

Halal E-commerce: Concept and Implementation in the Food and Beverage Industry

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ABSTRACT

E-commerce has greatly expanded its application and scope. More traditional industries have now been incorporated into e-commerce, a significant one of which, in terms of product categories, includes the halal industry. This research uses literature studies, which include literature studies related to the concept of halal in Islam. Literature study on the principles of muamalah in Islam. Literature review about e-commerce and its development in Indonesia. One of the key areas under the halal definition is the treatment of food, food ingredients, and the method of processing. The development of a food and beverage market for Muslims generates interest from a technical point of view, as the aspect of halal must be adhered to. The halal market for Muslims is expanding day by day, in large part due to the spread of Islam in different societies and countries.

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1. INTRODUCTION

Today, e-commerce has greatly expanded its application and scope. More traditional industries have now been incorporated into e-commerce, a significant one of which, in terms of product categories, includes the halal industry. While two-way trade in halal markets has increased, B2C commerce of halal certified products is an easy option for overseas customers, especially for those in non-Muslim countries. As a result, private companies have started to make efforts to support this potential market growth by introducing their products to the e-commerce platform, mainly halal products made by large firms in the halal industry that are liked and accepted by the Muslim community. However, the use of the e-commerce platform, especially for halal e-commerce products, is still limited, but their potential is still under research to expand the online halal market in the world's fastest growing industry.

Halal e-commerce products are a subset of the e-commerce system introduced to provide various types of products or services through electronic platforms via the internet, one of three subsystems of e-commerce. Among the three subsystems, B2C is the most commonly recognized system as a trading platform where it serves and returns the majority of income under the global internet business. Commercial exchange of halal foods and beverages using an e-commerce platform can help meet halal food customers' uppermost needs and requirements. Beyond their physical sources or geographical

regions, it is much easier for them to search for the halal products they want. Muslims who are practicing students or working far away or in areas distant from mosques, halal shops, or food outlets suitable for those at prayer time, for instance, have no other option but to buy halal food products online. For that reason, research into halal e-commerce is important for communicating with regulatory authorities, international and domestic trade associations, and other stakeholders involved. (Imani et al.2022)

Today, the entire market around the globe is endorsing the significance of the Halal industry due to its socioeconomic aspects. It is an expanding sector that provides a variety of attractive products and services that fulfill the fundamental necessities of Muslim consumers. The food and food products/services industry was the foremost up-and-coming segment of the Halal industry. However, Halal is no longer predominantly linked with food, and the idea has been broadened to embrace Halal-approved activities as well as its services. It is now recognized in a wide array of non-food sectors such as personal care, health care, pharmaceuticals, cosmetics, lifestyle, tourism, medical centers, and clothing, among others. The Halal idea was linked and identified with Islamic nations and Muslim communities, including the largest ones in Asia, the Middle East, Africa, and Europe. The Halal food and beverage segment has become even more prominent and necessary due to the development in global trade, cross-border buying and selling, worldwide fast-food chains, and new aggressive trading circumstances. (Ichsan2025)

At present, the growth of Muslim retail market extensions and the individual market occurs in advanced non-Muslim nations, like Europe, the United Kingdom, Southeast Asia, Australia, and the USA. This is ascribed to the escalation in the number of Muslims who live or study in these countries. The British, French, and German markets are full of consumers with superior demands and are looking for numerous alternative ways to fulfill their basic needs, in addition to Islamic community members who belong to their segment. The internet, as an advanced communication tool, can meet the existing needs of Islamic societies and is capable of action at local or global levels. With the growing accessibility of high-tech tools in today's modern society, we are ready to design action planning to link consumers to businesses. As a result, Halal product sales are expected to rise. The Halal idea has begun catching on in the technology domain, and it is strengthening its competitive position via digital marketing channels. Direct and indirect movements are being embraced under significant theoretical and practical research in the idea of Halal. Regular daily businesses can illustrate both intense trading, economic interaction, charitable works, and civil rights consciousness. Consumers are voicing their desires using an expanded purchasing pattern, which is being observed all around. (Hadziq & Ismiyanti, 2022)

2. METHODS

This research uses literature studies, which include literature studies related to the concept of halal in Islam. Literature study on the principles of muamalah in Islam. Literature review about e-commerce and its development in Indonesia. Literature review regarding regulations related to e-commerce and halal products in Indonesia. Literature review of case studies related to halal e-commerce in Indonesia. Observation: Direct observation of the halal food and beverage e-commerce business process. Observation of e-commerce platforms that sell halal food and beverage products. Document study: Analysis of laws and regulations related to e-commerce and halal products. Analysis of research reports and case studies related to halal e-commerce. Literature study on the development of the halal food and beverage e-commerce industry. Data Analysis includes Data reduction: Selecting, simplifying, and organizing the data that has been collected. Data presentation: Presenting data in narrative, table or diagram form. Drawing conclusions: Drawing conclusions based on the data analysis that has been carried out. Making interpretations: Interpreting research results in the context of Islamic law and the development of e-commerce in Indonesia. Discussion: Analyze research findings in depth. Compare research findings with theories and concepts that have been studied. Explain the implications of the research findings. Conclusion: Summarizes the important findings of the study. Draw general conclusions about the concept and implementation of halal e-commerce in the food and beverage industry. By using

descriptive qualitative methods, it is hoped that this research can provide a valuable contribution in understanding and developing halal e-commerce in Indonesia.

3. FINDINGS AND DISCUSSION

After reviewing the gaps in this chapter around the general focus on e-commerce consumer behavior, this thesis focuses on studying consumer attitudes in a niche area, that is Halal e-commerce. To respond to these gaps in knowledge regarding e-commerce consumer behavior, we test three theories of motivation and the role of the Islamic religion to explain the antecedents of the attitude and intention to buy Halal products online. Among these three theories, the second one has been slightly adapted to be applied to the niche of Halal e-commerce. Moreover, based on the findings of the TSM, the PIPeB theory has also been adapted to this case of Vietnamese consumers who believe in and use the aspects of the Islamic religion. The research also provides evidence regarding the measurement of the dependent variable intention to buy Halal food products online, which is still under-studied. (Liew et al.2024)

The theoretical model is developed based on these theories of motivation by including the moderator variable Islamic religion. For each theory, hypotheses regarding the TSM and intention to buy for e-commerce in general, and the PIPeB and Islamic religion are then established and tested using the empirical study of specifically Halal e-commerce. Also, respondents will be sampled from the population of Vietnam because the country is recognized as a nation of non-Muslims increasingly aware of Halal products and the Halal lifestyle, especially since 2010 when the Halal standard was officially launched. In order to cover corresponding families of different religions, it is deemed interesting to conduct this research in such a non-Muslim population of Vietnam. Consequently, it is hoped that the results confirm the current trend of consumers of diverse religions to understand Halal, considering not only benefits but also some potential motivations of Halal consumers when adopting the Halal lifestyle. (Chong et al.2022)

The halal industry is one of the fastest-growing global markets. In Arabic, the word 'halal' means 'allowed' or 'lawful'. Halal has a plain meaning that refers to Islamic conduct or behavior. Therefore, the two key references for halal are the Holy Quran and the collection of Hadiths. All halal rules and guidelines are derived from these two references. In other words, any action, word, gesture, food, drink, or consumption activity must be in accordance with both the Holy Quran and Hadiths – and if it does, then it is halal. Conversely, if any person, scribe, prophet, or entity of any kind defined something as permitted or not permitted to be consumed, the definition should be in the framework provided by these two references in order to be considered halal. (Azam & Abdullah, 2021)

One of the key areas under the halal definition is the treatment of food, food ingredients, and the method of processing. The development of a food and beverage market for Muslims generates interest from a technical point of view, as the aspect of halal must be adhered to. The halal market for Muslims is expanding day by day, in large part due to the spread of Islam in different societies and countries. With an estimated 1.2 to 1.5 billion Muslims in the world and an overall compound annual growth rate in the Muslim population of 6.6 percent, which exceeds that of any other demographic, the markets for halal-certified foodstuffs with substantial export potential are immense. The expansion of these halal-certified markets is thus expected to have wide-ranging effects, including market and price effects for halal-certified and non-halal-certified food products, and the adoption of Islamic practices in the food industry across different religions. Because of these aspects, more activities are being conducted in the area of halal development. (Prajasari, 2022)

Halal (permissible) is used in Islam to rule out certain actions or foods as forbidden. The fundamental aspect of Islamic philosophy is the view of man as a moral (spiritual) being, a partner of God in the world of the unknown, which confers moral purity to all that man produces or transforms. Revenues are considered to be morally impure as they generate life. However, man needs to satisfy his needs. Providing for one's family is his only duty through his work. To make it licit, Islam enjoins that the objects of man's needs (food and objects) are the result of the transformation of the world. The quality of the used material, as well as the grade of purity, according to specific rules, renders the activity licit. This process is called

tayyib and leads to halal (pure) food. Illicit objects are considered harmful to man's body and soul. (Tseng et al.2022)

Since pace dictates human life, certain activities that can make the life of the community easier are pursued. It is at this point that another fundamental principle of Islamic philosophy comes into play, which is the respect for the need to alleviate the conditions made difficult by the law designed to purify the world. Every so-called permissible rule aims to facilitate life but does not ignore the initial precept, which is that there are things banned by God. The world must constantly be reformed and improved. As a result, the permission is: "In the life of this world and in the life to come, you will live on it for four days." And the permission, who, rejecting and fearing me... Finally, it has been said to you, 'We have given food to those who are not supposed to'; you answer: 'What do I have of any other harvest?'. In the real world, purification, which is the primary will of God, simply results in good practice—economic activity that Islam recognizes as licit. (Kader, 2021)

Capacity for halal certification will differ due to many factors such as government policy and legislation, ease of resource access, and the Islamic local community. Generally, for export, halal certified products are very crucial. This is because they are targeting a very specific destination. Different countries have different halal requirements due to local interpretations of Islam. Hence, it is important to get the product 'certified' so that barriers arising from doubts about Islamic observance do not occur. At the same time, not getting such a product authenticated tends to show a lack of seriousness and commitment to the concept of halal, which can cause suspicion regarding a producer's practices and can encourage boycotts. A company seeking halal certification may encounter difficulties that are not faced by conventional enterprises. This represents access for Muslim consumers to fully halal compliant, verified products. During the previous decades, the expansion of the halal industry all over the world has been noticed. In Malaysia, the Department of Islamic Development Malaysia established the Halal Division to enforce, regulate, and promote the halal certification process. (Purwandani and Yusuf2024)

A company seeking halal certification may encounter difficulties not faced by conventional enterprises. It should be noted that the Department of Islamic Development Malaysia was chosen by the majority of Muslim countries and is usually preferred for halal certification. Obtaining halal certification from the Department is a very important requirement if the company intends to spread its wings internationally, selling the product to any part of the world, in addition to Asian countries. It is before the company approaches the Department that often more significant issues are taken into account when applying for halal certification—whether this is economical for the firm, whether complying with the halal and quality requirements can be achieved, particularly if the company has to alter the existing production method to fulfill these requirements, and in some cases, a requirement that halal products be separately prepared on the production line. This plan could be a real problem and could have an enormous effect on the selling prices of the products for the firms. (Islam et al.2023)

The onset of global e-commerce has brought revolutionary changes and substantial benefits for all the entities involved in the supply chain. This technological revolution is no less significant in the food and beverage industry. Following global trends, the food and beverage sector is also quickly establishing its e-commerce presence. Online food and beverage retailing today includes many services ranging from online ordering and delivery of products to grocery and ready-to-eat meal delivery, to supply chain optimization and online marketplaces in pursuit of a plethora of offerings for satisfying various types of market needs. The food and beverage industry is becoming more acquisition-oriented by recognizing and providing an ultimate customer experience—satisfying both the needs offering a wider variety of products and specialized services and attracting and retaining customers. (Macca et al.2024)

However, the actual e-commerce penetration into the global food sales levels remains lower than in other major industries. There is an increased attraction for e-commerce in food retailing, but many shoppers still prefer in-store shopping by visiting supermarkets. However, one certainty is that things are beginning to change. Internet shopping for food products is clearly not yet the norm, but it is trending differently. Some 59% of the Internet food shoppers had also made supermarket visits during the seven days prior to the survey period, indicating that most online buyers are establishing internet shopping as

part of a regime that includes actual visits to a shop. Further, 14% of the online respondents had bought groceries on the Internet in the week before filling the survey. More significantly, it was found that food shopping is set to take off in the future as people who are currently not conversant with the technology and are older are won over. At the same time, many current and older Internet users will move up through the portrayal stages. Although younger demographic segments are currently most comfortable, the share of current and future Internet users is predicted to exceed 60% of all age groups, with the majority being 50 years old and above. (Reardon et al.2021)

Halal e-commerce and the Halal industry in general have grown rapidly over the years. The rise in the Muslim global economic community and the recognition by non-Muslims of Halal as a guarantee of quality and safety have added new and considerable dimensions to Halal products. In the last three decades, various Halal food associations have been established in many Muslim and non-Muslim countries to protect and develop the Halal industry, provide a universal standard for the Halal food industry, and various other products. Halal food has been identified within a list of dynamic areas with excellent business potential. In recent years, several non-Muslim and Muslim countries have recognized the lucrative potential of the Halal food industry. The rush to enter into Halal markets is evident, with a number of non-Muslim countries producing and exporting Halal products to the Muslim countries. (Jailani et al.2022)

The Halal Industry Development Corporation estimates that the global Halal industry has a market size of over USD 3 trillion and is growing at an annual rate of about 15-20 percent. Worldwide, more than 1 billion Muslims represent a potential market for Halal products, which is big and lucrative. Global Halal products consumption and trade are estimated to be worth USD 1.1 billion and USD 150 billion, respectively. The Halal industry is predicted to grow to USD 1.7 trillion by the year 2012. This is a billion-dollar industry and the growth is tremendous with a positive future. The Halal food market is vibrant in Western countries with a population of 25 million and is further encouraged by the increase in the number of Muslims, the presence of Halal chains and retailers, and the fast food industry's special menu for non-pork products. The Halal industry is growing at an average of 15 percent per annum. Another sign of the dynamism of the industry can be derived from a report which points out that the current global production volume of Halal goods is around USD 560 billion and is increasing at the rate of over 10 percent per annum, while Europe's Muslim neighbors spend around 80 billion euros annually to meet their religious dietary prohibitions. (Can, 2022)

In addition to the low Internet penetration rate, there are several other challenges that may hinder the boom of Halal e-commerce. The attitudes towards new technology and innovation of each country, organization, and consumer are different; people find comfort in the ways they are familiar with. There could be difficulties in persuading the general public, especially the Muslim public, to perform religious routines such as purchasing Halal products and services via e-commerce as they may be unfamiliar with the concept of Halal e-commerce. From the organization's viewpoint, adapting to changes takes time. The dramatic increase in Internet users worldwide and the concept of e-commerce has made the traditional way of conducting business appear to be inefficient. The changes in business processes towards e-commerce are needed to exploit the inherent opportunities. However, the reluctance to change imposed by many companies has created an impediment to the successful implementation of e-commerce. Companies, especially traditional ones, often have constraints in capital and advantages to sell online. Making the transformation is not just about technology but also about the business model. The Islamic state, for instance, should play a leading role in transforming its business from the traditional mode to the electronic mode. The technological capabilities and the critical mass of Internet and PC ownership required to effectively realize the potentials of e-commerce in primarily Islamic nations are not in place as well. Again, the technological capabilities are only one part of the question. (Siddiqui et al.2022)

The attitude, along with the religious issues of the target customers, particularly Muslims who demand Halal food and beverages, should not be ignored. The perceptions regarding the issue of purchasing Halal products and services are generally given a modern interpretation. This small concern in technology or e-commerce tries to provide shoppers with what they will actually purchase. Their

products and services must meet consumers' religious, cultural, and social preferences as well as general shopping needs. The religious or cultural element in purchasing may be an unrecognized barrier to adopting e-commerce. Due to the negative by-products of religion, companies should therefore be vigilant to avoid using religion or religious symbols inappropriately. Other issues that link to religion-based preferences, such as the religious significance of gender, Halal, lifecycle, or jurisdiction, are also clearly in need of some attention. The pace and nature of growth in e-commerce might change as technology improves and as consumers, online and offline merchants, and other market influences take effect. Ultimately, only those cultures, philosophers, scientists, economies, and politics that accommodate the deep moral and religious commitments of people to matters of food and other personal associations will be sustainable. The universal lesson about the cultural preferences of people in the e-commerce business is the freedom to choose and the respect for differing opinions within a diverse community in the world. Therefore, there are vast opportunities to expand and create jobs through e-commerce. These jobs include new types of workers to develop, urbanize, distribute, manage, or analyze the information on e-commerce. E-commerce is also a significant contributor to the economy for the Islamic sector, which has low regional competitiveness at both the economic, state, and local levels. (Pratesi et al., 2021)

Various e-commerce vendors usually offer halal products in their offerings. Some of those vendors are based in a specific country, targeting local customers or having international delivery capacities. Additionally, there are halal product e-commerce platforms dedicated to a specific country with a large Muslim population or cross-border e-commerce platforms. The prevalence of such e-commerce platforms that offer halal-certified outlets can be seen in the project descriptions. In this section, we discuss notable halal e-commerce platforms that offer halal food and beverage products. (Tedy and Hidayah2024)

One of the pioneers in e-commerce that offers halal products hosts various halal outlets in different countries and allows import-export without requiring halal certification in certain countries. Registering in the specialized food and beverage categories makes it easier for shoppers and, at the same time, benefits from the platform's traffic. Organic foods, healthy products, and other special needs can find a home as a niche. Another platform is becoming geographically closer day by day with the investments made to expand cross-border e-commerce. An excellent example of an online platform targeting halal food and cosmetic products is one that brings a cost advantage to vendors, permitting certain product categories that exempt the distribution requirement of halal certification. There are also applications in halal. Note that the launch of e-commerce platforms focusing on the market does not exempt the requirement for the halal certificate issued in the respective country. (Rafianti et al.2024)

Many studies have been conducted to identify different types of e-commerce. Electronic commerce can be divided into three main types according to the parties that execute the transactions online, namely, B2C, B2B, and C2C. As for business-to-consumer e-commerce, it first emerged widely with the advent of the Internet. On the other hand, business-to-business e-commerce can be traced back well before the Internet era. It became more evident as the Internet started to be accepted as a way to conduct business. Also, consumer-to-consumer e-commerce has shown significant growth in home-oriented transactions. (Taher2021)

B2C model: B2C describes the selling of retail goods on the Internet. Numerous businesses exist only as brick-and-mortar stores and have expanded consumer markets. B2C has grown rapidly and has developed as a proportion of existing businesses reorganizing to create web storefronts for customers online. Companies use e-commerce as part of their general marketing strategy. The primary aim of B2C e-commerce is to convert and motivate browsers/visitors into purchasers easily and quickly. Besides, consumers frequently search the web for a more suitable and simple way to buy certain products at fair prices. Businesses relate their marketing strategies to attract web clients by establishing e-commerce websites that bring goods to purchasers. Additionally, companies utilize the web as part of their general business strategies by connecting business customers, contractors, sub-divisions, and people using common stock for joint assignments through private and/or public intranets. B2C business models signify the adoption of agnostic solutions with the communications infrastructure that encompasses end-user

systems as simple and advanced websites, including important electronic data transactions and interfaces that interconnect the customer and business site. (Liu2021)

In general, on web-based platforms or computer systems, case studies can provide depth of insight into some concepts or approaches and represent a good complement to quantitative data. For us, the case studies illustrate the availability and barriers of the current online halal food and beverage retailer service. The aim is to establish the online positioning of a store or restaurant and determine which corporate strategies are most appropriate. We hope to offer brands wishing to launch or upgrade their e-commerce operations an understanding of the food sector and to build some proposals to facilitate them. Both case studies provide insights into halal e-commerce problems and market management.

Four store websites are included in the first case, while the second case includes geographical restaurant retailers linked to delivery address websites. In particular, the ten Canadian cities are selected from a list of cities with a significant number of Muslim inhabitants and have at least five halal kebab restaurants that deliver through the websites. Those provided with a tri-component score for website color, text, and design are the case online restaurant retailers. They include 17 restaurant websites and have been narrowed to three different colors of website. It is assumed that restaurants are motivated by website design components such as website color, text, and design, which drive long-term customers, open up new company possibilities, and expand industry boundaries, respectively. Trip-component grades equal to yield and revenue maximize restaurant website designs. Furthermore, case examination part one has discovered evidence that sponsors will not be deterred by the existence of other retailer stores on retailer venues.

I have found out that the basic respect for religion, i.e., the observance of its rites and customs, was considered one of the most important human values irrespective of the level of religiosity. They say that in 2020, e-commerce sales in the field of food and beverages in the majority of Muslim countries became more than those through stationary stores. The emergence of Shariah-compliant Internet commerce forced both individual companies operating in the food and beverage industry and specialized platforms operating in this segment to adjust the range of their goods. (Guo et al., 2022)

Studies on the actual behavior of Muslim consumers in the field of grocery shopping provide recommendations for the same companies. An example in this case is the assessment of how important the halal certificates for different groups of Muslim consumers are. This kind of study allows individual producers to make assessments and strategic decisions where the use of certificates would bring the greatest benefits and the scale of expenses arising from their use is reasonable. It is a different matter whether a similar analysis was made on the behavior of Muslim consumers in a newly created Shariah-compliant segment. Finally, a basic question may arise as to how significant the consumer preferences and food choices between Muslims and non-Muslims are. (Basarud-din et al.2022)

Halal consumption and trading are a bilateral concept and process, developing strong interaction and intensively needed involvement. In comparison to Halal consumption, the Halal trading business is relatively developed and established, with several significant corporate players. A holistic approach to the Halal trading system is introduced as a model of how international Halal e-commerce and trading can be conducted. The fast growth of the Muslim population worldwide, accompanied by the attitude and orientation of the Muslim community, has continuously directed individuals and businesses to become involved in Halal recognition, making the system and domain of Halal trading an appealing and growing field. Halal awareness within the food and beverages industry has increased globally, regardless of a nation's domination or minor status by the Muslim population. Apart from Islamic rites and religious reasons, people embrace Halal products for various reasons, including food health and safety issues. To satisfy the complex needs of a diverse society, organizations and businesses have to evolve and make innovative adjustments. The conceptual paper provides a foundation to foment the argument about international Halal e-commerce and electronic trading by multistakeholders and offers a principal mentor in the Halal area for the food and beverages industry. The paper also provides practical evidence and insights and constructs different stakeholders who can collaborate, establish clear relationships, and offer an overall view of Halal trading. (Al-Shami & Abdullah, 2023)

Ensuring trust and dependability is also important, as customers will not be able to verify the products by physically inspecting them before purchasing. Developing trust in halal e-commerce is important for food and beverage companies in maintaining credibility in their products, online service, and website. In terms of trust in products or services, food companies that promote and sell halal food need to ensure halal integrity by being committed to the halal process. The company needs to ensure that halal foods are prepared according to Islamic law, and any violation in the process could cause the withdrawal of the halal certificate, which would consequently affect the food production process and result in a loss of profit. While doing business through e-commerce, companies need to keep updated, review, and enhance the policies and regulations involving halal to ensure that the products remain halal. Companies need to form a strategic alliance with halal service providers, standard-setting bodies, or international certification bodies to join the integrity in halal e-commerce. To avoid the suspicions of buyers, companies need to provide a list of halal certificates and permissible food ingredients to allow the halal food products of the company to be viewed by users. This list will allow potential buyers to check and verify the authenticity of the halal certification. Providing a similar merchandise line is equally important, as companies need to have a supply chain that can provide similar items for customers' choice. This is important for food companies, as customers are allowed to switch to other products if they prefer, and a flexible choice will gain merchants customer trust and reliability. Another important factor is the importance of a relationship with a service provider. Companies need to create confidence in consumers by providing information and ensuring the existence of competent staff that can assist them. This is important, as consumers usually require verification that the products are halal and that the transaction is appropriate according to religious requirements. (Rosyid et al.2023)

To evaluate the market expansion potential, we probit regress the e-commerce firm's setup costs and the decision to invest in an e-commerce medium by firm and market characteristics measured on the firm and industry level. Specifically, we probit regress the decision to invest in an e-commerce medium using as key independent variables, the existing size of the market area, the number of countries within the market, the physical distance to the existing market from the firm, openness, and investment costs specific to the market: existing market costs and market size growth. Expansion potential variables for the e-commerce firms include e-commerce firm coverage, mother company international diversification, and export growth. Variable selection and importance calculation are discussed below, where we elaborate on these variables as well. Economies of scale (market extension) are savings derived from the increase in demand.

Market extension allows the exploitation of economies linked with fixed costs. Markets are considered lower cost in relation to other markets, mainly through the reduction of sunk costs, being more geographically or culturally close to the firm. The valuation of these differences by the manager is intensified in the existing theory, which states that the most successful discriminatory e-commerce firms have suppliers with markets that are geographically similar due to the absence of non-trade barriers and appear during operation in overlapping market areas. We can define economies as firms that already have. By investing in existing market merchandise, a company gains when merchandise revenue keeps growing over time. As the main study objective, by allowing economies of scale derived from gaining first mover advantage, investment in markets can bring significant benefits mentioned during the previous section, such as internationalization tools.

4. CONCLUSION

In conclusion, within a relatively quick period, information and communication technology has grown from being a mere facilitating tool to becoming a dominant player within the business environment. The food and beverage industry, which has traditionally employed a conventional marketing strategy for its business operations, has not been left unaffected by the breakthroughs within the technological sphere. Halal e-commerce has evolved to cater to the rising demands of the global Muslim population who seek Halal products that are both Islamic and trustworthy. It possesses the necessary business potential to tap into the lucrative market and thus avail itself of an essentially

untapped market. The advent of Halal e-commerce has enabled the fulfillment of religious obligations by purchasers whose options, if limited, would be drastically reduced with the aid of the halal e-commerce portal. In providing services with effectively designed information for online users, marketing strategies and the various solutions need to be addressed in accordance with the priority and importance of each contributing party involved. The industry has, to a significant extent, an appropriate role to ensure that the service providers involved avail their potential products online and realize their potential in further growing the halal e-commerce business channels. We would like to suggest that future research consider the factors in formulating a merging model that can assist the success factors of Halal Information and E-commerce portals. This chapter has highlighted a key review, synthesis, and systematization of Halal e-commerce. It has provided an understanding of the integration of Halal into food and beverage e-commerce and has identified some important themes for researchers. The themes included the understanding of Halal, the Halal concept, products, and markets; the significance of Halal e-commerce as well as its barriers, challenges, and concerns; and the relationships of Halal and e-commerce. The chapter has also presented technical, marketing, and organizational e-commerce implications in the Halal food and beverage industry. Upon this analysis, the four main principles of combining Halal and e-commerce have been proposed in order to ensure a successful Halal e-commerce implementation.

The principles included the adoption of an e-Halal information technology strategy for Halal e-commerce implementation in the food and beverage industry; the development of e-marketing and e-consumer loyalty strategies to serve e-Halal food shopping behaviors in the Halal e-commerce market; the establishment of an e-supply chain strategy for enhancing the food supply chain module; and the formulation of an e-organization system for demonstrating the customer's first green branding capabilities by providing customers with food safety and Halal assurance. Therefore, this chapter has argued that Halal e-commerce offers an important digital space that facilitates and improves access for the Muslim communities in the Halal food and beverage market sector, enabling benefits for both consumers and vendors, despite the industry-specific shortcomings that have yet to be addressed. As e-commerce gains popularity among companies in supplying goods and services to customers, the capability of virtual transactions must be effectively integrated with the real-world e-commerce exchange in order to minimize the failure of the transaction. This study analyzes Halal through data exchange and the related standards used in the food and beverage industrial sector. Recommendations contained within the table suggest Halal-related data elements as the minimum standard for the exchange of e-business data, the accepted trading partner agreement, and an information dashboard-style trading partner collaboration model, suitable for the food retail sector. Collaborative business process schema is also identified for each information exchange.

The study extends the idea for standardizing relevant e-business ontology for managing Halal food and beverage supply chains, such as for tracking and retrieval, and to provide agreement verification. This research also clarifies the objectives that the actual process of creating an infrastructure of Halal e-commerce is planning to achieve. This highlights the importance of setting out the goals and aims of Halal-related standards and generating awareness of what can be expected in practice.

REFERENCES

- Imani, S., Mi'raj, D. A., Bawana, T. A., & Malik, A. R. (2022). E-Commerce Platform As a Halal Life Style Ecosystem Innovation of the Maqashid Shariah Approach. *Journal of Digital Business and Innovation Management*, 1(2), 101-118. unesa.ac.id
- Ichsan, R. N. (2025). Development Strategy of Halal Industry Ecosystem in North Sumatra. *Jesya (Jurnal Ekonomi dan Ekonomi Syariah)*, 8(1), 86-97. stiealwashliyahsibolga.ac.id
- Hadziq, M. F. & Ismiyanti, N. (2022). Non-Muslim Perception Of Islamic Bank: Is Religiosity More Important Than Location, Promotion, And Products?. *Jurnal Ekonomi & Bisnis Islam*. unair.ac.id
- Liew, J. Y., Loo, B. W., Boon, J. G., Ahmad, N., Bakar, T. A., & Lum, W. C. (2024, September). Influential

- factors on consumer intention of instant noodle consumption: Evidence from Kelantan Malaysia. In IOP Conference Series: Earth and Environmental Science (Vol. 1397, No. 1, p. 012027). IOP Publishing. iop.org
- Chong, S. C., Yeow, C. C., Low, C. W., Mah, P. Y., & Tung, D. T. (2022). Non-Muslim Malaysians' purchase intention towards halal products. *Journal of Islamic Marketing*, 13(8), 1751-1762. researchgate.net
- Azam, M. S. E. & Abdullah, M. A. (2021). Halal standards globally: A comparative study of unities and diversities among the most popular halal standards globally. *Halalsphere*. iium.edu.my
- Prajasari, A. C. (2022). How to Promote Halal Tourism through the Stakeholders? Case of Halal Tourism Market in Indonesia. *Jurnal Ilmiah Ekonomi Islam*. stie-aas.ac.id
- Tseng, M. L., Ha, H. M., Tran, T. P. T., Bui, T. D., Lim, M. K., Lin, C. W., & Helmi Ali, M. (2022). Data-driven on sustainable food supply chain: a comparison on halal and non-halal food system. *Journal of Industrial and Production Engineering*, 39(6), 430-457. gla.ac.uk
- Kader, H. (2021). Human well-being, morality and the economy: an Islamic perspective. *Islamic Economic Studies*. emerald.com
- Purwandani, I., & Yusuf, M. (2024). Localizing Indonesian Halal tourism policy within local customs, Qanun, and marketing. *Journal of Policy Research in Tourism, Leisure and Events*, 16(2), 246-264. researchgate.net
- Islam, M. M., Ab Talib, M. S., & Muhamad, N. (2023). Challenges of halal standards and halal certification for Islamic marketing. *Muslim Business and Economics Review*, 2(1), 105-124. uiii.ac.id
- Macca, L. S., Shehzad, N., Kovacova, M., & Santoro, G. (2024). Unlocking e-commerce potential: micro and small enterprises strike back in the food and beverage industry. *European Journal of Innovation Management*. unito.it
- Reardon, T., Heiman, A., Lu, L., Nuthalapati, C. S., Vos, R., & Zilberman, D. (2021). "Pivoting" by food industry firms to cope with COVID-19 in developing regions: E-commerce and "copivoting" delivery intermediaries. *Agricultural Economics*, 52(3), 459-475. nih.gov
- Jailani, N., Ismanto, K., & Adinugraha, H. H. (2022). An opportunity to develop halal fashion industry in Indonesia through e-commerce platform. *Tadayun: Jurnal Hukum Ekonomi Syariah*, 3(2), 121-132. tadayun.org
- Can, B. A. (2022). Halal food market with statistics in the world and the potential of turkey in the market. *New Developments in Agricultural Production*. iksadyayinevi.com
- Siddiqui, S. A., Zannou, O., Karim, I., Kasmianti, Awad, N. M., Gołaszewski, J., ... & Smetana, S. (2022). Avoiding food neophobia and increasing consumer acceptance of new food trends — A decade of research. *Sustainability*, 14(16), 10391. mdpi.com
- Pratesi, F., Hu, L., Rialti, R., Zollo, L., & Faraoni, M. (2021). Cultural dimensions in online purchase behavior: Evidence from a cross-cultural study. *Italian journal of marketing*. springer.com
- Tedy, T., & Hidayah, A. (2024). Implementation of Halal and Haram Concepts in E-Commerce Transactions: A Review of Sharia Economic. *Saqifah: Jurnal Hukum Ekonomi Syariah*, 9(2), 1-12. uinib.org
- Rafianti, F., Nurhayati, S., Wakhyuni, E., & Andafi, M. (2024). The Challenges of Implementing the Online Single Submission (OSS) System in Business Licensing (NIB) and Halal Certification Processes. *Pena Justisia: Media Komunikasi dan Kajian Hukum*, 23(3), 586-599. unikal.ac.id
- Taher, G. (2021). E-commerce: advantages and limitations. *International Journal of Academic Research in Accounting Finance and Management Sciences*, 11(1), 153-165. semanticscholar.org
- Liu, X. (2021). Retracted Article: Empirical study on B2C e-commerce logistics network optimisation of agricultural products. *Acta Agriculturae Scandinavica, Section B — Soil & Plant Science*, 71(5), 346-362. tandfonline.com
- Guo, J., Jin, S., Zhao, J., Wang, H., & Zhao, F. (2022). Has COVID-19 accelerated the E-commerce of agricultural products? Evidence from sales data of E-stores in China. *Food Policy*. nih.gov

- Basarud-din, S. K., Saad, R. A. J., & Aminullah, A. A. (2022). Malaysian halal certification: a study of compliance behavior of Muslim entrepreneurs. *Global Journal Al-Thaqafah*, 12(2), 46-65. [usas.edu.my](https://www.usas.edu.my)
- Al-Shami, H. A. & Abdullah, S. (2023). Halal food industry certification and operation challenges and manufacturing execution system opportunities. A review study from Malaysia. *Materials Today: Proceedings*. [HTML]
- Rosyid, M. A., Zuana, M. M. M., & Muawanah, M. (2023). The Influence of Halal Labels and Electronic Word of Mouth (E-WOM) on Purchase Decisions of Food and Beverage Products on the Shopee Online Site. *Majapahit Journal of Islamic Finance and Management*, 3(1), 15-31. jurnalikhac.ac.id