



## Embracing the Knowledge Society for a Sustainable Future of a Halal Industry

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### ABSTRACT

This study aimed to examine the evolving concept of the Knowledge Society (KS) and its implications for a halal industry through conventional and Islamic lenses. UNESCO and contemporary scholars defined KS as a system that generated and applied knowledge for human progress. This study reinterpreted the concept within an Islamic epistemological framework, particularly the tawhidic paradigm that viewed knowledge as a path toward divine pleasure and holistic well-being. Using a narrative review method, the study analyzed existing literature to bridge the gap between Western secular notions of KS and the Islamic worldview that integrated ethical, spiritual, and societal dimensions. The results showed that embedding tawhidic values in knowledge creation enhanced the authenticity and sustainability of a halal industry. Current developments were also identified, such as a halal Knowledge Centre, and challenges, including regulatory complexity, limited study integration, and uneven certification systems. In conclusion, establishing a halal KS rooted in Islamic ethics and collaborative learning offered a novel framework for achieving sustainability, integrity, and inclusive growth across the global halal ecosystem.

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## 1 Introduction

A knowledge society (KS) is the creation, dissemination, and application of knowledge that contributes to collective well-being and development. Many definitions show the role of the internet and information technology as key enablers of KS, given the transformative impact on how information is accessed, shared, and used.

In Islam, the pursuit, transmission, and implementation of knowledge are fundamental to human existence. Possessing knowledge as well as being deprived of it profoundly influences an individual's daily life. For Muslims, knowledge enables one to fulfil responsibilities as both a servant ('abd) and a steward (khalifah) of Allah, thereby achieving balance between *duniawi* (worldly) and *ukhrawi* (spiritual) obligations.

Although the notion of a knowledge-based society is deeply rooted in Islamic principles, the term "Knowledge Society" was popularized by UNESCO in 2005. This term has been widely adopted across sectors, such as education, economy, industry, and governance. Studies have examined KS in education (Abdelkader & El-Senousy 2022; Anderson 2008) as well as in governance and economic contexts, including Malaysia (Hamid & Zaman 2016) and Africa (Britz *et al.* 2006). Despite these growing discussions, the conceptual and practical connection between the KS and a halal industry remains underexplored. Therefore, this study aimed to (i) describe the concept and characteristics of a KS, (ii) analyze the concept through the lens of tawhidic epistemology, and (iii) explore its relevance and application in a halal industry. By addressing this gap, the study contributes to expanding the discourse on the integration of Islamic epistemology within the framework of a halal industry, offering a foundation for the development of a sustainable and ethically grounded halal knowledge ecosystem.

## 2 Methodology

A narrative review method was adopted, synthesising key results from various scholarly sources to provide an overview of the concept and practice of KS in a halal industry. The discussion of the concept also referred to the main sources of Islam, namely the Al-Quran and Hadith, particularly when analysing from the perspective of tawhidic epistemology. The analysis was conducted based on the premise of KS as described by UNESCO, which included freedom of expression, universal access, respect for culture and language, and quality education.

## 3 Definition and Characteristics of a Knowledge Society

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) proposed a definition of KS as having the "...capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development" (Bindé & Jérôme 2005). This definition shows the steps from generating knowledge to the application for human development. Meanwhile, the sociologist Helmut Willke defined KS as including "the independent production of new knowledge in all functional areas of society" (Hornidge 2011). Willke's propositions show the autonomous and inherent nature of the generation of new knowledge, but lack specifics regarding the purpose of KS. Functional areas of society may also include criminology or military activities, which can be the opposite of human development.

Mansell & Tremblay (2013) proposed that KS includes the "...integration of knowledge within people's lives in ways that maximize the benefits and minimize harms, considering the goals of both economic prosperity and inclusive social equity and justice". This definition focuses on

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the outcome of KS to be beneficial, either by increasing benefits or reducing harm. The effort should balance the needs of the economy and society. What is common across the different definitions is the generation of new knowledge that is central to the continuation of KS.

The process of generating knowledge was defined extensively by UNESCO (Bindé & Jérôme 2005) and loosely by Willke (Hornidge 2011). However, application of the concept requires a purposeful effort in nurturing a study mindset at all levels of education (Karpov 2015). Mansell & Tremblay (2013) focused more on the application of the knowledge rather than the generation. This pointed to the collective wealth of knowledge possessed by the global society, showing that meaningful engagement and knowledge exchange between society were the key requirements.

According to UNESCO, the formation of KS depends on ensuring freedom of expression, universal access to information, respect for cultural and linguistic diversity, and the provision of quality education (Bindé & Jérôme 2005). Within this society, individuals engage in continuous inquiry to comprehend both explicit knowledge (expressive knowledge), which can be articulated, conceptualized, codified, formalized, stored, and accessed. Meanwhile, tacit knowledge is difficult to express or transmit to others, as it includes skills, intuition, and insights gained through personal experience. The process of acquiring and sharing knowledge is facilitated through freedom of expression. This freedom must be exercised responsibly to avoid infringing upon the cultural or moral sensitivities of other society. In the process of interaction and exchanging ideas, clashes of values and beliefs are inevitable, which can become fertile ground for generating new knowledge when managed with mutual respect and understanding. The advancement of information and communication technologies has further increased this process of engagement and knowledge exchange (Mansell & Tremblay 2013).

#### 4 The History and Evolution of the Knowledge Society

The terms "knowledge society", "information society", and "knowledge-based economy" have become prevalent in public discourse, academic literature, and journalism over the past two to three decades. These concepts envision a future in which knowledge assumes an increasingly significant role in driving social and economic development. While scholars from Japan, the United States, and Europe were instrumental in formulating the notions of the KS and information society, the knowledge-based economy was introduced by international organisations, such as the Organization for Economic Co-operation and Development (OECD), in the late 1990s and the early 2000s. For instance, the STI Scoreboard 2001 presents OECD indicators reflecting the knowledge-based economy through economic and innovation metrics across member countries (OECD 2001).

All society were historically rooted in the use and transmission of information, with knowledge serving as a fundamental driver of social welfare and economic advancement. Early human society, based on hunting, fishing, and foraging, relied on shared environmental knowledge. Around 8000 B.C.E., some society began domesticating animals and cultivating land, initiating the domestication revolution and giving rise to horticultural and pastoral society. The invention of the plough around 3000 B.C.E. in regions such as Mesopotamia and Egypt marked a significant transformation, facilitating the transition to agriculture and laying the foundations of agrarian society (SDF Archivio Storico 2019). This agricultural revolution has enabled surplus food production and supported a larger and more complex society. It also coincided with the development of tools, such as the wheel, writing systems, and numerical notation, although land and livestock remained the primary economic resources.

The advent of the Industrial Revolution in the late 18th century introduced a new society structure that replaced agrarian economies with industries. Characterised by technological innovation, mechanised production, and the rise of factory systems, this shift had far-reaching implications for labour, urbanisation, family structures, and class stratification (Scientia Educare 2025).

Bell (1973) was among the first to provide a comprehensive analysis of the post-industrial society, observing the expansion of service-sector employment and the increasing dominance of white-collar over blue-collar labour. The study argued that theoretical knowledge had become the principal strategic resource, with scientists and professionals displacing industrial capitalists as the leading social class. Subsequently, alternative designations, such as information and network society, were developed, underscoring the role of ICTs in shaping productivity and power structures (Castells 1996). Critics have challenged these concepts for technological determinism, contending that ICTs represent only the infrastructure, or "hardware", which requires the "software" of human expertise, innovation, and critical engagement to be effective. In response, a broader and more distinct understanding of the KS gained prominence in the late 1990s. Empirical data showed that several nations, including those in Scandinavia, Western Europe, Japan, the United States, Canada, and Australia, have made significant strides toward becoming a knowledge-driven society (The World Bank 1998; UNDESA *et al.* 2005).

Berthoud & Kündig (2005) described the development of KS as being in

several stages. First, it has been a long, drawn-out process of development, punctuated by the development of the codex and the book (which replaced scrolls), the advancement of paper, the book's transformation into a tool for knowledge (indexes, tables, footnotes, and endnotes), increases in the productivity of copy-making (from the "industrial" organisation of the scriptorium to the invention of the printing press), the spread of modern libraries, and the advent of the internet. Second, information technologies foster more creative collaboration between studies and scientists as well as between product designers, suppliers, and end users. Collective labour and learning are facilitated by the development of virtual items that are instantaneously accessible to anyone and are modifiable indefinitely. In this regard, new opportunities for numerical simulation made possible by computers marked another significant departure from previous experience. Third, the new technologies facilitate browsing and analysing the information contained in enormous databases, which is a powerful way to advance knowledge in management, humanities, and social and humanistic sciences equally. These possibilities have a significant impact on various managerial study fields.

#### 5 Knowledge Society from the Perspective of Tawhidic Epistemology

Knowledge is a fundamental aspect of being Muslim, by guiding individuals to live within the shari'ah bounds in the quest to attain mardhatillah (Allah's blessing). The act of seeking, teaching, and sharing knowledge is considered a good deed in Islam. Sharing knowledge is a sadaqah that extends beyond the worldly benefits. In Islam, the Quran and Sunnah are the two sources of knowledge. Seeking, teaching, and sharing knowledge in Islam are based on the Islamic code of ethics and should always be undertaken based on the Islamic worldview. Verse 11 of Surah Al-Mujadala ("... Allah will elevate those of you who are faithful, and raise those gifted with knowledge in rank. In a Hadith, Prophet Muhammad (pbuh) said, "Seeking knowledge is an obligation upon every Muslim." (Ibn Majah). The hadith clearly states that seeking knowledge is a duty for every Muslim and is a religious obligation that everyone must fulfil.

Prophet Muhammad (pbuh) focused on the importance of building a KS. This is evident several instances which include i) during a battle, he required prisoners who could read and write to teach illiterate Muslims instead of paying ransom where this action promoted the transfer of knowledge; and ii) the Prophet's sayings show lifelong learning, the pursuit of knowledge even to distant places, such as China, and the obligation for both men and women to seek knowledge (Sunan Ibn Majah Hadith 224).

Considering that the concept of KS is popularised by Western ideas, this section provides a brief analysis to assess its compatibility with the principles of tawhidic (absolute monotheism) epistemology. Bakar's book titled *Islamic Civilisation and The Modern World: Thematic Essays* (Bakar 2014) described tawhidic epistemology (or vision of knowledge) as a theory of knowledge that "affirms the view that all true human knowledge ought to be related to the unity of God, since all things are ontologically related to the Divine Origin. Unfortunately, contemporary Muslims do not possess the whole of tawhidic epistemology along with its accompanying exemplary thinking culture."

Hasan (2025) explained that within this tawhidic epistemology, there is only one divine goal, regardless of the subject areas that Muslim learners engage in. In other words, the knowledge and skills acquired are only for the pleasure of God, which can be in the form of a service to humankind and the environment. According to Hasan (2025), "The bottom line is that as long as the goal and purpose of knowledge seeking is the pleasure of God through righteousness, altruism, and beneficence, all branches of knowledge are good and Islamic. Therefore, all academic fields are united and come under the purview of tawhidic epistemology."

Education, which includes the activities of seeking, teaching, and sharing knowledge in Islamic tradition, is generally aimed at attaining a balanced growth of spiritual, intellectual, imaginative, physical, scientific, and linguistic. In general, all four premises of the UNESCO's KS (freedom of expression, universal access, respect to culture and language, and quality education (Bindé & Jérôme 2005)) are universal values that match the values in Islamic and tawhidic epistemology, particularly the 'collectivity' aspect, where knowledge is shared and can be acted upon to benefit the society. A close examination may show that certain boundaries or limits in Islam should be implemented on these premises. For instance, the first premise, freedom of expression, could not be a total liberty to express thoughts, as certain subjects or issues should be kept within religious boundaries. Another example is on the third premise, with respect to culture and language. Although the vast majority in the West embrace the culture of LGBTQ+, Islam condemns this group of people, such that the premise cannot be entirely fulfilled based on Islamic principles. Therefore, the core issue of "whether genuine KS based on Islamic moulds is being implemented in Muslim society" requires further investigation. Muslims should be awakened to rediscover, reunite, and reclaim the Islamic tradition and heritage, a the quest to firmly re) established a KS in the mould of the Islamic worldview. The following section on KS in a halal industry suggests that KS can benefit all stakeholders, including consumers. As an industry



governed by Shariah principles, implementing KS shaped by the Islamic worldview is feasible.

## 6 Knowledge Society in a Halal Industry

The lack of understanding of the tawhidic epistemology has been argued to be the cause of intellectual crisis in the modern age Muslim, which has become the central crisis of the educated Muslims' relationship with the religion (Bakar 2014). Although the scholarly discussion on tawhidic epistemology has only recently resurfaced, the inherent ideas surrounding this concept have continued to persist.

The halal industry, which is built upon diverse disciplines, could benefit from a thorough discussion from the perspective of tawhidic epistemology towards reaching a true understanding of the unity of knowledge in attaining the pleasure of Allah. Being a faith-based system, the knowledge, skills, and practice in a halal industry should be guided and moulded by the tawhidic concept. This could safeguard a halal industry from being manipulated or derailed into an economic system that would lose the ruh of a faith-based system.

KS may not be a prominent academic discourse at present. However, within the expanding halal industry, examining the concept remains valuable to ensure that halal knowledge and related practices are disseminated through KS shaped by tawhidic epistemology. Based on another perspective, KS moulded in tawhidic epistemology can be a vehicle to propel a true faith-based halal industry.

### 6.1 Current status of the knowledge society in a halal industry

The rise of KS has significant implications for the halal industry and its ecosystem. A halal industry has various sectors that cater to the needs of the Muslim population, including food and beverages, pharmaceuticals, cosmetics, tourism, and finance. As the level of education and awareness increases, the demand for halal products and services that meet religious and cultural requirements continues to grow. The wholesomeness and high quality of halal toyiban products and services are increasingly being accepted by all, beyond the Muslim communities (Hashim *et al.* 2022).

In this context, KS provides a fertile ground for a halal industry to flourish. The availability of information and communication technologies has made it easier for businesses to access information about halal standards and regulations and to connect with consumers who are interested in the products and services. This has led to the development of new halal industries, such as halal e-commerce and certification services, which provide consumers with greater access to products and services. KS has also led to greater awareness about the importance of ethical and sustainable practices in the halal industry. Consumers are becoming more conscious about the environmental and social impact of choices and are looking for halal products and services that are produced ethically and sustainably. This has led to the development of new standards and certifications, such as a Halal Management System.

### 6.2 Motivations to establish a halal knowledge society

KS has been shown to contribute to the growth and innovation of a halal industry. Therefore, there is a need to firmly establish a halal KS that can further benefit businesses, consumers, and society as a whole. Table 1 shows some of the motivations for establishing halal KS.

**Table 1:** Motivations and Benefits for Establishing a Halal Knowledge Society (KS)

| Aspects               | Motivations and Benefits                                                                                                                                                                                                                                              |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Economic              | Establishing a halal KS can lead to economic benefits for businesses and the wider economy. By tapping into the growing halal market, businesses can increase revenues and create new jobs. This can help boost economic growth and development.                      |
| Social and Cultural   | A halal KS can help promote social and cultural diversity and inclusion. By promoting the values of halal, such as integrity, ethics, and social responsibility, a halal KS can help build a more harmonious and tolerant society.                                    |
| Health and Safety     | Halal products and services are subject to strict quality and safety standards, which can benefit consumers. A halal KS can help promote and ensure that consumers have access to safe and high-quality products.                                                     |
| Environmental         | There is a growing focus on sustainability and environmental responsibility in the halal industry. A halal KS can help promote sustainable and ethical practices, thus reducing the environmental impact of a halal industry and promoting a more sustainable future. |
| Innovation and Growth | A halal knowledge society can foster innovation and growth in a halal industry. In the aspect of study and development in halal-related fields, a halal knowledge society can help to drive innovation and growth in the industry.                                    |

By promoting the value of halal and leveraging the potential benefits of halal KS, it is possible to develop a more inclusive, sustainable, and prosperous future. However, this requires concerted effort from all stakeholders in a halal industry ecosystem, including businesses, governments, analysts, and consumers.

### 6.3 Opportunities to establish a halal knowledge society

In tandem with the motivation to establish halal KS, there are many opportunities or factors that support the development of halal KS. These opportunities can be seized by all stakeholders in a halal industry towards knowledge sharing for mutual benefits. Table 2 shows some of the opportunities or supporting factors that exist to establish halal KS.

**Table 2:** Opportunities or supporting factors for establishing a halal knowledge society

| Opportunities or factors          | Description                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technological Advances            | Technology is playing an increasingly important role in the halal industry, with the rise of e-commerce, mobile apps, and social media, including the widespread use of the WhatsApp application. This presents an opportunity for businesses to leverage these technologies to reach new customers and expand their reach. |
| Increased Awareness and Education | There is a growing awareness and education about the importance of halal products and services among consumers, which is driving demand for halal products and services. This presents an opportunity for businesses to cater to this demand and differentiate themselves from competitors.                                 |
| Developing Halal Industries       | There are many developing halal industries with innovative products and services, such as halal tourism, halal cosmetics, and halal pharmaceuticals, which present new opportunities for businesses to diversify and expand their offerings.                                                                                |
| Standardization and Harmonization | There is a growing effort to standardize and harmonize halal certification and accreditation across different countries and regions. This presents an opportunity for businesses to expand their operations globally and tap into new markets.                                                                              |
| Sustainability and Ethics         | There is a growing focus on sustainability and ethics in the halal industry, with consumers increasingly concerned about the environmental and social impact of their choices. This presents an opportunity for businesses to differentiate themselves by adopting sustainable and ethical practices.                       |

### 6.4 Models of knowledge-based models for establishing a halal knowledge society

Several knowledge-based models can be used in a halal ecosystem to promote the development of halal KS. Table 3 shows some examples of knowledge-based models that can be implemented in a halal industry to develop halal KS.

**Table 3:** Knowledge-based models that can be implemented in a halal industry to develop a halal knowledge society

| Knowledge-based models                      | Description                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Halal Science-Based Model                   | This model is based on the principles of scientific study and evidence-based decision-making. It includes the use of scientific methods and technologies to ensure that halal products and services meet the highest standards of safety and quality.                                                                                       |
| Halal Supply Chain Management Model         | This model includes the management of a halal supply chain, from the sourcing of raw materials to the distribution of finished products. It includes the use of traceability systems and quality management processes to ensure that halal products are produced and delivered in compliance with halal standards.                          |
| Halal Accreditation and Certification Model | This model includes the establishment of accredited halal certification bodies that can provide certification services to businesses and organizations in the halal industry. It includes the development of standardized halal certification processes and the use of best practices to ensure the integrity of the certification process. |
| Halal Entrepreneurship Model                | This model includes the promotion of halal entrepreneurship and innovation in a halal industry. It also includes the development of training and support programs for halal entrepreneurs, as well as the provision of funding and other resources to help them start and grow their businesses.                                            |
| Halal Tourism Model                         | This model includes the promotion of halal tourism, which involves the provision of travel and hospitality services that are in compliance with halal standards. It includes the development of halal tourism infrastructure and the promotion of halal tourism destinations.                                                               |

These knowledge-based models can help promote the development of halal KS by promoting study, innovation, quality, and integrity within the halal industry. By adopting these models, businesses and organisations in a halal ecosystem can contribute to the development of a more sustainable, inclusive, and prosperous future.

### 6.5 Challenges to developing a halal knowledge society

Despite the several opportunities for developing halal KS, including knowledge-based models, some challenges need to be addressed. Table 4 shows the challenges that need to be overcome to develop halal KS.

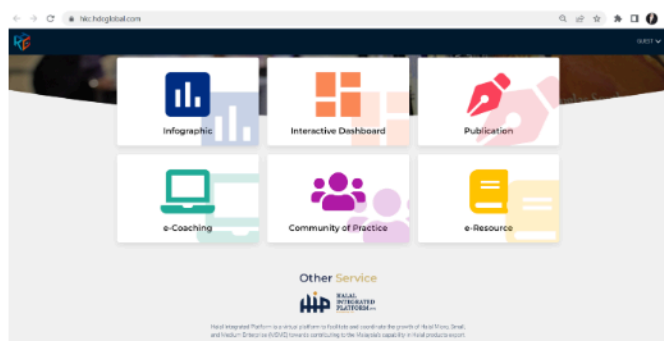
Addressing these challenges requires a concerted effort from stakeholders across a halal ecosystem, including governments, businesses, analysts, and consumers. This will help develop a halal KS that promotes innovation, growth, and collaboration in the industry.

**Table 4:** Challenges that need to be overcome to develop a halal KS

| Challenges                          | Description                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lack of Awareness and Understanding | One of the biggest challenges to developing a halal KS is the lack of awareness and understanding among the public about what halal means and the benefits of consuming halal products. This can be addressed through education and awareness campaigns.                                                                                                       |
| Complexity of Halal Standards       | The complexity of halal standards and regulations can be a challenge for businesses and consumers. It can be difficult to navigate the different requirements and certifications, and this can deter businesses from entering a halal market. This can be addressed by simplifying the certification process and providing guidance and support to businesses. |
| Limited Study and Development       | There is a need for more study and development in halal-related fields to support the growth of a halal industry. This requires funding and support from governments and private organizations.                                                                                                                                                                |
| Lack of Consistency and Uniformity  | There is a lack of consistency and uniformity in halal certification and accreditation across different countries and regions. This can create confusion and uncertainty for businesses and consumers. There is a need for greater standardization and harmonization of halal standards and regulations.                                                       |
| Resistance to Change                | Some stakeholders in the halal industry may be resistant to change and innovation, which can limit the growth and development of the industry. This can be addressed through education and awareness campaigns that show the benefits of innovation and the need to adapt to changing market trends.                                                           |

### 6.6 HDC Halal Knowledge Centre, an example of the current Halal Knowledge Society

The Halal Knowledge Centre, developed by the country's Halal Development Corporation, is a good example of KS. This centre focuses on delivering and sharing knowledge in this sector as a gateway towards a better understanding of a halal industry. Although some features require paid subscriptions, many are freely accessible. The platform also features the Community of Practice, a form of knowledge sharing that leverages the expertise of people in the industry. The digital reference centre can be accessed from <https://hkc.hdcglobal.com/> (Halal Development Corporation 2024).



**Figure 1:** Halal Knowledge Centre, a digital reference centre developed by the Halal Development Corporation (HDC)

## 7 Conclusion

In conclusion, the key concept of a KS is that the knowledge-sharing efforts undertaken would benefit society. KS is relevant to all sectors, including the halal industry. The sharing of knowledge enables this society to further develop and sustain a halal industry that benefits mankind. KS contains the inherent Islamic principles surrounding knowledge acquisition and dissemination. However, the core issue of "whether genuine KS based on Islamic moulds is being implemented in Muslim society" requires further investigation, considering that KS is popularised by a Western idea. The Muslims should be awakened to rediscover, reunite, and reclaim Islamic tradition and heritage, a quest to firmly reestablish a KS in the mould of Islamic worldview and tawhidic epistemology.

### Conflict of Interest

The authors declare no conflict of interest.

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