

Analysis Of Digital Literacy-Based Human Resource Empowerment As A Strategy For Strengthening Culinary Msmes

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Abstract

Culinary MSME owners are now expected to be present in digital spaces, yet owning a mobile device does not guarantee the ability to use it to grow a business. This study examines the level of digital literacy among human resources (HR) in culinary micro, small, and medium enterprises (MSMEs) in Binjai Estate Village, Binjai City, how HR empowerment efforts take place, and what they mean for business development. A descriptive qualitative approach with a case study design was used. Data were collected from 12 key informants (business owners and managers) through semi-structured interviews, field observation, document analysis of social media accounts and business records, and a focus group discussion (FGD). The analysis followed the interactive model of Miles, Huberman, and Saldaña, with source and method triangulation to safeguard the trustworthiness of the data. The findings show that informants' digital literacy was at a basic to early-intermediate level. All informants used smartphones and instant messaging applications to communicate with customers, but only about four to five promoted their products consistently on social media. Knowledge of digital security and customer data management remained limited. HR empowerment took place informally, through self-directed learning, help from family, and information exchange among business owners, while digital activity was concentrated in the owner. About half of the informants experienced early benefits in the form of wider customer reach and faster ordering, but effects on turnover and business sustainability were not yet visible. These results point to the importance of practical, contextual, and continuous mentoring that involves universities and local government.

Keywords: *HR Empowerment, Digital Literacy, Culinary MSMEs, Digital Capability.*



INTRODUCTION

The era of digital transformation has become an unavoidable global phenomenon, with significant effects on many sectors of life, including micro, small, and medium enterprises (MSMEs). In Indonesia, MSMEs, particularly in the culinary sector, play a strategic role as the backbone of the national economy. The sector not only absorbs a large share of the workforce but is also the main source of income for much of the population. However, the rapid development of digital technology has fundamentally changed the competitive landscape, requiring MSME owners to adapt to a constantly evolving digital ecosystem.

Running a business naturally aims to keep it growing and competitive so that sales and income continue to rise (Malikhah. & Nasution, 2023). Digitalization has changed how small businesses find customers, take orders, and protect their reputation. For culinary MSMEs in Indonesia, this change coincides with fiercer competition and with consumers who increasingly depend on their screens. The problem does not end with whether networks and devices are available.

A number of studies identify the quality of human resources (HR) as the factor that determines whether technology actually creates value for a business (Sandiar et al., 2025). Meanwhile, low digital literacy remains a widespread problem, particularly among groups with limited access to education (Haikal et al., 2024), and research on Indonesian MSMEs has noted a gap between owning digital devices and being able to use them to innovate (Setyawantika et al., 2024). This gap leads to suboptimal technology adoption, even though a digital strategy is an integrated plan designed to use various digital platforms and tools to achieve marketing and business objectives (Lubis et al., 2024).

The government has in fact prepared various programs, such as UMKM Go Digital and digital literacy training delivered together with local governments (Siregar et al., 2025). However, programs designed from the top down do not necessarily match the needs of business owners on the ground, especially in a sector with distinctive characteristics such as culinary. The way an owner of a rice stall, coffee shop, or bakery works, acting as cook, seller, and bookkeeper all at once, is naturally different from the working patterns of a large company. An understanding grounded in field conditions is therefore still needed.

Binjai Estate Village in Binjai City has micro and small culinary businesses that are growing fairly rapidly, most of them run independently or by families. Initial observation showed that owners usually hold many roles at once with limited labor, leaving them little time to think about business development. Smartphones and instant messaging applications are already in common use, but generally for taking orders and communicating with customers. The use of social media for promotion tends to be sporadic, and understanding of digital security, customer data, and digital business

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record keeping is relatively low. Without appropriate empowerment efforts, technology risks becoming merely an accessory rather than a tool for business development.

The theoretical framework of this study rests on four ideas. First, human capital theory views knowledge and skills as investments that determine productivity (Becker, 1993). Second, empowerment theory emphasizes that capacity grows when people have access to resources, knowledge, and room for decision-making, and that the process is continuous rather than ending with a one-off training. Third, digital literacy is understood not merely as the ability to operate devices but also as the ability to find, evaluate, and use digital information critically and ethically (Gilster, 1997). Fourth, the resource-based view and the dynamic capabilities perspective explain that digitally capable HR can be a source of competitive advantage that is hard to imitate (Barney, 1991) (Teece et al., 1997). In this study, digital literacy is positioned as the foundation for building a business's digital capability.

Empirical evidence likewise shows that the needs of MSMEs are not uniform. (Maulindar et al., 2025), for example, divided culinary MSME HR into six clusters based on digital readiness, ranging from clusters with low literacy, training, and managerial support to clusters that are ready and can serve as examples. This finding implies that empowerment strategies need to adapt to the readiness level of each business.

Based on the above, this study aims (1) to map the level of digital literacy among culinary MSME HR in Binjai Estate Village, (2) to describe how digital literacy-based HR empowerment takes place and the factors that influence it, and (3) to examine its effects on business development and to formulate the direction of a contextual and sustainable empowerment strategy. Theoretically, the results are expected to enrich research on HR management and digital literacy in small businesses. Practically, they can inform business owners, universities, and local government in designing well-targeted mentoring.

METHODS

This study uses a descriptive qualitative approach with a case study design because its purpose is to understand a social phenomenon in depth within its real-life context (Creswell & Poth, 2018) The focus is limited to HR empowerment strategies directly related to improving digital literacy, not to all aspects of HR management. The study was conducted in Binjai Estate Village, Binjai City, chosen purposively because it hosts a culinary MSME cluster with diverse business owners, from those who are still traditional to those who are beginning to adapt digitally. The activities lasted three months and comprised preparation and permits, field data collection, data analysis, re-checking of findings, and report writing.

Informants were selected through purposive sampling followed by snowball sampling. The inclusion criteria were being an active owner or manager of a micro or small culinary business, having operated for at least two years, and being in the process of adopting digital technology, from using WhatsApp Business to e-commerce platforms. The initial selection considered variation in owner age, type of cuisine, and level of digital adoption. The number of informants was not fixed in advance but followed the principle of data saturation (Patel Guest Editor, 2009). In the end, 12 key informants were recruited, managing Padang restaurants, rice stalls, meatball stalls, coffee shops, and bakeries and cake shops.

A brief profile of the informants is presented in Table 1. Of the 12 informants, 10 were owners and 2 were business managers. Informants' ages ranged from 28 to 52 years, length of operation from 2 to 12 years, and number of workers from 2 to 5. The businesses comprised three Padang restaurants, three rice stalls, two meatball stalls, two coffee shops, and two bakeries and cake shops. All informants gave their consent to participate. The names of informants and businesses are anonymized using the codes I-01 to I-12.

Table 1. Profile of research informants (identities anonymized with codes)

Code	Business type	Role	Years in business	No. of workers	Digital platforms used
I-01	Padang restaurant	Owner	8	4	WhatsApp, WhatsApp Business
I-02	Rice stall	Owner	5	2	WhatsApp, Facebook
I-03	Meatball stall	Owner	6	3	WhatsApp, Instagram
I-04	Coffee shop	Owner	3	2	WhatsApp, Instagram, TikTok
I-05	Bakery and cake shop	Owner	10	5	WhatsApp, WhatsApp Business, Facebook
I-06	Padang restaurant	Manager	4	3	WhatsApp
I-07	Rice stall	Owner	12	2	WhatsApp



Code	Business type	Role	Years in business	No. of workers	Digital platforms used
I-08	Meatball stall	Owner	7	2	WhatsApp, GoFood
I-09	Coffee shop	Owner	2	3	WhatsApp, Instagram, TikTok
I-10	Bakery and cake shop	Manager	3	4	WhatsApp, Instagram
I-11	Rice stall	Owner	9	2	WhatsApp, Facebook
I-12	Padang restaurant	Owner	6	3	WhatsApp, WhatsApp Business

Data were collected using four complementary techniques (Patton, 2015). Semi-structured interviews with open-ended questions were the main technique for exploring informants' experiences and the meanings they attach to them. Observation was carried out on business activities and on how informants interacted with technology, with field notes written up immediately afterward. Document analysis covered business social media accounts, digital promotional materials, and simple business records (Bowen, 2009). Finally, an FGD with some of the informants was held at the end of data collection to confirm and enrich the initial findings.

The observed parameters were grouped into three. HR empowerment strategy was examined through training and development, delegation of digital tasks, motivation and incentives, and coaching and mentoring. Digital literacy was examined through operational skills, cognitive-informational skills, communication skills, and security awareness. The effect on business development was examined through product or service innovation, market expansion, operational efficiency, and business sustainability.

The data were analyzed using the interactive model of (Matthew B. Miles, 1984), consisting of data reduction, data display, and conclusion drawing and verification, all of which proceeded simultaneously from the time the first data were collected. Data trustworthiness was maintained through source triangulation, namely comparing the accounts of informants of different business types and roles with the observation results, and method triangulation, namely comparing interview results with document analysis. The researchers' interpretations were then confirmed with several informants through *member checking*.



RESULTS AND DISCUSSION**Digital Literacy of Culinary MSME Human Resources**

Based on the interviews and observation, the digital literacy of culinary MSME HR in Binjai Estate Village falls in the basic to early-intermediate category. All informants used smartphones and instant messaging applications to communicate with customers, so access to devices is no longer the main obstacle. The problem is that this use stops at operational functions and has not become part of business strategy.

Only about four to five of the 12 informants used social media for promotion consistently. Most had not used analytics features, digital catalogs, or content planning, and understanding of digital security and customer data management remained low. A summary of the findings is presented in Table 2.

Table 2. Summary of findings on the digital literacy of culinary MSME HR

Dimension	Observed condition	Implications for empowerment
Operational skills	All informants use smartphones and instant messaging applications for orders and communication	Device access is adequate; strengthening should target strategic use
Communication and promotion	About 4-5 informants are active and consistent on social media; the rest are sporadic	Mentoring is needed in content planning and promotion scheduling
Use of advanced features	Analytics, digital catalog, and content planning features are not used by most informants	Practice-based training on features relevant to the business
Digital security and customer data	Understanding of digital security and customer data management remains low	Account and transaction security material should be included in mentoring
Digital business record keeping	Record keeping remains simple	Introduce record-keeping tools that are easy for owners to use

In operational use, WhatsApp functioned as both an order channel and a record-keeping tool (Table 3, nos. 1-2). I-02 admitted often forgetting which orders had been paid for, while I-07 wrote orders in a notebook that sometimes went missing, so the



informant relied on memory. Both cases show a single application being used to communicate and to keep records, without a system that keeps transaction data in order.

Table 3. Representative informant quotes by theme (translated from Indonesian by the authors)

No	Theme	Verbatim quote (translated)	Informant
1	T1. Digital use remains operational	"I take orders through WhatsApp and reply one by one. Sometimes I forget which ones are paid and which aren't."	I-02
2	T1. Digital use remains operational	"Usually customers chat on WA and I write it in a notebook, but sometimes the notebook gets lost, so I just try to remember."	I-07
3	T2. Promotion not yet consistent	"I rarely post on Facebook because I don't know what to post. Sometimes only when there's a new menu item."	I-03
4	T2. Promotion not yet consistent	"I'm busy in the kitchen, so I don't have time to make content. If someone helped, maybe I could do it regularly."	I-05
5	T3. Advanced features not utilized	"I didn't know WA Business has a catalog. I just use regular WA."	I-06
6	T4. Low digital security and record keeping	"I've never changed my WA password. I'm afraid I'll forget it. What matters is that I can open it."	I-11
7	T5. Informal empowerment	"I learn on my own, watching YouTube. My child sometimes teaches me too."	I-04
8	T6. Activity centered on owners	"I handle everything. Employees only help cook and clean. I'm the one holding the WA."	I-01
9	T7. Early benefits felt	"Since using WA, customers from outside the housing complex have ordered. It adds a bit."	I-09

No	Theme	Verbatim quote (translated)	Informant
10	T8. Turnover effect not yet optimal	"Turnover goes up and down, but compared to before using WA, it's slightly better. But it's not stable yet."	I-08
11	T9. Need for mentoring	"If there were training on promoting on TikTok, I'd join. But not too difficult."	I-04
12	T9. Need for mentoring	"We need mentoring, not just a one-day training. If possible, someone who comes here."	I-12

Promotion consistency was hindered by two things, namely a lack of content ideas and limited time (nos. 3-4). I-03 did not know what to post and only posted when there was a new menu item, while I-05 had no time to create content because of being busy in the kitchen and said that regular posting might be possible if someone helped. Features that are actually available were also often unknown: I-06 did not know that WhatsApp Business has a catalog and kept using regular WhatsApp (no. 5). The constraint lies in knowledge and time, not in access to devices.

Digital security awareness was also low. I-11 admitted never changing the WhatsApp password for fear of forgetting it, and considered it enough that the account could be opened (no. 6). This choice is understandable for a user who fears losing access, but it exposes accounts that hold customer data to the risk of takeover.

This pattern is consistent with the human capital view that what determines productivity is relevant knowledge and skills, not merely the ownership of tools (Becker, 1993). The finding also aligns with the (*OECD Studies on SMEs and Entrepreneurship*, 2021) report and the study (Skare et al., 2023), which show that MSME digitalization is often constrained by HR capability. In other words, what appears in Binjai Estate is a digital capability gap: the devices are in hand, but the ability to turn them into business advantage has not yet formed. It should be noted that the assessment of literacy level here is descriptive-qualitative and does not derive from a standardized score, so the category "basic to early-intermediate" should be read as a general picture.

HR Empowerment Strategies Based on Digital Literacy

The results show that the digital literacy-based HR empowerment strategies applied by MSME owners remain informal and unstructured. There is no specific plan for developing workers' digital competence, and skills are generally acquired independently.



I-04, for example, learned through YouTube and was sometimes taught by a child (no. 7). Learning also took place through family and fellow business owners.

Digital activity was largely held by the owner. I-01 said that he or she handled everything, including WhatsApp, while employees only helped with cooking and cleaning (no. 8). Observation showed the same pattern. As a result, the workload piles up on one person and digital practices are hard to sustain when the owner is busy. It should be noted that the picture of employees' roles here comes from the owners' accounts.

Informants themselves voiced concrete needs (nos. 11-12). I-04 was willing to attend promotion training on TikTok as long as it was not too difficult. I-12 emphasized continuity: what is needed is mentoring, not a one-day training, and it should preferably take place at the business site. Both statements point to practical material, an appropriate level of difficulty, and repeated mentoring.

Read through the lens of empowerment theory, this condition means that the competence and autonomy dimensions among employees have not yet developed, even though the theory stresses empowerment as a continuous process involving learning, mentoring, and habituation. Human capital theory also affirms that HR development needs to be designed systematically so that organizational performance improves sustainably (Becker, 1993), (Teng et al., 2022) reported that MSME digital transformation is more effective when accompanied by planned HR development, including practice-based training and continuous mentoring.

In the context of this study, applied mentoring that is close to day-to-day work appears best suited to the character of culinary MSMEs, which have limited time and simple structures. This conclusion is drawn from informants' views and FGD results, not from a comparative test of mentoring models.

Effects on Culinary MSME Development

Although digital literacy remains limited, early positive effects were felt by about half of the informants. I-09 recounted that since using WhatsApp, customers from outside the housing complex had placed orders (no. 9). Similar benefits, namely wider customer reach, faster ordering, and better communication, were also reported by other informants.

By contrast, the effects on turnover and business sustainability were not yet optimal; I-08 judged turnover to be slightly better since using WhatsApp but not yet stable (no. 10). Observation and the FGD point to the explanation that limited HR competence in managing technology strategically keeps digital practice from being consistent. Limited digital literacy is often cited as a critical barrier that prevents MSMEs from adopting e-commerce and other technologies optimally (Nst et al., 2024).

These results are consistent with (Kim, 2024), who states that HR digital capability plays a role in turning technology use into sustainable business performance. This means

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that digital literacy needs to be accompanied by strategic thinking, business leadership, and an adaptive work culture. In the language of dynamic capabilities (Teece, 2007), the MSMEs at the research site are only at an early stage of building the ability to adjust resources and competencies to market change, and that stage requires a learning process that cannot be rushed.

Implications

Three implications can be drawn. First, one-off training is inadequate; empowerment needs to take the form of a series of learning, mentoring, and habituation activities adapted to each business's level of readiness, as shown by the readiness clustering of (Maulindar et al., 2025). Second, digital tasks need to be shared with employees so that digital practice does not depend on the owner alone. Third, mentoring material needs to go beyond basic use to include digital marketing, business record keeping, and digital security. Collaboration among universities, local government, and MSME owners serves as the support that keeps mentoring from ending when a program ends.

CONCLUSION

Based on the research results and discussion on digital literacy-based human resource empowerment strategies for developing culinary MSMEs in Binjai Estate Village, Binjai City, several conclusions can be drawn as follows:

First, the digital literacy of culinary MSME HR in Binjai Estate Village is at a basic to early-intermediate level. Devices and access are already available, but their use is not yet integrated into business development strategy. The HR empowerment that is taking place remains informal and centered on the owner, so digital benefits have so far been felt in customer communication, ordering speed, and market reach, while effects on turnover and business sustainability are not yet apparent. These findings point to a need for applied, contextual, and continuous digital literacy mentoring, with the collaborative support of universities and local government.

Second, digital literacy-based human resource empowerment is a key factor in supporting the transformation and development of culinary MSMEs. The empowerment strategies applied so far remain informal and unstructured, so the effect of digital literacy on performance improvement and business sustainability is not yet optimal. These findings affirm that strengthening HR digital competence must be accompanied by applied, contextual, and continuous mentoring.

Third, this study has limitations. It was conducted in one village with 12 informants, so the findings are contextual and are not intended for statistical generalization. The effect on turnover has also not been measured with financial data. MSME owners are

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advised to build a habit of continuous digital learning and to involve employees. Universities and local government are advised to provide mentoring based on real needs. Future research could examine the long-term effects of digital literacy on the financial performance and sustainability of MSMEs, including through mixed-methods or longitudinal designs.

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