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## The Influence of Cloud Computing Adoption Interest and Financial Technology Usage on the Performance of Salted-Egg SMEs in Cirebon Regency

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**Abstract:** This study aims to analyze the effect of interest in adopting cloud computing and the use of financial technology on the performance of salted-egg SMEs in Cirebon Regency. The research background stems from the low level of digital technology adoption among SMEs, despite its potential to improve operational efficiency and financial performance. A quantitative method was applied using a survey approach and multiple linear regression analysis. The population consisted of 50 salted-egg SME owners selected through a saturated sampling technique. The results indicate that interest in cloud computing and the use of fintech have a positive and significant impact on SME performance, both individually and simultaneously, with an  $R^2$  value of 0.610. These findings suggest that integrating digital technologies can enhance SME competitiveness through more efficient data management and transparent financial transactions. The study contributes theoretically by applying the Technology Acceptance Model and offers practical implications for SME owners and policymakers to accelerate digital transformation.

**Keywords:** Cloud Computing, Financial Technology, UMKM Performance, Technology Acceptance Model, Digital Transformation.

### INTRODUCTION

Micro, Small, and Medium Enterprises (*UMKM*) are the backbone of Indonesia's economy due to their large contribution to gross domestic product and employment absorption. Nationally, *UMKM* contribute more than 60% to GDP and employ around 97% of the workforce, underscoring their pivotal role in inclusive growth (Indonesia.go.id, 2025; Bank Indonesia, 2024). In Cirebon Regency, the traditional food production subsector—particularly salted egg—has grown steadily and functions as an important livelihood for local communities, anchored in the Nusantara culinary heritage with relatively stable market demand (Rumah BUMN Cirebon, 2025).

Despite strong demand, many salted-egg *UMKM* have not yet leveraged digital technologies optimally to improve operational efficiency and competitiveness. Two technologies stand out as highly relevant: *cloud computing* and *financial technology (fintech)*. *Cloud computing* enables centralized data management, flexible access, and infrastructure cost reduction through subscription-based services (Marston et al., 2011; Binus School of Information Systems, 2025). Meanwhile, *fintech* facilitates transactions, expands financing access, and supports real-time cash flow visibility via digital payment and accounting solutions (Gomber et al., 2018; Schindler, 2017). Nevertheless, adoption remains limited among traditional food producers that still rely on conventional methods (Zuriana et al., 2024).

To explain technology adoption behavior within *UMKM*, this study grounds its analysis in the *Technology Acceptance Model (TAM)*, which emphasizes two core constructs—*perceived ease of use (PEOU)* and *perceived usefulness (PU)* (Davis, 1989). In the salted-egg context, PEOU reflects how easily owners can operate *cloud* and *fintech* applications; PU captures the extent to which these technologies are perceived to improve operational efficiency, reporting accuracy, and financial outcomes (Davis, 1989; Lutfi et al., 2022). When *UMKM* perceive both ease and usefulness, adoption intentions rise and are more likely to translate into measurable performance gains (Davis, 1989; Sari et al., 2020).

From a business-process perspective, *cloud computing* is a model that delivers computing resources (servers, applications, storage) over the internet, eliminating heavy upfront hardware investments and enabling elastic scaling and centralized control (Marston et al., 2011). For *UMKM*, *cloud* platforms can store transactions and financial reports in a single repository accessible anytime and anywhere, speeding up decision-making and reducing recording errors (Syahputra et al., 2022; Marston et al., 2011). In salted-egg operations, *cloud* tools are directly relevant to tracking daily sales, managing raw-egg and brining inventories, and monitoring production costs.

By contrast, *fintech* refers to the application of technology to deliver faster, cheaper, and more efficient financial services, including digital payments, *peer-to-peer lending*, and cash-management apps (Gomber et al., 2018; Schindler, 2017). For *UMKM*, *fintech* simplifies payments to suppliers and collections from customers, accelerates fund circulation, and broadens access to working capital—all key enablers of resilient micro-operations (Rahman & Ali, 2023; Luthfi & Mulyani, 2023). In salted-egg businesses, integrating *fintech* reduces dependence on cash, streamlines reconciliation, and increases transparency of inflows and outflows.

Adoption barriers persist, however, in the form of limited digital literacy, perceived high implementation costs, and uneven access to devices and reliable networks (Cahyadi et al., 2023; Saragih et al., 2024). These barriers create a gap between the potential of digital technologies and ground realities, validating the need for targeted mentoring and literacy programs so owners can align technology choices with concrete operational needs (Amalia & Budiman, 2024; Bank Indonesia, 2024). In this sense, ecosystem support is as decisive as the technology itself.

Theoretically and empirically, integrating *cloud* and *fintech* can yield complementary performance effects. Digital accounting systems built on *cloud* platforms have been shown to improve operational efficiency and reporting accuracy (Lutfi et al., 2022), while *fintech* adoption positively affects financial performance through better liquidity management and easier access to financing (Luthfi & Mulyani, 2023; Rahman & Ali, 2023). Testing their *simultaneous* influence is essential to capture technological synergies that are underexplored in traditional food *UMKM* (Sari et al., 2020; Gomber et al., 2018).

Prior studies have predominantly focused on service and trade *UMKM*, leaving the production-specific context of traditional food—with distinct processing steps and marketing patterns—relatively overlooked (Rifai & Mychelida, 2023; Zuriana et al., 2024). Research on

*cloud* adoption emphasizes organizational readiness and managerial support as key drivers (Mahrin et al., 2024), but it seldom connects these factors with *fintech* adoption and their joint implications for local *UMKM* performance. This study addresses that contextual gap by focusing on salted-egg *UMKM* in Cirebon Regency, where digital adoption is promising yet uneven (Rifai & Mychelisda, 2023; Rumah BUMN Cirebon, 2025).

Operationally, the variables are defined narratively as follows. Interest in *cloud computing* adoption denotes *UMKM* owners' inclination to start using *cloud* services in business activities, reflected through perceived ease and usefulness (PEOU–PU) (Davis, 1989; Marston et al., 2011). Use of *fintech* captures the intensity and scope of employing digital financial applications for payments, record-keeping, and business financing (Gomber et al., 2018; Schindler, 2017). *UMKM* performance is operationalized through indicators of operational performance (process efficiency, data accuracy, decision speed) and financial performance (profitability, liquidity, cash-flow stability) appropriate to salted-egg production (Lutfi et al., 2022; Syahputra et al., 2022).

Anchored in *TAM*, this study positions PEOU and PU as psychological mechanisms mediating the technology–performance link. When salted-egg entrepreneurs find *cloud* and *fintech* easy to use and genuinely helpful, adoption likelihood increases, and the technologies' effects materialize in improved operations and finances (Davis, 1989; Sari et al., 2020). In short, adoption is not merely a technical decision but an outcome of perceived behavioral control and expected utility.

The practical urgency is equally prominent. On one hand, digitalization can enhance governance quality, reduce costs, and widen market reach for micro producers; on the other hand, public programs and stakeholder support must be evidence-based and locally grounded to be effective (Amalia & Budiman, 2024; Bank Indonesia, 2024). Findings informed by the salted-egg *UMKM* context in Cirebon can guide interventions that foster inclusive and sustainable digital transformation (Binus School of Information Systems, 2025; Dunia Fintech, 2024).

Against this theoretical and contextual background, the objective of the study is to answer the following guiding questions that will be elaborated in the discussion and concluded explicitly: (1) how does interest in *cloud computing* adoption affect the performance of salted-egg *UMKM* in Cirebon Regency; (2) how does the use of *fintech* affect the performance of salted-egg *UMKM* in Cirebon Regency; and (3) what is the simultaneous effect of interest in *cloud computing* adoption and the use of *fintech* on the performance of salted-egg *UMKM* in Cirebon Regency (Davis, 1989; Sari et al., 2020).

## METHOD

This study employs a quantitative research design using a survey approach. The quantitative method was chosen because the research aims to examine causal relationships between predetermined variables—namely, interest in *cloud computing* adoption and the use of *financial technology (fintech)*—and the performance of salted-egg *UMKM* in Cirebon Regency. The design applies a causal-comparative strategy to identify cause-and-effect patterns among these variables, supported by statistical analysis to ensure objectivity and reliability.

The population of this research consists of all salted-egg *UMKM* registered in Cirebon Regency. This region was selected due to its high concentration of salted-egg producers and its relevance to the study's focus on traditional food-based *UMKM*. The total population comprises approximately 50 business owners. Given the relatively small and homogeneous population, the study uses a saturated sampling technique, meaning all 50 *UMKM* owners were

included as respondents. This approach ensures comprehensive data coverage and minimizes sampling bias.

The research was conducted in Cirebon Regency, West Java, during January and February 2025. This period was chosen to capture current adoption trends of digital technologies among salted-egg producers and to ensure that the data reflects the latest operational and financial conditions of these businesses. The location provides a representative context for rural-based *UMKM* facing digital transformation challenges.

The instrument used for data collection was a structured questionnaire developed based on theoretical constructs from the *Technology Acceptance Model (TAM)* and prior empirical studies. The questionnaire consisted of three main sections: (1) interest in *cloud computing* adoption, measured through indicators of perceived ease of use and perceived usefulness; (2) use of *fintech*, assessed by frequency and scope of digital financial transactions; and (3) *UMKM* performance, evaluated through operational and financial dimensions. Responses were recorded using a five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5).

The data collection procedure involved distributing questionnaires directly to respondents, with assistance provided when necessary to clarify items and ensure accurate responses. Prior to the main survey, a pilot test was conducted to validate the instrument’s clarity and relevance. Expert judgment was also sought to confirm content validity. Ethical considerations were observed by ensuring voluntary participation and confidentiality of respondent information.

For data analysis, the study employed both descriptive and inferential statistical techniques. Descriptive analysis summarized respondent characteristics and variable distributions, while inferential analysis tested hypotheses using multiple linear regression. This technique was chosen to evaluate the simultaneous effects of interest in *cloud computing* adoption and *fintech* usage on *UMKM* performance. Before regression analysis, assumptions of normality and multicollinearity were tested to ensure model validity.

To ensure instrument reliability, Cronbach’s Alpha was calculated for each variable, with values exceeding 0.70 indicating acceptable internal consistency. Validity was assessed through factor analysis and Bartlett’s Test of Sphericity, confirming that the items accurately represented their respective constructs. These steps guarantee that the findings are both statistically robust and theoretically grounded.

## **RESULT AND DISCUSSION**

### **Sample profile and response quality.**

The study involved 50 salted-egg *UMKM* owners in Cirebon Regency, using saturated sampling to capture the entire local population. Respondents comprise both male and female owners with varied business tenure (from under three years to more than six years). The distribution of demographic attributes suggests a reasonably heterogeneous sample regarding business maturity, while remaining contextually homogeneous in product focus (salted eggs). This mix helps balance internal validity (consistent industry context) and external insight (variation in experience relevant to technology adoption).

### **Descriptive statistics of core constructs.**

Descriptive analysis indicates moderate-to-high levels of interest in *cloud computing* adoption and *fintech* usage, alongside positive self-assessments of operational and financial performance. Mean values for the constructs range between 3.3 and 4.2 on a five-point Likert scale, with standard deviations between 0.8 and 1.3, signifying acceptable dispersion for regression modeling (Lutfi et al., 2022; Syahputra et al., 2022).

**Table 1. Descriptive Statistics of Key Variables**

Variable	Mean	Std. Dev.
Interest in Cloud Computing (Item 1)	3.6	1.2
Interest in Cloud Computing (Item 2)	4.1	0.9
Use of Fintech (Item 1)	3.3	1.1
Use of Fintech (Item 2)	4.0	1.0
UMKM Performance (Item 1)	3.8	1.3
UMKM Performance (Item 2)	4.2	0.8

**Instrument validity and reliability.**

Construct validity was supported by factor-analytic indicators: KMO > 0.6 and Bartlett’s Test  $p < 0.05$ , implying adequate sampling adequacy and factorability of the correlation matrix. Reliability met conventional thresholds, with Cronbach’s Alpha exceeding 0.70 for each scale, indicating consistent internal measurement (Davis, 1989; Syahputra et al., 2022).

**Table 2. Reliability (Cronbach’s Alpha)**

Variable	Cronbach’s Alpha
Interest in Cloud Computing	0.82
Use of Fintech	0.79
UMKM Performance	0.85

**Regression model and overall fit.**

Multiple linear regression was employed to evaluate the simultaneous effects of interest in *cloud computing* and use of *fintech* on UMKM performance. The model achieved an  $R^2$  of 0.610, meaning 61% of the variance in performance is explained collectively by the two predictors. The F-statistic = 14.567 ( $p < 0.001$ ) confirms the model’s overall significance and suitability for inferential interpretation (Sari et al., 2020; Lutfi et al., 2022).

**Table 3. Multiple Linear Regression Results**

Independent Variable	Coefficient	Sig.
Interest in Cloud Computing	0.450	0.002
Use of Fintech	0.350	0.001
Model Fit		
$R^2$	0.610	
F-Statistic	14.567	0.000

effect of cloud computing interest on performance (H1). The positive and significant coefficient for interest in *cloud computing* ( $\beta = 0.450$ ;  $p = 0.002$ ) supports H1: higher interest aligns with improved UMKM performance. This finding is consistent with the *Technology Acceptance Model (TAM)* mechanism, wherein perceived ease of use (PEOU) and perceived usefulness (PU) foster stronger intentions that translate into performance impact (Davis, 1989). For salted-egg producers, *cloud* tools likely help consolidate transaction records, inventory logs, and production costs, thereby reducing errors and speeding decisions (Marston et al., 2011; Syahputra et al., 2022).

effect of fintech usage on performance (H2). The use of *fintech* also shows a positive, significant association with performance ( $\beta = 0.350$ ;  $p = 0.001$ ), supporting H2. The mechanism plausibly operates through liquidity management improvements and reduced friction in payments and collections, which *UMKM* literature often links to enhanced financial outcomes (Gomber et al., 2018; Luthfi & Mulyani, 2023). In the

salted-egg context, shifting from cash-dominant transactions to digital payments shortens settlement cycles and improves cash-flow visibility (Rahman & Ali, 2023; Schindler, 2017).

Result: simultaneous influence and model interpretation (H3). Jointly, cloud interest and fintech use explain a substantial portion of performance variance ( $R^2 = 0.610$ ), supporting H3 that their simultaneous effect is significant. The combined result suggests complementary benefits: *cloud* enhances data integrity and operational oversight, while *fintech* optimizes financial processes—together producing measurable improvements in both operational and financial dimensions (Lutfi et al., 2022; Sari et al., 2020).

### **Discussion: theoretical integration via TAM.**

Interpreting these results through TAM strengthens the argument that PEOU (e.g., intuitive interfaces, minimal training needs) and PU (e.g., visible gains in speed and accuracy) are decisive antecedents of adoption that, in turn, impact performance. For salted-egg *UMKM*, perceived low complexity in using *cloud* dashboards and *fintech* apps likely reduces resistance, while tangible benefits—fewer bookkeeping errors, faster reconciliation—reinforce continued usage and amplify performance outcomes (Davis, 1989; Marston et al., 2011).

### **Discussion: contextual gap and local insights.**

The focus on traditional food production addresses a noted gap in prior *UMKM* studies that centered on services and trade (Rifai & Mychelida, 2023; Zuriana et al., 2024). The significant findings suggest that digital adoption is equally, if not more, impactful in production-oriented microbusinesses where traceability of inputs (eggs, salt, brine) and outputs (finished salted eggs) is vital. Organizational readiness and managerial support—highlighted in *cloud* adoption literature—remain key enablers (Mahrin et al., 2024), but local training and affordable devices are essential to translate readiness into sustained usage (Cahyadi et al., 2023; Saragih et al., 2024).

### **Practical implications for stakeholders.**

For owners, prioritizing basic *cloud* accounting modules and widely used *fintech* payment systems can yield quick wins: centralized ledgers, real-time dashboards, and digital receipts. For policymakers and ecosystem actors, initiatives should pair infrastructure access with targeted literacy programs and vendor-neutral guidance on selecting low-cost, scalable solutions (Amalia & Budiman, 2024; Bank Indonesia, 2024). In Cirebon's salted-egg clusters, mentor-led onboarding and template SOPs for digital workflows could accelerate adoption.

### **Robustness considerations and limitations.**

Although results are statistically strong, the study is limited to a single regency and one product category, which may constrain generalizability. Future research could extend the model with mediators (e.g., digital skills) or moderators (e.g., network quality, firm size) and incorporate longitudinal data to observe performance trajectories post-adoption (Sari et al., 2020; Mahrin et al., 2024). Qualitative follow-ups may also unpack nuanced barriers and usage behaviors in daily operations.

### **Conclusion of the results relative to hypotheses.**

In sum, the empirical evidence confirms all three guiding questions: (1) interest in *cloud computing* is positively associated with salted-egg *UMKM* performance; (2) use of *fintech* is positively associated with performance; and (3) their simultaneous effect is significant and substantial. These findings reinforce the theoretical expectation from TAM and the practical case for integrated digital adoption among traditional food *UMKM* in Cirebon (Davis, 1989; Lutfi et al., 2022).

## CONCLUSION

This study examined the influence of interest in cloud computing adoption and the use of financial technology (fintech) on the performance of salted-egg UMKM in Cirebon Regency. The findings confirm that both variables have a significant and positive effect on performance, individually and simultaneously. Interest in cloud computing contributes to operational improvements through centralized data management and enhanced decision-making efficiency, while fintech usage strengthens financial performance by streamlining transactions and improving liquidity control.

By integrating the Technology Acceptance Model (TAM), the research demonstrates that perceived ease of use and perceived usefulness are critical drivers of technology adoption, which in turn translates into measurable performance gains. These results address the contextual gap in prior studies by focusing on traditional food-based UMKM, offering empirical evidence that digital technologies can substantially improve competitiveness even in micro-scale production environments.

The contribution of this study lies in expanding the theoretical understanding of technology adoption within UMKM and providing practical insights for stakeholders. For industrial engineering and applied business science, the research underscores the role of digital systems in optimizing resource utilization, reducing operational inefficiencies, and enabling data-driven decision-making. These improvements align with broader objectives of Industry 4.0, where integration of information systems and financial technologies is essential for sustainable microenterprise development.

In conclusion, the adoption of cloud computing and fintech is not merely a technological upgrade but a strategic necessity for UMKM seeking resilience and growth in the digital economy. The evidence presented here supports targeted interventions—such as literacy programs and affordable technology access—that can accelerate digital transformation and enhance the overall productivity of traditional food industries.

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