

Motivation and Technological Innovation: Mapping the Digital Business Competitiveness in Lampung Province

Agus Isnandar^{1*}, Irvan Patuan Marsahala Simamora², Teta Puti Sugesti³, Hesti Ayuningtiyas⁴

Institut Informatika dan Bisnis Darmajaya, Bandar Lampung, Indonesia^{1,2,3,4}

isnandaragus@darmajaya.ac.id^{1*}, irvanpatuan93@gmail.com², putiteta@gmail.com³,

ayuningtiyashesti@gmail.com⁴



Article History:

Received on 17 June 2025

1st Revision 24 June 2025

2nd Revision 27 July 2025

3rd Revision 29 July 2025

Accepted on 26 October 2025

Abstract

Purpose: This study explores the link between technological innovation and the competitive advantage of household enterprises in Lampung Province (2024), specifically examining whether digital adoption facilitates business scaling.

Methodology: Utilizing a qualitative descriptive framework, this study evaluates the spread of digital tools against competitiveness benchmarks, using firm characteristics and labor dynamics as control variables.

Results: The analysis reveals a "digital development paradox." While urban centers such as Bandar Lampung show high connectivity (78.50%), 68.86% of enterprises remain stagnant at lower scales. Conversely, West Lampung demonstrates higher efficiency, where a 59.27% adoption rate correlates with a 66.03% prevalence of medium-scale businesses. This indicates that the impact of digitalization is contingent on existing business maturity.

Conclusions: Digital access alone is insufficient for structural transformation in healthcare. In urban settings, technology often serves as a survival tool for the informal sector, rather than as a growth engine. With 93.01% of provincial enterprises operating at low-to-medium levels, a shift toward deep integration of production and supply chains is vital to escape economic traps.

Limitations: This cross-sectional study lacked longitudinal depth, which limited the ability to observe changes over time.

Contributions: This study successfully refutes the assumption that digital adoption automatically scales businesses. This emphasizes the need for strategic infrastructure equity and deeper technological integration.

Keywords: *Business Competitiveness, Digital Economy, Household Business*

How to Cite: Isnandar, A., Simamora, I. P. M., Sugesti, T. P., Ayuningtiyas, H. (2025). Motivation and Technological Innovation: Mapping the Digital Business Competitiveness in Lampung Province. *Reviu Akuntansi, Manajemen, dan Bisnis*, 5(2), 645-656.

1. Introduction

The development of the digital economy has brought significant changes to the business environment, particularly in enhancing enterprise competitiveness. Digital technologies, such as Artificial Intelligence (AI), Big Data, social media platforms, online marketplaces, digital payment systems, and logistics services, have enabled businesses to improve operational efficiency and expand market access (Verhoef et al., 2021). In this context, digital technology is no longer merely a supporting tool but has become a strategic resource that influences sustainability and competitive performance.

In response to these developments, both national and regional governments have implemented policies to accelerate digital transformation, especially for Micro, Small, and Medium Enterprises (MSMEs). These initiatives include digital entrepreneurship programs and efforts to strengthen MSME ecosystems. However, empirical evidence on the effectiveness of digitalization in improving enterprise competitiveness remains limited. Most existing studies focus heavily on adoption rates and

infrastructure, often overlooking the behavioral and motivational aspects of entrepreneurs that drive true economic scaling. Consequently, there is a lack of understanding of why high digital connectivity does not always translate into business growth, particularly in developing regions. In Lampung Province, studies that empirically examine the nexus between entrepreneurial motivation, digital investments, and competitiveness outcomes are still scarce, creating a significant gap in the literature regarding the "digital paradox" in household enterprises.

MSMEs play a crucial role in Lampung Province's economic structure and demonstrate considerable growth potential. Nevertheless, the digital transformation process in this sector continues to face several structural challenges, including limited digital infrastructure, inadequate technological skills, and unequal access to digital resources. As MSMEs and household-based enterprises predominantly support the regional economy, Lampung Province provides a relevant setting for examining the role of digital transformation in strengthening business competitiveness, especially in the trade, culinary, handicraft, and service sectors.

Although digital transformation has received growing attention, the spread of digital technologies across Lampung remains uneven. Differences in adoption levels among districts and municipalities are closely associated with variations in infrastructure provision, digital capability, and labor characteristics, resulting in disparities in enterprise competitiveness. Therefore, technological development at the regional level evolves in a context-specific manner rather than following a uniform pattern, particularly in areas where MSMEs and household-based enterprises form the core of economic activity. Empirical evidence indicates that the success of digitalization among small enterprises depends largely on the alignment between human resource preparedness and local business conditions ([Rahayu & Day, 2017](#)). This condition emphasizes the importance of regionally grounded analyses in understanding the role of digital technology in shaping enterprise competitiveness in the region.

Based on these conditions, this study aims to address the existing research gap by investigating whether digital adoption serves as a strategic growth engine or merely as a survival mechanism. Using the most recent data from the 2024 National Labor Force Survey (SAKERNAS), this study offers a unique contribution by mapping the intersection of technological innovation and entrepreneurial motivation. Unlike previous studies that treat digital adoption uniformly, this study dissects the impact of technology across diverse administrative districts, providing a nuanced analysis of how human resource preparedness influences the scaling capability of household enterprises. The findings provide empirical support for formulating region-specific policies to transform MSMEs from survivalist entities into competitive market players.

2. Literature Review

2.1 Digital Agglomeration and Spatial Dynamics

[Liu, Fang, Ma, and Chi \(2024\)](#) introduce the Digital Agglomeration Theory, which reinterprets the traditional Marshallian model by arguing that the digital economy reshapes how physical proximity impacts innovation and knowledge exchange. This framework suggests that a "digitally-augmented" concentration arises from the synergy between physical hubs and virtual networks. Similarly, [Fanggidae, Molidya, and Guterres \(2024\)](#) posit that a digitally integrated creative sector acts as a primary catalyst for regional economic expansion.

However, in Lampung, the adoption of technology often remains at a surface level, failing to fully integrate into broader digital supply chains. This results in a "spatial tech-gap" where digital enterprises cluster in urban centers with robust infrastructure, leaving rural areas isolated. As noted by [Ku and Kaluge \(2023\)](#), without the decentralized expansion of digital infrastructure, regional inequalities in Lampung are likely to become entrenched.

2.2 Structural Business Scaling and Labor Dynamics

A firm's competitive standing is fundamentally defined by its organizational scale, which is typically reflected in its capacity to absorb labor. Regarding internal operations, [Putri, Koesoemasari, and](#)

[Rokhayati \(2024\)](#) highlighted that financial management traits, such as literacy and proactive planning, are vital indicators of business health. [Acs, Szerb, Lafuente, and Lloyd \(2018\)](#) delineate business development into three tiers: necessity-driven (low scale), labor-assisted (medium scale), and formal entities (high scale).

While small units drive initial economic activity, [Gherghina, Botezatu, Hosszu, and Simionescu \(2020\)](#) argue that many low-tier businesses function merely as "survivalist entities" with limited expansion potential. Conversely, high-tier organizations with sophisticated management help fortify a broader entrepreneurial ecosystem ([Zhang, van Gorp, & Kievit, 2023](#)). This aligns with [Hertati and Yuliansyah \(2024\)](#), who demonstrated how digital platforms assist firms in maximizing returns. However, [Beschoner; et al. \(2019\)](#) observed that high-scale enterprises usually gravitate toward metropolitan hubs, leaving rural regions to rely on labor-intensive, medium-scale units.

2.3 Digital Divide and Digital Transformation Framework

Digital Transformation Theory suggests that technological disruption fundamentally redefines how value is created and how consumers are engaged ([Vial, 2017](#)). On the innovation front, technologies such as Augmented Reality can be utilized to strengthen the recognition of local products ([Priyanto & Armin, 2025](#)). However, such efforts require a strong foundation in branding and User Experience (UX) to ensure sustainable growth ([Ferdian, 2024](#)). For SMEs, adopting advanced technologies such as big data and AI is a strategic determinant for building sustainable competitive advantages ([Lu & Shaharudin, 2024](#)). However, digital technologies improve firm performance only when accompanied by organizational capability transformation rather than mere adoption ([Baiyere, Salmela, & Tapanainen, 2020](#)).

Nevertheless, this potential is often limited by the "Digital Divide," which refers to structural imbalances in technology access ([Turban et al., 2018](#)). [Amalia, Aini, Paradita, and BR \(2025\)](#) note that despite high device ownership, a significant gap remains in digital literacy and utilization capacity between urban and rural SMEs. [Savandha \(2024\)](#) further emphasizes that rural infrastructure barriers prevent communities from capitalizing on economic opportunities, thereby reinforcing socio-economic inequality. Ultimately, these barriers persist because digital technologies operate within existing institutional and social norms rather than reorganizing economic activity automatically ([Hinings, Gegenhuber, & Greenwood, 2018](#)).

2.4 Operational Sustainability and Economic Performance

A firm's sustainability is measured by its productive output and financial gains. According to the ILO benchmarks, working at least 35 hours per week is a key indicator of business stability. [Muditomo and Setyawati \(2022\)](#) suggest that digital transformation enhances this stability by streamlining transactions and fostering financial inclusion, which ultimately secures the SME sector's long-term performance.

2.5 Research Gaps

The fundamental paradox investigated in this study is the persistent stagnation of household-level competitiveness in Lampung, which occurs despite the region's accelerating digital adoption. While existing scholarship, such as the work of [Dahnil, Marzuki, Langgat, and Fabeil \(2014\)](#), has provided insights into the general performance of Small and Medium Enterprises (SMEs), a critical empirical gap remains: the lack of high-resolution spatial mapping that differentiates household business data based on labor status at a localized provincial level.

This study addresses this scholarly void by leveraging the 2024 National Labor Force Survey dataset. Unlike previous research that treats digital adoption as a uniform driver of growth, this study specifically examines the "Motivational Gap" that distinguishes survivalist urban enterprises from growth-oriented rural units. This distinction is critical because, as noted by [Constantinides, Henfridsson, and Parker \(2018\)](#), digital adoption often remains limited to coordination rather than value creation. In many cases, SMEs adopt digital tools primarily for communication and promotion, while their operational and production processes remain unchanged ([Kraus et al., 2021](#)).

Consequently, economic value emerges only when digitalization restructures business processes and ecosystems, rather than acting solely as an interaction channel ([Trabucchi & Baganza, 2020](#)). This provides a granular examination of the intricate interplay between geographical location, business scale, and the depth of digital integration within the socio-economic landscape of Lampung Province. This approach establishes the necessary theoretical foundation to explain why high connectivity in areas such as Bandar Lampung does not automatically result in business scaling, as further detailed in the subsequent analysis and conclusions.

3. Research Methodology

3.1 Research Design

This study adopted a quantitative methodology with a descriptive-exploratory framework. This approach was selected to provide comprehensive mapping of the digitalization landscape of household businesses in Lampung. According to [Takona \(2024\)](#), descriptive research is essential for providing an accurate and objective representation of field conditions to capture emerging social and economic trends in the region.

3.2 Data and Data Sources

The analysis utilizes secondary data from the National Labor Force Survey (SAKERNAS) conducted in August 2024 by BPS-Statistics of Lampung Province. The research scope encompasses 15 regencies and cities, involving a total sample of 2.045.788 business units. The SAKERNAS dataset is considered highly representative for analyzing regional employment status and the adoption of information technology.

3.3 Operational Definition of Variables

To measure the competitiveness of businesses within the digital ecosystem, the variables are defined as follows.

1. Digital Technology Utilization: A binary indicator (yes/no) representing the use of digital devices and Internet access for business operations within the last month.
2. Business Competitiveness (Proxy): The capacity of an entity to survive and expand, categorized as follows:
 - a. Business Scale: Proxied by employment status, consisting of Low Scale (sole proprietorship), Medium Scale (assisted by temporary/unpaid help), and High Scale (assisted by permanent/paid employees).
 - b. Sustainability: Measured by effective working hours using a threshold of ≥ 35 hours per week.
 - c. Financial Value-Added: Proxied by the owner's income level as an indicator of economic performance.

3.4 Data Analysis Techniques

Data analysis followed a four-stage process.

1. Data Cleaning: Filtering the Sakernas dataset to isolate the working population with "self-employed" status, specifically within Lampung Province.
2. Descriptive Statistical Analysis: Utilized frequency distribution tables and percentages to examine business concentration by region.
3. Spatial Comparative Analysis: Spatial comparative analysis was used to detect urban-rural digital divides.
4. Indicator Synthesis: Indicator synthesis was used to evaluate performance trends between digital users and non-users.

3.5 Research Procedure

The process begins with the identification of problems regarding micro-business competitiveness, followed by the extraction of the SAKERNAS data. The data were processed using statistical software to generate cross-tabulations and contingency tables. Finally, the findings are interpreted through the lens of Digital Transformation Theory [Vial \(2017\)](#) to formulate policy recommendations for the Lampung Provincial Government.

4. Research Results

4.1 Number of Businesses in Lampung Province in 2024

Based on Sakernas 2024, the distribution of business units in Lampung Province demonstrates significant spatial heterogeneity, with 2,045,788 business units. One finding from this mapping is that the concentration of economic volume is not centralized in the provincial capital but is instead dominated by agrarian-based hinterlands. Lampung Tengah leads with 339,620 units (16.60%), followed by Lampung Timur and Lampung Selatan. Conversely, Bandar Lampung, despite possessing the most advanced digital infrastructure, ranks only fourth (9.64%), and Metro records the lowest volume (1.66%). This underscores that the "backbone" of Lampung's economy comprises household-scale enterprises dispersed across regencies rather than being agglomerated in urban centers.

This disparity provides a strong empirical foundation for the "digital development paradox" addressed in this study. The fact that the largest volume of businesses resides outside the centers of technological infrastructure indicates a distinct gap between the availability of digital tools (in cities) and the real production base (in regencies). Consequently, strategies to enhance competitiveness cannot be "one-size-fits-all". The success of structural economic transformation is contingent upon how effectively technological innovation can penetrate the business bases in Lampung Tengah and Timur and shift the motivation of entrepreneurs in these areas from mere survival to being growth-oriented.

However, the mismatch between technological availability and economic concentration cannot be explained solely by infrastructure distribution, as digital technologies operate within existing institutional and social norms rather than automatically reorganizing economic activity (Hinings et al., 2018). Micro-level observations during the COVID-19 period show that transactions were limited to WhatsApp or telephone with approved merchants, indicating that technology functioned only as mediated communication embedded in relational systems rather than as an open market platform.

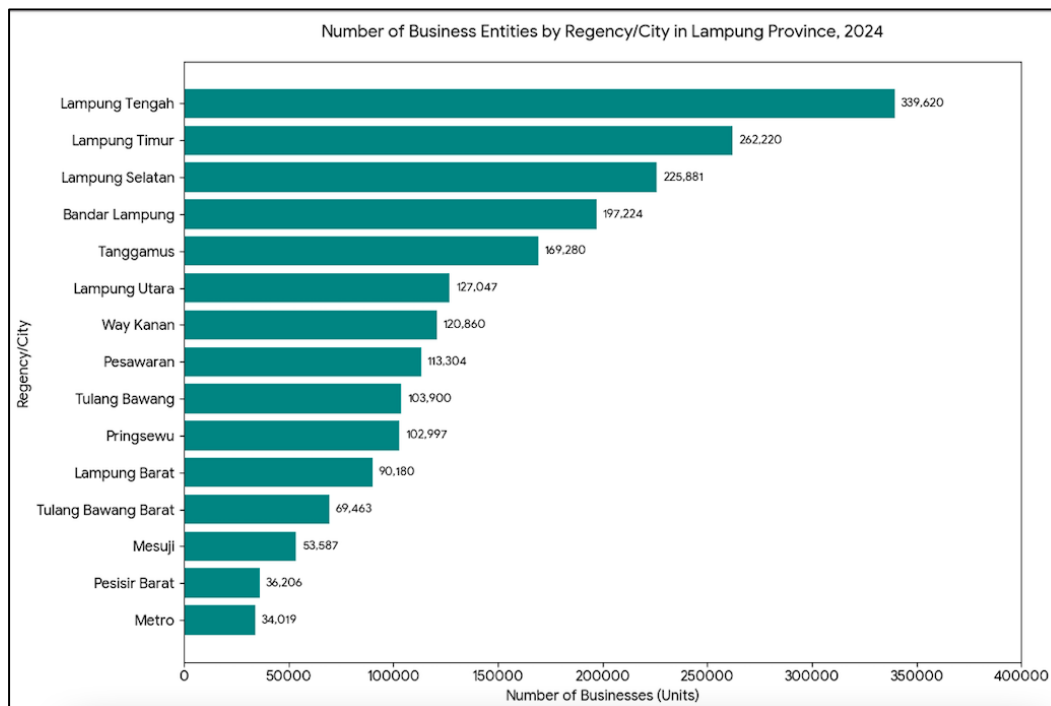


Figure 1. Distribution and number of business entities by regency/city in Lampung Province, 2024

Figure 1 shows consistent with the Digital Agglomeration Theory by Liu et al. (2024), which posits that the digital economy modifies the impact of physical agglomeration through data synergy, platforms, and network synergy. In the context of Lampung, this 'digitally enriched' agglomeration creates two layers of challenges: geographical concentration in urban areas and digital connectivity that strengthens the diffusion of knowledge. Without active involvement in deeply integrated digital supply chains, digitalization in Lampung is at risk of being superficial. This aligns with the findings of significant gaps

in Internet access, speed, and cost across regions, which impede the potential for equitable economic growth.

Furthermore, the uneven distribution of business units across Lampung's regencies highlights the critical need for a more integrated regional strategy. As noted by [Taufik, Akmal Ibrahim, Ahmad, Suni, and Nur \(2023\)](#), collaborative governance is vital in developing local economic sectors, ensuring that digital tools are not just isolated implementations but are part of a cohesive strategic roadmap ([Abu-Bakar & Charnley, 2024](#)). Without this collaborative framework, regions with high business volumes, such as Central Lampung, may struggle to transition toward a sustainable digital ecosystem despite their economic potential.

4.2 Distribution of Business Entities by Business Scale and Regency/City in Lampung Province, 2024

The visualization of business scale distribution in graph 4.2 reveals a sharp structural anomaly between urban centers and hinterland regions, empirically confirming the "digital development paradox." Bandar Lampung, despite being the epicenter of digital infrastructure, records the highest concentration of Low-Scale enterprises at 68.9%, while Metro City is similarly dominated by this segment at 50.9%. The prevalence of micro-enterprises in urban areas indicates that digital access is predominantly utilized as a mechanism for survival by a dense informal sector rather than for business escalation. Conversely, West Lampung demonstrates superior scaling efficiency, with medium-scale enterprises constituting 66.0% of the total, suggesting that rural regions exhibit a more effective growth-oriented motivation in driving business maturity than the provincial capital.

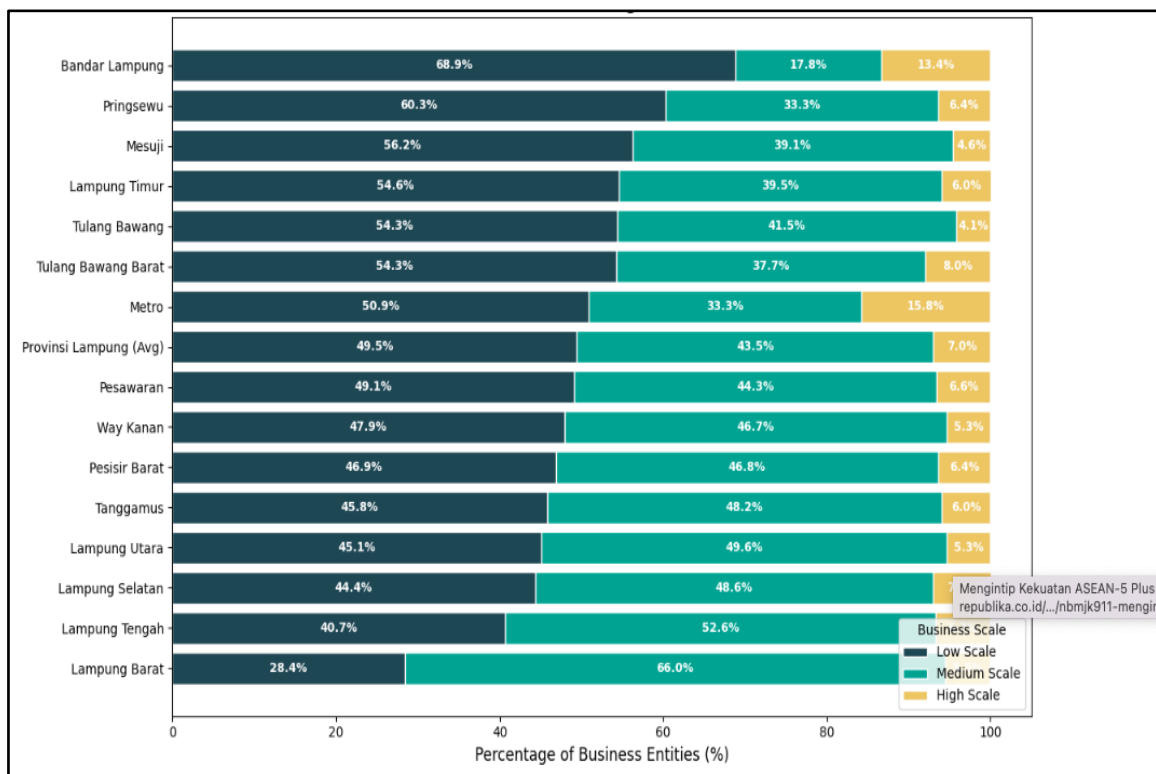


Figure 2. Distribution of business entities by business scale and regency/city in Lampung Province, 2024

Figure 2 shows disparity refutes the assumption that proximity to technological hubs guarantees business upgrading. The data highlights a "dualistic" structure in Bandar Lampung, characterized by a significant High-Scale tier of 13.4% yet a "hollowed-out" middle class of only 17.8%, which stands in stark contrast to the more mature and evenly distributed business structures in Central and West Lampung. These findings underscore that the decisive variable for competitiveness is not merely the availability of digital tools but the underlying entrepreneurial motivation. Consequently, the challenge

for Lampung's economic transformation extends beyond infrastructure equity; it requires shifting the urban entrepreneurial paradigm from mere subsistence to innovative supply chain integration.

A deeper analysis based on the regencies and cities in Lampung Province reveals that Bandar Lampung has the highest percentage of low-scale businesses at 68.86 percent, followed by Pringsewu and Mesuji at 60.28 percent and 56.35 percent, respectively. In contrast, Lampung Barat recorded the lowest percentage of low-scale businesses at 28.41%. Conversely, Lampung Barat dominates the medium-scale business category with a significant figure of 66.03%, far exceeding the average of the other regions. In the high-scale business category, Metro leads with a proportion of 15.78%, followed by Bandar Lampung at 13.37%. Meanwhile, most other regencies have relatively small percentages of high-scale businesses, with the lowest being Tulang Bawang at 4.14%.

Overall, there is a clear contrast between urban areas (cities), which have a higher concentration of high-scale businesses, and regencies that tend to be stronger in the medium-scale business sector. The structural anomaly, where rural areas like Lampung Barat outperform urban centers in business scaling, suggests that internal factors play a more decisive role than infrastructure alone. [Kusa and Danladi \(2024\)](#) emphasize that entrepreneurial passion and specific management skills are the primary determinants of SME success. This supports the argument that the 'Motivational Gap' is a key driver of the digital development paradox; growth-oriented motivation in rural enterprises allows for better adaptation to technological shifts than the survivalist tendencies of urban informal sectors ([Lekwauwa & Bans-Akutey, 2023](#)).

This gap in business structure across regions triggers fundamental issues regarding the effectiveness of technology as a lever for competitiveness. The massive concentration of low-scale businesses in urban areas such as Bandar Lampung risks being trapped in digital involution if innovation is only utilized for subsistence without increasing added value. However, the dominance of medium-scale businesses in Lampung Barat faces scalability barriers due to limited technological integration within global supply chains, causing the region's potential comparative advantage to fail in transforming into a sustainable competitive advantage.

Therefore, the low proportion of high-scale businesses in most regencies, such as Tulang Bawang, serves as a strong indication of the failure to adopt advanced technological innovations capable of converting labor dependence into capital and knowledge-based efficiency in the digital economy era. The low proportion of high-scale businesses in most regencies, including Tulang Bawang, is consistent with the Digital Transformation Theory and Digital Gap by [Vial \(2017\)](#), particularly the concept of the usage gap, where technology adoption has not yet reached the stage of integration in production management and knowledge-based efficiency.

4.3 Spatial Disparity in Digital Technology and Internet Utilization in Lampung Province, 2024

The landscape of digital integration across Lampung Province is further elucidated in Table 1, which presents a detailed breakdown of digital technology and Internet utilization among business units in each regency and city. The utilization of digital technology and the Internet by business units across regencies and cities in Lampung Province. Over the past month, 55.48 percent of businesses reported using digital technology in their operations, while the remaining 44.52 percent had not yet used it. However, the level of internet usage remains relatively low at only 43.79 percent, indicating a discrepancy between general digital technology adoption and the integration of the internet into business operations. This suggests that the innovation process in Lampung Province is not yet fully integrated into a productive digital economic ecosystem.

From a regional perspective, Bandar Lampung recorded the highest penetration rates, with digital technology usage at 78.50 percent and Internet usage at 65.20 percent, reflecting the readiness of digital infrastructure in urban areas. In contrast, Mesuji occupies the lowest position, with an internet usage rate of only 27.32 percent, consistent with its share of business units, which is also the smallest in the province at 2.62 percent. The gap between device ownership and internet utilization for production indicates that digital innovation in Lampung often stalls at the surface level. [Mandal, Roy, and Raju](#)

(2017) observed that the attractiveness and functionality of digital platforms are crucial for enhancing business reach. However, [Neuhofer, Celuch, and To \(2020\)](#) stated that if digitalization is not integrated into a transformative experience design, it remains a mere communication tool. In agrarian-heavy regencies, this adaptation challenge is similar to that of farmers facing environmental shifts, where awareness must be met with practical, high-value adaptation strategies to ensure sustainability ([Baron, 2024](#)).

This spatial disparity highlights that the mere presence of digital tools does not guarantee an operational transformation. As emphasized by [Putri et al. \(2024\)](#), effective financial management behavior, including literacy and planning, is essential for technology to serve as a benchmark for operational effectiveness, rather than just a basic communication tool. Furthermore, this finding aligns with those who suggest that the optimization of organizational profit through digital platforms can only be achieved when businesses are deeply integrated into a technological ecosystem, a condition that is currently hindered by the infrastructure gaps observed in regencies such as Mesuji.

This condition is consistent with the findings that demonstrate that internet utilization has a significant negative impact on costs ([Dewi, Setiadi, Ikhwanuddin, & Fadhilah, 2022](#)). This indicates that increased Internet access effectively contributes to the growth of business income within the region. The utilization of technology and the Internet, including proficiency in computer and mobile device usage, enhances business competitiveness through transaction cost efficiency and logistical optimization. Furthermore, digital technologies, such as social media and e-commerce, expand market reach beyond regional boundaries, ultimately strengthening regional economic inclusion.

Table 1. Percentage of digital technology and internet utilization in business by regency/city in Lampung Province, 2024

| No. | Regency/City | Utilized Digital Technology in the Past Month | Did Not Utilize Digital Technology in the Past Month | Utilized the Internet in the Past Month | Did Not Utilize the Internet in the Past Month |
|-----------|---------------------|---|--|---|--|
| 1 | Lampung Barat | 59,27 | 40,73 | 53,15 | 46,85 |
| 2 | Lampung Tengah | 45,72 | 54,28 | 30,53 | 69,47 |
| 3 | Lampung Selatan | 63,16 | 36,84 | 53,01 | 46,99 |
| 4 | Lampung Utara | 48,29 | 51,71 | 37,94 | 62,06 |
| 5 | Tanggamus | 54,26 | 45,74 | 39,25 | 60,75 |
| 6 | Pesisir Barat | 51,72 | 48,28 | 38,10 | 61,90 |
| 7 | Way Kanan | 46,62 | 53,38 | 32,93 | 67,07 |
| 8 | Pesawaran | 61,50 | 38,50 | 46,40 | 53,60 |
| 9 | Metro | 46,80 | 53,20 | 39,73 | 60,27 |
| 10 | Tulang Bawang Barat | 51,42 | 48,58 | 44,18 | 55,82 |
| 11 | Tulang Bawang | 50,29 | 49,71 | 37,34 | 62,66 |
| 12 | Lampung Timur | 56,39 | 43,61 | 41,10 | 58,90 |
| 13 | Mesuji | 44,42 | 55,58 | 27,32 | 72,68 |
| 14 | Pringsewu | 75,97 | 24,03 | 68,99 | 31,01 |
| 15 | Bandar Lampung | 78,50 | 21,50 | 65,20 | 34,80 |
| 16 | Lampung | 55,48 | 44,52 | 43,79 | 56,21 |

Table 1 shows findings confirm the link between the availability of digital infrastructure and the scale of regional economic activity; however, they also reveal a critical dependency on entrepreneurial

motivation. A structural gap between technology adoption and business scaling is evident in urban areas, such as Bandar Lampung. Although this region exhibits a high rate of digital technology adoption, the large volume of business units (197.224 units) remains dominated by low-scale enterprises. This suggests that in saturated urban markets, digital adoption is primarily driven by survival motivation. In this context, technology functions merely as a defensive mechanism to maintain cash flow in a hyper-competitive "red ocean," rather than as a strategic lever for business transformation. The high adoption rate does not signal innovation but rather digital adaptation for subsistence.

This demonstrates that when digital adoption is fueled by a motivation to expand rather than just to survive, it successfully catalyzes the shift from low-level informality to medium-scale maturity, even amid infrastructure limitations. Thus, the "Digital Paradox" in Lampung is fundamentally a reflection of the "Motivational Gap" between urban subsistence and rural growth aspirations. Empirical evidence suggests that the dominance of low-scale businesses in regions with high concentrations of business units, such as Bandar Lampung, micro-enterprises operate primarily as survival mechanisms with limited growth potential. Without policies that catalyze the transformation of technology usage, shifting from mere communication and marketing tools toward integrated production management systems, the economic potential of the 2.045.788 business units in Lampung Province risks remaining trapped in traditional economic structures, vulnerable to the pressures and dominance of global digital platforms.

A functional gap in technology utilization is evident in regencies with high business concentrations, such as Lampung Tengah (16.60%) and Lampung Timur (12.82%), where Internet usage rates reach only 30.53% and 41.10%, respectively, preventing digital innovation from penetrating primary production sectors. Consequently, despite the high number of business units, most operate at low and medium scales without automation support, as seen in Tulang Bawang, where the proportion of high-scale businesses is only 4.14%. Meanwhile, Pringsewu shows high digital penetration (75.97%) but remains dominated by low-scale businesses at 60.28%, affirming that without integration into operational management, digital innovation stalls at marketing activities and fails to impact the production capacity. Micro-level evidence shows that transactions in restricted environments relied only on messaging or phone communication with pre-approved sellers, substituting physical contact without restructuring the exchange mechanisms. Consequently, digital adoption has remained limited to coordination rather than value creation, reflecting a usage gap in which operational systems remain unchanged ([Constantinides et al., 2018](#)).

Therefore, a more equitable synergy of digitalization policies and accelerated infrastructure development is required to drive a shift in Lampung's business structure from low-scale dominance (49.47%) toward a more resilient ecosystem. This is consistent with the findings of [Fanggidae et al. \(2024\)](#), who assert that developing the creative economy sector is a fundamental catalyst for regional growth. The adoption of advanced technologies is essential to achieve this. For instance, [Priyanto and Armin \(2025\)](#) demonstrated that utilizing tools such as Augmented Reality can significantly strengthen the recognition of local products, allowing small businesses to compete more effectively. Ultimately, this technological transition must be supported by strategic foundations, as [Ferdian \(2024\)](#) emphasizes that brand positioning and User Experience (UX) design play crucial roles in sustaining business growth and ensuring long-term competitiveness in the digital era.

5. Conclusions

5.1 Conclusion

This study concludes that Lampung Province exhibits a distinct "digital development paradox," in which high rates of technology adoption do not automatically translate into business scaling. Empirical evidence refutes the normative assumption that connectivity equals competitiveness. In Bandar Lampung, a high technology penetration rate of 78.50% is sharply contrasted by a business structure where 68.86% of units remain stagnant at the low or self-employment scale. This confirms that in urban centers, digital technology functions primarily as a survival mechanism for necessity-driven entrepreneurs in the informal sector rather than as a strategic engine for structural transformation. This is consistent with the finding that many SMEs adopt digital tools primarily for communication and promotion, while their operational and production processes remain unchanged ([Kraus et al., 2021](#)).

Conversely, Lampung Barat offers a counter-narrative, where a moderate adoption rate (59.27%) correlates with a dominance of medium-scale enterprises (66.03%). This suggests that digitalization is most effective when aligned with strong growth-oriented motivation and embedded within productive supply chains rather than used superficially for basic communication. Meanwhile, regions like Mesuji remain constrained by a fundamental infrastructure gap (27.32% access), which entirely stifles economic entry. Overall, with 93.01% of provincial enterprises trapped in the low-to-medium categories, this study establishes that digital access is a necessary but insufficient condition for economic progress.

Digital technologies improve firm performance only when accompanied by organizational capability transformation rather than mere adoption ([Baiyere et al., 2020](#)). The primary barrier to competitiveness is no longer just access to the Internet but the lack of deep technological integration into production and management systems. Economic value emerges when digitalization restructures business processes and ecosystems, rather than acting solely as an interaction channel ([Trabucchi & Buganza, 2020](#)). Without shifting from "digital literacy" to "digital value creation," the regional economy risks remaining trapped in traditional patterns, despite operating within a digital ecosystem.

5.2 Research Limitations

The primary limitation of this study is its reliance on macro-level secondary data, which restricts the ability to identify specific technological innovations (such as AI or automation) or to establish direct causal links between adoption and profitability. Furthermore, the descriptive nature of the research overlooks qualitative factors such as specific managerial competencies and psychological barriers, which may influence how entrepreneurs utilize digital tools.

5.3 Suggestions and Directions for Future Research

For practitioners, urban enterprises should shift from a mere digital presence to deep operational integration, such as adopting ERP systems to convert survivalist activities into efficient operations. For policymakers, training curricula should be redesigned to focus on a "growth mindset" and digital value creation. Additionally, infrastructure investment should be prioritized in high-productivity rural zones, such as Lampung Barat, to remove physical scaling constraints. For future research, studies should employ longitudinal econometric models and sectoral case studies to track productivity shifts over time and formulate more precise data-driven policies that target specific structural and motivational challenges.

Acknowledgment

The authors would like to express their sincere gratitude to the following individuals and institutions for their invaluable support throughout this research. First, we extend our deepest appreciation to the faculty and staff of IBI Darmajaya, Lampung for their continuous guidance and resources. Special thanks to the respondents from various districts of Lampung Province who participated in the study and provided essential data for the analysis. We also acknowledge the support of the Lampung Provincial Government for facilitating access to the regional datasets. Furthermore, we thank our families for their unwavering support and understanding during the research process. Finally, we express our gratitude to the anonymous reviewers, whose insightful comments and suggestions helped refine and enhance the quality of this manuscript.

Author Contributions

IPMS performed the core research tasks, including comprehensive data collection, quantitative and qualitative analysis of digital penetration, results interpretation, and drafting the primary analytical framework. TPS conducted the literature review, synthesized theoretical frameworks, and formulated the research methodology. HA developed the research background, identified the research gap, and drafted the introductory manuscript. AI served as the Lead Advisor and Supervisor, responsible for the overall research direction, conceptual validation, critical review of the manuscript, and final approval of the research findings.

References

- Abu-Bakar, H., & Charnley, F. (2024). Developing a Strategic Methodology for Circular Economy Roadmapping: A Theoretical Framework. *Sustainability*, 16(15), 6682. doi:<https://doi.org/10.3390/su16156682>
- Acs, Z., Szerb, L., Lafuente, E., & Lloyd, A. (2018). The Global Entrepreneurship Index 2018. doi:https://doi.org/10.1007/978-3-030-03279-1_2
- Amalia, R., Aini, R. Q., Paradita, J., & BR, A. D. M. (2025). Bridging the digital divide: The role of technology in enhancing rural SMEs in Indonesia. *Jurnal Ilmu Manajemen dan Bisnis*, 16(1), 27-34. doi:<https://doi.org/10.17509/jimb.v16i1.82681>
- Baiyere, A., Salmela, H., & Tapanainen, T. (2020). Digital transformation and the new logics of business process management. *European Journal of Information Systems*, 29(3), 238-259.
- Baron, J. V. (2024). Climate change awareness and adaptation by rice farmers in Surallah, South Cotabato. *Journal of Social, Humanity, and Education*, 4(3), 193-204. doi:<https://doi.org/10.35912/jshe.v4i3.1854>
- Beschorner, N., Johns, M. B., Guermazi, B., Treadwell, J. L., Prakosa, P. W. B., & Karim, N. A. B. A. (2019). The digital economy in Southeast Asia : Strengthening the Foundations for Future Growth (English). <http://documents.worldbank.org/curated/en/328941558708267736>.
- Constantinides, P., Henfridsson, O., & Parker, G. G. (2018). Introduction—platforms and infrastructures in the digital age. 29(2), 381-400. doi:<https://doi.org/10.1287/isre.2018.0794>
- Dahnil, M. I., Marzuki, K. M., Langgat, J., & Fabeil, N. F. (2014). Factors influencing SMEs adoption of social media marketing. *Procedia-social and Behavioral Sciences*, 148, 119-126. doi:<https://doi.org/10.1016/j.sbspro.2014.07.025>
- Dewi, D. M., Setiadi, Y., Ikhwanuddin, M., & Fadhilah, L. A. (2022). Kontribusi teknologi informasi dan komunikasi terhadap kelompok ketimpangan pendapatan daerah. *Jurnal Ekonomi dan Pembangunan Indonesia*, 22(2), 5. doi:<https://doi.org/10.21002/jepi.2022.13>
- Fanggidae, R., Molidya, A., & Guterres, A. (2024). Analysis of the development of the tourism and creative economy sector in bima regency, west nusa tenggara. *Journal of Multidisciplinary Academic Business Studies: Goodwood Publishing*, 1(4), 999-1010. doi:<https://doi.org/10.35912/jomabs.v1i4.2400>
- Ferdian, B. B. (2024). The Significance of Brand Positioning to UX Design Business Growth. *Jurnal Bisnis dan Pemasaran Digital*, 3(2), 125-135. doi:<https://doi.org/10.35912/jbpd.v3i2.4513>
- Gherghina, Ş. C., Botezatu, M. A., Hosszu, A., & Simionescu, L. N. (2020). Small and Medium-Sized Enterprises (SMEs): The Engine of Economic Growth through Investments and Innovation. *Sustainability*, 12(1), 347. doi:<https://doi.org/10.3390/su12010347>
- Hertati, L., & Yuliansyah, Y. (2024). Exploring Aplikasi Gojek dalam Mencapai Laba Organisasi. *Jurnal Ilmu Siber dan Teknologi Digital*, 2(2), 123-137. doi:<https://doi.org/10.35912/jisted.v2i2.2730>
- Hinings, B., Gegenhuber, T., & Greenwood, R. (2018). Digital innovation and transformation: An institutional perspective. *Information and Organization*, 28(1), 52-61. doi:<https://doi.org/10.1016/j.infoandorg.2018.02.004>
- Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open*, 11(3), 21582440211047576. doi:<https://doi.org/10.1177/21582440211047576>
- Ku, F., & Kaluge, D. K. (2023). Analisis Pengaruh Inklusi Ekonomi Digital Terhadap Pertumbuhan Ekonomi dan Distribusi Pendapatan di Indonesia. *Contemporary Studies in Economic, Finance and Banking*, 2(1), 95-103. doi:<https://doi.org/10.21776/csefb.2023.02.1.09>
- Kusa, N. D., & Danladi, N. Y. (2024). Entrepreneurial passion on the success of SME's in Plateau State, Nigeria: The role of entrepreneurial skills. *Journal of Sustainable Tourism and Entrepreneurship*, 5(1), 57-74. doi:<https://doi.org/10.35912/joste.v5i1.2124>
- Lekwauwa, N., & Bans-Akutey, A. (2023). Commercial banks' profitability and portfolio management in Ghana. *Annals of Management and Organization Research*, 3(4), 245-257. doi:<https://doi.org/10.35912/amor.v3i4.1420>
- Liu, J., Fang, Y., Ma, Y., & Chi, Y. (2024). Digital economy, industrial agglomeration, and green innovation efficiency: empirical analysis based on Chinese data. *Journal of Applied Economics*, 27(1), 2289723. doi:<https://doi.org/10.1080/15140326.2023.2289723>

- Lu, H., & Shaharudin, M. S. (2024). Role of digital transformation for sustainable competitive advantage of SMEs: a systematic literature review. *Cogent Business & Management*, 11(1), 2419489. doi:<https://doi.org/10.1080/23311975.2024.2419489>
- Mandal, S., Roy, S., & Raju, A. G. (2017). Exploring the role of website attractiveness in travel and tourism: empirical evidence from the tourism industry in India. *Tourism Planning & Development*, 14(1), 110-134. doi:<https://doi.org/10.1080/21568316.2016.1192058>
- Muditomo, A., & Setyawati, N. (2022). Digital Transformation of Small Medium Enterprises: A Descriptive Analysis of Quick Response Indonesia Standard Data. *Jambura Equilibrium Journal*, 4(2). doi:<https://doi.org/10.37479/jej.v4i2.13918>
- Neuhofer, B., Celuch, K., & To, T. L. (2020). Experience design and the dimensions of transformative festival experiences. *International Journal of Contemporary Hospitality Management*, 32(9), 2881-2901. doi:<https://doi.org/10.1108/IJCHM-01-2020-0008>
- Priyanto, D. A., & Armin, A. P. (2025). Pengembangan MEDIA Pengenalan Produk UMKM Makanan Khas Tegal Berbasis Augmented Reality. *Jurnal Ilmu Siber dan Teknologi Digital*, 3(2), 111-130. doi:<https://doi.org/10.35912/jisted.v3i2.5094>
- Putri, G. M., Koesoemasari, D. S. P., & Rokhayati, I. (2024). Literasi, Sikap, Inklusi, Perencanaan Keuangan terhadap Perilaku Manajemen Keuangan UMKM Batik di Kabupaten Purbalingga. *Goodwood Akuntansi dan Auditing Reviu*, 3(1), 1-13. doi:<https://doi.org/10.35912/gaar.v3i1.3344>
- Rahayu, R., & Day, J. (2017). E-commerce adoption by SMEs in developing countries: evidence from Indonesia. *Eurasian Business Review*, 7(1), 25-41. doi:<https://doi.org/10.1007/s40821-016-0044-6>
- Savandha, S. D. (2024). Bridging the urban-rural divide: Leveraging technology for development and connectivity in small village, Indonesia. *Journal of Village Development Innovation*, 1(1), 15-28. doi:<https://doi.org/10.59261/jvdi.v1i1.2>
- Takona, J. P. (2024). Research design: qualitative, quantitative, and mixed methods approaches / sixth edition. *Quality & Quantity*, 58(1), 1011-1013. doi:<https://doi.org/10.1007/s11135-023-01798-2>
- Taufik, M., Akmal Ibrahim, M., Ahmad, B., Suni, M., & Nur, M. (2023). Collaborative Government in Tourism Sector Development. *KnE Social Sciences*, 8(17), 530-547. doi:<https://doi.org/10.18502/kss.v8i17.14148>
- Trabucchi, D., & Buganza, T. (2020). Fostering digital platform innovation: From two to multi-sided platforms. *Creativity and Innovation Management*, 29(2), 345-358. doi:<https://doi.org/10.1111/caim.12320>
- Turban, E., Outland, J., King, D., Lee, J. K., Liang, T.-P., & Turban, D. C. (2018). *Electronic commerce 2018: a managerial and social networks perspective* (Vol. 2017): Springer.
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of business research*, 122, 889-901. doi:<https://doi.org/10.1016/j.jbusres.2019.09.022>
- Vial, G. (2017). Understanding digital transformation. doi:<https://doi.org/10.4324/9781003516873-5>
- Zhang, J., van Gorp, D., & Kievit, H. (2023). Digital technology and national entrepreneurship: An ecosystem perspective. *The Journal of Technology Transfer*, 48(3), 1077-1105. doi:<https://doi.org/10.1007/s10961-022-09934-0>