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Human Resource Competence and Fintech Adoption among Maluku MSMEs: Digital Literacy as Mediator

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ABSTRACT

Despite the rapid development of financial technology (fintech), its adoption among micro, small, and medium enterprises (MSMEs) in archipelagic regions remains uneven due to differences in human resource capacity and digital readiness. This study analyzes the effect of human resource competence on fintech adoption among MSMEs in Maluku Province, with digital literacy as a mediating variable. The study employs a quantitative explanatory approach using primary data collected from 230 MSME actors through structured questionnaires. The data were analyzed using Partial Least Squares–based Structural Equation Modeling (SEM-PLS) to examine both direct and mediating relationships among variables. The results show that human resource competence has a positive and significant effect on digital literacy ($\beta = 0.672$; $p < 0.001$) and on fintech adoption ($\beta = 0.429$; $p < 0.001$). In addition, digital literacy has a positive and significant effect on fintech adoption ($\beta = 0.512$; $p < 0.001$) and partially mediates the relationship between human resource competence and fintech adoption. These findings indicate that digital literacy plays an important mechanism that enables human resource competencies to be translated into the utilization of digital financial technologies. Theoretically, this study extends the perspectives of Resource-Based View and Human Capital by demonstrating the mediating role of digital literacy in technology adoption among MSMEs. Practically, the results emphasize the importance of integrating human resource competence development with digital literacy enhancement to accelerate fintech adoption and support MSME digital transformation, particularly in archipelagic regions with limited digital infrastructure such as Maluku.

Keywords: *Human Resource Competencies, Digital Literacy, Fintech Adoption, MSMEs, Maluku*

1. INTRODUCTION

The development of financial technology (fintech) has become a major catalyst in transforming modern financial systems, particularly for micro, small, and medium enterprises (MSMEs), which have historically faced limited access to formal financial services. Numerous studies indicate that fintech utilization significantly contributes to enhancing financial inclusion, transaction efficiency, access to financing, and the quality of financial management for MSMEs in developing countries [1], [2], [3], [4], [5]. Fintech enables MSMEs to access financial services more quickly and flexibly, thereby strengthening business sustainability and competitiveness. Nonetheless, fintech adoption among MSMEs still exhibits considerable regional variation. These differences are especially pronounced in archipelagic regions and areas with limited digital infrastructure, such as Maluku Province, which has distinct geographical and socio-economic characteristics compared to urban areas, thereby affecting MSMEs' readiness to optimally adopt financial technologies [6], [7], [8].

From the perspective of Resource-Based View (RBV) Theory, an organization's ability to respond to environmental changes and adopt innovations is largely determined by the quality of its internal resources. This theory emphasizes that resources that are valuable, rare, inimitable, and non-substitutable form the foundation of sustainable competitive advantage. In the context of MSMEs, human resource competencies represent strategic, intangible resources that play a central role in the fintech adoption process. Such competencies encompass knowledge, skills, and the ability to adapt

to digital technologies, enabling MSME actors to understand the characteristics of fintech services, evaluate their benefits and risks, and systematically integrate financial technologies into business processes [9], [10], [11]. Thus, RBV Theory provides a robust conceptual framework to explain the influence of human resource competencies on fintech adoption among MSMEs.

Human Capital Theory complements the Resource-Based View (RBV) framework by positioning individuals as the central actors within an organization. This theory considers knowledge, skills, experience, and cognitive abilities as forms of human capital investment that enhance productivity and adaptability to technological change. In the context of MSMEs, human resource competencies reflect the accumulation of human capital that determines entrepreneurs' capacity to learn and implement fintech solutions. MSME actors with higher levels of human capital tend to exhibit stronger analytical abilities in financial decision-making and greater readiness to adopt digital financial technologies [12], [13]. Therefore, Human Capital Theory provides a theoretical justification that enhancing human resource competencies is a critical prerequisite for effective fintech adoption.

Although human resource competencies and human capital play significant roles, they do not automatically translate into technology adoption behavior without specific capabilities to understand and use digital technologies. In this context, Digital Literacy Theory serves as an essential conceptual framework for explaining the mechanisms linking human resource competencies to fintech adoption. Digital literacy encompasses the ability to access, understand, evaluate, and effectively and safely use digital technologies. It enables MSME actors to comprehend the features and mechanisms of fintech services, assess data security and privacy risks, and responsibly utilize financial technologies in daily business activities [5], [11], [14], [15], [16].

Empirical evidence indicates that digital literacy not only directly influences fintech adoption but also functions as a mediating variable that strengthens the effect of human resource competencies and human capital on technology adoption behavior. Adequate digital literacy allows MSME actors' competencies to manifest effectively in fintech usage, whereas limited digital literacy may impede the actualization of human resource competencies in the process of adopting financial technologies [17], [18], [19], [20].

Although studies on fintech adoption among MSMEs continue to grow, most existing research primarily focuses on financial literacy, financial inclusion, or firm performance, without integrating human resource competencies as strategic resources and human capital within a comprehensive theoretical framework. Previous studies have shown that fintech adoption is influenced by financial literacy, access to finance, and digital innovation capabilities [21], [22], [23], [24]. However, relatively limited attention has been given to examining how human resource competencies interact with digital literacy as a mediating mechanism that links individual capabilities to technology adoption behavior, particularly within MSMEs operating in geographically fragmented regions. In the specific context of archipelagic areas such as Maluku Province, MSMEs encounter structural challenges including limited human resource quality, disparities in digital literacy, and uneven digital infrastructure development [25], [26], [27]. These structural constraints may hinder the capacity of MSME actors to translate their competencies into effective fintech utilization. Therefore, examining the mediating role of digital literacy in the relationship between human resource competencies and fintech adoption becomes essential to provide a more comprehensive explanation of fintech adoption behavior among MSMEs in archipelagic regions.

The novelty of this study lies in its empirical exploration of the contextual challenges faced by MSMEs in archipelagic regions, particularly in Maluku Province, during the fintech adoption process. Fragmented geographical characteristics, limited digital infrastructure, and disparities in human resource competencies and digital literacy have resulted in suboptimal utilization of fintech services among MSMEs in Maluku, despite the continuous national growth of financial technology penetration. This study emphasizes that human resource competencies do not automatically translate into fintech adoption without adequate digital literacy, positioning digital literacy as a critical mechanism bridging individual capacity and technology adoption behavior. By addressing the actual challenges faced by MSMEs in Maluku, this research provides empirically relevant contributions to understanding the dynamics of fintech adoption in archipelagic and underdeveloped regions and offers an evidence-based foundation for formulating policies that strengthen MSME capacities in a more contextual, adaptive, and sustainable manner [19], [20].

Based on the above discussion, this study aims to analyze the effect of human resource competencies on fintech adoption among MSMEs in Maluku Province, with digital literacy as a mediating variable. The research seeks to achieve a comprehensive understanding of the role of internal resources and digital literacy in driving the sustainable digital transformation of MSMEs, while providing an empirical basis for developing policies to enhance human resource quality and digital literacy among MSMEs in Indonesia's archipelagic regions.

2. LITERATURE REVIEW

2.1 Resource-Based View (RBV)

The Resource-Based View (RBV) posits that a firm's sustainable competitive advantage is derived from the effective utilization of internal resources that are valuable, rare, inimitable, and non-substitutable. In the context of MSMEs, human resource competence represents a critical intangible asset that determines the ability of firms to respond to technological changes, including fintech adoption. These competencies encompass knowledge, technical skills, and adaptive capabilities that enable entrepreneurs to evaluate fintech services, understand their benefits and risks, and integrate them into business operations. Empirical evidence suggests that MSMEs with stronger internal competencies are more capable of adopting digital innovations, as they possess the strategic resources necessary to support technological transformation [28], [29], [30], [31].

2.2 Human Capital Theory

Human Capital Theory emphasizes that individual knowledge, skills, experience, and cognitive abilities are critical investments that enhance productivity and adaptability to innovation. Within MSMEs, human resource competence reflects the accumulation of human capital that influences entrepreneurs' readiness to adopt fintech solutions. MSME actors with higher levels of human capital tend to demonstrate stronger analytical capabilities, better financial decision-making, and greater openness to technological change. Previous studies confirm that well-developed human capital significantly increases the likelihood of fintech adoption, as individuals are better equipped to understand digital financial systems and utilize them effectively in business processes [21], [24], [25].

2.3 Digital Literacy Theory

Digital Literacy Theory explains the ability of individuals to access, understand, evaluate, and effectively use digital technologies. In the context of fintech adoption, digital literacy plays a crucial role in enabling MSME actors to interpret financial information, assess risks, and utilize fintech services efficiently and securely. More importantly, digital literacy functions as a mediating mechanism that bridges human resource competence and technology adoption behavior. While human resource competence provides the foundational capability, digital literacy ensures that these competencies can be translated into practical fintech usage. Empirical studies highlight that higher levels of digital literacy significantly enhance fintech adoption and strengthen the relationship between internal capabilities and digital innovation, thereby improving MSME performance and adaptability in the digital economy [10], [14], [15], [25], [32], [33].

2.4 The Effect of Human Resource Competence on Digital Literacy

The relationship between human resource competence and digital literacy can be explained through the integration of the Resource-Based View (RBV) and Human Capital Theory. Human resource competence, which includes knowledge, technical skills, and adaptive capabilities, represents a strategic resource that enables MSME actors to effectively engage with digital technologies. Individuals with higher levels of competence are more capable of accessing, understanding, and utilizing digital tools, thereby enhancing their digital literacy. Empirical studies indicate that improvements in human resource competence significantly contribute to strengthening digital capabilities and technological understanding among MSMEs [1], [17], [34], [35], [36]. Therefore, higher human resource competence is expected to lead to higher levels of digital literacy.

H1: Human resource competence has a positive and significant effect on digital literacy.

2.5 The Effect of Human Resource Competence on Fintech Adoption

The relationship between human resource competence and fintech adoption reflects the direct role of internal capabilities in driving technological adoption. From the RBV perspective, organizations with superior internal resources are better positioned to adopt innovations and respond to environmental changes. Human resource competence enables MSME actors to evaluate fintech services, understand their benefits, and integrate them into business processes. In addition, *Human Capital Theory* suggests that individuals with higher levels of knowledge and skills are more open to technological innovation. Previous studies show that competent MSME actors demonstrate higher readiness to adopt digital financial services [20], [37], [38], [39]. Thus, human resource competence is expected to directly influence fintech adoption.

H2: Human resource competence has a positive and significant effect on fintech adoption.

2.6 The Effect of Digital Literacy on Fintech Adoption

The relationship between digital literacy and fintech adoption highlights the importance of technological understanding in facilitating the use of digital financial services. Digital literacy enables MSME actors to interpret digital financial information, evaluate risks, and utilize fintech services effectively and securely. Individuals with higher digital literacy tend to have greater confidence in using digital technologies, which reduces uncertainty and increases the likelihood of adoption. Empirical evidence shows that digital literacy is a key determinant of fintech adoption, as it enhances users' ability to maximize the benefits of financial technology [5], [21], [27], [30]. Therefore, higher levels of digital literacy are expected to increase fintech adoption among MSMEs.

H3: Digital literacy has a positive and significant effect on fintech adoption.

2.7 The Mediating Role of Digital Literacy in the Relationship between Human Resource Competence and Fintech Adoption

The mediating role of digital literacy in the relationship between human resource competence and fintech adoption reflects the mechanism through which internal capabilities are translated into actual technology usage. Although human resource competence provides the foundational knowledge and skills, it does not automatically lead to fintech adoption without adequate digital understanding. Digital literacy serves as a bridging mechanism that enables MSME actors to transform their competencies into effective fintech utilization. Previous studies indicate that digital literacy strengthens the influence of human capital on technology adoption and digital innovation among MSMEs [3], [4], [6]. Therefore, digital literacy is expected to mediate the relationship between human resource competence and fintech adoption.

H4: Digital literacy mediates the relationship between human resource competence and fintech adoption among MSMEs.

3. METHODS

This study employs a quantitative approach with an explanatory survey design to analyze the causal relationships between human resource competence, digital literacy, and fintech adoption among MSMEs in Maluku Province. Primary data were collected from 230 MSME owners or managers who serve as the main decision-makers, have been operating their businesses for at least one year, and have experience using digital financial services. Data collection was conducted through a structured questionnaire using a five-point Likert scale. Respondents were selected using a purposive sampling technique to ensure that the sample characteristics aligned with the analytical objectives of the study. In addition, a cross-sectional research design was employed to capture the empirical conditions of the research variables at a single point in time.

The structural relationships among the variables were analyzed using Partial Least Squares-based Structural Equation Modeling (SEM-PLS). This method was chosen due to its capability to estimate models with reflective latent constructs, test mediating relationships simultaneously, and its robustness to limitations in sample size and distributional assumptions that are commonly encountered in MSME research [39], [40], [41], [42]. Model evaluation was conducted through two main stages: assessment of the measurement model and the structural model. The measurement model was evaluated by examining convergent validity through factor loadings and Average Variance Extracted (AVE), as well as discriminant validity using the Fornell–Larcker criterion and

cross-loading analysis. Construct reliability was assessed using Composite Reliability (CR) and Cronbach's Alpha to ensure internal consistency among the indicators.

Furthermore, the structural model was evaluated by analyzing the magnitude and significance of path coefficients, the coefficient of determination (R^2), and the significance of both direct and indirect effects using bootstrapping procedures as recommended in the SEM-PLS methodological literature [41], [43], [44], [45].

Table 1. Operational Definition of Research Variables

Variable	Conceptual Definition	Indicator Code	Indicator Description	Scale
Human Resource Competencies (HRC)	The level of knowledge, skills, and adaptive capabilities of MSME owners or managers that enable effective business management and the ability to respond to financial technology innovations as strategic organizational resources [37].	HRC1	Possesses adequate knowledge of digital technologies and financial systems relevant to business activities.	Likert
		HRC2	Possesses technical skills in operating digital and fintech applications for business purposes.	
		HRC3	Able to analyze digital financial information to support business decision-making.	
		HRC4	Able to adapt to changes in digital financial technologies.	
		HRC5	Able to resolve issues related to the use of financial technologies.	
		HRC6	Demonstrates willingness to continuously learn and improve digital competencies.	
Digital Literacy (DL)	The ability of MSME owners or managers to access, understand, evaluate, and effectively and safely use digital technologies, particularly in utilizing fintech services [19].	DL1	Able to access and use digital devices and applications for business activities.	Likert
		DL2	Understands the features and functions of fintech services used in the business.	
		DL3	Able to evaluate the benefits and risks of using fintech services.	
		DL4	Aware of data security and privacy in digital financial transactions.	
		DL5	Able to independently and sustainably use fintech services in business operations.	

Fintech Adoption (FA)	The level of acceptance and actual use of financial technology services by MSMEs to support financial transactions, financial management, and sustainable business development [16].	FA1	Routinely uses digital payment services in business transactions.	Likert
		FA2	Uses fintech applications for business financial record-keeping and management.	
		FA3	Utilizes fintech services to obtain financing or business capital.	
		FA4	Exhibits a high level of trust in the fintech services used.	
		FA5	Perceives fintech services as easy to use in business operations.	
		FA6	Perceives fintech services as beneficial in improving business efficiency.	
		FA7	Intends to continue using fintech services in the long term.	

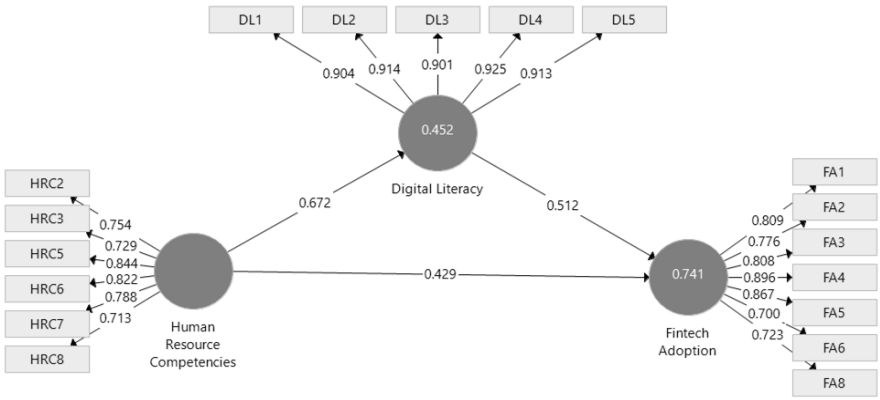

Figure 1. Research Conceptual Framework

4. RESULTS AND DISCUSSION

4.1 Research Results

Table 3 presents the results of the measurement model evaluation, including construct reliability and validity for the latent variables used in this study. The assessment includes outer loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) for the constructs of Human Resource Competence (HRC), Digital Literacy (DL), and Fintech Adoption (FA). These indicators are used to examine the internal consistency reliability and convergent validity of the measurement model before proceeding to structural model analysis in the SEM-PLS framework.

Table 2. Construct Reliability and Validity

	Outer Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
DL1	0.904	0.949	0.961	0.831

DL2	0.914			
DL3	0.901			
DL4	0.925			
DL5	0.913			
FA1	0.809	0.905	0.925	0.639
FA2	0.776			
FA3	0.808			
FA4	0.896			
FA5	0.867			
FA6	0.700			
FA7	0.723			
HRC1	0.754	0.868	0.901	0.603
HRC2	0.729			
HRC3	0.844			
HRC4	0.822			
HRC5	0.788			
HRC6	0.713			

The analysis of construct validity and reliability indicated that all indicators for the variables Digital Literacy, Fintech Adoption, and Human Resource Competence had outer loadings above 0.70, confirming adequate convergent validity. The Cronbach's Alpha values for each construct 0.949 for Digital Literacy, 0.905 for Fintech Adoption, and 0.868 for Human Resource Competence demonstrate high internal consistency. Similarly, the Composite Reliability values exceeded the minimum threshold of 0.70, with 0.961 for Digital Literacy, 0.925 for Fintech Adoption, and 0.901 for Human Resource Competence, confirming that the reflective constructs are highly reliable.

Furthermore, the Average Variance Extracted values were 0.831 for Digital Literacy, 0.639 for Fintech Adoption, and 0.603 for Human Resource Competence, all exceeding the minimum criterion of 0.50. This indicates that the variance of the indicators is sufficiently explained by their respective latent constructs. With these results in validity and reliability, the research instruments can be considered valid and reliable for measuring the relationships among human resource competencies, digital literacy, and fintech adoption in MSMEs in Maluku. This also ensures that the data are suitable for analysis using Partial Least Squares-based Structural Equation Modeling to test the research hypotheses in a valid and robust manner [46].

Table 3 presents the results of the discriminant validity assessment using the Heterotrait–Monotrait Ratio (HTMT) approach to evaluate the degree of distinction among the constructs in the research model. This test was conducted to ensure that each latent construct, namely Digital Literacy, Fintech Adoption, and Human Resource Competence, demonstrates adequate discriminant validity so that they can be empirically distinguished from one another within the measurement model estimated using Structural Equation Modeling based on Partial Least Squares.

Table 3. Discriminant Validity- Heterotrait-Monotrait Ratio (HTMT)

	Digital Literacy	**Fintech Adoption**	**Human Resource Competence**
Digital Literacy			
Fintech Adoption	0.851		
Human Resource Competence	0.725	0.830	

Discriminant analysis using the Heterotrait-Monotrait Ratio (HTMT) indicated that all construct pairs had values below the 0.90 threshold, specifically 0.851 between Digital Literacy and Fintech Adoption, 0.725 between Human Resource Competence and Digital Literacy, and 0.830 between Human Resource Competence and Fintech Adoption. These results confirm that each construct is sufficiently distinct from the others and does not exhibit significant multicollinearity.

Therefore, the variables Digital Literacy, Fintech Adoption, and Human Resource Competence can be considered to measure separate constructs with adequate discriminant validity.

These findings provide confidence that the relationships tested in the research model reflect specific effects and are not confounded with other constructs. This is particularly important in the context of MSME research in Maluku, as it ensures that the influence of human resource competencies and digital literacy on fintech adoption can be analyzed accurately and reliably, without bias due to construct overlap [21], [28], [38].

Table 3 presents the results of the structural model analysis, including the path coefficients, t statistics, and p values used to evaluate the direct relationships among Digital Literacy, Human Resource Competence, and Fintech Adoption within the SEM PLS framework.

Table 3. Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Digital Literacy -> Fintech Adoption	0.512	0.518	0.057	8.922	0.000
Human Resource Competence -> Digital Literacy	0.672	0.680	0.041	16.393	0.000
Human Resource Competence -> Fintech Adoption	0.429	0.425	0.062	6.882	0.000

Path coefficient analysis indicated that all relationships among the variables were significant at the 0.001 level ($p < 0.001$). The effect of Human Resource Competence on Digital Literacy was 0.672 with a t-statistic of 16.393, indicating that increases in human resource competencies significantly enhance digital literacy among MSMEs in Maluku. Furthermore, Digital Literacy had a positive effect on Fintech Adoption of 0.512 (t=8.922), demonstrating that higher digital literacy effectively promotes the adoption of fintech services.

In addition, Human Resource Competence also had a direct effect on Fintech Adoption with a coefficient of 0.429 ($t = 6.882$), indicating that HR competencies contribute not only through digital literacy but also directly to the utilization of financial technologies by MSMEs. These results underscore the importance of strengthening MSMEs' internal capacities through the development of human resource competencies and digital literacy as foundational elements to enhance fintech adoption, consistent with empirical findings in the archipelagic context of Maluku [26], [34], [39].

Discussion

The results of the study indicate that Human Resource Competence has a positive and significant effect on digital literacy among MSMEs in Maluku Province ($\beta = 0.672$; $t = 16.393$; $p < 0.001$). This finding aligns with previous studies emphasizing that improvements in knowledge, skills, and adaptive capabilities of human resources enhance entrepreneurs' capacity to understand and utilize digital technologies, including fintech services [5], [6], [15], [19], [47]. The findings are also consistent with empirical studies showing that strengthening human resource competence contributes significantly to the development of technological capabilities and digital adaptability among MSMEs [17], [34], [36], [37]. Conceptually, these results support the Resource-Based View (RBV) and Human Capital perspectives, which emphasize that the quality of internal resources and investment in human capital constitute a strategic foundation for organizational adaptation to technological innovation. Competent MSMEs not only possess knowledge capacity but are also able to internalize digital literacy as a mechanism to optimize fintech utilization. Furthermore, systematic strengthening of HR competencies enables MSME actors to proactively explore digital applications, solve technical problems independently, and integrate digital literacy as a practical capability in

daily business operations. These findings also reinforce previous research indicating that internal competencies play a crucial role in strengthening digital transformation and innovation capacity among small businesses operating in dynamic technological environments [6], [13], [19], [26]. In this context, HR competence acts as a strategic resource that facilitates the transformation of knowledge into practical digital capabilities supporting sustainable MSME development.

The findings also reveal that digital literacy has a significant effect on fintech adoption ($\beta = 0.512$; $t = 8.922$; $p < 0.001$), demonstrating that the ability to understand, evaluate, and utilize digital services effectively enhances the implementation of financial technologies in daily business activities. These findings are consistent with previous studies highlighting that digital literacy significantly influences MSME readiness to adopt fintech and other financial innovations in business processes [5], [9], [13], [47]. Digital literacy enables entrepreneurs to interpret financial information, evaluate digital platforms, and utilize fintech services efficiently, thereby reducing uncertainty and technological barriers. Empirical studies further suggest that higher levels of digital literacy improve MSMEs' ability to recognize the benefits of financial technology and to integrate digital financial tools into operational and strategic decision-making processes [10], [11], [23], [40]. Consequently, MSMEs with strong digital literacy capabilities tend to adopt financial technologies more rapidly and effectively because they possess the necessary cognitive and technical competencies to evaluate risks, select appropriate platforms, and maximize technological benefits. In this regard, digital literacy not only facilitates fintech utilization but also enhances business efficiency, financial management quality, and overall organizational adaptability within the digital economy [34], [35], [45].

Moreover, Human Resource Competence was found to have a direct effect on fintech adoption ($\beta = 0.429$; $t = 6.882$; $p < 0.001$), confirming that internal HR quality influences MSMEs' readiness and capability to utilize financial technology. These findings support previous research indicating that competent entrepreneurs and business managers are more likely to adopt financial innovations because they possess higher levels of technological awareness, strategic thinking, and decision-making capacity [14], [16], [17]. Similarly, studies on MSME digital transformation highlight that the development of managerial and technological competencies significantly enhances the adoption of digital financial services and strengthens business resilience in competitive markets [10], [15], [21], [24]. These results indicate that human resource competence functions not only as a source of knowledge but also as a capability driver that enables MSMEs to integrate financial technology into their operational systems and strategic business processes. From a practical perspective, these findings highlight the importance of strengthening MSME human resource capabilities through training, mentoring, and digital capacity-building programs that focus on technological literacy, managerial competence, and innovation capability, particularly in geographically dispersed regions such as Maluku.

Furthermore, the findings regarding digital literacy as a mediator between HR competence and fintech adoption confirm that individual competencies must be supported by adequate digital understanding for technological capabilities to be effectively translated into fintech utilization. This result is consistent with empirical studies demonstrating that digital literacy often functions as a crucial mechanism linking human capital capabilities with actual technology adoption behavior [15], [16], [20], [37]. Research on MSME innovation also highlights that digital knowledge and technological awareness significantly strengthen the relationship between internal resources and technology-based business transformation [28], [29], [33]. In other words, while human resource competence provides the foundational capability, digital literacy acts as a bridging mechanism that enables entrepreneurs to translate their competencies into effective technological practices. Practically, these findings imply that programs aimed at enhancing MSME competitiveness should integrate human resource development initiatives with digital literacy training to facilitate optimal fintech adoption. Such integrated capacity-building strategies are particularly important for MSMEs operating in archipelagic regions, where technological adoption can help overcome structural limitations related to financial access, infrastructure constraints, and geographic dispersion [5], [9],

[21]. Therefore, this study not only provides empirical evidence regarding the relationships among human resource competence, digital literacy, and fintech adoption but also offers practical insights for policymakers and development institutions seeking to strengthen MSME digital transformation in Indonesia's archipelagic regions.

5. CONCLUSION

Based on the findings of this study, human resource competence has a positive and significant effect on both digital literacy and fintech adoption among MSMEs in Maluku Province. The results demonstrate that improvements in knowledge, technical skills, and adaptive capabilities of human resources significantly enhance the digital literacy of MSME actors and directly encourage the adoption of fintech services in daily business operations. Furthermore, digital literacy plays an important mediating role by bridging human resource competence and fintech adoption, indicating that the ability to understand, evaluate, and utilize digital technologies effectively is a crucial factor in translating individual competencies into practical fintech utilization. These findings confirm the relevance of the Resource-Based View and Human Capital perspectives, which emphasize that the quality of internal resources and human capital development are fundamental drivers of technological adaptation and innovation in MSMEs. Practically, this study highlights the importance of integrating human resource capacity development with digital literacy enhancement through training, mentoring, and continuous learning programs to support the digital transformation of MSMEs, particularly in archipelagic regions such as Maluku that face structural limitations in digital infrastructure and financial access.

However, this study has several limitations that should be acknowledged. First, the research employed a cross-sectional design that captures the conditions of the variables at a single point in time, which limits the ability to observe dynamic changes in fintech adoption behavior over time. Second, the study focused only on MSMEs in Maluku Province, which may restrict the generalizability of the findings to other regions with different socio-economic and technological contexts. Future research is therefore encouraged to adopt longitudinal approaches and expand the geographical scope of the study to provide a more comprehensive understanding of the dynamics of fintech adoption among MSMEs in diverse regional environments. In addition, incorporating other potential variables such as digital infrastructure, financial inclusion, or innovation capability may further enrich the explanatory power of the research model.

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