urbanization. However, adoption among rural youth remains limited due to infrastructure constraints and cultural barriers (Munadi, 2020). Comprehensive infrastructure enhancements and institutional support are thus required to boost efficiency and youth confidence in agriculture.

Psychosocial and social-environmental factors also play a significant role in youth decisions to engage in agro-entrepreneurship. Support from family, local communities, and educational institutions can bolster motivation and interest. Meanwhile, personal traits such as self-efficacy, risk-taking propensity, and social-mindedness form the foundation of entrepreneurial intent (Ahmad et al., 2022; Halawa, 2024). Youth development programs must therefore integrate personal development alongside sustained environmental support.

TVET institutions play a pivotal role in shaping young agropreneurs through curricula that combine technical training, entrepreneurial skills, and the application of modern technology. Collaboration among educational institutions, industry, and relevant agencies ensures that training remains relevant and directly applicable in real-world settings. Experiential learning further enhances graduate employability and their ability to manage agro-projects independently. Moreover, integrating technology into training equips students with industry-aligned competencies that meet evolving market demands.

Despite these advances, young agropreneurs continue to confront structural challenges such as financing constraints, administrative red tape, and market volatility. Their resilience often depends on internal motivation and the effectiveness of socio-economic support systems (Sudarwati et al., 2024). Hence, agropreneurship policies must be adaptive and responsive to environmental changes, while considering market realities and individual readiness. Such policies will foster agropreneurs who are both competent and resilient.

In response, the government has introduced initiatives including digital marketing platforms, agro-grants, and youth skills development programs. These efforts can significantly increase youth participation if complemented by infrastructure investments in logistics and internet access (Hamid et al., 2023). Integrating physical and digital infrastructure should be a priority to fully realize the potential of modern agriculture among youth.

In the Society 5.0 era, agricultural extension officers should act as innovation agents and technology enablers. Reskilling and professional development for these officers will enable them to deliver more interactive and strategic support (Ridzuan & Rahman, 2022). Strengthening this role will facilitate broader adoption of modern agricultural technologies among young practitioners, raising agriculture's profile as a competitive and attractive profession.

Clearly defined career aspirations and entrepreneurial intent are also crucial drivers of youth

engagement in the agricultural sector. Studies reveal a gap between interest and actual participation, even when entrepreneurial intent is moderately high (Sudin et al., 2024; Ahmad et al., 2022). This gap can be bridged through holistic youth development interventions, including psychosocial support, career visioning, and exposure to real market environments. Structured mentorship can help students develop more resilient career pathways.

Finally, cooperatives and farmers' associations serve as vital platforms for mentoring young agropreneurs. Their roles as providers of technical knowledge, facilitators of incentives, and catalysts for innovation position them as key stakeholders in the agroecosystem. Strengthening their governance and professionalism would enhance their impact (Rus et al., 2023). Through close collaboration between TVET institutions, cooperatives, and government agencies, the agricultural sector can be modernized in a deeply sustainable manner.

7. Challenges and Resilience of Youth Agro-Entrepreneurs

Youth agro-entrepreneurship serves as a strategic pillar in strengthening rural development, enhancing national food security, and creating new employment opportunities. However, the sustainability of young agropreneurs is hindered by a range of challenges, including structural policy inefficiencies, market volatility, and psychosocial pressures. Research indicates that resilience in this sector is not solely determined by technical capacity or capital sufficiency, but is also critically influenced by equitable access to financing, an inclusive support ecosystem, and the ability to adapt to an increasingly uncertain market landscape (Sudin et al., 2024).

This section examines these challenges by analyzing the case of the Young Agropreneur Program (*Program Agropreneur Muda* - PAM), focusing on issues such as financing access, the roles of training institutions, and existing research gaps. It underscores the necessity of robust, responsive, and value-driven support mechanisms to empower youth in navigating the complexities of agro-entrepreneurship. Understanding these multidimensional factors is essential for developing more effective policies and institutional frameworks that foster both resilience and long-term sustainability among young agropreneurs.

7.1 Case Study: PAM

Administered by the Ministry of Agriculture and Food Security (*Kementerian Pertanian dan Keterjaminan Makanan*, 2024), PAM is a flagship initiative designed to attract young people to engage in modern agricultural ventures. Targeting individuals aged between 18 and 45, the program offers Start-Up Grants of up to RM30,000 for upstream projects and RM20,000 for downstream projects, alongside Scale-Up Grants of up to RM50,000 to support the acquisition of agro-technology. Beyond financing, PAM provides technical training and structured mentorship, supported by key agencies such as the Department of Agriculture, the *Lembaga Pemasaran Pertanian Persekutuan* (Federal Agricultural Marketing Authority – FAMA), and the *Lembaga Pertubuhan Peladang* (Farmers' Organization Authority – LPP). This comprehensive approach not only facilitates youth entry into the agricultural sector but also fosters innovation and access to market networks. As such, PAM serves as a targeted policy model that supports the continuous development of entrepreneurs capable of sustaining long-term success and self-reliance.

7.2 Structural and Psychosocial Challenges Faced by Young Agropreneurs

Despite the implementation of various initiatives, young agropreneurs continue to struggle with several key challenges. These include bureaucratic constraints, complex procedures for aid applications, limited access to financing, and volatility in commodity prices (Sudin et al., 2024). Furthermore, agriculture is often perceived as a less stable and prestigious career compared to other options that promise more consistent returns (Amaran & Hamzah, 2021). This negative perception significantly affects the motivation and willingness of youth to remain in the sector, making it challenging to sustain active participation and increasing the risk of early dropout. Therefore, systematic intervention measures are necessary to address the psychosocial barriers that limit the resilience of young agropreneurs.

7.3 Protective Factors and Traits of Resilient Agropreneurs

The resilience of young agropreneurs can be strengthened through a combination of internal and external protective factors that complement each other. Support networks comprising government agencies, NGOs, cooperatives, and local communities play a vital role in providing training, technology transfer, and market information (Baharodin et al., 2025). At the individual level, traits such as risk-taking willingness, flexibility, emotional resilience, and a learning mindset derived from failure are key characteristics of successful entrepreneurs (Amaran & Hamzah, 2021). In addition, organizations like Institut Keusahawanan Negara (INSKEN) have proven effective in developing entrepreneurial competencies through industry-based programs. For instance, the "Jom Jumpa Protege" program, an initiative of the National Entrepreneurship Institute (INSKEN), has shown measurable results in increasing sales and transforming businesses from micro to SME status, demonstrating the impact of targeted training initiatives (INSKEN, 2024; Bernama, 2025).

7.4 Access to Financing and the Role of Agrobank

Accessible and appropriately tailored financing is a crucial component in ensuring the sustainability of youth-led businesses. Agrobank offers various financing schemes, including working capital, machinery acquisition, and integrated crop cultivation, with flexible loan structures. The special Agropreneur Muda program offers collateral-free loans with competitive interest rates and repayment schedules tailored to the harvest seasons (Nadia Razak, 2024). This initiative extends beyond financial aid by also providing technical advisory services to ensure the optimal use of funds. Such an approach helps reduce dependence on one-off grants and builds a stronger financial foundation for young agropreneurs.

7.5 Research Gaps and the Role of Training Institutions

Despite the implementation of various policies and programs, significant research gaps remain concerning the resilience of young agropreneurs. Sudin et al. (2024) emphasize the need for in-depth studies that consider regional variations, agricultural sub-sectors, and the social backgrounds of youth. Ahmad et al. (2023) advocate for a focus on challenges in rural digital entrepreneurship, while Efendee and Othman (2019) call for greater emphasis on market guidance and technical skills for students interested in agropreneurship. In this regard, institutions such as Industrial Training Institutes (ILPs) should take a more proactive role in

integrating technical and entrepreneurial training based on actual industry demands (Majid & Ahmad, 2021). The use of business simulations, early exposure to smart technologies, and project-based learning can enhance students' readiness to become competent agropreneurs.

8. Career Interest and Aspirations Among TVET Students

Career interest and aspirations among Technical and Vocational Education and Training (TVET) students play a crucial role in developing a skilled workforce ready to face contemporary economic challenges. TVET is not merely about producing technically competent workers but also serves to shape students' identities through the mastery of soft skills, entrepreneurial values, and career planning based on individual potential. Despite various policies aimed at strengthening the TVET ecosystem, there remains a significant gap between the training received and labor market demands (Sudin et al., 2024). Hence, understanding the factors that influence students' interests and aspirations is vital to ensuring the relevance and impact of career development strategies.

Previous studies indicate that early interest in a particular field significantly influences students' career trajectories. For example, Amaran and Hamzah (2021) reported that automotive technology students displayed strong career intentions when their interests aligned with their field of study. Baharodin et al. (2025) emphasized that career interest is closely tied to self-efficacy, or one's confidence in making suitable career choices. In the entrepreneurial context, students demonstrated moderately high aspirations, though exposure to technologies and digital platforms such as e-commerce still needs further enhancement. Expanding access to such technologies may stimulate the imagination of students toward new career paths.

In addition to interest, spiritual values are also recognized as essential in shaping balanced and ethical careers. Ahmad et al. (2023) emphasized that elements such as intention, perseverance, patience, reliance on divine support (tawakal), and prayer should be integrated into career planning to ensure not only economic but also spiritual well-being. Value-based education fosters graduates who excel professionally while also possessing integrity and a strong sense of social responsibility. Aspirations grounded in values position TVET as a holistic platform for human capital development.

External factors such as social media usage, creativity, and resilience also significantly influence students' inclinations toward entrepreneurship. Majid and Ahmad (2021) found that higher creativity levels and adaptability to challenges were associated with a greater likelihood of venturing into business. Additionally, Efendee and Othman (2019) reported a positive relationship between entrepreneurial attitudes and the intention to pursue entrepreneurship as a career, highlighting the need for structured guidance in entrepreneurial education. Therefore, the TVET curriculum must integrate active learning strategies and real-world exposure to align more closely with student aspirations.

Modern media, especially platforms like YouTube, have emerged as a new factor shaping career aspirations, particularly among post-secondary students. Ahmad et al. (2022) revealed a growing interest in becoming YouTubers, driven by perceptions of freedom, creativity, and lucrative income. While this career path may appear trendy and appealing, ethical guidance

from educational institutions is essential to ensure that the content produced has social value and benefits the community. Consequently, the ability to distinguish between digital popularity and societal values must be cultivated among students.

Meanwhile, the dilemma of choosing between further education and entering the workforce is increasingly pronounced. Haron and Sumeri (2024) noted that family economic conditions, peer influence, and the rise of influencer culture contribute to the trend of students opting to work early. This trend raises concerns about long-term human capital development. Therefore, targeted intervention strategies such as scholarship schemes, career counselling, and early exposure to academic and entrepreneurial pathways must be strengthened.

Self-confidence in entrepreneurial abilities also plays a crucial role in shaping career actions. Evidence from various TVET initiatives shows that well-designed entrepreneurship courses can significantly boost students' confidence and equip them with the knowledge needed to start a business. Exposure to comprehensive and relevant entrepreneurship modules helps build foundational skills and fosters the courage to engage actively in the business sector. Strengthening entrepreneurship education within TVET is therefore an urgent need aligned with current economic demands.

In conclusion, TVET students' career aspirations are influenced by a combination of internal and external factors such as personal interest, spiritual values, digital exposure, self-confidence, and social influence. To nurture competitive and resilient graduates prepared for future careers, career development approaches must be holistic and interdisciplinary. The alignment of educational institutions, career counsellors, and policymakers is essential to position TVET as the premier platform for building realistic, sustainable, and visionary career pathways.

9. Policy Recommendations and Study Implications

This study highlights the need for a more strategic and forward-looking alignment between the TVET system and agro-entrepreneurship. While initiatives like PAM have delivered grants, technical training, and mentoring, they are not yet fully integrated into TVET curricula and vocational training objectives. Moreover, long-term impact monitoring of agropreneur career trajectories remains underdeveloped. Therefore, stronger synergy between agro-entrepreneurial policies and the technical education system is necessary for relevance and sustainability.

9.1 Curriculum Integration

TVET syllabi should be updated to include modules on agri-technology, automation, mechanization, and digital marketing, reflecting the modern agricultural industry's needs. Aligning these modules with PAM will give students early exposure and practical insights into agricultural entrepreneurship.

9.2 Structured Mentorship

Agencies like LPP, the Department of Agriculture, FAMA, and the *Lembaga Kemajuan Ikan Malaysia* (Fisheries Development Authority of Malaysia – LKIM) should develop structured, phased mentorship models to guide agropreneurs beyond grant disbursement.

9.3 Impact Monitoring

Introduce key performance indicators (KPIs) and impact-tracking systems to evaluate the effectiveness and resilience of agropreneur projects post-intervention.

9.4 Alumni Network Development

Establish an Agropreneur Muda alumni community as a professional network for knowledge sharing, resource access, market linkages, and ongoing inspiration.

9.5 Sustainable Agropreneur Policy

Develop a Sustainable Agropreneur Policy that mainstreams Green TVET principles and inclusive sustainability, in line with the findings of Sudin et al. (2024) on high sustainability awareness but gaps in attitudes and gender sensitivity among students.

9.6 TVET Capability Framework

Adopt the TVET Capability Framework (Amaran & Hamzah, 2021) to guide curriculum reforms, including the expansion of work-based learning (WBL) as per RMK 11. Leadership capacity must also be strengthened, in line with Baharodin et al. (2025) regarding ongoing staff professional development.

9.7 Psychosocial Student Support

Expand psychosocial interventions using modules like CBT and Tazkiyah al-Nafs (Ahmad et al., 2023) and behavioural programs (Efendee & Othman, 2019) to support students' emotional and spiritual resilience. Digital leadership in schools and ICT training should be prioritized to promote cross-agency innovation (Majid & Ahmad, 2021), and access equity should be enhanced in alignment with SDG 4 (Ahmad et al., 2022).

9.8 Strengthen Financial Partnerships

Encourage deeper collaboration between TVET institutions and Agrobank, enabling exposure to loan processes, ethical financial management, and business planning. Agrobank's programs, like collateral-free loans for agropreneurs and flexible repayment tied to production cycles, support alignment between training and financing (Razak, 2024). These recommendations support the National Entrepreneurship Policy 2030 (*Dasar Keusahawanan Nasional 2030 – DKN 2030*), which advocates for strengthening entrepreneurial human capital, mainstreaming entrepreneurial training, and boosting inclusive access to financing (Kementerian Pembangunan Usahawan, 2019). Through a holistic and integrated implementation, the TVET system can become a catalyst for cultivating innovative and resilient young agropreneurs who contribute significantly to rural socio-economic development and national food security.

10. Conclusion

Overall, this study has comprehensively examined various key dimensions that contribute to the success of youth engagement in agro-entrepreneurship. The discussion has encompassed the strategic role of TVET in human capital development, the empowerment of value-based

entrepreneurship within the framework of TVET MADANI, the multidimensional enabling and constraining factors, as well as students' career aspirations in the context of modern agriculture. The findings underscore the need for holistic support for youth in this sector, spanning technical, psychosocial, and cross-sectoral policy approaches.

These insights highlight the necessity for a youth agropreneurship development model that is responsive, synergistic, and adaptive to global shifts in technology and society. The integration of technical training with entrepreneurial values, exposure to smart agriculture technologies, and sustainability-oriented policies forms the foundation for producing resilient and self-sufficient young agropreneurs. In this regard, TVET plays a role not only as a provider of skills but also as a platform for cultivating leadership, innovation, and business ethics.

Furthermore, the study shows that a value- and sustainability-based approach can cultivate modern farmers who are not solely reliant on external incentives but instead possess inner resilience, strategic thinking, and a deep understanding of market dynamics. Strengthening financial ecosystems such as Agrobank and implementing structured mentor-mentee programs are essential for ensuring a smooth transition from student to entrepreneur, reducing dependency on short-term government assistance.

With robust cross-sectoral policies and strategic collaboration among educational institutions, industry players, and financial agencies, Malaysia is well-positioned to develop a generation of competent, competitive, and ethical young agropreneurs. This initiative not only contributes to reducing youth unemployment and promoting rural development but also plays a crucial role in ensuring the long-term sustainability of national food security. Future research should further explore the empirical validation of the proposed framework across different TVET institutions and agricultural sectors to better understand its long-term impact on youth agropreneurship development.

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