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Preferences for Capturing Market Share of Halal Products in the 5.0 Era Through the UTAUT-3 Model for MSME in Lhokseumawe City

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Abstract

This study aimed to develop a new model for MSME growth and identify key factors influencing the increase in halal market share among MSME through empirical testing of the *Unified Theory of Acceptance and Use of Technology (UTAUT-3)*. A *mixed-method* sequential explanatory approach was employed. The sample was selected using purposive sampling, resulting in 70 respondents. Quantitative data were analyzed using the *Partial Least Squares Structural Equation Modeling (PLS-SEM)* method, while qualitative data were examined through triangulation and the *Analytical Network Process (ANP)* method. The findings revealed that all independent variables—including performance expectancy, business expectancy, social influence, facilitating conditions, hedonic motivation, price value, habits, and personal innovation—had a significant positive effect on behavioral intentions to use QRIS among MSME actors in Lhokseumawe City. These results highlight the need for more intensive and comprehensive utilization of digital technology to achieve optimal business performance. The adoption of QRIS, strengthening of *halal branding*, product innovation, and increased competitiveness are strategic steps toward building partnerships with various stakeholders and developing a sustainable halal MSME ecosystem. Supportive government policies and programs are essential for fostering an ecosystem that promotes technology adoption and the growth of halal products in the 5.0 era.

Kata Kunci:
Produk Halal; Era 5.0; UTAUT-3; UMKM; Lhokseumawe.

Abstract

Penelitian ini bertujuan untuk mengembangkan model baru pertumbuhan Usaha Mikro, Kecil, dan Menengah (UMKM) serta mengidentifikasi faktor-faktor kunci yang memengaruhi peningkatan pangsa pasar halal di kalangan pelaku UMKM melalui pengujian empiris terhadap *Unified Theory of Acceptance and Use of Technology* (UTAUT-3). Pendekatan yang digunakan dalam penelitian ini adalah metode campuran (*mixed-method*) dengan desain *sequential explanatory*. Pemilihan sampel dilakukan secara purposive dengan jumlah responden sebanyak 70 orang. Data kuantitatif dianalisis menggunakan metode *Partial Least Squares Structural Equation Modeling* (PLS-SEM), sedangkan data kualitatif dianalisis melalui triangulasi dan metode *Analytical Network Process* (ANP). Hasil penelitian menunjukkan bahwa seluruh variabel independen, yaitu *performance expectancy*, *business expectancy*, *social influence*, *facilitating conditions*, *hedonic motivation*, *price value*, *habit*, dan *personal innovation*, berpengaruh positif dan signifikan terhadap intensi perilaku penggunaan QRIS oleh pelaku UMKM di Kota Lhokseumawe. Temuan ini menegaskan pentingnya pemanfaatan teknologi digital secara lebih intensif dan komprehensif untuk mencapai kinerja usaha yang optimal. Adopsi QRIS, penguatan merek halal, inovasi produk, serta peningkatan daya saing merupakan langkah strategis dalam membangun kemitraan dengan berbagai pemangku kepentingan dan mengembangkan ekosistem UMKM halal yang berkelanjutan. Kebijakan dan program pemerintah yang suportif sangat diperlukan untuk menciptakan ekosistem yang mendorong adopsi teknologi serta pertumbuhan produk halal di era 5.0.

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSME) are among the leading pillars that can significantly contribute to Gross Domestic Product (GDP). Data in 2023 show that the MSME sector can contribute 61% or IDR 9,580 trillion to the GDP, even contributing 97% to labor absorption.[1] Seeing the strategic role of MSME in creating jobs, minimizing marginal gaps, supporting inclusive growth, and advancing entrepreneurial culture.[2] The MSME sector needs to improve the quality and quantity of business, strengthen coordination, and, most importantly, revolutionize traditional work patterns towards a technology base.[3] Adopting technologies like the Quick Response Code Indonesia Standard (QRIS) can be an alternative to MSME business operations. It can increase efficiency and generate new added value for MSME.[4]

Moreover, the turmoil in business development ahead of the 5.0 era is getting sharper, making MSME competition not limited to certain sectors. Therefore, adopting QRIS technology has become a crucial need for the competitive sustainability of MSME.[5] The fact shows that the use of QRIS in Indonesia as a medium for MSME transactions is still very low; around 25.4 million businessmen are far behind the total of 65.5 million MSME.[6] The implementation of QRIS also carries the spirit of being Universal, Easy, Profitable, and Direct. This aligns with its function, which can be used in various payment transactions.[7] Multiple factors, including performance expectations, social influence, habits, facilities, culture, and price value, can influence the dynamics of behavioral intentions when using digital transactions.[8] Of course, several variables, in addition to a number of these factors, have a

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[3] Muhammad Arsalan Nazir and Mohsin Raza Khan, "Identification of Roles and Factors Influencing the Adoption of ICTs in the SMEs of Pakistan by Using an Extended Technology Acceptance Model (TAM)," *Innovation and Development*, no. August (2022): 1–27, https://doi.org/10.1080/2157930X.2022.2116785; Tim Kebijakan Peningkatan Kapasitas Ekonomi Sekretariat TNP2K and Lembaga Demografi Fakultas Ekonomi dan Bisnis Universitas Indonesia, "Pemetaan Program Pemberdayaan Usaha Mikro, Kecil, Dan Menengah (UMKM)" (Jakarta Pusat: Tim Nasional Percepatan Penanggulangan Kemiskinan, 2021).

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[7] Rina Mayanti, "Faktor-Faktor Yang Mempengaruhi Penerimaan User Terhadap Penerapan Quick Response Indonesia Standard Sebagai Teknologi Pembayaran Pada Dompet Digital," *Jurnal Ilmiah Ekonomi Bisnis* 25, no. 2 (2020): 123–35, https://doi.org/10.35760/eb.2020.v25i2.2413.

[8] Kumar et al., "Factors Affecting Information & Communication Technology (ICT) Adoption Among MSMEs."; Wian Fadila and Marizsa Herlina, "Penerapan Metode Generalized Structure Component Analysis Pada Pengguna Dompet Digital Menggunakan Model UTAUT-2," *Jurnal Riset Statistika* 3, no. 1 (2023): 27–34, https://doi.org/10.29313/jrs.v3i1.1772; Aries Andrianto, "Faktor Yang Memengaruhi Behavior Intention Untuk Penggunaan Aplikasi Dompet Digital Menggunakan Model UTAUT 2," *Jurnal Ilmiah Ekonomi Bisnis* 25, no. 2 (2020): 111–22, https:/doi.org/DOI: http://dx.doi.org/10.35760/eb.2020.v25i2.2412; Hendro Gunawan, Benyamin Langgu Sinaga, and Sigit Purnomo Wp, "Assessment of the Readiness of Micro, Small and Medium Enterprises in Using E-Money Using the Unified Theory of

potential influence on capturing the market share of halal products for MSME actors, including MSME actors in Lhokseumawe City.

Lhokseumawe City is one of the regions in Aceh Province where most people are engaged in the profession of business actors. Especially since the heyday of the Petro Dollar, only memories have worsened the microeconomic condition. In 2023, there will be 708 MSME in the Lhokseumawe City Government. This number increased from 2022, which only ranged from 608 MSME.[9] However, this increase is not optimal compared to the potential available. In addition, this area is also synonymous with the thick Islamic culture. It should be able to display competitive business products both at the national and even global levels. Moreover, the global demand for halal products is increasing, reaching USD 1.97 trillion in 2024.[10] MSME actors in Lhokseumawe City must take advantage of this momentum. One way to do this is by adopting digital transactions, which will allow MSME to upgrade and penetrate the global halal market, contribute more to the economy, and absorb more labor, supporting regional and national economic development.

This study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT-3) to examine the behavior of using digital transactions (QRIS) in 70 MSME actors in Lhokseumawe City. UTAUT-3 is a form of modeling the development of the UTAUT-2 generation as the acceptance or use of technology initially pioneered by Venkatesh et al. 2012.[11] Subsequently, it was developed into UTAUT-3 by Farooq et al. in 2017, which composes eight determinants directly in the UTAUT-3 model.[12] The determinants of the use of information technology include performance expectations, business expectations, social influence, facilitating conditions, motivation for use, price value, habits, and personal innovation.[13] This research is interesting to study because it helps MSME actors identify important factors that contribute to the development of business rates. The empirical models found can help make assumptions and predict the sustainability of MSME, paving the way for MSME in Lhokseumawe City to succeed and progress in the global halal market.

In addition to referring to the grand theory, this study also adopts several relevant studies as a reference for development. Several scholars have linked the topic of factors that can affect the sustainability of the MSME market share and discussed it with UTAUT modeling at both the national and international levels. However, those who associate the

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[10] Sukoso et al., *Ekosistem Industri Halal*, *Proceedings Series on Social Sciences & Humanities*, vol. 5, 2022, https://doi.org/10.30595/pssh.v5i.420; Komite Nasional Keuangan Syariah (KNKS), "Strategi Nasional Pengembangan Halal Indonesia" (Jakarta Pusat: KNKS, 2023); Rohmadi Rohmadi, Doni Yusuf Bagaskara, and Ulvi Faiqotul Hikmah, "The SWOT Analysis of Halal Industry in Indonesia: NVIVO Study and Literature Review," *Al-Muamalat: Jurnal Ekonomi Syariah* 11, no. 1 (March 15, 2024): 1–15, https://doi.org/10.15575/am.v11i1.33586.

[11] Viswanath Venkatesh, James Y. L. Thong, and Xin Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology," *MIS Quarterly* 36, no. 1 (2012): 157–78, https://doi.org/10.1109/MWSYM.2015.7167037.

[12] Muhammad Shoaib Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2," *Interactive Technology and Smart Education* 14, no. 4 (2017): 329–48, https://doi.org/10.1108/ITSE-06-2016-0015.

[13] Farooq et al.; Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology."

UTAUT-3 model with adopting QRIS technology and the sustainability of the market share of halal products in MSME operations are still relatively limited. The author seeks to summarize several relevant studies to make it easier to understand the gap and create novelty between this study and the previous study.

A series of pertinent research is used as a supporting reference in this study, such as the empirical studies by Loo et al. in 2023, which discussed challenges and innovations in technology implementation for MSME actors in Malaysia. The research analysis was carried out using systematic literature methods classified into different categories: domain review, theory-based, method-based, and meta-analysis. The study's findings show that the effective adoption of technology can support businesses and make business actors more resilient in the economy.[14]

Kumar et al. also examined similar research in 2023 to explore the factors that can affect the adoption of information technology by MSME actors operating in India through adopting UTAUT-1 with a quantitative method. The study results show that performance expectations and social influence are among the factors that influence technology use. In addition, the study's results also explain the obstacles MSME actors face in adopting technology, such as infrastructure barriers, human resources, and the technological environment.[15] Fadila dan Herlina, in 2023, seeks to highlight the factors in the UTAUT-2 model that can affect the intention of using digital wallets in Rajamandala Kulon using quantitative methods through a Generalized Structure Component Analysis (GSCA). The study's findings explain that perceived habits and security factors are superior factors that affect the intention of using digital wallets in Rajamandala Kulon Village.[16]

In contrast to Jadil et al., in 2021, they try to explore the determinants of mobile banking usage using the UTAUT-1 model, using sample size and culture as moderating factors. The research used quantitative methods through path coefficient weights and meta-analysis. The results of the study showed that all UTAUT relationships were significant. Furthermore, performance expectations are the strongest factor in usage behavior intentions in mobile banking. In addition, sample size and culture were significantly able to moderate the relationship between enabling conditions and intention to use, business expectations and intention to use, and intention to use with usage behavior.[17] Similar studies explored by Andrianto in 2020 analyzed the factors affecting the intention to use digital applications like LinkAja in Jakarta with the UTAUT-2 model. The research used quantitative methods through analytical techniques, the Structural Equation Model (SEM)-based Partial Least Square (PLS). The analysis results prove that the price value positively

[14] Mei Kay Loo, Sridar Ramachandran, and Raja Nerina Raja Yusof, "Unleashing the Potential: Enhancing Technology Adoption and Innovation for Micro, Small and Medium-Sized Enterprises (MSMEs)," *Cogent Economics and Finance* 11, no. 2 (2023), https://doi.org/10.1080/23322039.2023.2267748.
[15] Kumar et al., "Factors Affecting Information & Communication Technology (ICT) Adoption Among MSMEs."
[16] Wian Fadila and Marizsa Herlina, "Penerapan Metode Generalized Structure Component Analysis Pada Pengguna Dompet Digital Menggunakan Model UTAUT-2."
[17] Yassine Jadil, Nripendra P. Rana, and Yogesh K. Dwivedi, "A Meta-Analysis of the UTAUT Model in the Mobile Banking Literature: The Moderating Role of Sample Size and Culture," *Journal of Business Research* 132 (2021): 354–72, https://doi.org/10.1016/j.jbusres.2021.04.052.

and significantly affects the intention to use the digital application LinkAja. Other variables do not affect the intention to use digital applications LinkAja in Jakarta.[18]

On other occasions, Gunawan et al. in 2019 sought to analyze the level of readiness of MSME actors in the Special Region of Yogyakarta (DIY) in receiving and using new technology in the form of electronic money or e-money with the UTAUT-1 model. The research was studied using quantitative methods through SEM-PLS analysis techniques. The study's findings explain that using e-money in MSME business transactions can help improve performance. Easier to use e-money then business transactions will occur more frequently. In addition, social influences can influence MSME actors to use e-money as a transaction tool. More and more people are using e-money, and more and more users will transact in the MSME business. Further, the conditions that facilitate or the infrastructure and technicalities of the service provider e-money have the potential to help MSME actors adopt the use of technology e-money.[19]

Based on a review of prior studies conducted by researchers such as Loo et al., Kumar et al., Fadila and Herlina, Jadil et al., Andrianto, and Gunawan et al., it is evident that considerable variation exists in the application of different generations of UTAUT model, as well as in the methodologies employed, the research subjects examined, and the study periods considered. These variations highlight a research gap that warrants further investigation. Notably, there appears to be a lack of scholarly work exploring the relationship between the UTAUT-3 model, the adoption of QRIS digital payment systems, and the growth of market share for halal products—particularly in the context of MSME in Lhokseumawe City. This gap underscores the academic significance and relevance of the present study.

This research is of particular interest for several reasons. First, it has the potential to support the growth and development of MSME, both within Lhokseumawe City and more broadly across Indonesia. Second, the study aims to identify an optimal model for addressing the contextual challenges encountered by MSME actors. Third, its findings may serve as a valuable reference for formulating policy recommendations that promote technology adoption and cultivate a culture of innovation within the MSME sector, thereby enhancing their resilience and contribution to the national economy. Fourth, by integrating theoretical frameworks with practical challenges faced by MSME stakeholders, the study seeks to bridge the gap between academic theory and real-world application. Finally, the research provides actionable insights for MSME actors to foster innovation and implement digital strategies for business expansion.

Development of Unified Theory of Acceptance and Use of Technology (UTAUT)

The first-generation UTAUT theory explains that four main contexts can affect technology acceptance, namely performance expectations (PE), business expectations (EE), social influence (SI), and enabling conditions (FC). PE, EE, and SI have a direct influence on usage

[18] Andrianto, "Faktor Yang Memengaruhi Behavior Intention Untuk Penggunaan Aplikasi Dompet Digital Menggunakan Model UTAUT 2."

[19] Gunawan, Sinaga, and Wp, "Assessment of the Readiness of Micro, Small and Medium Enterprises in Using E-Money Using the Unified Theory of Acceptance and Use of Technology (UTAUT) Method."

intention and behavior, while FC has a direct influence on user behavior. In addition, the impact of these 4 main contexts on usage intentions and behaviors can be moderated by other factors such as willingness to use, experience, age, and gender.[20]

UTAUT's theory has developed along with the implementation of this theory, which has been revalidated through empirical research. A new development in the UTAUT-2 generation seeks to introduce the relationship of three additional constructions in the acceptance of technology systems, including hedonistic motivation, price value, and habit. The proposed expansion in UTAUT-2 resulted in a significant increase in the variances described in behavioral intent (from 56% to 74%) and technology use (from 40% to 52%) compared to UTAUT in the first generation. This model fully explains how several variables, including user behavioral intentions towards technology acceptance, are based on several factors: performance expectancy, effort expectancy, social influence, facilitating condition, price value, hedonic motivation, and habit.[21]

The UTAUT revolution continued until the generation of the UTAUT-3 model, as illustrated in Table 1, which helped to see how many factors influence the intention of user behavior and reaction to a technological system. This suggests that including additional constructs in UTAUT-3 contributes to a more comprehensive understanding of user behavioral intentions towards adopting technology systems. The factors that can affect the intention of individual behavior towards the use of technology include.[22]

1. Performance Expectancy (PE): Describes the extent to which a person thinks that adopting a technology system will help carry out the work to achieve results.
2. Effort Expectancy (EE): Describes the level of ease with which a technology system is used to use it.
3. Social (S): Describes the depth of an individual's use of technology due to the influence of the social environment that drives the use of technology.
4. Facilitating Condition (FC): Describes a person's level of confidence that there is an infrastructure or knowledge to support the use of technology.
5. Hedonic Motivation (HM): whether the desire for pleasure is the result of the use of systems or technology.
6. Price Value (PV): The trade-off between the costs incurred and the profits brought through technology.
7. Habit (H): Explains how individuals use technology systems on a daily basis.
8. Personal Innovativeness (PI): The feeling of wanting to know how to use new technology to shop, trying to experiment with the new technology.

[20] Loo, Ramachandran, and Raja Yusof, "Unleashing the Potential: Enhancing Technology Adoption and Innovation for Micro, Small and Medium-Sized Enterprises (MSMEs)."
[21] Viswanath Venkatesh et al., "User Acceptance of Information Technology: Toward a Unified View," *MIS Quarterly* 27, no. 3 (2003): 425–78, https://doi.org/10.1016/j.inoche.2016.03.015.
[22] Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology"; Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2."

Table 1. Differences Between UTAUT, UTAUT-2, and UTAUT-3

UTAUT	UTAUT-2	UTAUT-3
Determinant Variables of User Behavioral Intention		
1. Perfomance Expectancy 2. Effort Expectancy 3. Social 4. Facilitating Condition	1. Perfomance Expectancy 2. Effort Expectancy 3. Social 4. Facilitating Condition 5. Hedonic Motivation 6. Price Value 7. Habit	1. Perfomance Expectancy 2. Effort Expectancy 3. Social 4. Facilitating Condition 5. Hedonic Motivation 6. Price Value 7. Habit 8. Personal Innovativeness

Source: Venkatesh *et al.,* (2003); Venkatesh *et al.,* (2012); and Farooq *et al.,* (2017).

Relationship of the 5.0 Era and the Analytical Framework of Research

It should be noted that the 5.0 era is a concept that describes a new stage in the development of technology and society, where technology not only functions as a tool to make human life easier but also to support collaboration between humans and technology to create better welfare. This contrasts the previous era, namely the 4.0 era, which focuses more on automation and integrating advanced technology in the industry. While the 5.0 era prioritizes human-centered innovation, technology is used to meet social and human needs more holistically to improve the quality of human life by prioritizing the human experience in interacting with technology. Technology is focused on productivity, personalization, and a closer relationship between humans and technology.

The 5.0 era focuses on closer collaboration between humans and technology to create greater social and economic benefits, and this is very much in line with the principles in the UTAUT-3 model that pay attention to some variables that affect the adoption of technology. The 5.0 era provides a very supportive background in the context of the adoption of digital technology for MSME actors in Lhokseumawe City, especially in the use of QRIS to increase the competitiveness of halal products of business actors in the digital market, both locally, nationally, and even globally. With high performance expectations, ease of use, encouragement from social influences, enabling conditions, motivation to get better pleasure, price value that is proportional to the benefits, and high habits of technology use and personal innovation in the use of technology such as QRIS can be accepted more quickly by MSME actors in Lhokseumawe. In this case, the UTAUT-3 theory helps identify the main variables that affect the behavioral intentions of MSME actors to use QRIS, which is in line with the spirit of the 5.0 era in creating social and economic progress through technology that is easily accessible, relevant, and has a positive impact on society.

Referring to the theory and explanation above, the design of the hypothesis built in this study is as follows:

1. Performance expectancy has the potential to affect the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

MSME actors in Lhokseumawe City are more likely to adopt QRIS technology if they perceive it as enhancing their business performance—for example, by expediting transaction processes, expanding market reach, and facilitating both cash flow and financial management. In the context of Society 5.0, where technology serves as a tool for increasing efficiency and fostering inclusive and positive business experiences, performance expectancy becomes a critical determinant of technology adoption. QRIS technology that aligns with such expectations—by improving productivity and enabling broader market penetration—is more likely to gain acceptance among MSME. Therefore, the greater the confidence among MSME actors that QRIS can enhance transactional efficiency and effectiveness, the stronger their intention to adopt this technology as a means of capturing market share in the halal product sector.

H_1: Performance expectancy can affect the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

2. Effort expectancy has the potential to affect the behavioral intention of using QRIS on MSME actors in Lhokseumawe City in capturing market share of halal products

Effort expectancy, defined as the perceived ease of use of QRIS by MSME actors in Lhokseumawe City, plays a significant role in shaping their intention to adopt the technology. For QRIS to be effectively adopted, it must be designed to integrate seamlessly into MSME operations without necessitating advanced technical skills. In the context of Society 5.0, which prioritizes intuitive user interfaces and technological accessibility, it is imperative that MSME actors do not feel overwhelmed or discouraged by system complexity. Consequently, the more MSME actors perceive QRIS as easy to use, the stronger their intention to adopt it as a digital payment solution capable of supporting the expansion of halal product market share.

H_2: Effort expectancy can affect the behavioral intention of using QRIS in MSME actors in Lhokseumawe City in capturing market share of halal products

3. Social has the potential to influence the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

In the context of the Society 5.0 era, social influence plays a pivotal role, particularly as technology enhances interpersonal relationships and networking among individuals. When numerous MSME actors or competitors successfully adopt QRIS for transactions and experience tangible benefits, this can serve as a strong motivator for other MSME actors in Lhokseumawe City to do the same. Such influence may be exerted through business groups or entrepreneurial communities within the city that share positive experiences regarding QRIS as a tool for increasing halal product sales. Accordingly, the greater the social influence—particularly from peers and business partners who have successfully implemented QRIS—the stronger the intention among MSME actors in Lhokseumawe City to adopt QRIS in order to expand their share of the halal product market.

H_3: Social factors can influence the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

4. Facilitating condition has the potential to affect the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

   Facilitating conditions—such as access to appropriate technological devices, a stable internet connection, and institutional support from financial institutions or payment service providers—significantly influence MSME actors' intention to adopt QRIS. In the Society 5.0 era, ease of access and the availability of digital infrastructure across regions are critical enablers of technology adoption. Even the most advanced systems are unlikely to be adopted if the necessary supporting infrastructure is lacking. Therefore, the more favorable the facilities and institutional support for using QRIS, the stronger the intention of MSME actors in Lhokseumawe City to utilize it as a means of expanding the market share of halal products.

H_4: Facilitating conditions can affect the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

5. Hedonic motivation has the potential to influence the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

   Hedonic motivation, or the emotional satisfaction derived from using a technology, plays a significant role in enhancing the intention to adopt QRIS. Positive experiences associated with the convenience, speed, and security of transactions can contribute to a sense of personal fulfillment among MSME actors. In the Society 5.0 era, technological development increasingly emphasizes user experience and emotional engagement. As such, hedonic motivation becomes an important factor driving the adoption of QRIS, particularly in businesses focusing on halal products. Accordingly, the greater the satisfaction and enjoyment experienced by MSME actors when using QRIS, the stronger their intention to continue utilizing it as a tool for expanding their share of the halal product market.

H_5: Hedonic motivation can influence the intention of using QRIS in MSME actors in Lhokseumawe City in capturing market share of halal products

6. Price value has the potential to affect the intention of using QRIS behavior on MSME actors in Lhokseumawe City in capturing market share of halal products

   Price value refers to MSME actors' perception of the trade-off between the costs associated with using QRIS and the benefits it provides. When MSME actors perceive that the cost of adopting QRIS is affordable and yields substantial added value—such as reduced transaction fees or expanded market reach—they are more likely to integrate it into their business operations. This consideration is particularly relevant for MSMEs operating with limited financial resources in the Society 5.0 era. Therefore, the greater the perceived value derived from using QRIS relative to its associated costs, the stronger the intention of MSME actors to adopt QRIS as a means of capturing a larger share of the halal product market.

H_6: Value can affect the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

7. Habit has the potential to influence the intention of using QRIS behavior on MSME actors in Lhokseumawe City in capturing market share of halal products

In contemporary society, as digital technologies become increasingly embedded in everyday activities, MSME actors who are already accustomed to engaging in digital transactions are more likely to integrate QRIS into their routine practices. In the context of the emerging 5.0 era, where technological innovation permeates daily life, the habitual use of digital systems not only facilitates the adoption of QRIS but also reinforces the intention to utilize it. Consequently, a well-established habit of digital transactions among MSME actors in Lhokseumawe City is posited to enhance their propensity to adopt QRIS, thereby contributing to the expansion of market share for halal products.

H_7: Habit can influence the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

8. Personal innovativeness has the potential to affect the intention of using QRIS behavior among MSME actors in Lhokseumawe City in capturing market share of halal products

MSME actors with a high degree of personal innovation—characterized by a propensity to embrace new technologies—are more likely to adopt QRIS. In the 5.0 era, where technological advancements increasingly shape market dynamics and business practices, MSME actors who are receptive to change and eager to innovate are expected to adopt QRIS more swiftly, thereby facilitating the expansion of the halal product market. The greater the level of personal innovation exhibited by MSME actors in Lhokseumawe City, the stronger their intention to adopt QRIS, positioning them to capture a larger share of the halal product market in the digital era.

H_8: Personal innovativeness can influence the intention of using QRIS behavior in MSME actors in Lhokseumawe City in capturing market share of halal products

Based on the explanation above, the model built in this study can be illustrated in Figure 1:

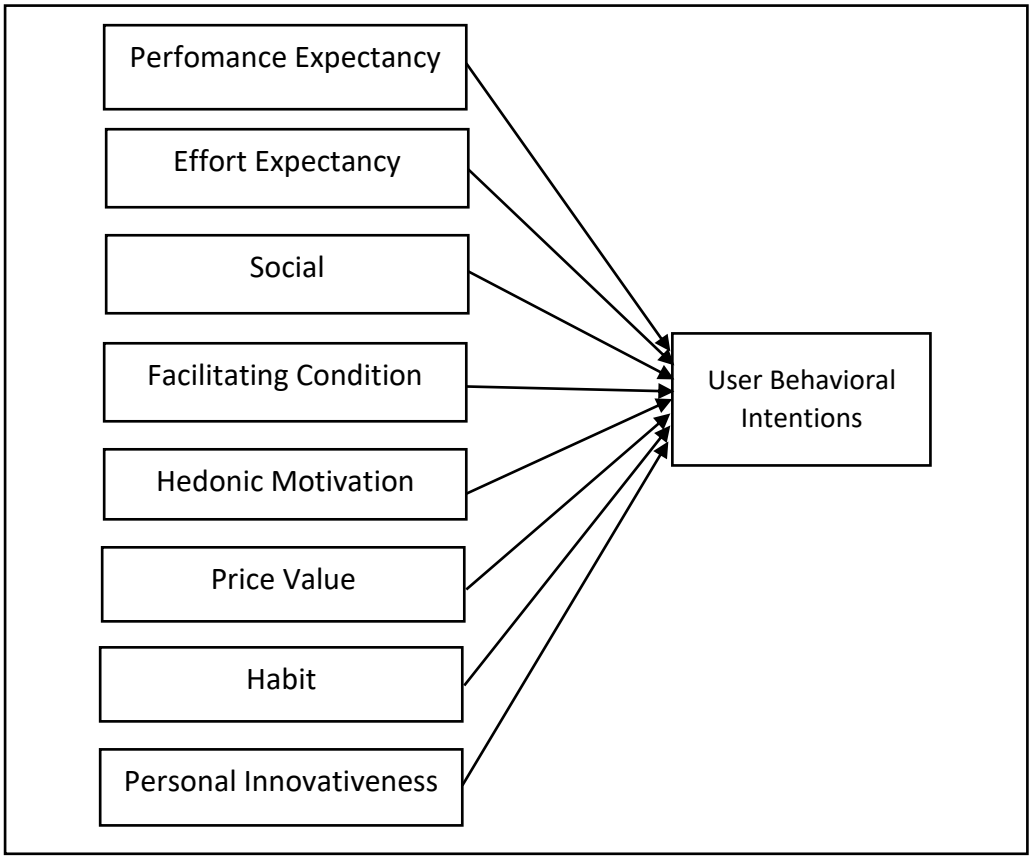

Figure 1. Analytical Framework

Source: Venkatesh *et al.,* (2003); Venkatesh *et al.,* (2012); and Farooq *et al.,* (2017).

RESEARCH METHODS

Research Approach

This research includes field research using mixed methods, namely a combination of quantitative and qualitative research models. The strategy mixed method selected refers to the sequential explanatory technique. In line with this technique, the researcher first collects and analyzes quantitative data and information, followed by qualitative information and data.[23]

The population in this study is all MSME actors recorded at the Lhokseumawe City BUMN House, totaling 350 MSME actors. Considering the accuracy of the information and the intended informant's right to answer the formulation of the research problem, the research sample was selected using purposive sampling, namely sample selection based on certain criteria.[24] The following sample criteria determined in this study include:

1. Business actors who are members of the Lhokseumawe City BUMN House
2. Have used QRIS in carrying out business transactions
3. Have owned or are taking care of halal certification of a business or product.

[23] Sugiyono, *Metode Penelitian Kombinasi (Mixed Methods)*, ed. Sutopo, Cetakan ke (Bandung: Alfabeta, 2017).
[24] Sugiyono, *Metode Penelitian Kuantitatif Kualitatif Dan R&D* (Bandung: Alfabeta, 2019).

This study's sample amounted to 70 MSME actors as research respondents. This determination follows the relevant argument of Rescoe (1975) in Elidawaty et al., in 2021, that the sample size or respondents in the study should be 30-500.[25] The number of respondents in this study, 70 in total, is categorized as included in the theoretical criteria and can be declared feasible or adequate in developing this research model. The reason for using 70 respondents in the study is based on the results of a survey of respondents who meet the criteria of the research sample; there are only 70 respondents out of a total of 350 MSME actors.

Data Collection Sources and Techniques

This study uses both primary and secondary data sources. Primary data was obtained through the distribution of questionnaires, interviews, and observations. Meanwhile, secondary data was obtained through documentation relevant to the research's focus.

The questionnaire for this study was designed using a rating scale consisting of Strongly Agree (SS), Agree (S), Disagree (TS), and Strongly Disagree (STS). The research questionnaire was distributed in 2 ways, both directly and indirectly. The direct distribution was done by visiting where the MSME actors who are members of the Lhokseumawe City BUMN House took place, while the indirect distribution was carried out through Google Forms. The interview method was conducted with some research informants, including the admin of the Lhokseumawe City BUMN House, halal companions at the Lhokseumawe City BUMN House, and 5 MSME actors who are members of the Lhokseumawe City BUMN House. The observation technique used in this study is participatory; the researcher is involved in the observed activities. Researchers directly observed and were involved in the operational process of MSME actors at the Lhokseumawe City BUMN House. The reason for using observation is that some behaviors or events are difficult to express through interviews or questionnaires but can be seen through observation.

Data Analysis Techniques

The research data analysis is carried out through 2 stages, and the first quantitative data analysis is carried out by SEM-PLS statistical test. There are two elements in the SEM-PLS analysis model: the Outer Model and the inner model. The Outer Model was estimated through 3 tests, including Convergent Validity, Discriminant Validity, and Composite Reliability. The estimated inner model consists of Multicollinearity, R-square, Goodness of FIT, and Path Coefficients (P-value).[26] In the second stage of data analysis, the triangulation technique was adopted to improve the in-depth understanding of the phenomenon being explored so that it was able to produce accurate findings. Finally, the research data was analyzed using the Analytical Network Process (ANP). The ANP technique is an analytical

[25] Elidawaty Purba et al., *Metode Penelitian Ekonomi*, *Paper Knowledge . Toward a Media History of Documents*, Cetakan ke, vol. 7 (Medan: Yayasan Kita Menulis, 2021).
[26] Agus Widarjono, *Analisis Multivariat Terapan Dengan Program SPSS, AMOS, Dan SMARTPLS* (Yogyakarta: UPP STIM YKPN, 2015).

technique in qualitative research to produce a complete decision based on many criteria.[27] The ANP technique in this study was carried out to provide a comprehensive description of the second problem formulation and the best model in capturing the market share of halal products in the 5.0 era in MSME, which can be realized in line with the potential of MSME in Lhokseumawe City.

Limitations and Obstacles

The study uses a sample of MSME in Lhokseumawe City, which tends not to represent all MSME in Indonesia. This can affect the generalization of research results to a broader or different context. Different social, cultural, and economic characteristics in other areas can also affect the results obtained. Therefore, further research is expected to involve MSME from various regions to provide a more comprehensive and representative picture.

The significant obstacles in reviewing this research generally lie in time, energy, and cost limitations. This research requires maximum efforts to reach various forms of MSME members of the Lhokseumawe City BUMN House, conducting interviews and observations with business actors. Moreover, the UTAUT-3 model, the latest model in technology adoption, has not been fully understood by MSME actors in the Lhokseumawe City BUMN House. Thus, the socialization and education process about using this model in the context of halal product market preferences requires a more intensive and adaptive approach so that business actors can accept it well.

RESULTS AND DISCUSSION

Outer Model Test

Testing the outer model ensures that each indicator used is valid and reliable in measuring the research construct. The outer model estimation was carried out through three tests, including convergent validity, discriminant validity, and composite reliability.

Convergent Validity

The value of convergent validity can be known from the item's score or loading factor. A loading factor value of > 0.70 is considered good.[28] The following section details the estimated loading factor value obtained in the study, as presented in Table 2:

Table 2. Convergent Validity

Variable		Score
Perfomance Expectancy (PE)	PE-1	0.931
	PE-2	1.066
	PE-3	0.975
	PE-4	1.009
Effort Expectancy (EE)	EE-1	0.994

[27] Antoni Yohanes, "Analytic Network Process (ANP)," *Jurnal Dinamika Teknik* 8, no. 2 (2014): 1–10, https://doi.org/10.1007/978-981-33-4745-8_4.

[28] Solimun, Adji Achmad Rinaldo Fernandes, and Nurjannah, *Medote Statistika Multivariat Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS* (Malang: UB Press, 2017).

	EE-2	1.070
	EE-3	0.991
	EE-4	0.954
Social (SI)	SI-1	1.027
	SI-2	0.748
	SI-3	1.100
	SI-4	1.004
Facilitating Condition (FC)	FC-1	0.971
	FC-2	0.983
	FC-3	0.988
	FC-4	1.057
Hedonic Motivation (HM)	HM-1	1.025
	HM-2	1.018
	HM-3	0.976
	HM-4	0.980
Price Value (PV)	PV-1	1.049
	PV-2	1.059
	PV-3	0.945
	PV-4	0.927
Habit (HB)	HB-1	0.929
	HB-2	1.053
	HB-3	1.008
	HB-4	1.011
Personal Innovativeness (PI)	PI-1	1.019
	PI-2	0.967
	PI-3	0.987
	PI-4	1.024
Behaviour Intention (BI)	BI-1	1.008
	BI-2	0.997
	BI-3	1.016
	BI-4	0.979

Source: Primary data processed, (2024).

Referring to the estimated output loading factor, each research variable item obtained a > value of 0.70. This indicates that the assumption of convergent validity based on the loading factor value has been met, or all items used are declared valid.

Discriminant Validity

One way to know whether it is valid or not Discriminant Validity is through the acquisition of value Average Variance Extracted (AVE) with a provision of > 0.50.[29] Here are the test results of discriminant validity using the AVE values in this study:

[29] Solimun, Fernandes, and Nurjannah.

Table 3. Discriminant Validity

Variable	Average Variance Extracted (AVE)
Perfomance Expectancy (PE)	0.800
Effort Expectancy (EE)	0.894
Social (SI)	0.768
Facilitating Condition (FC)	0.910
Hedonic Motivation (HM)	0.942
Price Value (PV)	0.875
Habit (HB)	0.846
Personal Innovativeness (PI)	0.887
Behaviour Intention (BI)	0.891

Source: Primary data processed, (2024).

The estimation of the discriminant validity results using the AVE value above shows in Table 3 that each variable obtained a > value of 0.50. This means that the assumption of a convergence validity test based on AVE values has been met or declared valid, so the analysis of research data can be continued to the next stage.

Composite Reliability

Composite reliability can be found by looking at the value Cronbach Alpha and Composite Reliability (rho_c) obtained > 0.70, which is said to be reliable.[30] The results of the composite reliability test are presented in table 4:

Table 4. Composite Reliability

Variable	Cronbach's alpha	Composite reliability (rho_c)
Perfomance Expectancy (PE)	0.916	0.941
Effort Expectancy (EE)	0.961	0.971
Social (SI)	0.895	0.928
Facilitating Condition (FC)	0.967	0.976
Hedonic Motivation (HM)	0.979	0.985
Price Value (PV)	0.953	0.965
Habit (HB)	0.939	0.956
Personal Innovativeness (PI)	0.957	0.969
Behaviour Intention (BI)	0.959	0.970

Source: Primary data processed, (2024).

After reviewing the Cronbach alpha and composite reliability (rho_c) values, the composite reliability test results showed that each variable obtained a value of > 0.70. Thus, the assumption of the reliability test based on composite reliability was declared valid, or each variable used met a good level of reliability, and the data analysis could be continued to the next stage.

[30] Solimun, Fernandes, and Nurjannah.

Inner Model Test

The inner model was tested to ensure that the relationships between constructs were strong and significant in the research structural model. This study included several stages of the inner model test, including Multicollinearity, R-square, Goodness of FIT, and Path coefficient tests.

Multicollinearity

Test Multicollinearity to ensure the research model contributes uniquely to the dependent variables without any overlap by looking at the VIF value < 10.[31] The following are the results of the multicollinearity test:

Table 5. Multicollinearity

Variable	Behaviour Intention (Y)
Perfomance Expectancy (PE)	6.423
Effort Expectancy (EE)	7.946
Social (SI)	6.940
Facilitating Condition (FC)	1.512
Hedonic Motivation (HM)	8.948
Price Value (PV)	2.770
Habit (HB)	2.819
Personal Innovativeness (PI)	3.006

Source: Primary data processed, (2024).

Referring to Table 5 of the estimation of the multicollinearity test using the provisions of the VIF value, it shows that the VIF value of each research variable is obtained with a VIF value of < 10. This means that the assumption of the multicollinearity test is declared valid.

R-Square

The value R-Square in the form of numbers in the range of 0-1 reflects the level of the value of the combination of independent variables to influence the dependent variable.[32] The test R-Square can be categorized into three aspects, including values of 0.75 (strong), 0.50 (moderate), and 0.25 (weak).[33] The following are the results of the test estimates R-Square This study:

Table 6. R-Square

	R-square	R-square adjusted
Behaviour Intention (Y)	0.868	0.851

Source: Primary data processed, (2024).

[31] Widarjono, *Analisis Multivariat Terapan Dengan Program SPSS, AMOS, Dan SMARTPLS*.
[32] Solimun, Fernandes, and Nurjannah, *Medote Statistika Multivariat Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS*.
[33] Joseph F. Hair JR. et al., *Multivariate Data Analysis*, vol. 7 edition (Australia: Cengage, 2014).

Referring to the results of the test estimate as seen in Table 6, R-Square obtained a value R-square adjusted by 0.851. This identifies that the contribution of the influence of independent variables on the dependent variables as a whole is 0.851 or, as a percentage, 85%. In comparison, the remaining 14.9% is influenced by other variables outside the built model. It can be concluded that these values are classified into strong and good models because the built analysis model can explain and describe the construct of dependent variables at the level of more than 50%.[34]

Goodness of FIT

The FIT test is intended to evaluate how well the overall structural model is and how well it is aligned with the observed data. The provision for a good FIT score is the SRMR value produced < 0.10.[35] The following are the results of the FIT test of this study with SRMR scores:

Table 7. FIT

	Saturated model	Estimated model
SRMR	0.055	0.055

Source: Primary data processed, (2024).

The results of statistical estimates in Table 7 show that the SRMR value obtained from model analysis is 0.055, which means 0.055 < 0.10. So, the model built is FIT or good, and this good FIT model shows that the model is not only able to describe the dependent variables significantly but also represent the research data well.

Path Coefficients

The p-value test is used to determine whether the relationship tested in the model is statistically significant by analyzing the acquisition of p-value statistical values. If the resulting p-value < 0.05, it is considered to have a considerable influence; if the p-value > 0.05, it means that it does not have a significant influence. As demonstrated in Table 8, the following p-values were obtained from the statistical tests of the study:

Table 8. Hypothesis

Path Coefficients				
Variable	**Original Sample (O)**	**T Statistics (|O/STDEV|)**	**P Values**	**Note**
Performance Expectancy -> Behavioral Intention	0.169	1.274	0.001	Significant

[34] Muhammad Ghafur Wibowo, "Peran Tata Kelola Pemerintahan (Governance) Serta Bauran Kebijakan Fiskal Dan Moneter Dalam Pertumbuhan Ekonomi: Studi Di Negara-Negara Anggota Organisasi Kerjasama Islam (Oki). Disertasi" (2020).
[35] Solimun, Fernandes, and Nurjannah, *Medote Statistika Multivariat Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS*.

Effort Expectancy -> Behavioral Intention	0.155	1.027	0.015	Significant
Social -> Behavioral Intention	0.307	1.943	0.026	Significant
Facilitating Condition -> Behavioral Intention	0.377	1.915	0.028	Significant
Hedonic Motivation -> Behavioral Intention	0.078	1.428	0.034	Significant
Price Value -> Behavioral Intention	0.060	1.630	0.004	Significant
Habit -> Behavioral Intention	0.087	1.836	0.021	Significant
Personal Innovativeness -> Behavioral Intention	0.913	7.430	0.000	Significant

Source: Primary data processed, (2024).

Referring to the results of the statistical test, the research hypothesis identifies that over all independent variables which include performance expectations, business expectations, social influence, facilitating conditions, hedonistic motivation, price value, habits, and personal innovation have a positive and significant effect on the behavioral intention to use QRIS as a means of payment in MSME in Lhokseumawe City. This is empirically proven from the p-value of each independent variable < 0.05.

The Effect of Performance Expectations on the Intention to Use QRIS in Lhokseumawe City MSME

Performance expectations significantly affect the behavioral intention of using QRIS as a means of payment, as evidenced by the acquisition of estimated values showing 0.001 < 0.05. This result aligns with the formulation of the hypothesis presented, namely that performance expectations positively affect the behavioral intention of using QRIS in MSME in Lhokseumawe City, or H_1 is accepted. This finding proved the UTAUT-3 theory pioneered by Farooq et al., and Venkatesh et al.[36] Performance expectations can affect behavioral intentions because individuals will use technology if they believe it can contribute significant benefits in effectiveness, efficiency, and productivity. Furthermore, the higher the individual's performance expectations for the existence of technology, the higher the individual's potential to have the intention to use technology. The findings of this study are not only in line with theory but also successfully confirm previous empirical research, such as the analysis of Kwarteng et al.; Kumar et al.; Tambunan; Ayaz & Yanartas; and Gunawan.[37] Showing performance expectations has a positive and significant effect on the intention of behavior to use technology. Similar results explained by Loo et al. in 2023 show that

[36] Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2"; Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology."

[37] Michael Adu Kwarteng et al., "Extending UTAUT With Competitive Pressure for SMEs Digitalization Adoption in Two European Nations: A Multi-Group Analysis," *Aslib Journal of Information Management* 76, no. 5 (2024): 842–68, https://doi.org/10.1108/AJIM-11-2022-0482; Kumar et al., "Factors Affecting Information & Communication Technology (ICT) Adoption Among MSMEs."; Naomi Agatha Dwi Putri Tambunan, "Analyzing Factors Influencing Accounting Application Adoption Using the Unified Theory of Acceptance and Use of Technology (UTAUT) Model Among F&B MSMEs in West Java," *Journal Integration of Management Studies* 1, no. 1 (2023): 124–35, https://doi.org/10.58229/jims.v1i1.36; Ahmet Faruk Aysan et al., "Fintech Strategies of Islamic Banks: A Global Empirical Analysis," *FinTech* 1, no. 2 (June 2022): 206–15, https://doi.org/10.3390/fintech1020016; Gunawan, Sinaga, and Wp, "Assessment of the Readiness of Micro, Small and Medium Enterprises in Using E-Money Using the Unified Theory of Acceptance and Use of Technology (UTAUT) Method."

increasing technology adoption is an essential part of innovation in developing MSME and encouraging performance improvement.[38] Auliya & Aransyah revealed that high performance expectations will improve people's intention to use QRIS for payment transactions.[39] The analysis of Ariyanto et al. reinforces this idea. Increasing intention to use QRIS needs to be supported by improving its performance, especially its ease of use.[40]

The findings of the research were also strengthened by the results of interviews with several research informants, namely MSME actors at the Lhokseumawe City BUMN House, who revealed that the use of the QRIS system as a transaction tool can speed up and simplify the payment process in entrepreneurship, mainly because of its fast process, which does not require a cash refund. More specifically, the implementation of QRIS can also reach a wider market share because the transaction process through QRIS is more practical and safer, and business actors can directly see the payment confirmation from the application. Using the QRIS system as a transaction tool for MSME actors at the Lhokseumawe City BUMN House provides a sense of security and practicality. It saves time by eliminating the need to wait for transaction completion. It is known that research informants feel the benefits directly when using QRIS, both in terms of efficiency and the level of comfort provided by QRIS. So that performance expectations are met, the confidence of business actors can be strengthened to use QRIS as a means of sustainable entrepreneurial payment transactions.

The series of scientific analyses above presents clear evidence that behavioral intentions in using QRIS, especially in MSME actors at the Lhokseumawe City BUMN House as a means of payment, are greatly influenced by performance expectation variables. QRIS opens up faster and easier transaction opportunities without needing cash and cards. When MSME actors believe that using QRIS will speed up the payment transaction process, this will encourage these MSME actors to continue to use QRIS consistently. Furthermore, suppose that QRIS users feel that QRIS can offer a better level of security when using it, such as minimizing the risk of losing cash and other privacy security. In that case, this expectation will spur the MSME sector's behavioral intentions to use QRIS. More specifically, QRIS can also be used for various payment transactions connected to the system, making it more flexible to adopt. So, using QRIS as a means of payment for MSME actors at the Lhokseumawe City BUMN House is believed to significantly contribute to more optimal business development because a better, modern, and up-to-date technology system supports it.

[38] Loo, Ramachandran, and Raja Yusof, "Unleashing the Potential: Enhancing Technology Adoption and Innovation for Micro, Small and Medium-Sized Enterprises (MSMEs)."
[39] Putri Nur Auliya and Muhammad Fikry Aransyah, "Penerapan Model UTAUT Untuk Mengetahui Minat Perilaku Konsumen Dalam Penggunaan QRIS," *Ekonomi, Keuangan, Investasi Dan Syariah (EKUITAS)* 4, no. 3 (2023): 885–92, https://doi.org/10.47065/ekuitas.v4i3.2808.
[40] Arif Setia Sandi Ariyanto, Faizal Rizky Yuttama, and Slamet, "Evaluasi Penggunaan QRIS Menggunakan Model UTAUT Pada Era Perkembangan Fintech," *Majalah Ilmiah Methoda* 13, no. 3 (2023): 253–60, https://doi.org/10.46880/methoda.Vol13No3.pp253-260.

The Effect of Business Expectations on the Behavioral Intention of Using QRIS in MSME in Lhokseumawe City

Business expectations have a positive and significant effect on the behavioral intention of using QRIS as a means of payment, as evidenced by the acquisition of statistical estimates of 0.015 < 0.05. This result aligns with the hypothesis that business expectations positively affect the behavioral intention of using QRIS as a means of payment for MSME in Lhokseumawe City, or H_2 is accepted. This statistical estimate aligns with the UTAUT-3 theory initiated by Farooq et al. and Venkatesh et al., which explains that business expectations can affect technology usage behavior if users feel that technology such as QRIS is easy to use.[41] Empirical evidence by Bhatnagr & Rajesh also supports the study's findings, Kwarteng et al., Indrayathi et al., Pamungkas & Sudiarno, and Tambunan et al., who show that business expectations positively and significantly affect behavioral intentions in utilizing digital technology.[42]

A number of these statistical results are also supported by qualitative data from interviews with research informants, especially MSME actors at the Lhokseumawe City BUMN House, who said that the use of QRIS is effortless and practical, namely by just scanning the QR code and without having to calculate cash or give change. There is no need to provide additional tools in QRIS operations; use mobile phones and QR codes. This system makes QRIS more preferred by MSME actors at the Lhokseumawe City BUMN House because it does not require much effort to use QRIS as a means of payment for transactions. In addition, there is no complicated process; even business actors using QRIS for the first time do not find it difficult because the system is easy to understand.

Referring to the results of statistical analysis and the focus of interviews that have been conducted with research informants, it is known that business expectations play a fairly important role in influencing the behavioral intention of using QRIS as a means of payment for MSME actors at the Lhokseumawe City BUMN House. Most research informants stated that the ease of use of QRIS is one factor that makes MSME actors want to continue using QRIS in transactions. QRIS is seen as easy and fast and does not require much daily operational effort. This creates a sense of comfort for MSME actors at the Lhokseumawe City BUMN House, and they are confident to continue to use QRIS as an alternative tool in facilitating transactions.

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[41] Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2"; Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology."

[42] Puneett Bhatnagr and Anupama Rajesh, "Neobanking Adoption-An Integrated UTAUT-3, Perceived Risk and Recommendation Model," *South Asian Journal of Marketing Emerald Publishing Limited*, 2023, https://doi.org/10.1108/sajm-06-2022-0040; Kwarteng et al., "Extending UTAUT With Competitive Pressure for SMEs Digitalization Adoption in Two European Nations: A Multi-Group Analysis"; Ayu Indrayathi et al., "Intention to Use Telemedicine Based on the Unified Theory of Acceptance and Use of Technology Model," *Public Health and Preventive Medicine Archive* 11, no. 1 (July 1, 2023): 14–24, https://doi.org/10.53638/phpma.2023.v11.i1.p02; Zanwar Yoga Pamungkas and Adithya Sudiarno, "Implementasi Model UTAUT (Unified Theory of Acceptance and Use of Technology) Untuk Menganalisis Faktor- Faktor Yang Mempengaruhi Penggunaan Aplikasi Brimo," *Jurnal Teknologi Informasi Dan Ilmu Komputer* 9, no. 3 (June 20, 2022): 569–78, https://doi.org/10.25126/jtiik.2022936047; Bernando Aldo Yosua Tambunan et al., "Analysis of the Impact of Globalization on International Trade," *International Journal of Business and Applied Economics* 1, no. 1 (December 21, 2022): 21–26, https://doi.org/10.55927/ijbae.v1i1.2119.

Social Influence on Behavioral Intentions to Use QRIS in Lhokseumawe City MSME

Social has a positive and significant effect on behavioral intentions using QRIS as a means of payment, as evidenced by statistical estimates p-value obtained a value 0,026 < 0.05. The results of this estimate align with the design of the hypothesis, namely that social has a positive effect on the behavioral intention of using QRIS as a means of payment for MSME in Lhokseumawe City, or H_3 is accepted. The resulting estimate can prove the UTAUT-3 theory conceptualized by Farooq et al. and Venkatesh et al. Mentioned social environmental conditions through social pressure, support, and positive experiences from various parties (family, friends, government, colleagues) can encourage individuals to be more open to technology in activities. The results of this study not only prove the theory but also successfully confirm previous empirical research, such as that of Tambunan, Auliya & Aransyah, Pamungkas & Sudiarno, and Anjani & Mukhlis, who emphasized that social media has a positive and significant influence on behavioral intentions in using digital technology, including QRIS.[43]

The results of the study are not only supported by statistical data and previous empirical evidence, but also complemented by interview data with research informants who provide an overview that the use of QRIS as a means of payment, especially among MSME actors in the Lhokseumawe City BUMN House, is mainly influenced by recommendations and positive experiences from family, friends, customers, and business partners. In addition, the encouragement of the use of QRIS as a means of payment for MSME actors at the Lhokseumawe City BUMN House is also based on environmental and technological conditions that require MSME actors to provide services that are relevant to development trends so as not to be left behind.

Looking at the results of statistical tests and interviews conducted with MSME actors at the Lhokseumawe City BUMN House, it is clear that social influence significantly impacts behavioral intentions using QRIS as a means of payment transactions. The encouragement from friends, business partners, customers, and family greatly influenced the decision of MSME actors at the Lhokseumawe City BUMN House to adopt QRIS. Most MSME actors at the Lhokseumawe City BUMN House feel more confident and motivated in using QRIS because they see that the surrounding environment has also adopted QRIS technology and is following the trend of digital payments in business operations.

The Influence of Favorable Conditions on the Behavioral Intention of Using QRIS in Lhokseumawe City MSME

Conditions that facilitate have a positive and significant effect on behavioral intentions to use QRIS as a means of payment, as evidenced by statistical results p-value is 0.028 < 0.05.

[43] Tambunan, "Analyzing Factors Influencing Accounting Application Adoption Using the Unified Theory of Acceptance and Use of Technology (UTAUT) Model Among F&B MSMEs in West Java"; Auliya and Aransyah, "Penerapan Model UTAUT Untuk Mengetahui Minat Perilaku Konsumen Dalam Penggunaan QRIS"; Pamungkas and Sudiarno, "Implementasi Model UTAUT (Unified Theory of Acceptance and Use of Technology) Untuk Menganalisis Faktor- Faktor Yang Mempengaruhi Penggunaan Aplikasi Brimo"; Widya Anjani and Imam Mukhlis, "Penerapan Model UTAUT (The Unified Theory of Acceptance and Use of Technology) Terhadap Minat Dan Perilaku Penggunaan Mobile Banking," *Jurnal Ekonomi Akuntansi Dan Manajemen* 21, no. 1 (April 28, 2022): 1, https://doi.org/10.19184/jeam.v21i1.30570.

The resulting model is in line with the designed hypothesis. These conditions facilitate and positively affect the behavioral intention of using QRIS as a means of payment for MSME in Lhokseumawe City, or H4, which is accepted. This analysis aligns with the UTAUT-3 theory of thought of Farooq et al. and Venkatesh et al., explaining that supporting facilities such as resources or infrastructure can influence the intention of behavior to use technology. This is due to the view that individuals have adequate access in terms of technical support, devices, and sufficient knowledge in using technology smoothly. Furthermore, the results of this study are also corroborated by previous scientific research, such as the findings of Mensah & Khan, Kwarteng et al., Zhou et al., Caleb, Pinto et al., and Alam et al., proving that favorable conditions, including support from the government, are positively and significantly able to encourage behavioral intentions in the use of digital technology systems.[44]

The analysis was supported by the results of interviews with MSME actors at the Lhokseumawe City BUMN House, which stated that the use of QRIS is supported by the availability of infrastructure facilities such as mobile phone devices, a fairly good internet connection, and ease of obtaining technical assistance from friends and banks. Access to QRIS is also facilitated by the availability of customer service, which can be contacted when experiencing difficulties. Obstacles or problems in using QRIS for MSME actors at the Lhokseumawe City BUMN House can also be learned through online tutorial guides. A number of these facilities make MSME actors at the Lhokseumawe City BUMN House feel more confident, safer, and facilitated in using QRIS as a means of payment transactions for their businesses.

Referring to the results of estimates and interviews conducted on MSME actors at the Lhokseumawe City BUMN House, it is known that the conditions significantly facilitate the behavioral intention of using QRIS as a means of payment. There is access to technological devices, a stable internet network, and knowledge on how to reach and use the QRIS system, including technical support from banks and QRIS service providers and government support to socialize the use of QRIS. These facilities can make it easier for MSME actors at the Lhokseumawe City BUMN House to use QRIS in daily business activities. A series of these facilities provide confidence for MSME actors at the Lhokseumawe City BUMN House that small business people can use QRIS to launch and develop business operations without any technical or operational obstacles. This can increase the behavioral intentions of MSME actors at the Lhokseumawe City BUMN House to continue to use QRIS sustainably.

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[44] Isaac Kofi Mensah and Muhammad Khalil Khan, "Unified Theory of Acceptance and Use of Technology (UTAUT) Model: Factors Influencing Mobile Banking Services' Adoption in China," *SAGE Open* 14, no. 1 (2024): 1–18, https://doi.org/10.1177/21582440241234230; Kwarteng et al., "Extending UTAUT With Competitive Pressure for SMEs Digitalization Adoption in Two European Nations: A Multi-Group Analysis"; Mingle Zhou et al., "Determinants of E-Government Technology Adoption for Government Employees in China: Based on the UTAUT3 Model," *Lex Localis - Journal of Local Self-Government* 21, no. 4 (November 1, 2023): 1043–66, https://doi.org/10.4335/21.4.1043-1066(2023); Caleb Or, "The Role of Attitude in the Unified Theory of Acceptance and Use of Technology: A Meta-Analytic Structural Equation Modelling Study," *International Journal of Technology in Education and Science* 7, no. 4 (October 15, 2023): 552–70, https://doi.org/10.46328/ijtes.504; Agostinho Sousa Pinto et al., "Augmented Reality for a New Reality: Using UTAUT-3 to Assess the Adoption of Mobile Augmented Reality in Tourism (MART)," *Journal of Information Systems Engineering and Management* 7, no. 2-In Progress (April 14, 2022): 14550, https://doi.org/10.55267/iadt.07.12012; Mohammad Zahedul Alam et al., "Understanding the Determinants of mHealth Apps Adoption in Bangladesh: A SEM-Neural Network Approach," *Technology in Society* 61 (May 2020): 101255, https://doi.org/10.1016/j.techsoc.2020.101255.

The Effect of Hedonistic Motivation on the Behavioral Intention of Using QRIS in MSME in Lhokseumawe City

Hedonistic motivation has a significant positive effect on behavioral intentions using QRIS as a means of payment, as evidenced by the acquisition of value p-value 0.034 < 0.05. The results obtained align with the structure of the built hypothesis. Hedonistic motivation positively affects the behavioral intention to use QRIS as a means of payment for MSME in Lhokseumawe City, or H_5 is accepted. The estimates obtained are also in sync with the concept of the UTAUT-3 theory proposed by Farooq et al. and Venkatesh et al. that hedonistic motivation plays an essential role in efforts to show emotional aspects and positive experiences toward the use of technology that can increase user behavioral intentions.[45] This finding confirmed the UTAUT-3 theory and successfully confirmed the results of previous studies, one of which was the study of Rusman et al., Fahmi et al., and Pinto et al. Hedonic motivation is one of the determinants of technology use.[46]

Further analysis was emphasized by the results of an interview with a research informant, who explained that transactions through QRIS encourage a faster, easier, and modern payment process to create a pleasant impression when transacting. Moreover, a stable internet network allows the transaction process to occur without obstacles, which makes MSME actors at the Lhokseumawe City BUMN House and customers feel satisfied. In addition, most customers are more interested in making payments through QRIS, which makes MSME actors at the Lhokseumawe City BUMN House feel comfortable using QRIS as a means of payment. Implementing QRIS for MSME actors at the Lhokseumawe City BUMN House makes the business more modern. This encourages high enthusiasm for MSME actors at the Lhokseumawe City BUMN House in running a business.

From the results of statistics and interview analysis conducted, it can be seen that hedonistic motivations such as a sense of pleasure, satisfaction, and trends felt when using QRIS have a significant positive effect on the behavioral intentions of MSME actors at the Lhokseumawe City BUMN House to continue to use QRIS payment tools in transactions. To be clear, the positive experience when making transactions not only increases the desire of MSME actors at the Lhokseumawe City BUMN House to use QRIS, but is also able to offer a better and more attractive transaction atmosphere in interaction with customers.

The Effect of Price Value on the Intention to Use QRIS in Lhokseumawe City MSME

The price value has a significant positive effect on the behavioral intention of using QRIS as a means of payment, as evidenced by the value of the p-value produced 0.004 < 0.05. The results of this statistic align with the hypothesis scheme that has been prepared, namely that the price value positively affects the intention to use QRIS as a means of payment for MSME

[45] Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2"; Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology."

[46] Rusman et al., "Applying the UTAUT Model to Understand Factors Affecting the Use of Learning Management System for Learning Pedagogical Education," *Pegem Journal of Education and Instruction* 14, no. 1 (2024): 231–38; Muhammad Ainul Fahmi et al., "Acceptance and Use of LiVE Unpad in Vocational Education Student: Extended UTAUT-3 Approach," *Jurnal Teknologi Pendidikan* 12, no. 2 (April 11, 2023): 194–222, https://ejournal2.uika-bogor.ac.id/index.php/TEK/article/view/160; Pinto et al., "Augmented Reality for a New Reality."

in Lhokseumawe City, or H_6 is accepted. The study's findings support the UTAUT-3 theory initiated by Farooq et al. and Venkatesh et al., who describe that the price value directly correlates with the behavioral intention of using technology.[47] The costs incurred are commensurate with the benefits obtained, which are more likely to allow users to adopt technological systems. When users feel that the price offered is reasonable and proportional to the benefits received, it will increase the use of technology systems. In addition, the study's results can confirm previous scientific analyses, such as Febrianti et al., Rusman et al., and Fahmi et al., showing that the price value is one of the crucial factors that affect the intention of behavior in the use of technology systems.[48]

The research results were again corroborated by interviews with research informants, namely MSME actors at the Lhokseumawe City BUMN House, who explained that the main reason for using QRIS as a payment method was its affordable costs. MSME actors do not need to buy expensive EDC machines; through QRIS, MSME actors, especially those who are members of the Lhokseumawe City BUMN House, can make transactions modernly without spending much money. Implementing QRIS in business transactions at a low cost makes MSME actors at the Lhokseumawe City BUMN House feel more motivated to continue implementing the payment system through QRIS. The ease and speed of transactions through QRIS are proportional to the costs that must be incurred; the additional fees charged are relatively low, around 0.3% for every transaction > 100,000, so it is helpful amid uncertain economic conditions. More clearly, the QRIS system does not charge a monthly merchant discount rate (MDR) fee; only small transactions are charged so that it will be very profitable for MSME actors at the Lhokseumawe City BUMN House.

Referring to the statistical estimates and interview results obtained, it is known that the price value has a significant positive effect on the behavioral intention of using QRIS as a means of payment for MSME actors at the Lhokseumawe City BUMN House. The cost of using QRIS that is affordable, reasonable, and proportional to the benefits obtained makes MSME actors at the Lhokseumawe City BUMN House feel more comfortable and motivated to continue to adopt the QRIS system in the business operations of MSME actors, especially MSME under the auspices of the Lhokseumawe City BUMN House.

The Effect of Habits on the Intention of Behavior to Use QRIS in MSME in Lhokseumawe City

Habits have a significant positive effect on behavioral intentions using QRIS as a means of payment, as evidenced by estimates p-value obtained 0.021 < 0.05. The estimates produced are in line with the design of the prepared hypothesis. These habits positively affect the intention to use QRIS as a means of payment for MSME in Lhokseumawe City or H_7 is

[47] Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2"; Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology."

[48] Andi Achelya Febrianti, "Factors Influencing Behavioral Intention To Use Telemedicine Services: Modified-UTAUT3 Model," *JHSS (Journal of Humanities and Social Studies)* 08, no. 01 (2024): 196–202; Rusman et al., "Applying the UTAUT Model to Understand Factors Affecting the Use of Learning Management System for Learning Pedagogical Education"; Fahmi et al., "Acceptance and Use of LiVE Unpad in Vocational Education Student."

accepted. Results of the proposed UTAUT-3 theory synchronous research by Farooq et al. and Venkatesh et al. show that habits significantly impact the decision to use technology. Users will automatically continue using technology when familiar and comfortable with it.[49] The analysis can also strengthen previous scientific research, such as the study of Febrianti et al. and Tak et al., which states that habits significantly influence technology use.[50]

The review analysis is supported by interviews with research informants, who revealed that using QRIS in every transaction creates a sense of comfort and confidence for MSME actors in serving customers. Moreover, the majority of customers often choose to pay through QRIS. So that MSME actors at the Lhokseumawe City BUMN House are even more motivated to continue implementing QRIS in transactions. In addition, implementing QRIS as a means of payment also makes MSME actors at the Lhokseumawe City BUMN House faster and more responsive in serving customers. MSME actors do not need to recalculate the money paid or provide returns to make the transaction process more practical.

Referring to statistical analysis and the results of interviews with MSME actors at the Lhokseumawe City BUMN House, it is known that the habits formed through the use of QRIS have a positive and significant influence on behavioral intentions using QRIS as a means of payment. The formation of habits consistently contributes to the intention of MSME actors at the Lhokseumawe City BUMN House to continue using QRIS. Using QRIS in transactions can increase the confidence of MSME actors and create a more efficient, enjoyable, and satisfying transaction experience for customers.

The Effect of Personal Innovation on Behavioral Intentions to Use QRIS in MSME in Lhokseumawe City

Personal innovation has a significant positive effect on behavioral intentions using QRIS as a means of payment, as evidenced by the projected value of p-value 0.000 < 0.05. The resulting statistical projections are in accordance with the hypothesis formed, namely that personal innovation positively affects the behavioral intention of using QRIS as a means of payment for MSME actors in Lhokseumawe City, or H_8 is accepted. The results of the investigation were able to confirm the UTAUT-3 theory pioneered by Farooq et al. and Venkatesh et al. that individuals who have a positive attitude towards innovation tend to be more open to trying to use new technology, especially if the technology can provide significant benefits and convenience for users. In addition, this finding is also supported by previous scientific analysis such as the analysis of Bere et al., Febrianti et al., Zhou et al., and Fahmi et al., personal innovation is a potential factor in determining technology use.[51]

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[49] Farooq et al., "Acceptance and Use of Lecture Capture System (LCS) in Executive Business Studies: Extending UTAUT2"; Venkatesh, Thong, and Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology."

[50] Febrianti, "Factors Influencing Behavioral Intention To Use Telemedicine Services: Modified-UTAUT3 Model"; Ala Nekouvaght Tak et al., "A Framework for Investigating the Acceptance of Smart Home Technologies: Findings for Residential Smart HVAC Systems," *Building and Environment* 245, no. 1 (2023): 110935, https://doi.org/10.1016/j.buildenv.2023.110935.

[51] Alejandro Billyjoe Mau Bere, Richard Win Putra, and Linda Kusumaning Wedari, "Investigation of Digital Rupiah Acceptance Using UTAUT-3 Model," *Indonesian Journal of Electrical Engineering and Computer Science* 35, no. 3 (2024): 1710–21, https://doi.org/10.11591/ijeecs.v35.i3.pp1710-1721; Febrianti, "Factors Influencing Behavioral Intention To Use Telemedicine Services: Modified-UTAUT3 Model"; Zhou et al., "Determinants of E-Government Technology Adoption for Government Employees in China"; Fahmi et al., "Acceptance and Use of LiVE Unpad in Vocational Education Student."

The results of this study are not only supported by previous theories and empirical evidence, but also strengthened by the results of in-depth interviews with MSME actors at the Lhokseumawe City BUMN House which explained that the use of QRIS as a transaction tool is part of business innovation that offers convenience, speed, and efficiency of the payment process to customers, as well as payment transactions become more modern. The innovation of the payment system through QRIS makes MSME actors feel more connected to trends in the market. This excites MSME actors at the Lhokseumawe City BUMN House to adopt QRIS in transactions.

Referring to statistical analysis and interview results conducted with MSME actors at the Lhokseumawe City BUMN House, it is known that personal innovations owned by research informants have a significant positive effect on behavioral intentions to use QRIS as a means of payment, especially for MSME actors at the Lhokseumawe City BUMN House. Openness to innovation increases confidence in transacting and creates a better experience for customers. This research emphasizes the importance of personal innovation in the adoption of new technology among MSME actors, especially MSME actors who are members of the Lhokseumawe City BUMN House. Personal innovation has an important role for MSME actors at the Lhokseumawe City BUMN House in using QRIS as a means of payment. MSME actors who have adopted QRIS have shown readiness to compete in an increasingly competitive market. Personal innovations help MSME actors at the Lhokseumawe City BUMN House offer more practical, efficient, and attractive payment methods.

Through innovations in the use of QRIS, MSME actors at the Lhokseumawe City BUMN House can create a more enjoyable shopping experience for customers. Fast and easy payments can increase customer satisfaction and encourage loyalty. In addition, innovations in the payment process can improve operational efficiency. MSME actors at the Lhokseumawe City BUMN House can reduce the time and energy spent on transactions to focus more on other aspects of the business. Furthermore, adopting modern technology such as QRIS shows that MSME actors at the Lhokseumawe City BUMN House are open to change and innovation. This can help build a positive image and attract the attention of customers who value convenience and practicality.

The Best Model in Capturing Market Share of Halal Products in the 5.0 Era for MSME at the Lhokseumawe City BUMN House

Based on the findings of the research, it is known that MSME actors can implement several alternative models at the Lhokseumawe City BUMN House to capture the market share of halal products in the 5.0 era, which can be described as follows:

1. Application of Digital Technology in Halal Product Marketing

   The industrial era 5.0 has brought a business landscape for MSME actors in Lhokseumawe City who have begun to adopt various digital technologies in marketing strategies such as the use of QRIS and social media platforms through Instagram, Facebook, and TikTok, as well as e-commerce such as Tokopedia and Shopee. Several MSME actors have used these media to introduce halal products

to a broader market. Technology such as mobile applications and websites also need to be used to provide more in-depth information about products and production processes that are in accordance with halal standards. The use of digital platforms for promotion, transactions, and communication with consumers is essential. MSME actors at the Lhokseumawe City BUMN House must use digital technology forms such as QRIS, social media, and e-commerce to expand market reach. However, some MSME actors in the Lhokseumawe City BUMN House are still hampered by limitations in human resources who master digital technology deeply. So, training and assistance in using digital technology are very necessary.

2. Strengthening Halal Brand and Consumer Trust

MSME actors at the Lhokseumawe City BUMN House must strengthen the halal image of their business products. Official halal labels and product testing following the Food and Drug Supervisory Agency (BPOM) standards and the Indonesian Ulema Council (MUI) are key factors in building consumer trust value. This study found that some MSME in the Lhokseumawe City BUMN House that can provide transparency in the production process and source of raw materials, as well as educate consumers about the halalness of products, obtain a higher level of trust from the market. Strengthening halal identity through clear and transparent certification. MSME actors at the Lhokseumawe City BUMN House must ensure that every product marketed meets halal standards recognized by the MUI and other certification bodies. The study's findings also identified that consumers in Lhokseumawe prefer products with an official halal certificate and an open production process to feel safe consuming these products.

3. Product Innovation and Business Sustainability

MSME actors at the Lhokseumawe City BUMN House who have succeeded in attracting market share of halal products are MSME that not only focus on halal aspects of products and technology but also product quality and innovation. In the 5.0 era, consumers increasingly pay attention to sustainability factors, such as using local raw materials, environmental friendliness, and ethical production processes. Therefore, MSME that can integrate sustainability principles in the operation and marketing of halal products will be more in demand. Many MSME in the Lhokseumawe City BUMN House have begun to innovate by creating halal products that combine traditional and modern aspects, such as processed foods that use organic and environmentally friendly ingredients. This not only increases the selling value of products but is also in line with global trends related to environmental sustainability. So, it is also crucial for MSME actors at the Lhokseumawe City BUMN House to develop halal products that are not only safe and of high quality but also environmentally friendly and meet sustainability principles.

4. Stakeholder and Ecosystem Collaboration

It is essential to collaborate between MSME and various parties, such as the government, financial institutions, private companies, and halal certification bodies in building a strong halal product ecosystem. This collaboration can include access to financing, the availability of raw materials, faster and easier halal certification, and joint promotions that can increase competitiveness to build partnerships with various stakeholders in creating an ecosystem that supports the growth of halal MSME.

CONCLUSION

This study explores the preferences of MSME actors in Lhokseumawe City in capturing the market share of halal products in the 5.0 era using the UTAUT-3 model. The findings of the study showed that all independent variables, including performance expectations, business expectations, social influence, facilitating conditions, hedonistic motivation, price value, habits, and personal innovation, had a significant positive effect on the behavioral intention to use QRIS as a means of payment in MSME in Lhokseumawe City. These independent variables had an impact of 0.851 or 85.1% on the behavioral intention to use QRIS as a means of payment for MSME in Lhokseumawe City. The remaining 14.9% is influenced by other variables outside of the built model. MSME in Lhokseumawe City have considerable potential to develop and utilize the halal product market in the 5.0 era. Adopting QRIS digital technology, strengthening halal branding, product innovation, and increasing competitiveness will help build partnerships with various stakeholders to create a halal MSME ecosystem. However, this success requires synergy from various parties, including the government, certification bodies, companies, and the community, to create a supportive ecosystem. This research emphasizes the importance of synergy between technological aspects and human behavior in halal product marketing. By integrating the UTAUT-3 approach, this research provides in-depth insights into how MSME can leverage digital technology to increase competitiveness and reach a broader market. Overall, the results of this study are expected to provide recommendations for stakeholders, including the government and educational institutions, to support the development of MSME in facing increasingly complex market challenges. In addition, developing training and counseling programs on marketing technology will be advantageous in improving the understanding and skills of MSME actors in the digital era, especially for MSME actors in Lhokseumawe City who have not been touched in terms of knowledge and technology.

Referring to the research findings, it is essential to create synergy between the government, universities, and MSME players to capture halal product market share in the 5.0 era. Good collaboration and the implementation of appropriate strategies are expected to increase halal product competitiveness and strengthen MSME's position in local and global markets. The government must strengthen policies to support MSME operations in marketing halal products. This includes providing incentives, training, and access to relevant digital technology systems so that MSME players are better prepared to face the challenges

of digitalization. On the same occasion, universities also play a strategic role as a development center in providing Halal Centers to facilitate MSME to offer consulting services for MSME in the halal certification process, including assistance in meeting established standards, as well as providing technical assistance to help understand and implement halal standards in the production process. In addition, the Halal Center can also act as a research unit that focuses explicitly on developing halal products, including innovations in the production, packaging, and marketing processes.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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