

EMPOWERING HARDCORE POOR ENTREPRENEURS IN KELANTAN THROUGH E-INVOICING INNOVATION

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Abstract: *E-invoicing has emerged as a significant process innovation, streamlining financial operations and fostering transparency, accuracy, and cost-effectiveness. While the benefits of e-invoicing are widely acknowledged among large businesses, this paper explores how e-invoicing can serve as a transformational tool to empower hardcore poor entrepreneurs in Kelantan. This conceptual paper applies the Unified Theory of Acceptance and Use of Technology (UTAUT) to explore how e-invoicing can empower hard core poor entrepreneurs, enhance supply chain integration, and support sustainable development.*

Keywords: *e-invoicing, innovation, entrepreneurs, technology, UTAUT*

Introduction

In today's digital era, innovation plays a vital role in shaping competitive advantage and inclusive development. Among various forms of innovation, process innovation particularly e-invoicing has fundamentally altered how business operate across supply chain.

This paper focuses on the implementation of e-invoicing among hardcore poor entrepreneurs in Kelantan, a state with one of the highest poverty rates in Malaysia. While the mandate primarily targets formal businesses, it offers a unique opportunity to integrate hardcore poor entrepreneurs into the formal digital economy. By positioning e-invoicing not only as a financial tool but as a catalyst for empowerment, policymakers and industry players can drive inclusive economic participation, enhance transparency, and support the integration of underserved entrepreneurs into formal supply chains.

Literature Review

Innovation and Process Innovation

Innovation is broadly described as the introduction of new ideas, methods, or products. According to Jain (2023), innovation is defined as the process of bringing about new ideas, methods, products, services, or solutions that have a significant positive impact and value. It involves transforming creative concepts into tangible outcomes that improve efficiency, and effectiveness, or address unmet needs. Within the context of entrepreneurship, process innovation refers to implementing new or significantly improved processes that increase efficiency, reduce costs, and improve product or service quality (Abakar & Çelik, 2024). In today's fast-paced world, businesses must innovate and adopt entrepreneurial practices to survive (Abakar & Celik, 2024; An & Kanjanarat, 2024; Huang et al., 2023).

Process innovation could enhance organizational agility and competitiveness. Agility as core competence of the organization is crucial for survival in today's competitive landscape (Demirkan & Spohrer, 2016). According to Shaikh (2024), organization should be able to rapidly shift their attention and resources to new opportunities without compromising their present operations. Kocot (2024) also indicates that agile organizations are more likely to implement innovations effectively, enhancing their adaptability to market conditions.

In relation to e-invoicing, process innovation involves adopting digital invoicing systems that transform traditional paper-based invoicing into automated, electronic workflows. It improves operational efficiency, cost-effectiveness, compliance, and data management (Ali & Singh, 2024) as well as contributes to sustainability goals ((Bojanc et al, 2024).

E-Invoicing

An e-invoice is an invoice that has been transmitted, received, and issued in a structured electronic format. It is a type of digital document that tracks a transaction involving the buyer and the seller and is designed in a structured format that can be read by a machine. E-invoicing has become an important catalyst underpinning the digital transformation of businesses, which has a rapid impact on profitability (Bani, 2024), increasing operational efficiency (Ali & Singh, 2024) and reducing environmental impact (Bojanc et al, 2024). The integration of e-invoicing into supply chain management is also increasingly recognized for its potential to enhance efficiency and automation (Klinčar & Zoroja, 2021; Bellini et al., 2013; Keifer, 2011). Additionally, e-invoicing enables companies to efficiently generate and track electronic invoices in real time, reducing fraud and minimizing data entry errors (Hoblos et al., 2024).

Despite these advantages, e-invoicing acceptance is still very low, especially in business-to-business (B2B) contexts. Commonly identified obstacles include poor awareness, lack of execution skills, and high integration costs (Bojanc et al, 2024; Tanner & Richter, 2018; Poel et al., 2016). Therefore, understanding these barriers is crucial for entrepreneurs aiming to promote e-invoicing.

Malaysia is currently pursuing digital tax compliance through adherence to particular e-invoice requirements through the *MyInvois* system managed by the Inland Revenue Board (IRB). The aim of this transition is to strengthen business transaction automation, efficiency, and transparency. All businesses, individuals, and entities involved in commercial activities in Malaysia are required to comply with IRB e-invoicing regulations, and the implementation is scheduled in stages from 1 August 2024 to 1 January 2026.

E-invoicing encourages technology innovations by serving as a foundation for more advanced systems and promotes new talent development through necessary up skilling. Adoption of e-invoicing by businesses may pave the way for a more extensive digital revolution, which would ultimately result in economic prosperity and sustainable development for both entrepreneurs and organizations across industries.

Theoretical Foundation

Adoption of e-invoicing among hardcore poor entrepreneurs is not automatic as it depends heavily on their acceptance of the technology, which will be explained by Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT theoretical model asserts that behavioral intention influences how individuals utilize technology (Chao, 2019). This theory states that the likelihood of adopting technology is determined by four keys factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. According to Salleh et.al (2025), UTAUT assists businesses with developing plans that foster the adoption of digital invoicing systems, which are crucial for current business processes, by identifying key factors that affect user acceptability.

Chao (2019) and Venkatesh, Thong, and Xu (2016), state that performance expectancy is the most important predictor of technology usage intention and can be used in both mandatory and voluntary settings. According to Marikyan and Papagiannidis (2023), performance expectancy is based on the belief that utilizing a system could enhance an individual's job performance. In the context of e-invoicing, performance expectancy refers to the degree to which users such as accountants, tax professionals, businesses and entrepreneurs believe that using e-invoicing systems will enhance their work performance. Thus, if users perceive that e-invoicing helps them save time and improve job efficiency, their intention to adopt the technology increases.

Considering the user adaptations, effort expectancy evaluates the extent to which technological components are simple to learn and use (Venkatesh et al., 2003). Effort expectancy in e-invoicing relates to how easy and user-friendly the system is perceived to be (Soliman, 2024; Yueyang, 2024; Matharu, 2015). The simpler and more intuitive the e-invoicing platform is, the more likely users are to accept and use it. Adoption may be impeded by complicated or burdensome systems. For entrepreneurs, if entering or managing e-invoices requires minimal effort, training, and technical skills, adoption rates are higher.

As stated by Venkatesh et al. (2003), social influence is the extent to which an individual perceives important others think he or she should use the new system. When individuals feel that their peers or significant others support the use of a particular technology, they are more

likely to adopt it themselves (Abu et al., 2014). People are more likely to adopt technology when they obtain positive social reinforcement, which encourages them to align with the expectations of their social circles. Thus, for entrepreneurs to ensure compliance in implementing e-invoices, support and expectations from peers, management, and authorized entities are crucial.

Venkatesh et al. (2003) define a facilitating condition as the notion that there is organizational and technical infrastructure that supports the use of a system. When individuals perceive that they have the necessary resources and support, they are more likely to engage with new technologies (Mohamad Noor et al., n.d.; Abu et al., 2014; Zakaria et al., 2024). Hence, the availability of resources and support systems, such as training and infrastructure, plays a vital role in enabling hardcore poor entrepreneurs to transition to e-invoicing.

In brief, the application of UTAUT to the adoption of e-invoicing aids in determining the crucial elements that influence user acceptability and guides the establishment of interventions to promote the comprehensive efficient use of e-invoicing systems among businesses and entrepreneurs.

Poverty in Kelantan

Poverty is one of the major social challenges faced by many countries in the world (Hassan et al., 2020). Those living in poverty typically have low living standards, limited choices and opportunities, and are unable to actively participate in society (Hassan et al., 2020; Yilmaz et al., 2021). This can lead to the problem of social exclusion (Samiyeva, 2022), which refers to a situation in which certain individuals or groups are marginalized or excluded from society or participation in important aspects of social life such as education, employment, and housing. This social isolation can occur due to various factors such as discrimination, poverty, or cultural and religious differences. Poverty and social isolation are also among the main factors of school dropout (Nita et al., 2021), and can be linked to various other problems such as high illiteracy rates, anxiety and stress (Li et al., 2019). Therefore, eradicating poverty and improving the quality of life of the people are important aspirations of many countries and world organizations (Hassan et al., 2020; United Nations, 2023).

In 2023, the government has launched Dasar Ekonomi Madani: Memperkasa Rakyat which focuses on two objectives, namely “restructuring the Malaysian economy as a leading Asian economy” and “fighting for social justice to improve the standard of living of all Malaysians” (Pejabat Perdana Menteri Malaysia (2024). This policy is a more comprehensive policy that includes investment, digitalization and innovation, small and medium sizes enterprises (SMEs), food security, employment, equality, education and health, and basic amenities. This policy also clearly links the economy and the social; where the country's economic growth can only be achieved with justice and social inclusion among all citizens, as well as supported by the values of sustainability, prosperity, creativity, respect, trust and kindness.

The Malaysian economy demonstrated encouraging growth in 2019. However, in 2020, this condition was impacted by 5.6% decline in Malaysia's GDP, 8.4% increase in the poverty rate, and 186.76% increase in the number of households living in extreme poverty (Department of Statistics Malaysia, 2022). This situation was caused by Covid-19 which not only had a negative impact on the country but also the entire world.

In terms of state, Sabah recorded the highest poverty percentage at 25.3 percent involving 99,869 households below the poverty line, followed by Kelantan with 21.2 percent and 42,671

households below the poverty line. Malaysia's success in dealing with the Covid-19 pandemic has boosted the country's economy as a whole. However, many have experienced a decline in income due to Covid-19. For example, 20.0 percent of households from the M40 group have been classified as the B40 group, while 12.8 percent of the T20 group have been classified as the M40 group (Department of Statistics Malaysia, 2022).

According to the most recent Poverty Report in Malaysia for 2022 (Department of Statistics Malaysia, 2023), the economic recovery is promising and has effectively lowered the poverty rate from 8.4 percent in 2020 to 6.2 percent in 2022. Nonetheless, Sabah and Kelantan continue to have the highest rates of extreme poverty in Malaysia (1.2 percent for Sabah and 0.8 percent for Kelantan) as well as the highest rates of poverty (19.7 percent and 13.2 percent, respectively). Additionally, based on data from the Kelantan State Development Department, Implementation Coordination Unit (ICU), Prime Minister's Department (JPM), the hardcore poverty rate in Kelantan in 2024 is 1778 Heads of Household (KIR).

Poverty in Kelantan significantly impacts entrepreneurship, especially among the extremely poor. Therefore, efforts to eradicate poverty among them become a significant concern. Among the government's efforts to eradicate poverty is by implementing several income generation programs such as Inisiatif Pendapatan Rakyat (IPR) under the Ministry of Economy, Program Pemerkasaan Ekonomi Komuniti Bandar (PEKB) under the Ministry of Housing and Local Government and Usaha Kasih MADANI Initiative under the Implementation Coordination Unit, Prime Minister's Department (ICU, JPM). In terms of the action plan, priority is given to utilizing the provision of infrastructure, optimizing economic potential, increasing access to social services, increasing inclusive development and establishing cooperation between federal and state government agencies.

Digital technologies have been found to have long-lasting impacts on poverty (Garg et al., 2024). The researchers emphasized the necessity of improved ICT infrastructure in developing countries as a means to promote employment, social networking, and opportunities for entrepreneurship. This is consistent with a research by Raghavendra et al. (2023), which claims that AI technologies are becoming essential instruments for combating poverty through effective resource allocation and improved service delivery across a range of industries. While digital technologies offer promising solutions for poverty alleviation, their effectiveness is often contingent upon the existing infrastructure and socio-economic conditions. Addressing these challenges is essential for maximizing the potential of digital interventions in poverty reduction efforts.

Supply Chain Integration and Entrepreneurial Empowerment

Entrepreneurs who are economically disadvantaged may face significant challenges in their capacity to succeed in business. Many hardcore poor entrepreneurs have limited formal education and may lack basic business skills such as accounting and financial management, marketing, and strategic planning. This can hinder their ability to make informed decisions and effectively run their businesses (Zainal, A. M. et al., 2024). Thus, these hardcore poor entrepreneurs in Malaysia get special attention due to their low earnings and increased risk of financial instability.

The COVID-19 pandemic that has hit Malaysia over the past five years has deepened the inequalities in economy and society (Cheng, C., 2020), increased the vulnerability of hardcore poor entrepreneurs in aspect of mental health, limited or inflexible occupational arrangements, poverty and socioeconomic empowerment (Abdullah et al., 2022). Research on small and

medium sizes enterprises (SMEs) globally found that extended economic disruptions and supply chain issues led to alarming rates of bankruptcy (Cui, 2025). Similarly Batra (2024) found that entrepreneurs have faced a variety of challenges including operational disruptions, shifts in consumer behavior, and economic difficulties. These challenges forced businesses to adapt rapidly, highlighting the need for innovative financial solutions and improved market access to navigate the evolving economic landscape.

Supply chain resilience has become a critical focus area. The vulnerabilities exposed during the pandemic have prompted businesses to rethink their supply chain strategies, emphasizing localization, diversification, and the integration of technology to enhance efficiency and transparency (Tu & Lam, 2023; Santos et al., 2022). Similarly, study by Shafi et al. (2020), highlights that the pandemic pushed digital transformation and innovation, providing chances for SMEs to establish resilience and respond to the new economic landscape.

Empowerment happens when entrepreneurs utilize control of their business's processes, collaborate with broader value chains, and achieve financial sustainability. Therefore, supply chain integration (SCI) and entrepreneurial performance are crucial for organizational success in a progressively globalization and competitive economy (Dewi, L., 2024). The researcher also identifies entrepreneurship as a driver of market dynamism and organizational growth, particularly through innovation and opportunity exploitation.

Entrepreneurial performance is impacted not merely on an entrepreneur's ability, but also by structural factors such as supply chain dynamics and alliances. According to Goswami et al., (2025) and Rejeb, A., et al, (2019), supply chain integration promotes seamless collaboration among suppliers and buyers, which enhances traceability and efficiency. In this digital age, technology has created new chances for SMEs including the hardcore poor entrepreneurs. Smart and effective technology utilization not only boosts productivity but also open up new opportunities for business growth. Consequently, digital technologies like e-invoices could help these entrepreneurs legitimate their business operations, boost their creditworthiness, and gain more access to markets.

In summary, utilizing technology wisely and strategically is an important step to ensure business continuity and growth in this competitive economy. The evolution of e-invoicing has fundamentally altered how businesses operate across supply chains. Although barriers remain, proactive ecosystem collaboration can unlock digital empowerment for Malaysia, specifically Kelantan's most vulnerable entrepreneurs.

Discussion

Empowering disadvantaged groups to succeed through entrepreneurship can free them from the chain of poverty. In the advent of digital era, going digital is no longer an option but a necessity. As technology becomes increasingly integral to modern business operations, entrepreneurs who fail to adopt it risk falling behind their competitors and losing competitiveness in the market. Thus, the adoption of e-invoicing by hardcore poor entrepreneurs in Kelantan is not just a technological shift but also represents a strategic transformation.

In Kelantan, many hardcore poor entrepreneurs operate in the informal economy, often without structured financial records, access to formal credit, or integration into the broader supply chain. These entrepreneurs often face significant barriers that impact their ability to perform well in business. Apart from limited capital, many of them are also lacking in terms of formal education and basic business skills such as accounting, financial management, marketing, and strategic

planning. These can severely limit their ability to make informed decisions and run their businesses effectively.

The initial step to addressing these challenges should be the implementation of comprehensive capacity-building programs tailored specifically for these entrepreneurs. These programs need to focus on improving basic business skills, such as marketing, accounting, financial management, and strategic planning, which are crucial for informed decision-making and sustainable business growth.

Effective training is crucial for ensuring entrepreneurs understand how to use e-invoicing system confidently. To achieve this, workshops should be conducted in Bahasa Malaysia and local dialects, making the training accessible and relatable. Particularly for entrepreneurs with little formal education, providing training in these languages helps ensure the modules are clearly understood and helps overcome language barriers. Workshops should be hands-on, practical, and include real-world scenarios that correlate with local business practices.

Many hard core poor entrepreneurs operate in environments where mobile devices are their primary means of connectivity. Therefore, e-invoicing solutions must to be made simple, easy to use, and compatible with smartphones and tablets. In order to encourage ease of use, this involves minimizing complex features, using clear icons and instructions, and providing step-by-step guides. When entrepreneurs perceive e-invoicing as useful to their business and perceive the system easy to use, they are more likely to adopt it. These perceptions have a direct impact on their behavioral intentions, as reflected through the two core components of UTAUT by Venkatesh et al. (2003), namely Performance Expectancy and Effort Expectancy.

Malaysian SMEs including hardcore poor entrepreneurs are located throughout various sectors, contributing to balanced economic development while also providing Malaysians with a variety of products and services. Recognizing the importance of these businesses to the economy, the Malaysian government, through the Inland Revenue Board (IRB), has launched the Mega e-Invoice Tour 2025 to visit their premises and provide support and guidance on e-invoicing implementation across Malaysia. This program aims to reach more taxpayers and intensify promotion and educate taxpayers towards the implementation of e-invoicing. Apart from the activities of visiting taxpayer premises, the IRB will also conduct free briefing sessions nationwide to enhance public understanding of e-invoicing.

Promoting digital literacy programs and awareness campaigns regarding digital tools, such as e-invoicing can help entrepreneurs integrate technology into their business operations step-by-step. Concurrently, the government and stakeholders should focus on improving infrastructure quality and accessibility, especially for entrepreneurs in remote areas, to create an environment conducive to adoption. Without availability of essential infrastructure, entrepreneurs would face substantial difficulties that hinder their capacity for effective use of e-invoicing. According to the UTAUT model, when entrepreneurs receive social encouragement (social influence) and have access to necessary infrastructure (facilitating conditions), their behavioral intention to adopt and their actual use of e-invoicing systems are significantly enhanced. These essential characteristics are crucial to ensure that e-invoicing is both feasible and sustainable.

The potential benefits of e-invoicing implementation are substantial. From a supply chain innovation perspective, e-invoicing exemplifies a process innovation that reduces manual errors, improves transaction visibility, and accelerates payment cycles. These efficiencies are crucial not only for large businesses but also for hardcore poor entrepreneurs that are often part of informal supply chains. By adopting e-invoicing, these entrepreneurs can make their

operations more transparent and more easily integrate into formal networks, thus accessing larger markets and better opportunities.

Despite the numerous benefits of using e-invoicing, some challenges will impede its widespread adoption among this demographic. For example, entrepreneurs comfortable with traditional invoicing may resist switching to digital systems due to fear of change or low digital literacy. There is also a possibility of fears about the security of digital data and privacy breaches which can deter entrepreneurs from adopting e-invoicing. Therefore, overcoming these challenges requires coordinated efforts among policymakers, technology providers, financial institutions and entrepreneurs themselves. By providing education, financial assistance, secure systems, and lasting support, stakeholders could establish an enabling environment that enables for a smooth transition to e-invoicing, empowering entrepreneurs to develop and evolve digitally.

Conclusion

In conclusion, e-invoicing innovation holds significant potential to empower Kelantan's hardcore poor entrepreneurs, fostering financial inclusion, formalization, and socio economic upliftment. Given that Malaysia plans full e-invoicing implementation by 2027 for all businesses, early adoption and readiness may qualify hardcore poor entrepreneurs for government programs designed to assist digital transformation, such as funding, training, and technology upgrades. However, responsibility and efforts to eradicate extreme poverty cannot be placed solely on the government. Corporate sector also must participate in developing the people's economy by going beyond the scope of corporate social responsibility (CSR). Going beyond CSR involves actively participating in initiatives that create employment, build skills, develop markets, and support the growth of entrepreneurial ecosystems. This partnership approach is vital for sustainable, long-term progress toward eradicating extreme poverty.

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