Creative Economy Issue: Digital Transformation of Culinary Subsector SMEs in Aceh in the Era of Society 5.0

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 ABSTRACT

The Industrial Revolution 5.0 emphasizes integrating advanced technologies such as AI, IoT, and robotics with human innovation and expertise to achieve well-being. This study aims to measure the extent of the ongoing digital transformation in the culinary SME subsector in Aceh, providing insights into the readiness level of culinary SMEs in facing the Society 5.0 era. This descriptive quantitative study uses grand mean analysis to measure the level of digital transformation in Aceh's culinary SMEs. The respondents of this study consist of 150 culinary businesses from Langsa, Kuala Simpang, and East Aceh. The results of this study show that the overall grand mean score is 3.4, indicating that the respondents' readiness is moderate. Based on these results, culinary SMEs in Aceh are at Level II, which is in digital usage level, so they need to maximize the digital tools they use to improve performance and adapt to the rapid digitalization of businesses at national and international levels.

Keywords: Creative Economy, Culinary subsector, Society 5.0

1. INTRODUCTION

In the Industrial Revolution 4.0 era, all human activities are inseparable from information technology (Safar, Sopko, Bednar, & Poklemba, 2018; Teh & Kee, 2019). A survey conducted by the Indonesian Internet Service Providers Association (APJII) in 2024 showed that internet penetration in Indonesia reached 79.50%, meaning that 221,563,479 people out of a total population of 278,696,200 in 2023 were connected to the internet (APJII, 2024). This penetration rate has increased compared to previous years and continue to grow in the coming years. The development of technology, information, and the internet has also expanded into the business sector, where entrepreneurs should optimize information technology to improve business performance. The Industrial Revolution 4.0 emphasizes digitalization through technologies like the Internet of Things (IoT) and Artificial Intelligence (AI), which help business operators reduce operational costs, innovate, conduct online transactions, and boost productivity (Adamik, 2020; Amaral & Peças, 2021).

The discourse of Industry 5.0 has already begun in many developed countries, such as the European Union, Japan, China, and the United States. Industry 5.0 represents an expansion of Industry 4.0, focusing on how technology can support and

enhance the role of humans in production processes. Industry 5.0 places humans at the center of innovation and industry. It emphasizes the integration of advanced technologies such as AI, IoT, and robotics with human expertise and innovation, driving the development of production systems that are more efficient, flexible, sustainable, and capable of enhancing well-being (He & Chand, 2024).

SMEs are utilizing the current development of digital media for their activities. The rapid advancements in information technology have compelled businesses to undergo digital transformation to keep up with developments in the industry. Digital transformation will lead to changes in market behavior, from preferences and transactions to the accuracy of delivering digital-based products, which business operators must anticipate (Bouwman, Nikou, & de Reuver, 2019; Dolan, Conduit, Frethey-Bentham, Fahy, & Goodman, 2019; Ellitan, 2020). Digitalization drives economic changes (König, Ungerer, Baltes, & Terzidis, 2019). across all industrial sectors. The phenomenon of digital transformation is evident from the increasing transactions in e-commerce, the rise of digital payment usage, marketing content on various social media platforms, and significant utilization of financial technology such as peer-to-peer lending and crowdfunding applications (Ha, Kankanhalli, Kishan, & Huang, 2016; Lubis, Zati, & Rosalina, 2023a; Paolo Pietro Biancone, Silvana Secinaro, & Mohamad Kamal, 2019; Rodríguez, Svensson, & Pérez, 2017). Digital technology-based marketing concepts offer hope for SMEs to expand their markets, as diverse marketing content for SME products is available on various social media platforms. However, while this offers more significant opportunities and benefits, digitalization also presents a worrying threat—SMEs that are unable to adapt to information technology will lose in competition and be in a vulnerable position (Gunawan Wibowo, 2021; Kevin Aprilio, 2018; Kilay, Simamora, & Putra, 2022).

Consumers also experience the convenience of digital transformation, such as significant demand for transportation apps like Gojek and Grab, which provide transportation services and other supporting services like food ordering and digital payments. There has been a shift towards online shopping, and the ease of online shopping has led to the increased use of e-wallets, gradually replacing the habit of cash payments with cashless transactions. Digital transformation has empowered consumers significantly. E-commerce platforms enable consumers to choose products due to the many options available on e-commerce platforms. According to various survey service records, in 2024, the number of people shopping online is expected to reach 46.7 million. Therefore, it is not surprising that, based on a BPS survey in 2023, Indonesian SMEs joining e-commerce increased their revenues by 25-50% (Badan Pusat Statistika, 2023).

The creative economy is an industry that contributes significantly to economic progress. The creative economy is an economic concept that relies on creativity and

information as the main factors in producing and distributing goods and services (Lubis, Zati, & Rosalina, 2023b; Manteiro & Kabu, 2019). According to Law Number 24 of 2019 concerning the Creative Economy, the Creative Economy embodies added value from intellectual property derived from human creativity based on cultural heritage, knowledge, and technology (Kemeterian Pariwisata dan Ekonomi Kreatif, 2021). Creativity has become a critical point in winning global economic competition, whether in products or services, and the creative economy become an essential contributor to driving the national economy. Data from BPS and the Ministry of Tourism and Creative Economy in 2020 shows that the creative economy sector contributed 7.3% of the total national GDP, amounting to 1.534 trillion (Kemenparekraf, 2020), and the creative economy sector also absorbed 15.2% of Indonesia's workforce in 2022 (Pusat Data dan Sistem Informasi Kemenparekraf & Direktorat Statistik Kependudukan dan Ketenagakerjaan BPS, 2022).
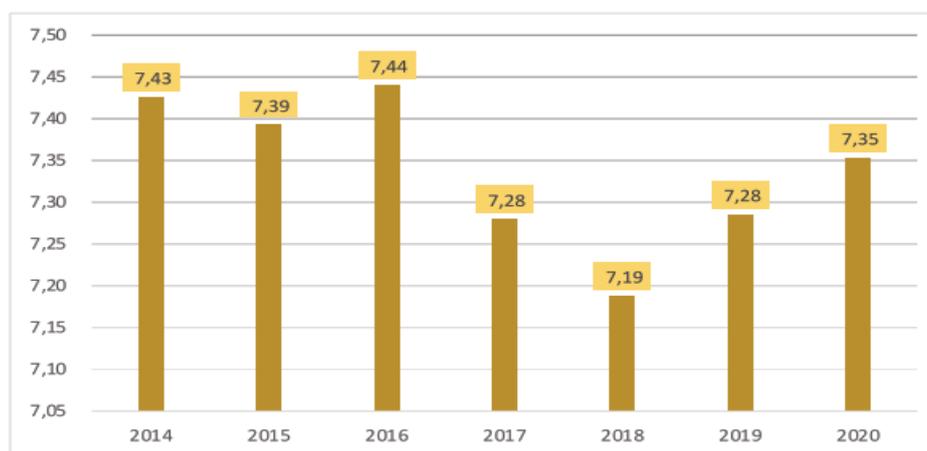

Figure 1. Contribution of the Creative Economy's GDP to the National Economy
Source: Tourism and Creative Economy Statistics, 2020

There are sixteen sectors of the creative economy, namely: Application and Game Developer, Architecture, Interior Design, Visual Communication Design, Product Design, Fashion, Movies, Animations and Videos, Photography Crafts, Culinary Music Publishing, Advertising, Performing Arts, Fine Arts, and Television and Radio. This study focuses on the digital transformation of SMEs in the culinary subsector in the Aceh province. Nationally, the culinary, fashion, and crafts subsectors are the most significant contributors to the creative economy's GDP, with a total contribution each year reaching 75%. The culinary subsector contributes around 42% annually, the fashion subsector 18%, and the crafts subsector 15% of the total creative economy GDP. Culinary is the activity of preparing, processing, and presenting food and beverage products, incorporating elements of creativity, aesthetics, tradition, and local wisdom as the most critical components to enhance the taste and value of the

products, attracting consumer purchasing power and providing an experience for them.

Based on data from the Central Bureau of Statistics (BPS) of Aceh Province, the food and beverage sector is an important contributor to Aceh's Gross Regional Domestic Product (GRDP). In 2023, this sector showed significant growth, with a development index reaching 180.32. Aceh's food and beverage sector encompasses various industries, including processed food production, beverages, and food and beverage service providers. This growth reflects increased demand and consumption of local products and a significant contribution to the regional economy. Based on this data, this study aims to measure the extent of digital transformation in SMEs in Aceh's culinary subsector. The level of digital technology usage can serve as a benchmark for the readiness of creative economy SMEs in the culinary subsector to face the Industry 5.0 revolution, which is currently being widely discussed and will become one of the competitive advantages of human resources in facing business competition at both national and international levels.

2. METHODS

2.1 Population and Sample

This study is descriptive quantitative research aimed at identifying the extent of digital transformation in culinary SMEs in Aceh. Given the time constraints, this research employs multistage area sampling; the research team sampled three areas in the eastern Aceh region: Langsa City, Aceh Timur Regency, and Kuala Simpang City. The total number of respondents is 150, consisting of 50 respondents from each of the three cities and regencies. The criteria respondents for this study are: 1) at least 18 years old, 2) has a social media account for business, and 3) has been engaged in business for at least five years.

2.2 Analysis Technique

Digital transformation is a change in methods of handling tasks using information technology to be more effective and efficient. We can see this change in the work, roles, and business offerings caused by adopting digital technology in business (Trenkle, 2019). Digital transformation is about technological leaps and adapting a company's operational and institutional ecosystems to new business methods and thinking while leveraging digital factors (Stich et al., 2020; Trenkle, 2019; Ulas, 2019). The indicators used to measure digital transformation are based on the research of Farhani & Chaniago (2021), which the researchers adapted and modified to fit the situation in Aceh. The explanation of the indicators is in the following table:

Table 1. Sub Variabel and Indicator

Sub Variabel	Indicator
Digital Media Usage	Active online presence
	Ease of online access
	Digital database
	Consistency in using digital media
Simplification of Business Activities in Digital Mode	Collaboration and Partnerships
	Variety of technologies utilized
Transition from Conventional to Digital	Coordinated sales activities
	Implementation of ERP (Enterprise Resource Planning)

In evaluating the level of digital transformation, the research adapted instruments using mean and grand mean. To calculate the variable's average value, we use mean, while grand mean to calculate the overall average. The data processing in the grand mean analysis requires each sub-variable mean and calculates the mean of the responses to each questionnaire item. The grand mean obtained from all the means of the sub-variables is then explained descriptively by considering the rating scale (Gunawan Wibowo, 2021; Husniyah et al., 2023). The range of the scale used for the rating scale is 0.8, which refers to several studies on digital literacy.

Table 2. Digital Transformation Rating Scale

No	Skor	Kategori
1	4.21 – 5.0	Very good
2	3.41 – 4.2	Good
3	2.61 – 3.4	Fair
4	1.81 – 2.6	Poor
5	1.00 – 1.8	Very poor

The approach to analyzing the level of digital transformation is from various theories, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT); these theories are practical to understand how individuals and organizations adopt and use new technologies (Hewavitharana, Nanayakkara, Perera, & Perera, 2021; Kwarteng, Ntsiful, Diego, & Novák, 2024; Lu, Yu, Liu, & Yao, 2003; Schorr, 2023). The three levels used to measure digital transformation are as follows (Ulas, 2019; Verhoef et al., 2021):

1. Level I: Digitisation - Evaluation of SMEs' basic capabilities in digital technology, such as converting information from physical to digital format and, for example, scanning paper documents like invoices, receipts, and inventory records into digital files.

2. Level II: Digitalization - The use of digital technology in daily business operations to enhance efficiency and productivity, such as utilizing social media for marketing and business, using e-commerce platforms, employing digital payment applications for transaction payments, and utilizing peer-to-peer lending applications for funding.

3. Level III: Digital Transformation - A comprehensive change that integrates digital technology into all aspects of the business to create new value. For instance, a restaurant develops an integrated online ordering application and food delivery system. Owners can also use data to understand customer preferences, enabling continuous product and service innovation.

Using this approach, the researchers can evaluate how SMEs in the culinary subsector have undergone digital transformation in their business activities.

3. FINDINGS AND DISCUSSION

3.1 Findings

Respondent Profile

This study collected data from 146 respondents out of a target of 150. Due to incomplete responses, we did not use four questionnaires in the analysis. Below is the profile of the respondents, divided into three groups based on gender, age, and type of business.

Tabel 3. Profil Responden

	Number	%
Gender:		
Male	98	67%
Female	48	33%
Usia :		
< 20 years	4	2,9%
21 s/d 26 years	18	12,3%
27 s/d 32 years	36	24,6 %
33 s/d 38 years	38	26 %
39 s/d 44 years	25	17,1%
45 s/d 49 years	6	4,1 %
> 50 years	19	13 %
Jenis usaha kuliner:		
Traditional Food	6	4,1%
Snacks	23	15,7%

Trendy beverage	39	26,7%
Food stall	16	10,9 %
Café/coffee shop	40	27,3%
Bakeries	11	7,5%
Food truck	1	1,3%
Catering	2	1,7%
Others	9	6,1%

From the data recap, ninety-eight percent of the respondents are male. Regarding age, most respondents are between 27 to 32 years old and 33 to 38 years old, accounting for thirty-six and thirty-eight percent, respectively. These age ranges represent a productive age for actively using digital technology, allowing them to provide their perceptions objectively. The types of culinary businesses pursued by the respondents include cafés or coffee shops at forty percent, followed by trendy beverages at thirty-nine percent. The prevalence of coffee shops and cafés, along with trendy beverages, is closely tied to the coffee-drinking culture and the use of coffee shops for socializing.

Data Analysis

Tabel 4.

Sub Variabel	Indicator	Score	Status
Digital Media Usage	Active online presence	3,74	Good
	Ease of online access	3,48	Good
	Digital database	3,30	Fair
	Consistency in using digital media	3,00	Fair
	Mean	3,38	Fair
Simplification of Business Activities in Digital Mode	Collaboration and Partnerships	3,38	Good
	Variety of technologies utilized	3,74	Good
	Mean	3,56	Good
Transition from Conventional to Digital	Coordinated sales activities	3,58	Good
	Implementation of ERP (Enterprise Resource Planning)	2,91	Fair
	Mean	3,24	Fair

Source: primary data processed, 2024

Grand Mean (X) = total average score / number of questions = 27.13 / 8 = 3.39

The grand mean score calculation result is 3.39, which means that, in general, the level of digital transformation of SMEs in the culinary subsector is at a medium level, positioned in the interval range of 2.6 to 3.4. **Based on this level, Aceh's culinary SMEs are at Level II, which is the Digitalization level,** where SMEs have reached the phase of using digital technology to transform business processes from traditional methods to more efficient and effective ones.

3.2 Discussions

- The level of digital transformation of culinary SME actors in Aceh based on the use of digital media.

The use of digital media by culinary SMEs is still moderate, as indicated by an average score of 3.38. This result represents respondents who have not yet maximized the use of digital tools, for instance, in creating digital databases. Financial transactions, stock records, and inventory management rely heavily on paper-based methods. Most respondents do not rely on economic and inventory management applications to help monitor data. Additionally, the consistency in using digital media could be more optimal. This inconsistency is seen in irregular marketing content creation on social media, meaning these activities are not well-scheduled, as well as slow responses to questions and comments on social media, indicating respondents need to be more consistent in interacting with customers through these platforms. However, from the sub-variable of digital media usage, we can see that respondents actively check their social media accounts, and their business profiles are easily recognizable on various social media platforms.

In their research, Verhoef et al., (2021) stated that in the digital transformation process, business owners first enter the digitalization phase, where entrepreneurs must consistently utilize digital media to connect with customers and integrate with business management. If entrepreneurs consistently use digital media, they will maintain the phase toward digital transformation. Stich, Zeller, Hicking, & Kraut, (2020) stated that integration between organizational culture and structure drives the level of digital transformation, meaning that digitalization becomes a culture within the organization to promote digital transformation effectively.

To encourage the phase of digitalization towards digital transformation in their business, culinary SMEs should always be connected with customers and stakeholders (Lenka, Parida, & Wincit, 2017; Pagani & Pardo, 2017). In this case,

culinary SMEs have not consistently utilized the digital media they have to build a digital culture in their business. This consistency can start with the active and scheduled use of social media, such as posting content about products on Instagram, Facebook, and TikTok for marketing activities and communicating with customers.

Culinary SMEs need to enhance the use of digital media in the production process and build a business database. Digitalization can begin by involving digital technology in production processes (TiHinen, Kääriäinen, Teppola, & Parviainen, 2017). It has become common for SMEs to manage administration and finances using paper-based methods. Digital media, such as e-wallets, QRIS, and mobile banking, is mainly used for sales transactions. Suppose a business owner needs a better understanding of financial management. In that case, it is advisable to use digital platforms for financial management to avoid the risk of errors in understanding the actual financial position. Many SME actors are accustomed to traditional financial management methods and feel comfortable with these methods, making the digital culture essential to entering the phase of digital transformation.

From this phenomenon, Aceh's Government and educational institutions can strengthen digital literacy programs by organizing training and workshops to enhance understanding of digital technology, social media, and e-commerce.

- The level of digital transformation of culinary SME actors in Aceh based on the simplification of business activities in digital mode

Based on the data analysis, the simplification of business activities in the digital mode of culinary SMEs in Aceh is high. The phenomenon of simplifying business activities in culinary SMEs in Aceh is interesting to observe. Respondents generally have utilized digital media for collaboration; for example, many packaged food culinary SMEs in Aceh have established partnerships with various e-commerce platforms such as Tokopedia, Shopee, and others to reach markets outside Aceh. For packaged food products, culinary SMEs can also expand their market through partnerships with several e-commerce platforms like Tokopedia, Shopee, and others to reach a larger market. Culinary SME actors generally can also form and join communities by leveraging social media, allowing entrepreneurs to exchange information, build relationships, and support each other in advancing their businesses. Culinary SME actors in Aceh also utilize influencers to popularize their culinary businesses, such as traditional offerings like Aceh noodles, Traditional Aceh special cakes and Matang satay.

According to Trenkle, (2019), SMEs must be able to select relevant technologies in business to survive in the digital era. Until now, most culinary SMEs utilize digital media as an effective marketing tool. Additionally, culinary SME actors use digital media such as fintech for transactions, such as e-wallets like Dana and QRIS. Based on observations, the researcher has yet to find culinary SMEs that utilize digital media for production processes, such as applications for financial management and inventory data storage.

- The level of digital transformation of culinary MSME actors in Aceh based on the speed of the transition from conventional to digital activities.

The analysis results show a moderate transition speed from conventional to digital activities. ERP (Enterprise Resource Planning) is a business management software system that integrates and manages various business processes within a centralized system. ERP helps companies automate and streamline various functions of human resource management, finance, production, sales, and other functions (Alaskari, Pinedo-Cuenca, & Ahmad, 2021; Stich et al., 2020). Culinary MSME actors have yet to utilize digital media to integrate management functions in their businesses; however, culinary MSMEs have successfully coordinated sales by leveraging social media, resulting in digitalization in sales techniques.

4. CONCLUSION

This article discusses the level of digital transformation among culinary MSME actors in the Province of Aceh in facing the era of Industry 5.0. This research shows that culinary MSME actors are still in the digitalization phase, as they have started to utilize digital technology in their business activities, such as marketing and payment transactions. However, their overall level of digital transformation is still moderate, as indicated by the limited use of technology in marketing activities and digital transactions.

The level of technology adoption, such as ERP (Enterprise Resource Planning), is still low; culinary SME owners have not integrated digital media into their business management functions. They tend to use social media and digital payment applications, but have not yet utilized technology for production, financial, or inventory management in a digital manner. Digital transformation at this level of digitalization still requires improvement in the consistency of digital media usage in daily business activities.

The Government and relevant institutions in Aceh need to be more active in organizing educational programs and training to enhance digital literacy among culinary MSMEs. The training should emphasize the use of digital media for financial

management, marketing, and production. Culinary MSMEs need to utilize ERP systems or other management technologies to integrate management functions such as finance, inventory, and sales, which can enhance their competitiveness.

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