THE DIGITAL HALAL ERA - A LOOK INTO THE NEW NORMAL

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Abstract:
As the US $8 trillion global food supply chain is adapting to a post Covid-19 world becoming the new norm, so too is the Halal food system experiencing radical evolution and progression. As innovative technologies spawn new services and digital models, they also strengthen the transparency and integrity of Halal processes and certification and provide the capabilities to establish international Halal best practices alongside mainstream food industry sectors. Awareness is growing of the need to establish Halal systems and regulatory frameworks that will better ensure public interest, including consumer protection and confidence, whilst also advancing towards a viable digital Halal economy. Digital globalization has enabled globally accessible marketplaces where convergences towards digital economies have improved efficiencies as well as developed and strengthened interdependent relationships between services and networks. Rejeb states that, “the combination of blockchain and IoT technologies can be used as a powerful tool to orchestrate Halal food processes and ensure self-organized, transparent and smarter Halal Food Supply Chains (HFSCs). Leveraging blockchain with IoT technologies in the Halal food industry thus holds the potential to restructure conventional ways of managing Halal food traceability, promoting more credibility and trust in Halal certification, and ultimately boosting the Halal economy.” (Abderahman Rejeb, 2021) We are in a new digital era of Halal and this paper will discuss the economic impact of a digital Agri & Halal ecosystem and what the essential determinants are to its holistic long-term success.

Keywords: digitalization, digital economy, Agri & Halal ecosystems, interoperability, Halal digital data, Halal sustainable development, Halal food supply chains.

JEL codes: D8, L15, L66

INTRODUCTION

The dual function of Halal as both a brand for business and as an ideal of religious function and qualities has given rise to complexities caused by the struggle over Halal authority in a global context. This has become even more relevant in the discussion around the development of a global Halal ecosystem and of an accompanying standardised regulatory framework. The inability of global Halal authorities to
collaborate and work together to build a strong, inclusive global Halal masterplan remains a significant contributor to the complexities, confusion and fragmentation in the global Halal system. The success of Halal lies in strong, inclusive leadership with a shared goal to advance the Halal industry and ultimately better serve the global Muslim population as its primary goal.

A customer-centricity approach underpins a healthy ecosystem, where an ecosystem becomes healthy and sustainable when it connects a wide range of participants and caterers to the growing demands of its customers. A digital economy strengthens the interdependent relationships between services, networks and industry stakeholders.

According to the ICC Commission on the Digital Economy policy statement, “the ultimate beneficiaries of this virtuous cycle and symbiosis are national economies.” (ICC Commission on the Digital Economy, 2016)

There is a compelling economic reason to encourage regulatory reformation in implementing policies and frameworks that support and encourage the adoption and use of key IoT technologies and digital systems. (Abderahman Rejeb, 2021)

International best practice shows that a clear vision and strategy is key and must include a solid institutional framework with detailed regulatory basis. This is a key requirement to accelerate infrastructure roll-out and stimulate the development of the global industry. (ICC Commission on the Digital Economy, 2016)

A STANDARD HALAL REGULATORY FRAMEWORK

Halal Accreditation Bodies work to reject rogue and/or fraudulent certifiers as well as set “new standards of competence for Halal certification that are aligned with the existing health, safety and quality-assurance projects in place in the mainstream food and beverage industry.” (International Trade Centre, 2015) However, the existence of multiple, self-regulating Halal Accreditation Bodies can create added complications for independent Halal Certifying Bodies (HCBs). This results in fragmentation, complexity as well as the added costs of requiring duplicate certifications in order to be recognized in different regions in the global Halal market. (International Trade Centre, 2015)

In the interest of establishing Halal best practices and processes, Halal Bodies “cannot act as both certifier and accreditation agency; they need to be one or the other to avoid conflicts of interest.” (International Trade Centre, 2015) Key to the success of developing a more open and transparent global Halal market is for there to be a standardized framework where accreditation of all other Halal Bodies is independently evaluated against to ensure impartiality and competence.

Numerous instances of fraud and bad actors within the Halal market today reduce consumer confidence and importantly highlight the lack of transparency and visibility around Halal certifications and processes. This strengthens the argument that a standardised and unified framework is necessary to better regulate and maintain oversight of the Halal market. It is also noted that this framework is long overdue. (International Trade Centre, 2015) Halal Authorities must progress from self-regulating, independent silos and move toward a unified and equally beneficial system wherein Halal can advance at an aggregate level. The key to building a common Halal ecosystem for all is in a collaborative and mutually beneficial approach. A mindset
shift must occur where the motivations to building a better functioning Halal economy with higher levels of transparency and integrity lie in the mutual objective to better serve a global, not just regional, Muslim population.

There is a growing awareness of the need to implement a standardised Halal framework. Successful implementation thereof will result in reducing complexity and confusion, lowering technical barriers to entry and increasing consumer confidence and trust in Halal integrity. Regulatory reformation, the convergence to a standardized framework, will “promote investment, competition and innovation, and will protect consumer interests and expectations no matter who is ultimately providing the service.” (ICC Commission on the Digital Economy, 2016)

OneAgrix has built a fully functional and decentralised Agri & Halal digital ecosystem, whose blockchain and IoT technologies work together to increase and maintain higher levels of trust and transparency through an end-to-end traceability solution. The OneAgrix nOS (network operating system) is a hub for open industry data exchange where data is used to increase and maintain higher levels of visibility over Halal integrity and compliance. OneAgrix’s nOS can ultimately provide the impetus for the accelerated laying down and digital adoption of a standardised global Halal regulatory system in which HFSCs can better operate. The digital ecosystem was built around a strong and mutually beneficial purpose, to better serve the global Muslim population with a common ecosystem for all Agri & Halal industry stakeholders.

**THE IMPACT OF A DIGITAL HALAL ECOSYSTEM**

Cleo defines a digital ecosystem as a “dynamic, interconnected network consisting of internal solutions, applications and systems, along with external trading partners, suppliers, customers, third-party data service providers and all their respective technologies. A digital ecosystem necessitates reliable communication and interconnectivity among customers and trading partners, and when it is integrated, it allows enterprises to leverage new and legacy technologies and build automated processes around them.” (Cleo, 2021)

Gartner defines a digital ecosystem as “an interdependent group of enterprises, people and/or things that share standardized digital platforms for a mutually beneficial purpose (such as commercial gain, innovation or common interest). Digital ecosystems enable you to interact with customers, partners, adjacent industries - even your competition.” (Malavasi, 2017)

The digitisation and digitalisation of an economy is the converging of all its services, industry, technologies, regulatory systems and business models. An ecosystem approach provides the necessary tools to facilitate this digital transformation and results in balancing sustainable development of ecosystem participants through inclusivity and collaboration.

Every company today is a technology company. By extension, almost all companies will become participants within some or other digital ecosystem. As Forbes points out, “today, no company can make, deliver or market its product efficiently without technology.” In today’s non-linear and complex world, no business is able to compete
in the market on its own. To grow and prosper they must become willing participants within open, flexible and sustainable ecosystems. (Henderson, 2020)

For the Halal market, it is essential that participants tap into ecosystems that bring together buyers and sellers. Crucial to success is the ability to participate in and contribute to ecosystems that increase and maintain higher levels of Halal integrity, credibility and trust. Ecosystems have proven to deliver business value, resilience and stickiness and the ability to target connections and collaborate across platforms. (Henderson, 2020)

Henderson states that “digital platforms, as the heart of the digital ecosystem, automate the intermediary, broker or marketplace functions. Common examples are Uber for rides, Airbnb for accommodation and PayPal for payments. The purpose of a digital platform is to automate the matching of suppliers to customers, ideally in a manner that can be monetized. In addition, digital platforms need to exploit Metcalf’s Law, which suggests that the value of a network is in direct proportion to the number of nodes or connected users.” (Henderson, 2020)

Accordingly, the OneAgrix B2B trade platform exhibits the unique trait of tech-driven efficiency with the ability to support increased accessibility of global Halal trade by reducing technical barriers and addressing vulnerabilities and flaws in current Halal systems. Very few platforms allow a customer to have real-time knowledge about a products journey. Usually, the reach stops at the retailer or food distributor, instead of ultimately empowering the consumers of Halal. OneAgrix, as a cross-border trading platform, is at its core an ecosystem player, linking a broader Halal and technology landscape in the spirit of reducing friction and promoting increased visibility over Halal integrity and compliance. In this way it acts as an enabler and interest group for the benefit of all Halal market participants.

The catalyst to realizing the potential and sustainable growth of the Halal industry lies in generating advanced Halal data and using this data to enable a full traceability solution. Digital Halal data is the new oil that will support a more advanced Halal industry and it is the interoperability of digital ecosystems that will enable the use of this data to be maximized. Consequently, OneAgrix is expending all efforts to consolidate digital food data into a global Halal and Ag-tech brain trust. The ecosystem acts as a neutral equalizer, creating a nexus of open-source Halal food data and initiating the world’s largest digital Halal and Agri-infrastructure project. Data is leveraged to increase Halal integrity and enhance B2B2C trade, as well as acting as an information interchange between the network of HCBs and other Halal Authority Bodies for the purpose of mutual recognition. AI and predictive analytics can use collated Halal data to canvas unifying terms across Halal standards for trade purposes, with enhanced monitoring of Halal compliance through anti-counterfeiting technology. The end result is to promote interoperability and interconnectivity of all Halal stakeholders within a standardized, globally accepted digital system.

Rejeb states that, “full traceability is regarded as a mechanism for ensuring stringent standards of food quality and safety, maintaining sustainability and lowering the overall cost of the supply chain. IoT technologies have the potential to play a crucial role in ensuring effective traceability within HFSCs and the integrity of food products throughout the entire Halal supply chain. IoT technology can significantly facilitate
food management, reduce complexities in traceability processes, and facilitate the tracking and tracing of food producers’ information.” (Abderahman Rejeb, 2021)

A strong, end-to-end digital platform nurtures the Halal ecosystem and ensures that it adapts and evolves alongside mainstream industry sector progression, and that the effects are long-lasting. However, ecosystem participation requires significant organizational change as well as an important shift in mindset. A robust and better-functioning global Halal system should not be an independent objective by some, but a holistic consequence of all Halal stakeholders working together. Ecosystem participation and success is predicated on the ability and willingness to collaborate with a host of ecosystem complementors and an outward-facing mindset of industry stakeholders.

WHY A DIGITAL HALAL ECOSYSTEM IS ESSENTIAL FOR LONG TERM SUCCESS

There are new technologies, entrants to the Halal market and business models. The question is how to holistically connect all current and new Halal participants within an end-to-end global Halal ecosystem. This is achievable through the cumulative adoption of all beneficial technologies, in addition to their integration, implementation and usage in Halal production and the greater social fabric. Technologies create efficiencies that ultimately equate to enhancing Halal integrity throughout the Halal food system.

OneAgrix’s digital ecosystem is public so that progress and technological advancement in the global Halal economy is collaborative and shared among all ecosystem participants. Any Halal stakeholder is open to join, contribute and benefit to the OneAgrix digital ecosystem, be it for increasing reputation and signalling of Halal compliance, accessing Halal markets to trade more effectively or to offer complementary services that increase Halal integrity. This is the primary vision of OneAgrix, to create a common and effective digital system for the global Halal industry that exists to serve a global Muslim population as its most important goal. A digital ecosystem for Halal sets a baseline for how an advanced Halal industry should more effectively operate and maintains higher levels of transparency, integrity and trust therein.

THE HALAL INDUSTRY IN ITS BROADER CONTEXT

The Maqasid Al-Shari‘ah is stated as, “the higher objectives of the rules of the Shari‘ah, the observance of which facilitate the normal functioning of society by the preservation of order, the establishment of equality among people and enhancing the public good (maslaha); this implies avoiding actions likely to harm individuals and society. The intent, objective and purpose is to revere the law, achieve social and economic justice as well as elevate the welfare of society.” (Institute of Islamic Banking and Insurance, 2020)
Maqasid literally means, “intent, objective and purpose with a desire to create harmony with others; this relates to welfare, interest, or benefit. The vital part of the Maqasid’s objective is preserving public good, whereby it looks at the public good and welfare of society as a whole in relation to the consequences of the intentions and actions of individuals.” (Institute of Islamic Banking and Insurance, 2020)
Within this broader context as an ideal of religious obligation, Halal is a moral code of conduct that encompasses the actions, deeds, food, appearance and speech, amongst others, of a Muslim. Linking this ideal within the global Halal economy necessitates that the outcomes from all Halal activities should be in line with the intrinsic purposes in the Maqasid Al-Shari’ah.
The UN General Assembly adopted the 2030 Agenda for Sustainable Development that includes “17 Sustainable Development Goals (SDGs) and 169 specific targets, encompassing the social, economic and environmental dimensions of development.” (United Nations, 2021) “These aspirations for human dignity, and ‘to leave no one behind’, are mutual in purpose with the principles and objectives of development from an Islamic perspective in the Maqasid Al-Shari’ah.” (Islamic Development Bank, 2015)
The SDG objectives that can be addressed via a digital ecosystem for the Halal industry are; “No poverty, Zero hunger, Good health and well-being (inherent in Halal production and consumption), Decent work and economic growth, Industry innovation and infrastructure, Reduced inequality, Sustainable cities and communities, Responsible consumption and production and Partnerships to achieve goals.” (United Nations, 2021)
A digital ecosystem empowers economies by reducing the need for boundary spanners. Using data more effectively to generate trust directly between buyers and sellers links itself to trade that is fair, reducing inequality and exploitation and shifting the economic impact and growth of trade to the source, i.e., the farmer himself. A digital ecosystem provides the capabilities for OIC member countries to shift excess food production to those in desperate need. This reduces food wastage and/or losses and alleviates food shortages more efficiently. In this way the digital Halal ecosystem is used as a bridge between global communities and becomes the global standard and model for the world in feeding humanity. In this way, Halal is viewed as a necessary Corporate Social Responsibility activity and all Halal stakeholders and participants within the digital ecosystem are able to better coordinate efforts towards the Maqasid Al-Shari’ah and UN SDG objectives.
“Strengthening the means of implementation and revitalizing the global partnership for sustainable development” (United Nations, 2021) is one of the most important objectives in order address the rest of the SDG goals more effectively. Partnerships to achieve common goals is indicative of a willingness to come together and collaborate on projects across multiple stakeholders with an outward facing mindset. This is especially relevant within the fragmented Halal market where navigation of the complexities of regional or national Halal influences is arguably hindering global progression. The success of a global Halal digital ecosystem is in the willingness of all stakeholders to collaborate, partner and operate within a common environment.
ONEAGRIX GLOBAL POSITIONING

OneAgrix is positioned globally as a digital ecosystem for interconnectivity of food supply chains and cross-border trade. OneAgrix is leading multiple public-private partnerships with Governments, the International Trade Centre Geneva (ITC) and other industry stakeholders to better coordinate digitalisation efforts and to increase trade opportunities for ecosystem participants.

In Africa, Nigeria Feeds the World Initiative is a OneAgrix lead project to digitise and digitalise Africa’s largest economy. The Initiative sees OneAgrix as the official technology and trading platform partner for Nigeria and is backed by the Nigerian Governors Forum, Manufacturer’s Association of Nigeria, Nigerian Agribusiness Group, Horasis-Nigeria Economic Development Council, African Business Roundtable and Nigeria Investment Promotion Commission. Nigeria Feeds the World Initiative sees Nigeria’s multinational food manufacturers, SME’s and farmers in the Agri and Halal industry joining the OneAgrix ecosystem and trading directly on its platform. The Nigeria Cross Border Trade Forum will be the official launch under this initiative and is planned for October 2022.

INTEGRA-Guinea is the “Socio-Economic Integration of Youth (INTEGRA) Programme and centres around the development of technical and professional skills for Guinea’s youth and industries. The programme is a joint initiative of the Government of Guinea and the European Union (EU) and focuses on strengthening the capabilities of local institutions by addressing their needs to better serve the country’s private sector.” (International Trade Centre, 2018) OneAgrix and the International Trade Centre have partnered under this program to digitise and create localized digital ecosystems for Guinea farmers and food manufacturers to increase their trade capabilities and opportunities.

Further to achieving the objectives of the “African Continental Free Trade Area” (AfCFTA), OneAgrix has partnered with African Agri Council (AAC), a pan African institution that promotes the development of sustainable food and agriculture in Africa. AAC has a mandate to develop and upskill 10 million farmers from 2021 to 2031. OneAgrix is one of the digital trade ecosystems that farmers under AAC development programmes will join in order to connect to global food supply chains and access trade opportunities. Similarly, OneAgrix is collaborating with African Farmers Association of South Africa (AFASA) in order to connect farmers in Southern Africa to the food system. OneAgrix’s main goal in Africa is to provide the necessary digital ecosystem for African participants to access the global food system for trade.

The Bank Indonesia supported OneAgrix-Indonesia SME Development Project is working to digitise Indonesian SMEs and to connect the world’s largest Halal industry to the rest of the world using OneAgrix as the trading platform and digital Agri & Halal ecosystem. Multinationals such as Switz Group and Nestle Malaysia have also joined the OneAgrix digital ecosystem and are trading directly on OneAgrix.com.

What has been realised as a result of this global pandemic is that the global food system needs more robust and better-connected food supply chains that are resilient and more adaptable to global disruptions. Key to advancing towards a more sustainable and resilient Agri & Halal ecosystem is the adoption of digital
transformational technologies that help to address vulnerabilities and flaws in existing systems and processes, and the willing collaboration as well as increased interconnectivity of participants.

**BIBLIOGRAPHY**


