INFLUENCE OF ULU AL-ALBAB IN SUSTAINING KNOWLEDGE TRANSFER STICKINESS AMONG ICT FIRMS

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ABSTRACT

This research aims to investigate the perspectives of ICT firm managers on the difficulty of stickiness with the influence of Ulū al-Albāb in facilitating innovation through knowledge transfer. In the realm of information transmission for innovation, the Ulū al-Albāb viewpoints offer knowledge workers valuable insights on how to use their understanding with a focus on religion and spirituality, based on the Tawhidic paradigm of Islamic Monotheism. The ultimate objective is to attain the Pleasure of Allah (mardhat Allah) by fulfilling the responsibility as a servant ('ibād al-Rahmān) and representative of Allah (khālifah Allah fi al-ard). This study combines the concept of stickiness in knowledge transfer with the influence of Ulū al-Albāb viewpoints to promote knowledge transfer among ICT firms. The main contribution of this study is the facilitation of Ulū al-Albāb perspectives in addressing the challenge of stickiness in knowledge transfer within technology parks as a policy instrument to promote knowledge transfer and innovation, in conjunction with public policy for science and technology. The study finds that implementing a policy instrument for knowledge transfer and innovation, along with a policy idea for science and technology development, leads to a decrease in knowledge transfer and innovation among ICT enterprises. The Ulū al-Albāb viewpoints empower knowledge workers to utilise their wisdom, religiosity, and spirituality to facilitate information transmission for the sake of innovation. The report recommends that the government reevaluate the policies of technology parks to enhance innovation in Malaysia's ICT business, taking into consideration the Ulū al-Albāb views.

Keywords: Knowledge Transfer, Ulū al-Albāb perspectives, Innovation, Malaysia

INTRODUCTION

Data, information, and knowledge are crucial in today's era of digitalization and artificial intelligence, as they have a substantial impact on the competitive advantage and performance of organisations (Mezghani & Aloulou, 2019; Oranga, 2023; Kwok, Omran & Yu, 2024; Yufriadi, Syahriani & Afifi, 2024). Knowledge transfer is essential in the process of creating and implementing new ideas (Vrana & Singh, 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). These processes can lead to the creation of both physical and non-physical goods and services, which in turn contribute to economic prosperity through different types of interactions (Vrana & Singh, 2021; Oranga, 2023; Kwok et al., 2024). Nevertheless, numerous interpersonal and organisational factors have the potential to impede the process of knowledge transfer.

The process necessitates innovative ideas, ingenuity, and unwavering dedication from knowledge workers and their collaborators across many industries (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024; Yufriadi et al., 2024). In order to streamline this procedure, some nations have developed facilities to convert concepts into marketable products and services (Mezghani & Aloulou, 2019; Yufriadi et al., 2024).

From Ulū al-Albāb standpoint, these endeavours are in line with the principles of Maqasid al-Shariah (the goals of Islamic law), which seek to safeguard and advance the welfare of the society (Mhd. Sarif, 2015; Mhd. Sarif, Zainudin & Yahya, 2020; Mhd. Sarif, Zainudin & Ismail, 2021). Knowledge transfer and innovation are considered crucial for attaining human well-being and promoting economic progress (Mhd. Sarif, 2015; Mhd.

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Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Islamic beliefs promote the ethical utilisation of knowledge and technology for the benefit of society by creating conditions that foster innovation and collaboration (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020; Mhd. Sarif et al., 2021). Promoting accessibility and equity in the utilisation of digital innovations is in accordance with the Islamic principles of justice and social welfare (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Thus, integrating Ulū al-Albāb influence into the digital and technical landscape helps improve ethical standards, foster equitable economic growth, and ensure that technological advancements benefit the wider community while upholding moral and social obligations (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024).

Problem Statement

In the age of digitalization and artificial intelligence, data, information, and knowledge have a crucial impact on defining the competitive advantage and performance of organisations. Knowledge transfer is crucial for generating and executing novel ideas, leading to the development of both tangible and intangible goods and services that foster economic growth (Vrana & Singh, 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024).

Nevertheless, there are other interpersonal and organisational issues without Ulū al-Albāb that can impede the process of transferring information (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). From Ulū al-Albāb standpoint, these endeavours are in accordance with the principles of Maqasid al-Shariah, which seek to improve the well-being of society (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020; Mhd. Sarif et al., 2021). Nevertheless, it is vital to guarantee that the transfer of information and the processes of innovation are conducted in an ethical, inclusive, and equitable manner (Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). This requires addressing the interpersonal and organisational obstacles that hinder the transfer of knowledge and creating an atmosphere that promotes creativity, collaboration, and ethical use of technology.

The challenge is to address these obstacles in order to enable efficient knowledge transfer, guaranteeing that the advantages of digital and technological progress are accessible and fair, and incorporating Ulū al-Albāb to uphold ethical and social obligations while promoting economic growth through innovation (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024).

Research Questions

There are two research questions. Firstly, “What are the primary interpersonal and organisational barriers that hinder the knowledge transfer process in Malaysia's ICT sector?” Secondly, “How can Ulū al-Albāb influence the processes of knowledge transfer and innovation to promote ethical, inclusive, and fair practices?”

Research Objectives

There are two research objectives for this study. Firstly, the research is to explore interpersonal and organisational barriers that hinder the knowledge transfer process in Malaysia's ICT sector. Secondly, it is to investigate the influence of Ulū al-Albāb on processes of knowledge transfer and innovation to promote ethical, inclusive, and fair practices.

LITERATURE REVIEW

A government is anticipated to exert substantial endeavours in fostering economic prosperity through diverse economic endeavours. These endeavours should be in accordance with the prevailing trend in the economy, namely the digital economy. With the growing importance of the digital economy, the creation of

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technology parks is crucial for expediting the development of this industry (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Nevertheless, the actuality frequently poses obstacles that hinder this procedure (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Furthermore, the presence of Ulū al-Albāb, those who possess deep understanding and wisdom, is crucial in directing the flow of information and innovation towards the advancement of ethical, inclusive, and equitable practices (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Ulū al-Albāb, rooted in Islamic principles, prioritise the ethical application of science and technology for the betterment of society (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020; Mhd. Sarif et al., 2021). Their participation guarantees that the expansion of the digital economy is in accordance with the principles of fairness, equality, and societal well-being, creating a setting where technical progress is available to everyone and utilised responsibly.

Knowledge Transfer

The substance of knowledge itself is a prerequisite for the knowledge transmission process. This material must undergo interactions among participants. The utility of information yields substantial outcomes for both society and the economy (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024). Transferring knowledge necessitates both possessing the knowledge itself and having the inclination and capability to do the activity (Mezghani & Aloulou, 2019; Yufriadi et al., 2024). Organisations greatly value effective transfers since they lead to the generation of ideas and creativity. The entire process promotes the exchange and transmission of knowledge, fostering innovation (Garvin and Grey, 1997; Mezghani & Aloulou, 2019; Yufriadi et al., 2024)

The act of sharing and transferring knowledge is difficult since it involves both explicit and tacit aspects. The explicit dimension is more manageable due to its clear expression in codified media, such as text, tables, and diagrams (Polanyi, 1967; Nonaka, 1995; Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Nonaka (1995) contended that the tacit dimension is challenging to codify because of its intrinsic character. Polanyi (1967) defines the tacit nature as the phenomenon where individuals possess knowledge that exceeds their ability to articulate it. This component represents the central focus of innovation that arises from the ideas, knowledge, and expertise of the participants (Polanyi, 1967; Baumard, 1999; Mezghani & Aloulou, 2019; Yufriadi et al., 2024).

Nonaka and Takeuchi (1995) conducted further research on the two different types of knowledge (explicit and tacit) within the framework of a business. It has been shown that the transmission of tacit knowledge is exceedingly challenging and necessitates heightened focus inside organisations (Mezghani & Aloulou, 2019; Yufriadi et al., 2024). Nevertheless, Cohen and Levinthal (1990) warn that organisations must have a sufficient absorptive capacity in order to facilitate an effective information transmission process.

Knowledge can be transmitted if appropriate procedures are established. Before transferring knowledge, it is recommended by Szulanski (1996) that enterprises should determine the implicit and explicit aspects of knowledge inside and between enterprises. If firms are unable of carrying out this identification task, Hofstede (1991) highlights that the knowledge transfer process can become exceedingly challenging.

This argument is valid because it pertains to the intersection of knowledge, culture, and social systems, particularly the implicit information that is profoundly ingrained in personal beliefs and organisational perspectives (Polanyi, 1967; Hofstede, 1991; Grant & Baden-Fuller, 2000; Mezghani & Aloulou, 2019; Yufriadi et al., 2024). Grant and Baden-Fuller (2000) propose that firms should strategically engage in inter-enterprise collaboration to mitigate challenges related to transferring knowledge. However, they advise businesses to remain vigilant about any dangers and uncertainties during the process.

In this particular situation, the impact of Ulū al-Albāb, referring to individuals of discernment and sagacity, is of utmost importance (Mhd. Sarif, 2015; Mhd. Sarif et al., 2021). Ulū al-Albāb have a crucial role in ensuring that the transfer of knowledge and innovation processes are carried out in an ethical, inclusive, and equitable manner (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Their

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participation introduces a moral and ethical aspect to the procedure, guaranteeing that the advantages of knowledge transfer and innovation are equitably divided and in accordance with principles of justice and social welfare.

Ulū al-Albāb can facilitate the process by incorporating Islamic principles into the structure of information transmission. These principles prioritise the ethical use of knowledge, the significance of working together, and the fair allocation of advantages (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). Ulū al-Albāb ensures that by creating a conducive climate that follows these ideals, information sharing not only stimulates innovation but also enhances the well-being of all stakeholders.

In addition, the profound knowledge and expertise of Ulū al-Albāb can assist in navigating the intricacies of transferring tacit knowledge (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2021; Vrana & Singh, 2021; Kwok et al. 2024). Their profound comprehension of cultural and social systems can aid in the recognition and expression of implicit information, hence enhancing its accessibility for transfer and application (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). This approach is in accordance with the objectives of Maqasid al-Sharia with the aim to improve the well-being of society through ethical and fair methods.

Ulū al-Albāb's participation guarantees that the activities of knowledge dissemination and innovation are not solely centred around financial benefits, but also take into account the wider societal consequences (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). They support policies and practices that encourage fairness, inclusiveness, and ethical conduct, therefore promoting a more sustainable and comprehensive approach to economic development.

By incorporating the knowledge and concepts of Ulū al-Albāb, businesses can more effectively tackle the interpersonal and organisational difficulties related to knowledge transfer (Mhd. Sarif et al., 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). This integration fosters an atmosphere that is favourable for collaboration and innovation, guaranteeing that the expansion of the digital economy benefits all sectors of society and complies with rigorous ethical principles.

Ultimately, the impact of Ulū al-Albāb on the dissemination of information and the advancement of innovation is essential in fostering ethical, inclusive, and equitable behaviours (Mhd. Sarif, 2015; Mhd. Sarif et al., 2021; Oranga, 2023). Their leadership assures that the progress of the digital economy is in line with the ideals of fairness, equality, and social well-being, ultimately leading to a more stable and sustainable economic growth (Mhd. Sarif, 2015; Kwok et al., 2024). The subsequent sections will delve into these processes, offering profound insights into how Ulū al-Albāb might bolster the efficacy of knowledge transmission and innovation within the context of the digital economy.

Innovation

The substance of knowledge itself is a prerequisite for the knowledge transmission process. This material must undergo interactions among participants. The utility of information yields substantial outcomes for both society and the economy (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2000; Yufriadi et al., 2024). Transferring knowledge necessitates both possessing the knowledge itself and having the inclination and capability to do the activity (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Organisations greatly value effective transfers since they lead to the generation of ideas and creativity. The entire process promotes the exchange and transmission of knowledge, fostering innovation (Garvin and Grey, 1997).

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In this particular situation, the impact of Ulū al-Albāb, referring to individuals of discernment and sagacity, is of utmost importance. Ulū al-Albāb have a crucial role in ensuring that the transfer of knowledge and innovation processes are carried out in an ethical, inclusive, and equitable manner (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2000; Yufriadi et al., 2024). Their participation introduces a moral and ethical aspect to the procedure, guaranteeing that the advantages of knowledge transfer and innovation are equitably divided and in accordance with principles of justice and social welfare.

Ulū al-Albāb can facilitate the process by incorporating Islamic principles into the structure of information transmission. These principles prioritise the ethical use of knowledge, the significance of working together, and the fair allocation of advantages (Mezghani & Aloulou, 2019; Mhd. Sarif et al., 2000; Yufriadi et al., 2024). Ulū al-Albāb ensures that by creating a conducive climate that follows these ideals, information sharing not only stimulates innovation but also enhances the well-being of all stakeholders.

In addition, the profound knowledge and expertise of Ulū al-Albāb can assist in navigating the intricacies of transferring tacit knowledge. Their profound comprehension of cultural and social systems can aid in the recognition and expression of implicit information, hence enhancing its accessibility for transfer and application (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). This approach is in accordance with the objectives of Maqasid al-Shariah (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020, 2021)

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Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their leadership assures that the progress of the digital economy is in line with the ideals of fairness, equality, and social well-being, ultimately leading to a more stable and sustainable economic growth (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The subsequent sections will delve into these processes, offering profound insights into how Ulū al-Albāb might bolster the efficacy of knowledge transmission and innovation within the context of the digital economy (Mhd. Sarif, 2015; Mhd. Sarif et al., 2020, 2021).

Knowledge specificity

The importance of knowledge transfer in fostering innovation, which is essential for economic progress, has long been recognised. Furthermore, organisations highly regard knowledge as a significant economic asset (Drucker, 1995; Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Nonaka and Takeuchi (1995) categorise knowledge into two distinct types: tacit and explicit. Tacit knowledge is inherent in an individual's own experience, rendering it challenging to formalise, distribute, or convey. Prior to the process of codifying knowledge, individuals who possess it must be willing to engage in direct, in-person sharing with others who lack it (Hansen, Nohria, & Tierney, 1999; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). On the other hand, explicit information, which has been systematised using computers, may be readily transmitted (Hansen et al., 1999)

Organisations recognise the importance of knowledge and hence prioritise the processes of creating and acquiring knowledge (McEvily, Das, & McCabe, 2000; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). According to Teece, Pisano, & Shuen (1997), this can serve as a means of bolstering the organisational capacity to confront and overcome obstacles. Various mechanisms are required to handle different types of knowledge. For codified knowledge, a document exchange system is suitable, while tacit knowledge is best shared through personal contact (Gupta & Govindarajan, 2000; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Tacit knowledge can be informally transmitted through socialisation and internalisation procedures (Nonaka and Takeuchi, 1995; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Organisations can facilitate the transfer of tacit knowledge by implementing mentoring programmes and encouraging the practice of storytelling (Swap, Leonard, Shields, & Abrams, 2001; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Internalisation is the process of acquiring knowledge through practical experience, whereas socialisation involves the exchange of experiences with others (Nonaka and Takeuchi, 1995; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Prior to the transformation of experience into knowledge, it is necessary for the learner to have a thorough understanding of the context in which the experience occurred (Schacter, 1996; Mezghani & Aloulou, 2019; Vrana & Singh, 2021).

Within this particular framework, the impact of Ulū al-Albāb, or individuals possessing discernment and sagacity, is pivotal in advancing ethical, inclusive, and equitable approaches in the dissemination of knowledge and the advancement of innovation (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Ulū al-Albāb are crucial in ensuring that these processes are carried out with a robust ethical basis, in accordance with the ideals of justice and social welfare.

Ulū al-Albāb promotes the ethical utilisation of knowledge and technology, advocating for approaches that do not exploit or cause harm to persons or communities (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their expertise can assist in developing rules and procedures that guarantee the responsible and ethical sharing of knowledge, fostering a culture of trust and integrity inside organisations.

Ulū al-Albāb ensures that all stakeholders, especially marginalised and less privileged groups, have access to the advantages of innovation by supporting inclusive practices. By promoting inclusion, a wider range of individuals can actively engage in the knowledge economy, thereby improving both economic and social welfare (Mhd. Sarif et al., 2021; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). They promote

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techniques that eliminate obstacles to the transfer of knowledge, therefore ensuring its accessibility to a wide range of individuals.

The teachings of Ulū al-Albāb place great emphasis on the ideals of justice and equity. They have the power to shape laws and organisational practices in order to guarantee that knowledge and the rewards of innovation are distributed in a just and equitable manner, hence preventing the accumulation of advantages among a select few (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). This method guarantees that the economic and social benefits derived from innovation are distributed extensively, so contributing to a more just and fair society

Ulū al-Albāb can promote the establishment and enhancement of knowledge networks that permit efficient communication and collaboration. These networks have the ability to connect and unite many industries and areas, promoting a more interconnected and inventive ecosystem (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their participation guarantees that these networks function in accordance with ethical norms, fostering mutual respect and cooperation.

Due to their profound comprehension of ethical and social principles, Ulū al-Albāb possess the ability to provide guidance in the creation of versatile and adaptable policies that effectively address the evolving dynamics of the ICT sector. These policies can enhance innovation and facilitate the transfer of knowledge, in order to stay up with technological progress (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their impact contributes to the establishment of a conducive atmosphere where policies are not only efficacious but also equitable and impartial.

Ulū al-Albāb has the ability to impact the perspectives of managers and leaders by emphasising the significance of ethical and inclusive methods in the transfer of information and creativity (Mhd. Sarif et al., 2021; Vrana & Singh, 2021; Kwok et al. 2024. Their principles have the potential to foster a culture characterised by transparency, cooperation, and ongoing enhancement inside organisations (Vrana & Singh, 2021; Kwok et al. 2024). Managers that adhere to these values are more inclined to promote and cultivate an environment that facilitates successful information sharing and innovation.

Indeed, incorporating the impact of Ulū al-Albāb into the procedures of knowledge transmission and invention can greatly improve the efficiency of these procedures (Mhd. Sarif et al., 2021; Vrana & Singh, 2021; Kwok et al. 2024. Ulū al-Albāb ensures that the advantages of the digital economy are available to everyone by supporting ethical, inclusive, and fair behaviours (Mhd. Sarif et al., 2020; Vrana & Singh, 2021; Kwok et al. 2024). This fosters a society that is more just and equal. The subsequent sections will delve into these processes, offering a more profound understanding of how Ulū al-Albāb may augment the role of technology parks and SMEs in fostering sustainable and inclusive innovation.

Knowledge networks

Knowledge networks are intricately connected to telecommunications, thereby establishing a strong correlation between knowledge networks and information and communication technology (ICT) (Vrana & Singh, 2021; Kwok et al. 2024. Therefore, the level of ICT utilisation frequently indicates the successful management of knowledge. Several nations, including the United States, United Kingdom, and Japan, utilise ICT metrics to gauge adequate involvement in the knowledge transfer process. Macdonald (1992a) contends that relying solely on ICT metrics indicates a significant deficiency in comprehending the intricacies of knowledge, technology, and information. Policymakers have prioritised technology over knowledge and information due to this worry. In the context of technology transfer, the primary focus is on transferring knowledge and expertise from individuals who possess it to those who do not, rather than simply transferring gear or equipment (Macdonald, Lamberton & Mandeville, 1983; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024).

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The concept of research and development (R&D) has been established as a hub for innovation in order to uncover novel information. This strategy is praiseworthy when employed inside the framework of a business organisation (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024. Nevertheless, Macdonald (1992b) argues that numerous organisations have a tendency to excessively prioritise research and development (R&D), often neglecting its connection to the broader goals of the organisation.

Knowledge plays a vital role in the process of invention and in the establishment of knowledge networks. Nevertheless, organisations may encounter challenges in embracing knowledge obtained from external knowledge networks (Macdonald, 1992a). The resistance to incorporating external information for innovation is frequently associated with organisational policies, particularly the 'not-invented-here' syndrome (Macdonald, 1998; Mezghani & Aloulou, 2019; Vrana & Singh, 2021).

The influence of Ulū al-Albāb, or individuals who possess understanding and wisdom, is essential in encouraging ethical, inclusive, and equitable practices in the transfer of knowledge and creativity (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Ulū al-Albāb can offer helpful perspectives on tackling the issues arising from the excessive focus on technology and research and development (Mhd. Sarif et al., 2021; Kwok et al. 2024. It advocates for a well-rounded strategy that incorporates ethical considerations and fosters social well-being.

In advocating for ethical activities, Ulū al-Albāb strongly advocate for the ethical utilisation of knowledge and technology, promoting activities that refrain from exploiting or causing harm to persons or communities (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021). Their expertise can assist in formulating rules and procedures that guarantee the responsible and ethical sharing of knowledge, fostering a culture of trust and integrity inside organisations (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Having a strong ethical foundation is crucial for preventing the improper use of technology and ensuring that advancements benefit society.

Firstly, Ulū al-Albāb ensures that all individuals, especially marginalised and less privileged groups, have equal access to the advantages of innovation by advocating for inclusive practices (Mhd. Sarif, 2015; Kwok et al., 2024). By promoting inclusion, there is a potential to increase the number of people participating in the knowledge economy, which can lead to improvements in both economic and social well-being (Mhd. Sarif et al., 2021; Vrana & Singh, 2021; Kwok et al, 2024). Ulū al-Albāb promotes techniques that eliminate obstacles to the transfer of knowledge, so ensuring that it is available to a wide variety of participants and facilitating a fairer distribution of advantages.

Secondly, the concepts of justice and equity are fundamental to the teachings of Ulū al-Albāb. They have the ability to exert influence on policies and organisational procedures in order to guarantee that the dissemination of knowledge and the rewards of innovation are just and impartial, thus preventing the accumulation of advantages among a select few (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). This method guarantees that the economic and social benefits derived from innovation are distributed extensively, so contributing to a more just and fair society.

Thirdly, Ulū al-Albāb can support the establishment and reinforcement of knowledge networks that enable efficient communication and collaboration. These networks have the ability to connect and unite many industries and areas, promoting a more interconnected and inventive ecosystem (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their participation guarantees that these networks function according to ethical norms, fostering mutual respect and cooperation. Implementing this approach can effectively address the 'not-invented-here' issue by promoting a culture of transparency and collaborative knowledge exchange.

Fourthly, Ulū al-Albāb possess the ability to provide guidance in the creation of versatile and adaptable policies that effectively address the evolving dynamics of the ICT sector (Mhd. Sarif, 2015; Vrana & Singh, 2021). These rules can enhance innovation and facilitate the transmission of knowledge, in line with the rapid progress of

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technology (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their influence contributes to the establishment of an environment that ensures policies are both effective and equitable, while also addressing the intricate aspects of knowledge transfer comprehensively. Indeed, Ulū al-Albāb has the power to shape the mindsets of managers and leaders by emphasising the significance of ethical and inclusive methods in sharing knowledge and driving innovation (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Their principles have the potential to foster a culture characterised by transparency, cooperation, and ongoing enhancement inside organisations. Managers that adhere to these principles are more inclined to promote and cultivate a work climate that facilitates successful information exchange and innovation. They prioritise the recognition and effective integration of external knowledge.

Ultimately, including the impact of Ulū al-Albāb into the mechanisms of information transfer and innovation can greatly improve the efficiency of these mechanisms. Ulū al-Albāb ensures that the advantages of the digital economy are available to everyone by supporting ethical, inclusive, and fair behaviours, so developing a society that is more just and equal (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The subsequent sections will delve into these processes, offering profound insights into how Ulū al-Albāb may augment the role of technology parks and SMEs in fostering sustainable and inclusive innovation.

Economic Attributes of Knowledge

Knowledge can have economic features when seen as an economic commodity, displaying qualities of both public and private commodities (Macdonald and Williams, 1992). Public commodities possess the characteristics of being non-excludable and non-rivalrous, which implies that they can be accessed and utilised by multiple individuals simultaneously without being exhausted (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Private goods, in contrast, possess the characteristics of being excludable and rivalrous, meaning they may only be accessed by individuals who have made a payment for them. The duality of knowledge allows for its widespread dissemination, yet it can also be limited and commodified.

In addition, economic goods can be classified as either tangible or intangible. Tangible products are characterised by their physical existence, such as technology or structures, but intangible things, such as information, do not possess a physical form but are of equal value (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). While knowledge may not have a physical form, it should not be assumed that it is freely available. Generating knowledge involves substantial expenditures, such as costs associated with research, development, and distribution (Von Hippel, 1987; Nonaka, 1995; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). These expenses must be recovered, which is why knowledge, despite being intangible, is frequently safeguarded and commercialized.

When knowledge is regarded as a privately owned commodity, the proprietor has the ability to enforce charges by means of patents. Patents confer ownership of intellectual property, bestowing the holder with exclusive privileges to utilise and monetize it (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024. Although patents safeguard the financial commitment of inventors, they can also impede the wider dissemination of knowledge for subsequent innovation. Patenting every discovery has the potential to impede future progress by restricting access to fundamental knowledge required for subsequent improvements (Macdonald, 2004).

Informal networks facilitate a faster flow of knowledge compared to formal networks when it comes to knowledge sharing techniques. Informal networks, such as professional communities, social contacts, and joint initiatives, enable faster and more seamless transfer of knowledge (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Organisational norms and bureaucratic processes often restrict the unrestricted exchange of information in formal networks. Nevertheless, numerous organisations fail to fully acknowledge the transfer or sharing of knowledge through informal networks (Macdonald, 1992a). This error arises in part due to the economic aspect of knowledge, which can lead to the perception of knowledge as a commodity that can be bought and sold

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(Macdonald, 1996).

If knowledge is regarded as a commodity, it can be acquired through knowledge networks (Macdonald and Williams, 1992). These networks operate as marketplaces where knowledge is purchased, sold, and traded, much like tangible commodities. Nevertheless, it is imperative for firms to safeguard their information from being accessible to the public in order to preserve its worth (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). When knowledge is freely available to everyone without any limitations, its ability to provide a competitive edge decreases. Therefore, firms frequently adopt strategies to protect their exclusive information, guaranteeing its continued value as an asset.

Thus, the economic characteristics of knowledge emphasise its dual nature as both a public and private good, its intangible worth, and the intricacies of its transfer. Efficient knowledge management requires finding a balance between safeguarding and sharing information to encourage creativity and guarantee financial gains. Enterprises must carefully negotiate these dynamics in order to effectively utilise knowledge as a strategic advantage in a competitive business environment.

Inflexible Innovation Policy

Governments typically establish technology parks by prioritising the construction of magnificent physical structures and equipping them with advanced technological equipment. These facilities are frequently built to exhibit the most recent breakthroughs in knowledge technology. Nevertheless, they often disregard the crucial significance of information in promoting innovation (Joseph, 1994). The emphasis on infrastructure and technology, although crucial, fails to acknowledge the essentiality of establishing a conducive atmosphere for efficient knowledge sharing and utilisation, which is necessary for fostering innovation.

Consequently, these regions with advanced technology may offer benefits to important personnel by enabling them to join local networks of expertise. Nevertheless, the firms themselves often do not reap this advantage. Key personnel, who possess crucial expertise, may use the chance to enhance their own reputations instead of promoting the transfer of knowledge that is vital for organisational innovation. They frequently consider their knowledge as personal assets and are hesitant to freely share it for the advantage of their organisations (Macdonald, 1992a).

Furthermore, the transmission of specialised knowledge is more effectively carried out through personal knowledge networks. Tacit knowledge, as described by Von Hippel (1987), refers to a sort of knowledge that is ingrained in a person's skills and experiences. Disseminating knowledge throughout the firm becomes difficult when it is stored in individuals rather than in organisational processes. If the knowledge is not shared and utilised efficiently within the organisation, the enterprise's potential to innovate may be undermined.

Enterprises may face significant disadvantages if key staff depart, as they would take their skills with them. The departure of such professionals might result in a substantial reduction in the enterprise's technological expertise, as vital knowledge and abilities are possessed by these persons (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). This results in a susceptibility where the enterprise's competitive advantage is greatly reduced as a result of the departure of knowledgeable people.

However, when these essential people join a different company, their knowledge and expertise become important resources for their new employers. The new business can greatly profit from the arrival of specialised expertise, perhaps obtaining a competitive edge in the market (Macdonald, 1992b). This diagram demonstrates the flexible and unique process of transferring knowledge, where the mobility of important staff members can significantly affect the ability of various businesses to innovate.

Ultimately, it is crucial for governments to prioritise not only the physical and technological aspects of

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technology parks, but also the procedures that enable efficient knowledge transfer and innovation. This involves promoting a culture of information sharing inside organisations and ensuring that knowledge is not excessively personalised but instead becomes part of the organization's practices. By doing this, they may optimise the complete potential of their technological investments and promote continuous innovation within the enterprise ecosystem.

Restrictive Organizational Policy

When developing organisational strategy, it is necessary to have a wide range of information, whether obtained through formal or informal means, as knowledge may be adapted and applied to suit the needs of organisations. Nevertheless, senior management has frequently been denied of the opportunity to utilise knowledge acquired from informal knowledge networks in strategic planning due to the 'not-invented-here' syndrome (Macdonald, 1996). Enterprises often do not prioritise informal knowledge unless it poses a risk to management control (Macdonald, 1993). According to Macdonald (1996), many businesses consider knowledge gained from informal networks to be only an additional source of information. This perception arises from the discrepancy in senior management's acknowledgement of the importance of financial knowledge gained from formal systems, compared to their inconsistent acceptance of the value of technical knowledge (Macdonald, 1992a).

However, if external knowledge is of great importance, businesses may opt to internalise it by establishing formal partnership agreements (Dodgson, 1993). During these partnerships, all employees have the opportunity to engage in direct interactions, which can occur through electronic communication or face-to-face conversation (Davenport and Prusak, 1998). Undoubtedly, the process of transferring knowledge via informal networks can be more expeditious compared to formal networks, as stated by Macdonald in 1996. Nevertheless, several organisations hold the belief that formal knowledge networks are more dependable and less concerning than informal ones (Macdonald, 1992a). This is particularly applicable to tacit or non-codified information, where the abilities of individuals are generally considered more useful than the capabilities of the organisation (Daft, Sormunen, and Parks, 1988). Human beings have an innate inclination towards the natural process of generating and disseminating information.

Innovation is not only dependent on internal knowledge. Organisations, particularly those lacking advanced systems to store various types of information, incur significant expenses when relying solely on internal resources. Hence, it is more pragmatic to utilise both internal and external information for the sake of innovation (Cohen and Levinthal, 1990).

Managerial Perception

Managers acknowledge the significance of knowledge sharing among employees but frequently neglect to offer suitable incentives (Lei, Slocum & Pitts, 1999). There are two types of rewards: extrinsic and intrinsic. In the absence of appropriate incentives, employees may exhibit hesitancy in disseminating their knowledge. This behavior is consistent with the principles of economic exchange theory, which suggests that individuals make decisions based on their own rational self-interest (Bock & Kim, 2002). In contrast, social exchange theory incorporates inherent incentives to encourage employees to divulge their experiences, expertise, and insights.

Transferring knowledge between companies is a difficult task, but it can be achieved if policymakers and park tenants effectively address factors such as the specificity of knowledge, organisational policies, employee attitudes, and the economic characteristics of knowledge. This has been highlighted by researchers Siegel, Westhead & Wright (2003), as well as Varis, Tohmo & Littunen (2014). A number of scholars have identified these challenges (Bunnell, 2002; Kennedy, 2002; Bakouros, Mardas, & Varsakelis, 2002; 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).

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Facilities can play a crucial role in promoting economic growth, particularly in contexts that rely heavily on knowledge-intensive industries (Huggins, Lzushi, Prokop, & Thompson, 2014). Nevertheless, attaining this objective can be difficult at times (Bakouros et al., 2002). Businesses operating in these establishments must make a decision on whether to engage in innovation or imitation (Jenkins, 2014). Acquiring knowledge and skills is of utmost importance and necessitates intentional exertion with specialised resources (Zollo & Singh, 2004; Zollo & Winter, 2002). Previous industrial experience (Ethiraj, Kale, Krishnan, & Singh, 2005), partnerships (Kale & Singh, 2007), and networking (Rothaermel & Hess, 2007) might enhance learning skills. Nevertheless, these capacities are subject to change and adaptability (Rothaermel & Hess, 2007). Cultural factors, including difficulties in leadership, can also impact the transfer of information (Bjorkman, Stahl, & Vaara, 2007; Kennedy, 2002).

Big Data initiatives have the potential to stimulate creativity, as supported by various studies (Bhimani & Willcocks, 2014; Howells, 2005; Kocak & Can, 2014; Lofsten & Lindelof, 2002; Motohashi, 2013; Phan et al., 2005; Siegel et al., 2003; Vedovello, 1997; Westhead, 1997; Westhead & Batstone, 1998).

Islamic viewpoints

According to Yousef (2000), commitment is crucial from an Islamic standpoint. Knowledge transfer necessitates adherence to ethical principles (Kumar & Rose, 2012) and a high level of dedication from employees (Hashim, 2010). Contemporary human resources management encounters a multitude of obstacles (Ali, 2010). Efficient collaboration is essential (Abbasi, Hameed, & Bibi, 2011). The primary concern is the health and prosperity of the workforce (Abbasi, Rehman, & Abbasi, 2010a). Leadership has a substantial impact on the management of these aspects (Abbasi et al., 2010b). Furthermore, it is imperative to properly handle crises (Randeree & El Faramawy, 2011). The Islamic approach to managing people and organisations promotes creativity and innovation, as demonstrated by research conducted by Abbasi et al. (2011), Abbasi et al., (2010a), Abbasi et al. (2010b), and Abbasi, Rehman, & Bibi (2010, 2011).

Ulūl al-Albāb Model

Ulū al-Albāb denotes those who possess profound comprehension and discernment regarding the nature of existence and its objectives, guided by the Tawhidic framework. The Ulū al-Albāb model, in the business context, pertains to persons inside organisations who engage in business activities according to this particular paradigm. Mohd Kamal Hassan (2010, p. 187) explains that the Tawhidic paradigm in Islam emphasises the purpose of life, which is to serve Allah as true servants (‘ibād al-Rahmān), vicegerents (khulafā’ fī al-ard), and true believers (al-mu’minūn) for the betterment of mankind (khayra ummatin ukhrijat lil-Nās) [business stakeholders], as stated in the Qur'an, 3:110. It also aims for the community to be balanced (ummatan wasatan li-takūnū shuhadā’ ‘alā al-nās), as mentioned in the Qur'an, 2:143.

According to Al-Faruqi (1992, p. 5), individuals who comprehend and function within the Tawhidic paradigm possess the necessary knowledge, skills, and drive to fulfil the Divine trust (al-amānah) and obligatory duties (al-farā’id) as outlined in the Qur'an and Sunnah. These persons do their responsibilities with rationality and the distinct human faculty bestowed by Allah, as mentioned in the Qur'an, Surah Hud, 11:6, and Surah Az-Zumar, 39:41.

Extending the Model

The Ulū al-Albāb model in business is a holistic framework that combines Islamic ethical principles with business methods. This paradigm places significant emphasis on multiple crucial components (Al-Faruqi, 1992; Mohd Kamal Hassan, 2010; Mhd. Sarif, 2015). Firstly, guidance through the Tawhidic Paradigm. The model emphasises the necessity for all business activities to conform to the Tawhidic paradigm, which is based on the fundamental belief in the unity of Allah (Tawhid). This paradigm ensures that business activities are carried out with the awareness of fulfilling the ultimate aim of life: serving Allah and contributing to the well-being of

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humanity. Secondly, roles and responsibilities in accordance with the Tawhidic paradigm, individuals in the business realm are expected to perceive themselves.Thirdly, genuine devotees of Allah (‘ibād al-Rahmān) by engaging in business with genuine sincerity and unwavering dedication to Allah. Fourth, vicegerents on earth (khulafā’ fī al-ard) by serving as custodians who wisely and ethically manage resources. Fifth, true believers (al-mu’minūn) by demonstrating unwavering faith and uncompromising integrity in all business transactions. Sixth, advocates of a harmonious society (ummatan wasatan) through fostering fairness, equality, and equilibrium in economic endeavours. Seventh, knowledge and competence of business executives in this model are required to possess extensive knowledge and demonstrate high levels of competence. This encompasses both academic understanding of business techniques and informal wisdom obtained from life experiences, guided by Islamic beliefs. The importance of ongoing learning and self-improvement is highlighted in order to uphold high levels of competency and ethical conduct.

The Ulū al-Albāb model places great importance on the incentive to fulfil the Divine trust (al-amānah) and required obligations (al-farā’id). This entails a firm adherence to moral values and a strong commitment to carrying out business obligations with honesty and sincerity, under the guidance of the teachings of the Qur'an and Sunnah (Al-Faruqi, 1992; Mohd Kamal Hassan, 2010; Mhd. Sarif, 2015). Firstly, it advocates for ethical decision-making that achieves a harmonious equilibrium between logic and morality. Decisions ought to be justified not only from an economic standpoint but also from a moral and ethical one. This dual approach guarantees that corporate operations make a good contribution to both society and the environment. Secondly, promotes a comprehensive approach to business, combining spiritual, moral, and social aspects with economic goals. This approach guarantees that corporate activities are not solely centred around generating profit, but also prioritise the creation of value for all stakeholders, encompassing employees, consumers, society, and the environment.

Application in Business Organisations

In order to properly execute the Ulū al-Albāb model, corporate organisations should create ethical frameworks by adopting codes of conduct and ethical guidelines that are rooted in Islamic values (Al-Faruqi, 1992; Mohd Kamal Hassan, 2010; Mhd. Sarif, 2015). It is essential to promote continuous learning by fostering ongoing education and training programmes to improve knowledge and competencies. Moreover, it is crucial to cultivate an ethical culture within the organisation by establishing a corporate environment that highly regards honesty, transparency, and accountability. Another crucial factor is fostering community engagement by participating in community development and social responsibility programmes that adhere to the concepts of fairness and equilibrium. Promoting inclusive leadership is crucial, as it fosters fairness and dedication to the well-being of all stakeholders.

Business organisations can attain lasting success by implementing the Ulū al-Albāb model, which not only aligns with Islamic teachings but also enables them to realise their economic objectives while fulfilling their ethical and social duties.

Intellectual individuals consistently exert conscientious effort to accomplish the objectives of the organisation within their designated responsibilities as servants and representatives of Allah. They persist in combining faith (īmān) and knowledge (‘īlm) in order to fulfil the responsibility (amānah) and obligations (mas’ulīyyah) (Zarkasyi, 2010; Mhd. Sarif, 2015; Mhd. Sarif et al., 2021). Zarkasyi (2010) contended that persons of discernment should have their direction directed by information that is suitable for being representatives and servants of Allah. According to Zarkasyi (2010), Al-Ghazālī's knowledge orientation is suitable for the intellectual growth of those with discernment, since it recognises the distinction between religious (al-diniyyah) and rational (al-‘aqlaniyyah) knowledge. Individuals with intellectual acumen acquire religious knowledge by comprehending the sciences of practical religion (‘ilm al-mu’amālah), divine knowledge that guides the execution of religious practices (‘ilm al-shar’iyy), and knowledge derived from human reasoning (‘ilm al-‘aqliyy). The integration of

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exoteric (zāhir) and esoteric (bātin) disciplines is achieved by the study of practical religion (‘ilm al-mu’amālah). The exoteric sciences encompass the practices of worship, social ethics, and concerns related to harmful acts (Zarkasyi, 2010; Mhd. Sarif, 2015; Mhd. Sarif et al., 2021). Esoteric (bātin) sciences pertain to the spiritual realm.

The second form of knowledge that strengthens individuals with understanding is rational knowledge, also known as non-religious knowledge (‘ulūm al-‘aqliyyah/’ulūm ghayr shar’iyyah). Within this realm of knowledge, individuals who possess deep comprehension are introduced to essential (usūl) and secondary (furū’) knowledge pertaining to life (Zarkasyi, 2010; Mhd. Sarif, 2015; Mhd. Sarif et al., 2021). The core knowledge comprises mathematics and logic, natural science involving observation and experimentation, and the scientific study of existence. Regarding the subsidiary knowledge, it complements the essential knowledge required for execution.

Individuals with high intellectual capacity require both information to enrich their minds and abilities as a foundation for effectively overseeing organisations, ensuring that priorities, resources, and efforts are aligned to effectively utilise acquired knowledge. Zarkasyi (2010, pp.162-164) posited that individuals might gain knowledge through two means: human teaching (al-ta’lim al insaniyy) and Divine teaching (al-ta’lim al rabbāniyy). Individuals acquire knowledge by direct interaction with others, either in person or through various instructional methods (Zabeda, 2004, 2008). This learning process can be incentivized by either financial or non-financial benefits (Zabeda, 2008).

Nevertheless, the Divine instruction is profoundly metaphysical as the students gain knowledge through Divine revelation (al-wahy), inspiration (ilhām), and deep thought and meditation (al-ishtighal bi al-tafakkur). The ability to acquire human and Divine teaching is facilitated by five capabilities, namely common sense (al-hiss al-mushtarak), representative power (al-quwwah al-khayāliyyah), estimate power (al-quwwah al-wahmiyyah), retentive power (al-quwwah al-hāfidah wa al-dhakirah), and imaginative power (al-quwwah al-mutakhayyilah/ al-quwwah al mutafakirrah).

METHODOLOGY

This study has two research objectives. The research aims to investigate the interpersonal and organisational obstacles that impede the knowledge transfer process in Malaysia's ICT sector. Secondly, the purpose is to examine the influence of Ulū al-Albāb on the transfer of knowledge and the development of innovative practices in order to foster ethical, inclusive, and equitable approaches. The purpose of these research objectives is to address two specific research questions. Firstly, what are the main interpersonal and organisational obstacles that impede the process of knowledge transfer in Malaysia's ICT sector? Secondly, how may Ulū al-Albāb exert its influence on the processes of knowledge transfer and innovation in order to advance ethical, inclusive, and equitable practices?

The study employed a qualitative research methodology, namely utilising personal interviews. This approach is employed to enhance comprehension of the underlying context, which cannot be effectively communicated using quantitative approaches like surveys (Wainwright, 1997; Patton, 1990). Furthermore, the personal interview allows for further investigation and validation of the material provided by the interviewees. Interview findings contribute to the development of generalisations and hypotheses (Ezzy, 2002). Through conducting interviews with stakeholders, the study gains insights into a range of topics, particularly those related to social and cultural contexts (Myers, 2000). The interviews were carried out during June and July 2023, primarily with small and medium firms operating in the ICT industry in Malaysia. The study included a total of 12 interviewees, consisting of two chief executive officers, three senior managers, and seven business executives.

The personal interview employed note-taking approach to record the personal interview sessions occurred at several locations, typically outside the office, that were most convenient for the participants. Following the interview, the notes were transcribed and the physical copy was dispatched to the informants for authentication.

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The copy was deemed conclusive after a period of two weeks, as specified in the transmittal letter to the informants.

Findings

The findings did not disclose the specific identities of the informants and the organisations they belong to.

The primary goal of technology parks is to foster innovation, although the actual outcome does not completely align with this objective. An executive from Enterprise 1 mentioned that Malaysian ICT enterprises possess the inherent potential to create software without relying on support from foreign information and communication technology (ICT) companies. Executive from Enterprise 1 said: "*I am uncertain about whether local ICT enterprises engage in knowledge sharing through partnership or Memorandum of Understandings (MOUs) with overseas corporations*."

It is possible that Malaysian firms do not possess the same level of financial resources as their potential partners from other countries. Additionally, even if they were to operate independently, they may still lack a solid financial foundation to engage in research and development (R&D) endeavours. Malaysian ICT firms are unable to achieve a competitive advantage in the field of ICT due to their insufficient financial resources. The CEO of Enterprise 2 stated: "The primary issue we are facing is the lack of financial resources. Not all ICT companies require technology parks to initiate their operations. However, *we sincerely appreciate the government's endeavour. These technology parks are well-suited for individuals who lack skills in ICT yet are interested in becoming an ICT technopreneur. The government is committed to the development of the ICT industry, but, the question of finance remains unresolved*."

The chief executive officer of Enterprise 2 acknowledges the perspectives of the business executive from Enterprise 1. However, both individuals remain uncertain about whether the technology park can enable them to thrive in the global competitive landscape. The industry is perceived to have a deficiency in fundamental ICT product offerings and seems to be mostly involved in trading rather than ICT development. An official from Enterprise 3 asserted: "*Malaysia is predominantly a trade nation. This matter is widely known, and even the government is aware of it. Trading activity can be found in various industries, including the ICT industry, which is relatively young in Malaysia*."

In addition, the business executive of Enterprise 3 stated: "In conventional industry, individuals engaged in trading are referred to as entrepreneurs, even though they do not engage in the creation of new businesses or the invention of novel items on the market. In the ICT industry, individuals that engage in trading ICT technologies are sometimes referred to as technopreneurs. A technopreneur is a someone who combines technology with entrepreneurship. However, despite the fact that they are largely foreign technology consumers and resellers of foreign technology, we still refer to our ICT traders as technopreneurs." It seems that the trade group for the ICT industry has been inactive.

The CEO of Enterprise 4 mentioned: "I believed that the trade chambers had the potential to effectively facilitate the advancement of innovation. Essentially, it is merely an organisation of traders. They retail computer gear and software. They are able to sustain themselves in this endeavour because the government provides financial assistance for their sales drive by granting funds for government offices, schools, colleges, and universities to buy computers. The ICT project in Malaysia is merely a ploy to enhance the sales of computers."

It is not surprising that Malaysia's ICT enterprises operate like dealers. A corporate executive from Enterprise 5 provides an explanation: "These software companies are characterised by their tiny size, limited financial resources, lack of market expertise, and absence of international presence. The primary clientele of the company consists of the government and its many agencies. Despite this, they do not independently develop the technology, but instead acquire it from foreign sources and then engage in customisation or localization before

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selling it to their main customers, who are primarily government entities and agencies. The purpose is to support their electronic government applications, such as smart card systems, online procurement, and online transactions."

Frequently, the cultural dimension hinders the transmission of knowledge. The inclination towards taking the path of least resistance may not be suitable in the context of transferring knowledge. However, the technological parks have also been ineffective in fulfilling their purpose. Arguably, a historical context offers some elucidation. The statement is made by a high-ranking executive from Enterprise 6 and the 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 was focusing on manufacturing."

The industrial experience in Malaysia has been regarded as a catalyst for the advancement of Malaysia's technology parks and the conduct of ICT businesses. The senior manager of Enterprise 7 concurs with the statement made by the senior manager of Enterprise 6. Enterprise 7 said: "The Multimedia Super Corridor [MSC] is similar to the Free Trade Zone [FTZs], but it specifically emphasises on information and communication technology (ICT) and biotechnology, whereas the FTZ mostly focuses on industry. We express our gratitude to the government for establishing the MSC, a specialised entity focused on the Information and Communications Technology (ICT) industry. Without the MSC, the growth of the ICT sector and the emergence of ICT technopreneurs could be challenging. Nevertheless, we are now in the early stages of development, therefore it is unrealistic to anticipate rapid growth from ICT technopreneurs."

The ICT businesses have chosen to participate in the industry as merchants, rather than focusing on rapid growth. The business executive from Enterprise 8 mentioned: "Our primary objective is invariably to achieve profitability, at any endeavour we undertake must be profitable for us. Within the ICT industry, we engage in the sale of both physical computing equipment and digital programmes. Our customers desire cost-effective yet premium products. They disregard intellectual property rights in favour of obtaining inexpensive computer hardware and software."

This concept is deemed unacceptable in a culture that is highly advanced in technology and understanding. A company executive from Enterprise 9 asserted: "Regardless of the nature of the firm, it is imperative for everyone to adhere to ethical principles. While we may provide a more affordable pricing, engaging in the act of appropriating someone else's belongings is morally unacceptable. Malaysian ICT enterprises, especially those engaged in the sale of hardware and software [without appropriate licencing], lack ethical standards."

Malaysia's technology parks still have the potential to revive knowledge transfer and foster innovation. The business executive of Enterprise 5 said: "Previously, we utilised Technology Park Malaysia as a means to connect with individuals in the ICT sector. We express our profound gratitude to the government for providing us with the opportunity to build commercial contacts with international partners in the ICT industry. We prioritise our research and development efforts and make full use of all the incentives available to us."

Nevertheless, a corporate executive from ICT Enterprise 10 argued: "In past instances of industrialization, the government has played a role in the process, but it lacked the resources to go beyond that. ICT firms must acknowledge that they are responsible for doing the task, rather than relying on the government."

Several practitioners have expressed their concerns on the effectiveness of Malaysia's technology parks in fostering innovation. The business executive of Enterprise 11 does not concur with the dissatisfaction expressed by the business executive officer of Enterprise 10 on the government's involvement. Executive from Enterprise 11 said: "The digital and technology initiatives are commendable aimed at digital and ICT success. However, there appears to be an excessive reliance on a top-down approach."

Executive from Enterprise 12 mentioned: "ICT businesses are provided not only with the liberty to conduct

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business, but also with tax breaks and incentives. This is good to attract more foreign companies to work with us." However, Executive from Enterprise 12 argued that these foreigm firms are hesitant to establish collaboration with local ICT firms.

DISCUSSION

The discussion section is discuss the findings with the two research objectives and two research questions. The first research objective is to investigate the interpersonal and organisational obstacles that impede the knowledge transfer process in Malaysia's ICT sector. This first research objective is to answer the research question that says, "what are the main interpersonal and organisational obstacles that impede the process of knowledge transfer in Malaysia's ICT sector?

The second research objective is to examine the influence of Ulū al-Albāb on the transfer of knowledge and the development of innovative practices in order to foster ethical, inclusive, and equitable approaches. This second research objective is to answer the research question that says, "how may Ulū al-Albāb exert its influence on the processes of knowledge transfer and innovation in order to advance ethical, inclusive, and equitable practices?

Answering first research objective and first research question

The discussion here is to answer the first research objective is to investigate the interpersonal and organisational obstacles that impede the knowledge transfer process in Malaysia's ICT sector and to answer the research question that says, "what are the main interpersonal and organisational obstacles that impede the process of knowledge transfer in Malaysia's ICT sector?

Based on the feedback from the informants, one of the key interpersonal obstacles is cultural resistance. The inclination towards taking the path of least resistance hinders the knowledge transfer is due to a cultural preference for maintaining the status quo rather than pursuing innovation and knowledge sharing (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Ethical concerns also play a role, as there is a lack of adherence to intellectual property rights, which can discourage open knowledge transfer and collaboration.

In terms of organizational obstacles, financial constraints are a significant issue. Many Malaysian ICT enterprises lack sufficient financial resources to engage in substantial R&D activities or to independently develop competitive ICT products. This financial limitation restricts their ability to innovate and grow (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The dependence on government financial assistance and incentives rather than independent financial strength further limits their capability to invest in new technologies and knowledge transfer initiatives.

The trade-oriented business models prevalent in the industry also pose a challenge. The ICT industry in Malaysia is predominantly involved in trading rather than developing new technologies. Firms focus on selling imported technology rather than creating and innovating their own, which hinders the development of unique knowledge and expertise within the local context (Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The term "technopreneur" is often misapplied to traders rather than true innovators, highlighting a misalignment between the industry's activities and the expectations of technological entrepreneurship.

Another obstacle is the reliance on government initiatives. While government initiatives such as the Multimedia Super Corridor (MSC) and technology parks are appreciated, there is a perception that these efforts are not enough to ensure the competitive growth of the ICT sector (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). The reliance on government support can create a dependency that impedes proactive knowledge transfer and innovation from within the industry itself. Excessive reliance on a top-down approach can stifle grassroots innovation and the organic development of knowledge-sharing networks.

Additionally, there is a lack of effective collaboration. There is uncertainty about whether local ICT

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enterprises engage in meaningful knowledge sharing through partnerships or MOUs with foreign corporations. This lack of international collaboration limits the exposure to global best practices and advanced technological knowledge (Mhd. Sarif, 2015; Mezghani & Aloulou, 2019; Vrana & Singh, 2021; Kwok et al. 2024). Foreign firms are hesitant to establish collaborations with local ICT companies, which further isolates Malaysian firms from international knowledge networks.

Finally, the ineffectiveness of technology parks is a notable obstacle. Technology parks have not been effective in fulfilling their intended purpose of fostering innovation and knowledge transfer. This ineffectiveness can be attributed to a mismatch between the facilities provided and the actual needs of the ICT firms.

These interpersonal and organizational obstacles collectively impede the process of knowledge transfer in Malaysia's ICT sector, limiting its growth and innovation potential. This would imply that information and communications technology businesses have the ability to absorb information from the outside world (Enterprises 1, 2, 3, and 4; Cohen and Levinthal, 1990; Vrana & Singh, 2021). Despite the fact that it is challenging on the tacit dimension (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), there is a sharing of wisdom of practice (Enterprises 11 and 12; Bourmard, 1999; Oranga, 2023; Yufriadi et al., 2024). This is accomplished by inter enterprise collaboration (Grant & Baden-Fuller, 2000; Vrana & Singh, 2021; Oranga, 2023). It is likely that the intended inter-enterprise knowledge transfer in technology parks (Enterprises 6, 7, and 10; Oranga, 2023; Kwok et al., 2024) can be achieved by the utilisation of the SECI approach in knowledge transfer (Nonaka & Takeuchi, 1995; Mezghani & Aloulou, 2019; Oranga, 2023).

The findings also affirmed that data, information, and knowledge are crucial in today's era of digitalization and artificial intelligence, as they have a substantial impact on the competitive advantage and performance of organisations (Mezghani & Aloulou, 2019; Oranga, 2023; Kwok, Omran & Yu, 2024; Yufriadi, Syahriani & Afifi, 2024). Knowledge transfer is essential in the process of creating and implementing new ideas (Vrana & Singh, 2021; Oranga, 2023; Kwok et al. 2024; Yufriadi et al., 2024). These processes can lead to the creation of both physical and non-physical goods and services, which in turn contribute to economic prosperity through different types of interactions (Vrana & Singh, 2021; Oranga, 2023; Kwok et al., 2024). Nevertheless, numerous interpersonal and organisational factors have the potential to impede the process of knowledge transfer.

Answering second research objective and second research question

The second research objective is to examine the influence of Ulū al-Albāb on the transfer of knowledge and the development of innovative practices in order to foster ethical, inclusive, and equitable approaches. This second research objective is to answer the research question that says, "how may Ulū al-Albāb exert its influence on the processes of knowledge transfer and innovation in order to advance ethical, inclusive, and equitable practices?

Ulū al-Albāb, a phrase denoting individuals with profound comprehension and discernment, possess the capacity to exert substantial impact on the mechanisms of information dissemination and innovation (Mhd. Sarif, 2015; Kwok et al., 2024). This is particularly apparent within the Malaysian ICT sector by effectively tackling the fundamental obstacles identified in the industry. This impact can be directed through a range of tactics that are in line with ethical, inclusive, and equitable practices.

Ulū al-Albāb has the potential to significantly contribute to the promotion of autonomous innovation. Malaysian ICT companies heavily depend on foreign technology and have a shortage of financial resources for conducting independent research and development (R&D) (Mhd. Sarif et al., 2020; Kwok et al., 2024). Ulū al-Albāb can support policies and programmes that promote autonomous innovation among local ICT companies. One way to accomplish this is by fostering cooperation between nearby universities and ICT companies to advance research and development endeavours. Additionally, advocating for greater government funding and financial

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assistance specifically aimed at R&D in the ICT industry can be effective. Furthermore, creating innovation centres and support programmes within technology parks that provide resources and guidance to startups and small businesses can also contribute to this goal.

Improving ethical standards is another crucial domain. The Malaysian ICT business encounters challenges related to unethical actions, including the unauthorised sale of software and hardware. Ulū al-Albāb has the ability to take the lead in implementing and ensuring the adherence to ethical standards in the sector. This may entail collaborating with industry stakeholders to create and distribute a set of ethical guidelines for ICT businesses, implementing certification programmes that acknowledge and incentivize companies that adhere to rigorous ethical standards, and organising workshops and seminars to enhance awareness about the significance of ethical practices in ICT.

Advocating for diversity and equity is equally crucial. The ICT sector suffers from a deficiency in inclusion and fair access to resources. Ulū al-Albāb can promote the development of fair and inclusive practices by urging ICT companies to implement diverse recruitment strategies that offer opportunities to underrepresented groups, endorsing community-driven ICT projects that offer training and resources to marginalised communities, and advocating for the fair allocation of government incentives and support to ensure that smaller companies and startups can compete fairly.

Ulū al-Albāb can make a substantial contribution in enhancing the sharing of information. There is a lack of adequate knowledge dissemination and cooperation between domestic and international ICT companies. Ulū al-Albāb can facilitate knowledge transfer by serving as intermediaries to promote collaborations and Memorandums of Understanding (MOUs) between local and foreign ICT companies, with a specific emphasis on exchanging expertise. In addition, they can provide platforms to facilitate regular dissemination of knowledge, such as conferences, symposiums, and online forums. Furthermore, they can advocate for government policies that encourage the exchange of knowledge and collaboration between local and international institutions.

Addressing financial restrictions is essential for fostering the growth and fostering innovation of Malaysian ICT enterprises. The financial limitations impede the capacity of these companies to partake in substantial research and development (R&D) and innovation. Ulū al-Albāb has the ability to impact financial policies and support mechanisms by encouraging the investigation of alternative funding sources like venture capital, crowdfunding, and public-private partnerships. It can also implement financial literacy programmes to assist ICT entrepreneurs in better managing resources and accessing funding opportunities. Additionally, Ulū al-Albāb can advocate for stronger and more focused government incentive programmes that offer financial assistance for innovative projects.

Ulū al-Albāb has the capacity to greatly influence the Malaysian ICT industry through its promotion of ethical practices, encouragement of uniqueness, support for inclusivity, and facilitation of knowledge exchange (Mhd. Sarif, 2015; Kwok et al., 2024). By implementing these measures, they can contribute to the advancement of a greener, economically robust, and ethically sound information and communication technology (ICT) sector in Malaysia (Thiersten and Wilhelm, 2001; Enterprise 11; Luger, 1992; Enterprises 3, 4, and 5; Mhd. Sarif, 2015).

The impact of Ulū al-Albāb on the processes of knowledge transfer and innovation is complex and varied. They can promote the establishment of platforms and networks that encourage the exchange of knowledge between local and international ICT companies. This can be accomplished by coordinating conferences, symposia, and seminars that convene industry professionals, academics, and policymakers. Ulū al-Albāb can facilitate the acquisition of state-of-the-art technologies and best practices from global sources by creating a collaborative and idea-sharing atmosphere for local businesses.

In addition, Ulū al-Albāb can significantly contribute to improving the innovative capacities of Malaysian

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ICT companies through the promotion of research and development (R&D) initiatives. They have the ability to advocate for augmented government financing and incentives for research and development initiatives, while also promoting private sector involvement in innovation. Ulū al-Albāb can assist startups and small firms by creating innovation hubs and incubators in technology parks. These facilities will offer the necessary resources, mentorship, and infrastructure for the development of new technologies and the successful launch of creative goods.

Ulū al-Albāb can also promote the implementation of ethical guidelines in the ICT business, while also encouraging innovation. This include the creation and distribution of a set of moral principles for ICT enterprises, implementation of certification initiatives that acknowledge and incentivize organisations that uphold exemplary ethical principles, and execution of educational efforts to enhance understanding of the significance of ethical conduct. Ulū al-Albāb can contribute to the establishment of a more reliable and esteemed ICT sector in Malaysia by advocating for ethical conduct.

The endorsement of inclusivity by Ulū al-Albāb is of utmost importance. They have the ability to promote the adoption of diverse employment practices among ICT enterprises, provide support for community-based ICT initiatives, and lobby for the fair distribution of government incentives. By ensuring that opportunities in the ICT sector are accessible to all segments of society, Ulū al-Albāb can contribute to the development of a more inclusive and fair business.

Enterprises 9, 10, and 11 demonstrate that profit-making aims can be harmoniously integrated with political objectives, resulting in a mutually beneficial and efficient partnership. All of the respondents express optimism on the spatial advantages gained from technology parks, which is highlighted by Krugman (1997) and Mhd. Sarif (2015). Malaysia's technology parks are well-suited for ICT SMEs and offer opportunities for short-term growth, as supported by Singh (2001), Porter (1998), and Mhd. Sarif (2015).

Ulū al-Albāb has the potential to significantly impact the Malaysian ICT industry by shaping the processes of knowledge transfer and innovation. Their endeavours can contribute to the establishment of an industry that is not only economically competitive but also environmentally sustainable and ethically upright. By advocating for ethical practices, fostering inventiveness, promoting diversity, and facilitating knowledge sharing, Ulū al-Albāb can effectively contribute to the sustained success and growth of Malaysia's ICT sector.

CONCLUSION

Informant feedback indicates that significant interpersonal constraints in Malaysia's ICT sector include cultural resistance and ethical issues. An inclination towards preserving the existing state of affairs hinders the exchange of knowledge and the development of new ideas. Moreover, a failure to comply with intellectual property rights hinders the promotion of open collaboration.

There are also substantial barriers within the organisation. Many ICT firms in Malaysia are unable to engage in significant research and development operations or independently create competitive ICT goods due to financial limitations. The reliance on government financial aid restricts their ability to invest in innovative technology and programmes for knowledge transfer.

The trade-oriented business structures of the industry present an additional barrier. Companies prioritise the sale of imported technology over the creation and innovation of their own, impeding the growth of distinctive knowledge and expertise. The term "technopreneur" is frequently misused to describe traders instead of genuine innovators, revealing a discrepancy between the industry's actions and the anticipated characteristics of technical entrepreneurship.

The reliance on government efforts such as the Multimedia Super Corridor (MSC) and technological parks is acknowledged, but it is considered inadequate for achieving competitive growth. This reliance hinders the proactive exchange of knowledge and innovation within the industry. Additionally, there is a deficiency in

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productive cooperation with international firms, which restricts access to global benchmarks and cutting-edge technological expertise.

In addition, technology parks have proven to be ineffective in promoting innovation and the transfer of information. The lack of efficacy might be ascribed to a discrepancy between the amenities offered and the specific requirements of the ICT companies.

Ulū al-Albāb, those with deep understanding and keen perception, have the ability to greatly influence the transfer of knowledge and the process of creativity. To promote autonomous innovation, they can support policies and programmes that encourage research and development among local ICT companies. They can also enhance ethical standards by establishing and enforcing guidelines. Additionally, they can advocate for diversity and equity in the industry. Lastly, they can facilitate knowledge sharing by promoting collaborations and providing platforms for regular dissemination of knowledge. To ensure the growth and innovation of Malaysian ICT firms, it is crucial to tackle these financial and collaborative challenges.

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