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INFLUENCE OF *ULŪ AL-ALBĀB* ON INNOVATION THROUGH KNOWLEDGE TRANSFER AMONG ICT FIRMS

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ABSTRACT

This study investigates the viewpoints of managers in information and communication technology (ICT) firms regarding *Ulū al-Albāb influence* in promoting innovation through knowledge transfer. This study argues that stickiness in knowledge transfer hindered promotion. However, *Ulū al-Albāb* reduces stickiness in knowledge transfer among ICT firms for innovation. The study reveals that *Ulū al-Albāb* with policy instrument aimed at facilitating knowledge transfer for innovation in the advancement of science and technology, encourages knowledge transfer among ICT firms. The study found that the influence of *Ulū al-Albāb* enable knowledge workers in the ICT firms to effectively employ their wisdom, religiosity, and spirituality to promote the knowledge transfer. Thus, the study suggests that the incorporation of *Ulū al-Albāb* in the policy instrument with the policies of science and technology parks to promote innovation among ICT firms.

Keywords: Knowledge Transfer, *Ulū al-Albāb*, ICT firms

INTRODUCTION

In the current age of digitalisation and artificial intelligence, the importance of data, information, and knowledge cannot be overstated. These factors significantly influence the competitive advantage and performance of organisations (Mezghani & Aloulou, 2019; Oranga, 2023; Kwok, Omran & Yu, 2024; Yufriadi, Syahriani & Afifi, 2024). Knowledge transmission plays a crucial role in the generation and execution of novel concepts (Vrana & Singh, 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024).

From the perspective of *Ulū al-Albāb*, these efforts align with the principles of *Maqasid al-Shariah*, which aim to protect and promote the well-being of society (Mhd. Sarif, 2015; Mhd. Sarif, Zainudin & Yahya, 2020; Mhd. Sarif, Zainudin & Ismail, 2021). Knowledge sharing, transmission, and transfer for innovation are vital in facilitating human well-being and driving economic advancement (Mhd. Sarif, 2015; Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024). Islamic teachings advocate for the ethical application of knowledge to enhance society by establishing an environment that encourages creativity and cooperation (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020; Mhd. Sarif et al., 2021). Indeed,

advocating for accessibility and fairness in the use of digital advancements aligns with the Islamic values of justice and societal well-being (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024). Thus, the integration of the influence of *Ulū al-Albāb* into the digital and technical landscape has the potential to enhance ethical standards, promote fair economic growth, and ensure that technological advancements benefit the broader community while upholding moral and social responsibilities (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024).

Problem Statement

Interpersonal and organisational obstacles can hinder knowledge transfer (Mezghani & Aloulou, 2019; Oranga, 2023; Kwok, Omran & Yu, 2024). Based on the literature, the pertinent issues in knowledge transfer revolve around trust, credibility, and integrity. Knowledge workers are reluctant to share and transfer knowledge without these values. Indeed, knowledge workers need to feel confident that their contributions will be respected, accurately represented, and used ethically. Trust ensures that knowledge sharing occurs in a safe and supportive environment, credibility ensures that shared knowledge is valued and taken seriously, and integrity guarantees that the knowledge is used responsibly and ethically. *Ulū al-Albāb* fills this gap by providing trust, credibility, and integrity.

This research is crucial for enhancing R&D in the ICT sector, which is dynamic and demands rapid creativity and innovation. Indeed, the presence of *Ulū al-Albāb* reduces the interpersonal and organisational obstacles by enhancing interpersonal spirituality for bigger objectives of life and organisational bigger agenda guided by *Maqasid al-Shariah* (the objectives of Islamic law in safeguarding human existence) (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024). From the *Ulū al-Albāb*'s perspective, these efforts align with *Maqasid al-Shariah* principles, aiming to enhance societal well-being (Mhd. Sarif, 2015; et al., 2020; et al., 2021). However, knowledge sharing and innovation must be ethical, inclusive, and equitable (Oranga, 2023; Kwok et al. 2024; Yufriadi, 2024). This includes removing interpersonal and organisational barriers to knowledge transfer and fostering innovation, cooperation, and ethical technology use.

Research Questions

There are two questions in this study: First, "What are the primary interpersonal and organisational barriers that hinder the process of knowledge transfer among ICT firms? Second, "How can *Ulū al-Albāb* exert power over the processes of knowledge transfer and innovation to foster practices that are ethical, inclusive, and fair?"

Research Objectives

This study has two research objectives. First, to investigate the organisational and interpersonal obstacles that impede the knowledge transfer for innovation among ICT firms in Malaysia. Second, to examine the influence of *Ulū al-Albāb* on knowledge transfer for innovation.

LITERATURE REVIEW

The digital economy is increasing; hence technology parks are needed to accelerate its development. However, reality often hinders this process (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). *Ulū al-Albāb*, with deep understanding and wisdom, are essential for advancing ethical, inclusive, and equitable practices through information and innovation (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok

et al., 2024; Yufriadi et al., 2024). *Ulū al-Albāb*, based on Islamic principles, prioritises ethical use of science and technology for societal advancement (Mhd. Sarif, 2015; Sarif et al., 2020; Sarif et al., 2021). Their engagement ensures that the digital economy grows fairly, equally, and sustainably, making technology advances available to everyone and used wisely.

Islamic Perspectives

Islam emphasises values. According to Yousef (2000), Islam values commitment. Knowledge transfer requires ethical behaviour (Kumar & Rose, 2012) and employee dedication (Hashim, 2010). Human resources management nowadays faces many challenges (Ali, 2010). Effective teamwork is crucial (Abbasi, Hameed, & Bibi, 2011). Worker health and well-being are paramount (Abbasi, Rehman, & Abbasi, 2010a). These aspects are heavily influenced by leadership (Abbasi et al., 2010b). Furthermore, crises must be handled correctly (Randeree & El Faramawy, 2011). According to Abbasi et al. (2011), (2010a), (2010b), and (2010, 2011), the Islamic approach to managing people and organisations encourages creativity and innovation.

Ulūl Al-Albāb

Ulū al-Albāb refers to individuals who understand and discern existence and its goals within the Tawhidic framework. In the business environment, the *Ulū al-Albāb* model applies to individuals inside organisations who follow this paradigm for business activity. According to Mohd Kamal Hassan (2010, p. 187), the Tawhidic paradigm in Islam emphasises serving Allah as true servants, vicegerents, and believers for the betterment of humanity, as stated in Qur'an 3:110. It seeks for a balanced community (*ummatan wasatan li-takūnū shuhadā' 'alā al-nās*), as stated in Qur'an 2:143.

Al-Faruqi (1992, p. 5) states that those who follow the Tawhidic paradigm possess the knowledge, abilities, and motivation to fulfil the Divine trust (al-amānah) and required obligations (al-farā'id) provided in the Qur'an and Sunnah. According to Surah Hud, 11:6, and Surah Az-Zumar, 39:41, these people perform their duties rationally and with Allah's unique human ability.

The holistic *Ulū al-Albāb* business model integrates Islamic ethics with commercial practices. This paradigm emphasises several key elements (Al-Faruqi, 1992; Mohd Kamal Hassan, 2010; Mhd. Sarif, 2015). Tawhidic direction first. The model underlines that all commercial actions must follow the Tawhidic paradigm, which is founded on Allah's unity. Second, businesses are run with the goal of serving Allah and improving humanity under this worldview. Third, the Tawhidic paradigm requires individuals in business to consider themselves as true devotees of Allah ('ibād al-Rahmān) and engage in business with sincerity and dedication to Allah. Fourth, vicegerents on earth (khulafā' fī al-ard) handle resources wisely and ethically as stewards. Fifth, sincere believers (al-mu'minūn) exhibit steadfast faith and integrity in all economic operations. Sixth, promotes economic fairness, equality, and equilibrium for a harmonious community (ummatan wasatan). Seventh, this paradigm requires corporate executives to be well-versed and skilled. This includes academic business knowledge and living experience inspired by Islamic values.

To effectively implement the *Ulū al-Albāb* model, corporations should establish ethical frameworks with codes of conduct and rules based on Islamic values (Al-Faruqi, 1992; Mohd Kamal Hassan, 2010; Mhd. Sarif, 2015). Intellectuals work hard to achieve the organization's goals as servants and representatives of Allah. They combine faith (īmān) and knowledge ('ilm) to fulfil responsibilities (amānah) and obligations (mas'ulīyyah) (Zarkasyi, 2010; Mhd. Sarif, 2015; Mhd. Sarif et al., 2021).

High-IQ people need information to expand their minds and skills to manage companies, aligning priorities, resources, and efforts to use learned knowledge. Zarkasyi (2010, pp. 162-164) suggests that

individuals might acquire knowledge through human and Divine teaching. People learn by interacting with others or through instruction (Zabeda, 2004, 2008). This learning can be rewarded financially or otherwise (Zabeda, 2008).

Knowledge Transfer

The transmission, sharing and transfer of knowledge requires knowledge and its essential existence itself. Those participating in knowledge transfers should interact with this guidance. Data is very essential in making effective decisions that has significant social and economic impacts (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok, 2024). As such, knowledge transfer requires both the desire and skill to do it (Mezghani & Aloulou, 2019; Yufriadi et al., 2024). In fact, organisations value effective transfers because this could trigger creativity and innovation. It fosters innovation by sharing knowledge (Garvin and Grey, 1997; Mezghani & Aloulou, 2019; Yufriadi et al., 2024). The essential nature of the tacit dimension makes codification difficult (Nonaka, 1995; Oranga, 2023; Kwok, 2024). The tacit part of knowledge refers to knowledge beyond one's ability to express it. Innovation from participant ideas, knowledge, and expertise is centred on this component (Polanyi, 1967; Baumard, 1999; Mezghani & Aloulou, 2019; Yufriadi et al., 2024).

Nonaka and Takeuchi (1995) studied explicit and tacit knowledge in business. Tacit knowledge transmission is difficult and requires increased organisational emphasis (Mezghani & Aloulou, 2019; Yufriadi et al., 2024). However, Cohen and Levinthal (1990) warn that organisations must have enough absorptive ability to transmit knowledge effectively. Knowledge may be passed on with proper methods. Before transferring knowledge, Szulanski (1996) advises firms to identify implicit and explicit knowledge within and between enterprises. Hofstede (1991) notes that knowledge transmission can be difficult if enterprises cannot identify. Grant and Baden-Fuller (2000) suggest strategic inter-enterprise collaboration to reduce knowledge transfer problems. However, they advise businesses to stay alert for risks and uncertainties.

The impact of *Ulū al-Albāb*, meaning persons with discernment and sagacity, is crucial in this context of knowledge transfer (Mhd. Sarif, 2015; Mhd. Sarif et al., 2021). *Ulū al-Albāb* play a significant role in ethical, inclusive, and equitable knowledge transfer and innovation processes (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024). Furthermore, *Ulū al-Albāb*'s competence can aid in conveying tacit knowledge (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2021; Vrana & Singh, 2021; Kwok et al., 2024). *Ulū al-Albāb*'s involvement ensures that knowledge transfer for innovation initiatives consider societal impacts, not just financial gains (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024).

Incorporating *Ulū al-Albāb* principles can help businesses overcome interpersonal and organisational challenges in knowledge transfer (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al., 2024; Yufriadi et al., 2024). This is due to the *Ulū al-Albāb*'s impact on knowledge transfer for innovation is crucial for promoting ethical, inclusive, and egalitarian behaviour (Mhd. Sarif, 2015; Mhd. Sarif et al., 2021; Oranga, 2023). Their leadership ensures that the digital economy advances fairly, equitably, and socially.

Innovation

The transfer of knowledge requires knowledge itself. Participants must interact with this material. Information has significant social and economic impacts (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2000; Yufriadi, 2024). Knowledge transfer requires both the desire and skill to accomplish it. Organisations value effective transfers because they spark creativity and innovation. Knowledge sharing and creativity are fostered throughout the process (Garvin and Grey, 1997).

Knowledge transfer is challenging because it involves explicit and tacit features (Mezghani & Aloulou,

2019; Mhd. Sarif et al., 2000; Yufriadi, 2024). The essential nature of the tacit dimension makes codification difficult, according to Nonaka (1995). Polanyi (1967) defines tacit nature as knowledge beyond one's ability to express it. Innovation from participant ideas, knowledge, and expertise is centred on this component (Baumard, 1999; Mezghani & Aloulou, 2019; Yufriadi et al., 2024). Nonaka and Takeuchi (1995) studied explicit and tacit knowledge in business. Tacit knowledge transmission is difficult and requires increased organisational emphasis (Mezghani & Aloulou, 2019; Yufriadi et al., 2024). However, Cohen and Levinthal (1990) warn that organisations must have enough absorptive ability to transmit knowledge effectively. Knowledge may be passed on with proper methods. Before transferring knowledge, Szulanski (1996) advises firms to identify implicit and explicit knowledge within and between enterprises. Hofstede (1991) notes that knowledge transmission can be difficult if enterprises cannot identify.

The impact of *Ulū al-Albāb*, meaning persons of insight and sagacity, is crucial in the knowledge transfer situation for innovation. *Ulū al-Albāb* plays a vital role in ethical, inclusive, and equitable knowledge transfer for innovation processes (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2000; Yufriadi et al., 2024). Moral and ethical participation ensures that knowledge transfer for innovation benefits is shared fairly and in accordance with justice and societal welfare.

Additionally, *Ulū al-Albāb*'s rich expertise can aid in conveying tacit knowledge. A deep understanding of cultural and social processes can help recognise and communicate implicit information, making it easier to transfer and use. This technique meets *Maqasid al-Shariah* goals (Mhd. Sarif, 2015; et al., 2020, 2021). *Ulū al-Albāb*'s involvement ensures that knowledge distribution and innovation initiatives consider societal impacts, not only financial gains (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). They support fair, inclusive, and ethical policies and practices to promote sustainable and comprehensive economic development.

Incorporating *Ulū al-Albāb* ideas can help organisations overcome interpersonal and organisational challenges in knowledge transfer (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). This integration encourages collaboration and innovation, ensuring that the digital economy benefits all sections of society and follows strict ethical standards.

Ulū al-Albāb's influence on knowledge transfer and innovation is crucial for ethical, inclusive, and egalitarian conduct (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their leadership ensures that the digital economy advances fairly, equitably, and socially, generating more stable and sustainable economic growth (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The following sections will explore how *Ulū al-Albāb* can improve knowledge transmission and innovation in the digital economy (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020, 2021).

Specific Knowledge

Organisations value knowledge and prioritise knowledge creation and acquisition. Teece, Pisano, & Shuen (1997) argued that this can help organisations overcome challenges. Handling different forms of knowledge requires different procedures. Document sharing systems are good for codified knowledge, but personal interaction is ideal for tacit knowledge (Gupta & Govindarajan, 2000; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Socialisation and internalisation can informally convey tacit information (Nonaka and Takeuchi, 1995; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Mentoring and storytelling can help organisations transfer tacit knowledge (Swap, Leonard, Shields, & Abrams, 2001; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Internalisation entails learning through experience, whereas socialisation involves sharing experiences. Before turning experience into knowledge, the learner must understand the context (Schacter, 1996; Mezghani & Aloulou, 2019; Vrana & Singh, 2021).

Ulū al-Albāb, or individuals with discernment and sagacity, play a crucial role in promoting ethical, inclusive, and equitable knowledge dissemination and innovation (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). *Ulū al-Albāb* is essential for ethical practices that align with justice and social welfare values. Thus, *Ulū al-Albāb* advocates for ethical use of knowledge and technology, avoiding harm to individuals and communities (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their skills may help create norms and procedures that ensure ethical knowledge exchange, creating trust and integrity in businesses.

Ulū al-Albāb's understanding of ethical and social principles enables them to guide the development of flexible policies that adapt to the changing ICT sector. These policies can boost innovation and knowledge transfer to keep up with technology (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their influence creates an environment where policies are effective, fair, and impartial.

Networks of Knowledge

Knowledge networks and information and communication technology (ICT) are closely related (Vrana & Singh, 2021; Kwok et al. 2024). This strategy is commendable when used in a business organisation (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024), but Macdonald (1992b) claims that many organisations overprioritize R&D and neglect its connection to the organization's goals. Organisations may struggle to adopt external knowledge networks (Macdonald, 1992a). Organisational policies, especially the 'not-invented-here' syndrome, often prevent innovation from using external knowledge (Macdonald, 1998; Mezghani & Aloulou, 2019; Vrana & Singh, 2021).

Ulū al-Albāb, or wise individuals, promote ethical, inclusive, and equitable knowledge transfer and innovation (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Ulū al-Albāb suggests a balanced approach to address concerns related to technology and research and development, emphasising ethical considerations and social well-being (Mhd. Sarif et al., 2021; Kwok et al., 2024).

Knowledge Economic Qualities

Knowledge, as an economic commodity, has public and private properties (Macdonald and Williams, 1992). Public goods are non-excludable and non-rivalrous, so multiple people can use them without running out (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Private commodities are excludable and rivalrous, so only paying customers can use them. Knowledge can be shared widely or confined and commodified.

Knowledge is transferred faster and more smoothly through informal networks like professional communities, social contacts, and cooperative endeavours. Formal networks often restrict information transmission due to organisational rules and bureaucratic processes. However, many organisations overlook informal knowledge sharing (Macdonald, 1992a). Knowledge's economic value might make it seem like a commodity that can be purchased and sold (Macdonald, 1996).

Knowledge networks can provide commodity-level knowledge (Macdonald and Williams, 1992). These networks act as markets for knowledge, like commodities. To sustain their value, companies must keep their data private. Knowledge loses its competitive edge when it's widely available. Thus, corporations often preserve their proprietary data to maintain its worth.

Inflexible Innovation Policy

Governments usually build science and technology parks with impressive buildings and cutting-edge technology. These facilities often showcase the latest knowledge technologies. However, they typically overlook information's role in creativity (Joseph, 1994). Although important, focusing on infrastructure and technology ignores the importance of creating a culture of information exchange and use, which fosters innovation.

Thus, advanced technological regions may allow key workers to join local expertise networks. This benefit is often overlooked by firms. Instead of supporting organisational innovation, key persons with critical expertise may take the opportunity to boost their reputations. They often view their expertise as personal assets and are reluctant to share it with their companies (Macdonald, 1992a).

Personal knowledge networks also improve specialised knowledge transmission. Von Hippel (1987) defines tacit knowledge as embedded in skills and experiences. Knowledge housed in individuals rather than organisational procedures is hard to spread throughout the firm. If the company doesn't share and use knowledge efficiently, it may struggle to innovate.

These critical people's knowledge and expertise become valuable to their new employers when they shift companies. Specialised skills may give the new business a market advantage (Macdonald, 1992b). This figure shows the flexible and unique process of transferring knowledge, where key staff members' movement can greatly impact business innovation.

Limiting Organisational Policy

Knowledge can be altered and utilised to meet organisational goals; therefore, a wide range of formal and informal information is needed to establish organisational strategy. Due to the 'not-invented-here' attitude, senior management has rarely been able to use informal knowledge networks in strategy planning (Macdonald, 1996). Enterprises rarely emphasise informal knowledge unless it threatens management control (Macdonald, 1993). According to Macdonald (1996), many businesses view informal network knowledge as an extra source of information. Senior management's uneven acceptance of technical expertise against formal finance knowledge creates this view (Macdonald, 1992a).

If external information is crucial, organisations may internalise it through formal partnership agreements (Dodgson, 1993). These partnerships allow all employees to connect directly, whether online or in person (Davenport and Prusak, 1998). According to Macdonald (1996), informal networks can transfer knowledge faster than formal networks. However, some organisations believe formal knowledge networks are more reliable and less worrying than informal ones (Macdonald, 1992a). This applies especially to tacit or non-codified information, where individuals are more valuable than organisations (Daft, Sormunen, and Parks, 1988). Humans are naturally drawn to knowledge generation and dissemination. Thus, using internal and external data for innovation is more practical (Cohen and Levinthal, 1990).

Management Preferences

Sharing and transfer of knowledge among employees is important, yet managers often fail to provide incentives (Lei, Slocum & Pitts, 1999). Extrinsic and intrinsic benefits exist. Without incentives, employees may hesitate to share expertise. Economic exchange theory indicates that people act in their rational self-interest (Bock & Kim, 2002). In contrast, social exchange theory uses incentives to get employees to share their knowledge and insights.

Knowledge transfer between enterprises is challenging, but governments and park tenants can address

concerns including knowledge specificity, organisational policies, employee attitudes, and knowledge economics. Siegel, Westhead & Wright (2003) and Varis, Tohmo & Littunen (2014) noted this. Bunnell, Kennedy, Bakouros, Mardas, & Varsakelis, Chan & Lau, 2005; Howells, 2005; Kocak & Can, 2014; Lofsten & Lindelof, 2002; Motohashi, 2013; Phan, Siegel, & Wright, 2005; Siegel et al., 2003; Westhead, 1997; Westhead & Batstone, 1998) have identified these challenges.

Facilities can boost economic growth, especially in knowledge-intensive companies (Huggins, Lzushi, Prokop, & Thompson, 2014). However, achieving this goal can be challenging (Bakouros et al., 2002). These businesses must decide whether to innovate or copy (Jenkins, 2014). Learning is crucial and requires conscious effort and specialised resources (Zollo & Singh, 2004; Zollo & Winter, 2002). Partnerships, networking, and industrial experience (Ethiraj, Kale, Krishnan, & Singh, 2005) may improve learning capabilities. These capacities can vary and adapt (Rothaermel & Hess, 2007). Cultural characteristics, especially leadership issues, can affect information transfer (Bjorkman, Stahl, & Vaara, 2007; Kennedy, 2002).

METHODOLOGY

This study has two research objectives. First, to investigate the organisational and interpersonal obstacles that impede the knowledge transfer for innovation among ICT firms in Malaysia. Second, to examine the influence of *Ulū al-Albāb* on knowledge transfer for innovation.

There are two questions in this study: First, "What are the primary interpersonal and organisational barriers that hinder the process of knowledge transfer for innovation among ICT firms in Malaysia? Second, "How can *Ulū al-Albāb* exert power over the processes of knowledge transfer for innovation to foster practices that are ethical, inclusive, and fair?"

This study used qualitative research through personal interviews with the informants. This method helps explain the background, which quantitative methods like surveys cannot (Wainwright, 1997; Patton, 1990). Furthermore, the personal interview enables for further research and validation of interviewees' material (Ezzy, 2002). Stakeholder interviews illuminate many subjects, particularly social and cultural contexts (Myers, 2000). Malaysian small and medium ICT enterprises were interviewed in June and July 2023. The study interviewed 12 executives, including two CEOs, three senior managers, and seven company executives. The researchers used a convenient sampling method to select the informants by approaching them based on recommendations from their contacts in the ICT sector. The background of the informants can be described based on their business activities in the ICT sector, which fall into four categories: software development and services (E1, E3, E4), telecommunications and network infrastructure (E2, E5, E7), digital content creation and multimedia (E6, E9, E11), and e-commerce and online services (E8, E10, E12). Enterprises in software development and services engage in developing a wide range of software solutions, including enterprise software, mobile applications, and cloud-based services. Those in telecommunications and network infrastructure provide internet services, develop and maintain data centres, and offer network security solutions. Digital content creation and multimedia companies produce digital marketing content, interactive media, and virtual reality (VR) and augmented reality (AR) applications, catering to industries like entertainment, education, and advertising. Enterprises in e-commerce and online services develop and manage online retail stores, offer digital marketing services, and provide platforms for online education and training.

The personal interview was recorded using note-taking at multiple convenient places, usually outside the office. The informants received a physical copy of the transcribed notes for validation after the interview. The transmittal letter to the informants stated that the copy was conclusive after two weeks. The researchers used thematic analysis to analyse the data. Thematic analysis of the interview transcripts from 12 informants involves systematically identifying, analysing, and reporting patterns (themes) within the

data. The process includes familiarizing oneself with the transcripts, coding significant features, and organizing these codes into themes that capture important aspects related to the research questions. This method allows the researchers to uncover underlying meanings, insights, and trends across the interviews, providing a comprehensive understanding of the informants' perspectives and experiences.

FINDINGS

The informants and their organisations were not identified in the findings.

Technology parks aim to promote innovation, but their results vary. Enterprise 1's executive said Malaysian ICT companies can produce software without foreign backing. Enterprise 1's executive said, "I am uncertain about whether local ICT enterprises engage in knowledge sharing through partnership or MOUs with overseas corporations."

Malaysian enterprises may lack the financial resources of their foreign partners. Even if they operated independently, they may not have enough money for R&D. Financial constraints prevent Malaysian ICT enterprises from gaining a competitive edge. Enterprise 2 CEO: "Financial resources are our biggest challenge... ICT enterprises don't always need technology parks to start. However, we applaud the government's effort. These technology parks are ideal for non-IT people who want to become technopreneurs. The government wants to grow the ICT industry, but funding is a problem.

The CEO of Enterprise 2 acknowledges Enterprise 1's business executive's viewpoint. Both individuals are unsure if the technology park can help them compete globally. The industry tends to focus more on trading than ICT development and lacks basic ICT products. An Enterprise 3 representative said: "Malaysia is a trade nation. This is well-known, even to the administration. Trading occurs in many industries, including Malaysia's growing ICT sector.

The Enterprise 3 business executive added: "In conventional industry, individuals engaged in trading are referred to as entrepreneurs, even though they do not create new businesses or novel items on the market. Technopreneurs trade ICT technologies in the ICT business. Technopreneurs mix technology and entrepreneurship. We still call our ICT merchants technopreneurs, even though they are mostly foreign technology users and resellers. The ICT trade group appears to be inactive.

The Enterprise 4 CEO said: "I believed trade chambers could effectively facilitate innovation. Essentially, it's a trading organisation. Computer hardware and software are sold. They may continue their sales effort since the government finances government offices, schools, colleges, and universities to buy computers. The Malaysian ICT project is a strategy to boost computer sales."

Malaysian ICT companies function like dealers, which is expected. A corporate official from Enterprise 5 says: "These software companies are small, have limited financial resources, lacked market expertise, and had no international presence. Government and its agencies are the company's main customers. Despite this, they buy the technology from elsewhere and customise or localise it before selling it to their key consumers, government organisations. Supporting electronic government applications such smart card systems, online procurement, and online transactions.

Cultural differences often inhibit information transfer. The path of least resistance may not be best for knowledge transfer. Ineffectiveness has also plagued technical parks. A historical context may help. Enterprise 6's top executive said: "We express our gratitude to the government for commencing the Multimedia Super Corridor (MSC), which serves as a significant milestone in the advancement of the ICT industry in Malaysia. Previously, Malaysia focused on manufacturing."

Malaysia's industrial experience has helped technology parks and ICT enterprises grow. The Enterprise 7 senior management agrees with Enterprise 6's remark. Enterprise 7 stated: "The Multimedia Super Corridor [MSC] is similar to the Free Trade Zone [FTZs], but it focuses on ICT and biotechnology, while the FTZ focuses on industry. We thank the government for creating the MSC, an ICT-focused body. ICT sector expansion and technopreneurship could be difficult without the MSC. It is unrealistic to expect rapid growth from ICT technopreneurs because we are still developing.

ICT companies have chosen merchanting over quick development. The Enterprise 8 executive said: "Our main goal is to be profitable in every endeavour we undertake. We sell computer hardware and software in the ICT industry. Our customers want affordable, high-quality products. They ignore intellectual property rights for cheap computer hardware and software."

An advanced technological and understanding civilization rejects this idea. Enterprise 9's chief said: "No matter the firm, everyone must follow ethical principles. Taking someone else's property is immoral, even though we offer lower prices. Malaysian ICT companies, notably those selling hardware and software without licencing, lack ethics.

Malaysia's technology parks can revive knowledge transfer and innovation. The Enterprise 5 company leader said: "Previously, we used Technology Park Malaysia to connect with ICT professionals. We are grateful to the government for allowing us to network with foreign ICT partners. We prioritise research and development and employ all incentives."

A company executive from ICT Enterprise 10 said: "In past industrializations, the government played a role, but it lacked the resources to go beyond that. ICT enterprises must take responsibility for the work rather than looking to the government."

Several practitioners have questioned Malaysia's technology parks' innovation-fostering ability. The business executive of Enterprise 11 disagrees with Enterprise 10's business executive officer's disappointment in government participation. The Enterprise 11 executive said: "The digital and technology initiatives are commendable for digital and ICT success. There appears to be too much top-down control."

Enterprise 12 executive said: "ICT businesses are given tax breaks and incentives to conduct business. This is good to entice more overseas companies to engage with us," but Enterprise 12's executive said these foreign firms are hesitant to collaborate with local ICT firms.

DISCUSSION

The discussion section discusses the findings and two research objectives and questions. The first research objective is to examine Malaysia's ICT sector's interpersonal and organisational knowledge transfer barriers. The first research objective is to determine what interpersonal and organisational barriers hinder knowledge transfer in Malaysia's ICT sector.

The second research objective aims to analyse how *Ulū al-Albāb* impacts knowledge transfer and innovation, promoting ethical, inclusive, and equitable ways. The second research objective aims to examine how *Ulū al-Albāb* can impact knowledge transfer and innovation to promote ethical, inclusive, and equitable behaviours.

The first research objective is to investigate the interpersonal and organisational obstacles that impede

knowledge transfer for innovation among ICT firms in Malaysia answer the research question, "What are the main interpersonal and organisational obstacles that impede knowledge transfer for innovation?"

Financial restrictions are a major organisational challenge. Many Malaysian ICT companies lack the funds to conduct extensive R&D or manufacture competitive ICT goods. This financial constraint limits innovation and growth (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their ability to invest in new technology and knowledge transfer is further limited by government financial aid and incentives.

Industry trade-oriented business strategies can provide challenges. Malaysia's ICT industry trades more than develops new technology. Instead of developing their own technology, firms sell imported technology, which limits local knowledge and experience (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The word "technopreneur" is sometimes used to describe traders rather than inventors, showing a discrepancy between industry practices and technical entrepreneurship.

Collaboration is also lacking. It is unclear if local ICT companies share information through collaborations or MOUs with overseas corporations. Lack of international collaboration limits exposure to global best practices and new technology (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Foreign enterprises are reticent to collaborate with local ICT companies, isolating Malaysian firms from global knowledge networks.

These interpersonal and organisational barriers hinder knowledge transmission in Malaysia's ICT sector, impeding growth and innovation. IT companies can absorb outside knowledge, according to Enterprises 1, 2, 3, and 4; Cohen and Levinthal, 1990; Vrana & Singh, 2021). Despite the tacit dimension's difficulty (Enterprises 3, 4, 5 and 6; Szulanski, 1996; Mhd. Sarif, 2015; Kwok et al., 2024) and the likely influence of individual culture and conviction (Enterprises 7, 8, 9, and 10; Hofstede, 1991; Mezghani & Aloulou, 2019), wisdom of practice is shared. Inter-company collaboration does this (Grant & Baden-Fuller, 2000; Vrana & Singh, 2021; Oranga, 2023). SECI may be able to achieve inter-enterprise knowledge transfer in technology parks (Enterprises 6, 7, and 10; Oranga, 2023; Kwok et al., 2024).

The second research objective aims to examine how *Ulū al-Albāb* influence knowledge transfer for innovation, promoting ethical, inclusive, and equitable ways. The second research objective aims to examine how *Ulū al-Albāb* can influence knowledge transfer for innovation to promote ethical, inclusive, and equitable behaviours. *Ulū al-Albāb*, meaning persons with deep understanding and discernment, can significantly affect knowledge diffusion and creativity (Mhd. Sarif, 2015; Kwok et al., 2024). This is especially true in the Malaysian ICT sector, where basic impediments have been overcome. This influence can be achieved through ethical, inclusive, and egalitarian means. *Ulū al-Albāb* can influence ICT knowledge workers to be innovative, ethical, and productive through mentorship and collaborative knowledge-sharing platforms. Firstly, they lead structured mentorship programs, including one-on-one sessions, workshops, and collaborative projects, to transfer knowledge, skills, and ethical practices. They also spearhead ethical leadership initiatives, developing a code of ethics and fostering a culture where ethical behaviour is recognized and rewarded. Secondly, *Ulū al-Albāb* influences ICT knowledge workers when they establish digital platforms for sharing expertise through webinars, forums, and resource libraries, that can encourage continuous learning and innovation. They also can influence by advocating for inclusive policies, such as transparent promotion criteria and diverse representation in decision-making, creating an environment where every employee feels valued and empowered.

Ulū al-Albāb can greatly promote autonomous creativity. Malaysian ICT firms rely largely on foreign technology and lack financial resources for independent R&D (Mhd. Sarif et al., 2020; Kwok, 2024). Ulū al-Albāb can significantly impact the Malaysian ICT industry by promoting ethical practices, originality, inclusion, and knowledge exchange (Mhd. Sarif, 2015; Kwok et al., 2024). This can help Malaysia's ICT

sector become greener, more economically strong, and more ethical (Thiersten and Wilhelm, 2001; Enterprise 11; Luger, 1992; Enterprises 3, 4, and 5; Mhd. Sarif, 2015).

Enterprises 9, 10, and 11 show that profit-making and political goals can coexist in a profitable and efficient collaboration. All respondents are optimistic about technology parks' spatial benefits, as Krugman (1997) and Mhd. note. Sarif (2015). Singh (2001), Porter (1998), and Mhd. agree that Malaysia's technology parks are ideal for ICT SMEs and offer short-term growth. Sarif (2015).

Ulū al-Albāb can greatly influence the Malaysian ICT industry by shaping knowledge transfer and innovation processes. The industry they create can be commercially competitive, environmentally sustainable, and ethical. Indeed *Ulū al-Albāb* can support Malaysia's ICT sector's growth by promoting ethical behaviours, creativity, diversity, and information exchange.

CONCLUSION

Results indicated that cultural resistance and ethical difficulties are major interpersonal barriers in Malaysia's ICT sector. Preserving the status quo hampers knowledge sharing and innovation. In addition, violating intellectual property rights discourages open collaboration. Organisational impediments are also significant. Financial constraints prevent many Malaysian ICT enterprises from conducting extensive research and development or producing competitive ICT products. Their dependence on government subsidies limits their ability to invest in innovative technology and knowledge transfer activities. People with deep comprehension and strong observation, known as *Ulū al-Albāb*, can greatly influence knowledge transfer and creativity. Supporting local ICT company R&D policies and programmes can promote autonomous innovation. Setting and implementing guidelines can help improve ethics. Additionally, they can promote industry diversity and equity. By encouraging collaborations and offering channels for information sharing, they can help spread knowledge. These financial and collaborative issues must be addressed for Malaysian ICT enterprises to expand and innovate. For future studies, the researchers should investigate the specific strategies that *Ulū al-Albāb* individuals with deep comprehension and strong observation, that can be employed to overcome cultural resistance and ethical difficulties in Malaysia's ICT sector. Additionally, the future research also should focus on the effectiveness of local ICT R&D policies and programmes in fostering autonomous innovation and addressing financial and collaborative challenges faced by Malaysian ICT enterprises.

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