

Bridging Digital Divide: Assistive Technology Adaptation and Success Factors among Visually Impaired Entrepreneurs in Malaysia

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ABSTRACT

Entrepreneurship serves as a vital pathway for visually impaired individuals in Malaysia to achieve financial independence, social inclusion, and economic self-sufficiency. However, these entrepreneurs face significant structural and societal challenges that hinder their business participation and growth. This study explores the key success factors and technology adaptation strategies influencing the entrepreneurial journeys of visually impaired individuals in Malaysia, with a focus on their lived experiences. Employing a qualitative, phenomenological case study approach, the research investigates how these entrepreneurs navigate the business environment, overcome barriers, and sustain their ventures. Purposive sampling was used to select 22 visually impaired entrepreneurs from five distinct geographical zones in Malaysia. Primary data collection was conducted using semi-structured in-depth interviews and focus group discussions, followed by reflexive thematic analysis supported systematically by NVivo software. Guided by Social Identity Theory, the findings reveal that primary motivations include the pursuit of financial autonomy, the need to exceed workplace exclusion, and a desire to challenge societal norms. Despite persistent challenges ranging from societal stigma and limited funding to digital literacy constraints, the participants demonstrate notable resilience and adaptability. The study underscores the critical role of support networks (family, community, NGOs, and government) and offers policy recommendations to foster a more inclusive and equitable entrepreneurial ecosystem.

Keywords— Assistive technology, Digital transition, Inclusive entrepreneurship, Malaysia, Social identity theory, Visually impaired entrepreneurs

INTRODUCTION

A. Background of the Study

Entrepreneurship for Persons with Disabilities (PWDs) goes beyond being just an economic attempt; it serves as a powerful means of empowerment and social inclusion. Globally, entrepreneurship is increasingly recognized as a critical pathway for disabled individuals to achieve autonomy, overcome systemic employment barriers, and contribute actively to economic development [12]. In many countries, such as Australia and the United Kingdom, disabled entrepreneurs are supported through specialized programs yet still face substantial structural challenges, including access to capital, business networks, and societal recognition [13]. For visually impaired entrepreneurs in Malaysia, however, it represents a profound path to empowerment, self-confidence, and a transformative means to achieve self-reliance in a visually dominated marketplace [1].

To address these barriers, the Malaysian government has introduced various programs, such as the Leadership Entrepreneurship Acceleration and Development League (SAYLEAD), aimed at bolstering PWDs in business [10]. Additionally, policy-driven institutions like the Jabatan Kebajikan Masyarakat (JKM) provide monthly financial assistance schemes to support their basic livelihoods [8]. However, despite these efforts, visually impaired entrepreneurs encounter distinct, specialized obstacles that hinder their full participation in traditional employment, forcing them to navigate and adapt to severe technological and marketplace challenges to secure business survival [11].

B. Problem Statement

While entrepreneurship is a key driver of economic growth and innovation, visually impaired individuals encounter immense structural and behavioral challenges in starting and sustaining businesses in Malaysia. The modern business environment is increasingly visually oriented, yet existing training programs and digital infrastructures remain largely inaccessible, creating a severe digital divide [6]. Furthermore, credit-granting institutions often categorize visually impaired individuals as high-risk borrowers, leading to severe financial exclusion and a reliance on informal personal networks [9].

Moreover, national policy frameworks, such as the National Entrepreneurship Policy (NEP) 2019, do not fully incorporate accessible or disability-specific provisions, leaving a critical gap in institutional support [1]. This lack of research on adaptive strategies and success factors, especially in developing economies like Malaysia, restricts our understanding of how visually impaired entrepreneurs can build sustainable ventures. Consequently, there is an urgent need to explore the lived experiences and specific coping mechanisms of these business owners to inform more inclusive policies [8].

C. Research Objectives

Specifically, this study aims to address the following objectives:

1. To explore the primary motivations driving visually impaired entrepreneurs to start and sustain their ventures [8].
2. To identify the major challenges visually impaired entrepreneurs face in their business operations in Malaysia [1].
3. To discover the strategic adaptations and technological coping mechanisms employed to achieve operational autonomy [9].
4. To understand the external support structures in facilitating long-term business sustainability [10].

D. Novelty of the Study

This study presents several key dimensions of academic and practical novelty. While past literature on disabled entrepreneurship has predominantly focused on general physical and cognitive impairments within developed Western economies, this paper explicitly addresses visual impairment within the specific socioeconomic and policy framework of Malaysia [1], [13]. Importantly, this research directly integrates the critical theme of technology adaptation [5], analyzing how visually impaired individuals navigate and embrace digital transformation to run autonomous ventures in a highly visual era.

To establish this novelty, this study is grounded in and supported by at least five highly recent, high-impact journal publications spanning 2024 to 2026. First, Teo et al. [4] (2025) highlighted the critical failure to integrate visually impaired persons into mainstream employment in Malaysia, validating why entrepreneurship operates as an essential survival mechanism rather than a mere choice. Second, the recent conceptual work of Rahim et al. [1] (2025) framed the unique entrepreneurial struggles of blind business owners, noting the severe lack of empirical, qualitative inquiries in Southeast Asia. Third, a recent bibliometric analysis by Rahim and Abdullah [2] (2026) revealed that research on disabled entrepreneurship

in developing countries remains highly fragmented, with virtually no papers bridging empirical case study data with rigorous theoretical frameworks.

Fourth, the recent research of Dakung et al. [5] (2025) redefined disability entrepreneurship through the lens of technology adaptation, demonstrating how assistive technology can remove pedagogical and structural barriers in modern business. Fifth, Chauhan [7] (2025) demonstrated that financial literacy and technological accessibility function as combined pillars of economic empowerment among visually impaired micro-entrepreneurs. Finally, the empirical study by Ngah et al. [8] (2024) underscored how positive self-perceptions and digital competencies act as mediators for business sustainability. By synthesising these highly recent contributions, this study is uniquely positioned to bridge the theoretical gaps in Social Identity Theory and digital accessibility within developing nations.

LITERATURE REVIEW

A. Visual Impairment and Assistive Technology

Visual impairment comprises various categories of vision loss, ranging from low vision to total blindness, each presenting unique challenges for daily functional activities. Assistive Technology (AT), such as screen readers (JAWS, TalkBack, VoiceOver) and voice-activated tools, serves as a vital enabler that restores operational autonomy [5]. Research shows that AT allows visually impaired entrepreneurs to bypass visual interfaces, enabling them to perform data entry, financial management, and communication independently [9].

B. Entrepreneurial Motivations and Barriers

Visually impaired individuals are driven to entrepreneurship by a combination of necessity-driven and opportunity-driven factors. Necessity-driven motivation is primarily rooted in conventional labor market exclusion, discriminatory recruitment practices, and negative employer biases [4]. Opportunity-driven factors include the pursuit of financial autonomy, a passion for self-determination, and a desire to challenge deep-seated societal stereotypes [14]. Conversely, their ventures are constrained by severe barriers, including social stigma, limited capital, digital skills gaps, and physical mobility isolation [15].

C. Theoretical Framework: Social Identity Theory

This study is theoretically guided by Social Identity Theory (SIT), developed by Tajfel and Turner [18]. SIT suggests that individuals derive a significant portion of their self-concept from membership in social groups, leading to in-group and out-group dynamics. Visually impaired entrepreneurs navigate a complex dual-identity: their identity as disabled individuals (often perceived as dependent) and their professional identity as autonomous business owners [14]. This dual identification shapes how they assert their competence, overcome market biases, and build marketplace legitimacy.

RESEARCH METHODOLOGY

A. Research Design and Sampling

To explore the rich lived experiences of visually impaired entrepreneurs, this study adopted a qualitative phenomenological case study design, rooted in the interpretivist paradigm [20]. Phenomenological inquiry seeks to capture the 'essence' of a phenomenon based on the subjective perspectives of the participants [19]. Purposive sampling was employed to recruit 22 active visually impaired entrepreneurs across five regional zones in Malaysia: Central (Kuala Lumpur), Southern (Melaka), Northern (Kedah), East Coast (Terengganu), and East Malaysia (Sarawak). This regional distribution ensured a comprehensive representation of diverse economic, cultural, and local support environments [1].

B. Data Collection and Analysis Framework

Primary data was gathered through a combination of in-depth semi-structured interviews and Focus Group Discussions (FGDs) to ensure data triangulation and credibility [20]. To handle the qualitative dataset systematically, the researcher utilized NVivo software to manage, code, and map the transcripts [19]. The analysis followed Braun and Clarke's [19] six-phase reflexive thematic analysis framework, allowing key themes and patterns—such as specific technology adaptations, challenges, motivations, and support systems to emerge inductively from the transcripts.

C. Ethical Considerations

Given the sensory impairments of the participants, strict ethical protocols were established. Information sheets and informed consent forms were read aloud verbatim to each respondent to ensure complete comprehension prior to obtaining assisted verbal and written consent. To maintain strict participant confidentiality, all personal data was anonymized, and each participant was assigned a unique code (pseudonyms B1 through B22) [1].

RESULT AND DISCUSSION

A. Motivations: Reclaiming Autonomy and Challenging Stigma

The empirical findings reveal that visual impairment serves as a catalyst for developing immense self-reliance. Visually impaired individuals are heavily motivated to enter business by the desire for financial autonomy and the need to overcome severe workplace discrimination.

In [4], Teo et al. stated that severe labor market exclusion and structural hiring biases in Malaysia systematically push visually impaired individuals away from traditional employment and toward self-employment as a necessary survival mechanism. This is highly consistent with our empirical results, where participant B19 stated: 'The motivation to work here as a Braille Editor, first and foremost, is the need to improve our own economy and find a stable income.' Additionally, in [1], Rahim et al. stated that visually impaired individuals frequently utilize entrepreneurship to reclaim their economic identity and provide for their families. This is reflected in the statement of B1, who asserted: 'I am determined within myself to escape from the cocoon of poverty.' To support this, a similar finding was documented by Vader et al. [17], who demonstrated that self-employment is a highly empowering and practical pathway that grants blind business owners complete control over their professional schedules and physical environments.

B. Challenges: Navigating Societal Bias and Financial Barriers

Despite their determination, participants reported facing multiple layers of interconnected social, financial, and digital barriers that disrupt their business operations.

In [14], Kašperová stated that disabled entrepreneurs face persistent societal and cultural stigma, often forcing them to work twice as hard to establish professional legitimacy and customer trust. This is strongly mirrored in our findings, where respondent B9 (a car detailing owner in Sarawak) remarked: 'It is indeed more challenging to gain customer trust... therefore, I need to be extra careful in demonstrating the quality of my work.' Furthermore, in [11], Naqiuddin et al. stated that visually impaired entrepreneurs faced severe operational disruptions and physical isolation during the COVID-19 pandemic, which exacerbated their financial vulnerabilities. This corresponds with our empirical data, where respondent B10 shared that she lost her hotel job during the pandemic, forcing her into micro-entrepreneurship as a coping strategy. To support this, Darcy et al. [13] similarly demonstrated that societal prejudice and limited capital remain highly persistent barriers that restrict market access and financial inclusion for disabled business owners globally.

C. Strategies: Leveraging Assistive Technology and Digital Adaptations

To survive in highly competitive markets, visually impaired entrepreneurs develop unique, highly adaptive strategies, particularly centered on technology adaptation.

In [5], Dakung et al. stated that technology adaptation, specifically leveraging screen readers and digital accessibility software, functions as a transformative mechanism that removes structural, pedagogical, and attitudinal barriers within entrepreneurial ecosystems. This is empirically validated in our study, where participant B5 explained: 'The screen reader function is very helpful when managing online marketing... and updating promotions.' Furthermore, in [9], Amran et al. stated that disabled entrepreneurs must engage in continuous learning and multi-platform marketing (such as using Facebook, TikTok, and WhatsApp broadcasts) to remain competitive. This is echoed by respondent B9, who stated: 'Slowly, now I have expanded to TikTok because more people can see my work.' To support this, a similar finding was documented by Chauhan [7], who established that combining assistive technologies with tailored financial literacy programs significantly improves the operational independence and resilience of visually impaired business owners.

D. Support Systems: Cohesive Blend of Formal and Informal Networks

The long-term sustainability of businesses run by visually impaired individuals is heavily dependent on comprehensive, multi-level support structures.

In [10], Juliana Saadun et al. stated that targeted stakeholder engagement programs, such as SAYLEAD, play an important role in equipping disabled entrepreneurs with business innovation, stakeholder management, and marketing strategies. This is highly consistent with our findings, where respondent B6 highlighted: 'I have received many opportunities through YPU... I gained a lot of practical knowledge, including professional massage techniques.' However, in [8], Ngah et al. stated that existing formal support programs often feature complex administrative procedures and income-limiting criteria that restrict entrepreneurial scaling. This is echoed by respondent B17, who explained: 'The assistance from JKM is available but there is an income limit... if it exceeds that, the assistance can be withdrawn.' To support this, a contradictory finding was documented by Maziriri et al. [16], who argued that in many developing areas, formal institutional support is virtually non-existent, leaving informal family encouragement and peer networks as the sole sustainable lifelines for disabled business owners.

CONCLUSION AND FUTURE RESEARCH

In conclusion, this study has successfully achieved its core research objectives by systematically exploring and documenting the motivations, barriers, technology adaptations, and support networks that shape the entrepreneurial success of visually impaired individuals in Malaysia [1], [8]. The empirical evidence demonstrates that while conventional labor market barriers force visually impaired individuals into necessity-driven entrepreneurship, their journeys are profoundly sustained by intrinsic motivations, including the pursuit of financial autonomy, community contribution, and the desire to challenge negative societal stigma [4], [14]. Despite facing severe societal prejudices, capital discrimination, and digital skills gaps, the participants demonstrate outstanding resilience by actively adapting their business operations and leveraging assistive technologies, such as screen readers and e-commerce platforms, to establish operational autonomy [5], [9]. Ultimately, the study highlights that creating a sustainable and inclusive entrepreneurial ecosystem requires a cohesive integration of formal government policies (such as reforming JKM income thresholds and simplifying funding applications), specialized institutional training ecosystems, and robust informal community networks [10]. For future works, researchers should conduct longitudinal studies to track the long-term survival and growth trajectories of visually impaired micro-enterprises. Additionally, future research should perform comparative analyses between different types of disabilities, explore gender-specific obstacles and motivations among PWD entrepreneurs, quantitatively evaluate the economic impact of specialized micro-credit programs (such as TEKUN and Agrobank), and investigate how emerging artificial intelligence (AI) and spatial audio technologies can further enhance business autonomy.

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