Human Resource Management Quality as a Determinant of Customer Satisfaction with Service Quality as a Mediator

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ABSTRACT

This study examines the impact of digital human resource management (HRM) quality on customer satisfaction, with service quality acting as a mediating variable, within Indonesia's e-commerce landscape. Employing a quantitative approach and structural equation modeling (SEM), data were collected from 300 Shopee users across multiple regions. The results indicate that digital HRM quality significantly influences customer satisfaction ($\beta = 0.387$, $p < 0.001$), with employee digital competence emerging as the most influential indicator. Moreover, service quality partially mediates this relationship, suggesting that internal HRM capabilities shape external consumer perceptions and experiences. The findings support the relevance of theoretical models such as the Resource-Based View (RBV), Service-Dominant Logic (SDL), and digital transformation theory in the Southeast Asian context. This study underscores the strategic value of human capital in digital markets and highlights the importance of continuous investment in employee digital skills. Practical implications are provided for e-commerce firms aiming to align HRM strategies with customer experience management to sustain competitiveness in dynamic digital environments.

Keywords: *Customer Satisfaction; Digital Human Resource Management; E-commerce; Mediating Effect; Service Quality.*

INTRODUCTION

The digital revolution has fundamentally transformed the global business landscape, positioning e-commerce as the epicenter of change. This transformation reshapes how consumers interact with products and services, demanding new approaches in organizational strategy (Brynjolfsson & McAfee, 2021). The Resource-Based View (RBV) offers a useful lens to understand this shift by highlighting the strategic role of human capital and organizational capabilities. Meanwhile, the Service-Dominant Logic (SDL) emphasizes value co-creation through interactions between service providers and consumers, placing human resource management (HRM) at the core of customer experience enhancement.

In parallel, artificial intelligence adoption in organizations has accelerated

significantly, with usage increasing from stable rates between 2021 and 2023 to 72% in 2024 (McKinsey Global Institute, 2024). This global trend is mirrored in Indonesia through the rapid expansion of platforms such as Shopee, which has experienced a 250% rise in transaction volume over three years, making Indonesia the largest e-commerce market in Southeast Asia (Statista, 2024). However, this growth is accompanied by what scholars describe as the "digital paradox." While digital technology improves operational efficiency and access, it also introduces new HRM challenges such as gaps in digital competency and higher customer expectations.

The transformation of HR practices is driven by factors including digital demands from internal stakeholders, rapid innovation, and the governance challenges of digital systems (Gartner, 2024). In Shopee's case, digital interactions between employees and customers represent key moments that can shape service quality and, ultimately, business performance (Mock, 2022). Unfortunately, most existing research in digital HRM has focused on developed economies, leaving a gap in understanding within the Southeast Asian context, particularly Indonesia (Noor, 2023). Furthermore, prior studies often utilize direct-effect models and overlook the potential mediating role of service quality between HRM and customer satisfaction (Parasuraman et al., 2021).

Another challenge lies in understanding which dimensions of electronic service quality most influence consumer behavior in digital marketplaces. Many e-service models are adapted from traditional retail settings, potentially missing the nuances of online platforms. Likewise, the connection between digital HRM and organizational resilience is still underexplored, especially in volatile markets where adaptability becomes essential for long-term competitiveness (Al-Harazneh & Sila, 2021).

Recent scholarship also notes a growing convergence between artificial intelligence and HRM. Rather than replacing human labor, AI should support human capital development through augmented collaboration (Fenwick et al., 2024; Arslan et al., 2021). Despite its critical role in shaping customer satisfaction, the integration of AI within HR systems remains uneven (Du, 2024). This underscores the need for a more strategic and human-centered approach to digital HRM.

This study introduces a mediation model connecting digital HRM competencies to customer satisfaction, with service quality acting as the intermediary. It contributes to the theoretical development of RBV, SDL, and digital transformation frameworks in the Indonesian context. As Shopee's increasing gross merchandise value indicates the rise of digital commerce, human capital is increasingly recognized as a vital lever for achieving sustainable competitive advantage.

In this context, the transition from a product-oriented to a customer-oriented business model highlights the growing importance of HRM strategies that prioritize service experience and long-term value creation. HRM is increasingly recognized as a strategic driver of competitive advantage, particularly through investments in digital competencies and human capital excellence. This study is expected to provide practical insights for strengthening human capital policies in Indonesia's digital economy.

LITERATURE REVIEW

The Resource-Based View (RBV) emphasizes that a firm's internal resources such as human capital, technology, and organizational capabilities are key to achieving sustainable competitive advantage. In the context of digital HRM, RBV highlights the strategic value of digital competencies and innovative HR practices in enhancing performance. The Service-Dominant Logic (SDL) shifts the focus from goods to services, suggesting that value is co-created through interactions between providers and customers. This perspective is relevant in understanding how HRM practices contribute to employee and customer satisfaction through service-oriented approaches. Meanwhile, the Stakeholder Theory underscores the importance of considering the interests and expectations of all stakeholders such as employees, customers, shareholders, and the community in organizational decision-making. This theory supports the integration of HRM strategies that align with broader social and ethical responsibilities, ultimately strengthening organizational legitimacy and performance.

Human Resource Management in the Digital Era

Human Resource Management (HRM) in the digital context has undergone significant transformation, requiring not only the adoption of new technologies but also a fundamental shift in how human capital is managed. Digitalization has reshaped HRM practices across various functions, including recruitment, training, performance appraisal, and employee engagement. As digital platforms become the primary interface between businesses and consumers, the role of HRM has expanded to ensure that employees possess the necessary digital competencies to operate effectively in such environments (Gadzali et al., 2023).

In this context, HRM quality can be evaluated through four key dimensions: employee digital skills, technology-based performance systems, continuous learning programs, and an adaptive organizational culture. These elements are particularly vital in e-commerce settings, where customer satisfaction is strongly influenced by the ability of employees to provide fast, personalized, and responsive digital services. Recent studies have further emphasized the strategic importance of HRM in enabling sustainable job performance and fostering innovative behaviors through digital transformation initiatives (Lou, Hong, & Li, 2024).

Service Quality in E-commerce

Service quality in e-commerce has distinct characteristics that differ from traditional service settings. Modern e-service quality frameworks increasingly emphasize dimensions such as responsiveness, personalization, and e-logistics. In platforms like Shopee, this includes secure transactions, seamless navigation, predictive delivery, and real-time customer support (Felix & Rembulan, 2023). High service quality can enhance consumer trust and encourage long-term loyalty. Research in the Indonesian digital service sector confirms that improved service touchpoints directly contribute to increased customer satisfaction and reuse intention (Jodiyosa & Tyas, 2025).

Customer Satisfaction in the E-commerce Context

Customer satisfaction in e-commerce is shaped by a complex interplay of factors, including product accuracy, transaction efficiency, delivery performance, and the responsiveness of customer service. In digital marketplaces, these elements are critical

touchpoints that influence consumer perception and behavior. Shailaja (2024) emphasizes that aspects such as user-friendly interfaces, personalized communication, and reliable delivery significantly impact customer satisfaction and retention rates. In a similar vein, Ofori (2024) found that improved user experience in fashion e-commerce platforms in Ghana led to higher levels of repeat purchases and brand loyalty. These findings suggest that satisfaction not only drives individual customer loyalty but also contributes to broader business success in competitive online environments.

Relationship Among Variables

The relationship between HRM, service quality, and customer satisfaction forms a complex model. Employees with high competencies and strong management support tend to deliver high-quality services. In turn, superior service quality enhances customer satisfaction. In this context, service quality serves as a mediating variable that links HRM quality to customer satisfaction.
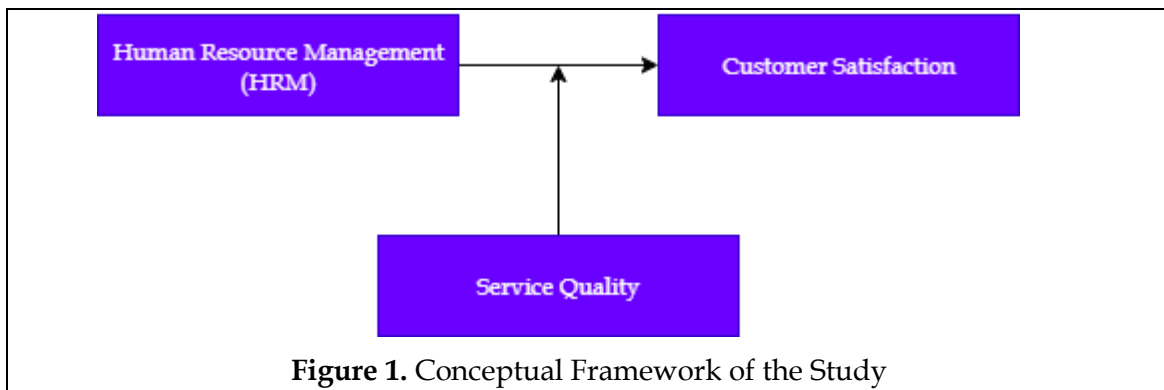

Figure 1. Conceptual Framework of the Study

METHODS

Research Design and Approach

This study employs a quantitative approach with an explanatory design to analyze the causal relationships among research variables. A positivist paradigm is adopted, utilizing a survey method to collect primary data from active Shopee consumers. A cross-sectional approach is chosen to capture the phenomenon at a specific point in time, enabling a comprehensive analysis of the interrelationships among variables within the context of contemporary e-commerce. E-commerce versus Digital Business Context essential to establish a clear conceptual distinction between e-commerce and digital business within the scope of this research. While the terms 'e-commerce' and 'digital' are frequently employed interchangeably in contemporary business discourse, they exhibit notable conceptual distinctions that are crucial for research precision. E-commerce (electronic commerce) is specifically defined as the buying and selling of goods or services conducted through electronic media, particularly the internet, with primary focus on online sales transactions from product offering to transaction completion, including payment and delivery processes. Conversely, digital business encompasses a broader scope, including all business aspects that utilize digital technology to operate, interact with customers, and create value across comprehensive business processes including marketing, customer service, and inventory management.

Population, Sample, and Sampling Technique

The target population consists of active Shopee users in the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, and Bekasi), representing approximately 35% of Shopee's total user base in Indonesia. Population criteria include individuals aged 18–55 years who have used the Shopee platform for at least six months, with a minimum of five transactions within the last three months. The sample size is set at 300 respondents, based on the SEM rule of thumb, which requires a 10:1 ratio between the sample size and the estimated parameters. A purposive sampling technique is employed, considering demographic representation and consumer behavior characteristics relevant to e-commerce.

Operationalization of Variables

The study variables are operationalized based on theoretical constructs that have been validated in prior research. The independent variable, human resource management (HRM) quality, is measured through four dimensions: employee digital competence (five indicators), technology-based performance management systems (four indicators), continuous development programs (four indicators), and adaptive work culture (three indicators).

The mediating variable, service quality, adapts the E-S-QUAL model with four dimensions: system efficiency (4 indicators), platform reliability (4 indicators), order fulfillment (3 indicators), and privacy security (3 indicators).

The dependent variable, customer satisfaction, is measured through four dimensions: product–expectation conformity (three indicators), ease of transaction processes (four indicators), delivery speed (three indicators), and customer service responsiveness (four indicators).

Research Instrument and Data Collection

The research instrument is a structured questionnaire utilizing a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) to measure respondents' perceptions of each construct. The questionnaire was developed in Indonesian and subjected to a back-translation process to ensure content validity. To further ensure the validity and reliability of the research instrument, the questionnaire underwent expert judgment validation by three academics specializing in consumer behavior and digital marketing, who assessed the relevance, clarity, and appropriateness of each item. Following expert validation, a pretest was conducted with 30 respondents from the target population to identify potential issues with question comprehension and response patterns. The pilot study results indicated satisfactory internal consistency, with Cronbach's alpha values exceeding 0.70 for all constructs, confirming the reliability of the measurement scales before full-scale data collection. Data were collected via an online survey using Google Forms, distributed through social media platforms, online communities, and the Shopee application. A snowball sampling strategy was applied to reach the target respondents. The data collection period lasted eight weeks, yielding a response rate of 78%.

Data Analysis Technique

Data analysis was conducted using the two-step approach in Structural Equation Modeling (SEM) with SPSS 28.0 and AMOS 24.0. The first stage involved evaluation of the measurement model through confirmatory factor analysis (CFA) to test convergent

validity, discriminant validity, and construct reliability. The second stage assessed the structural model to test research hypotheses and examine direct, indirect, and total effects. Mediation analysis was performed using the bootstrap procedure with 5,000 resampling iterations to ensure the robustness of the findings. SEM assumptions such as normality, linearity, and multicollinearity were tested prior to the primary analysis.

RESULTS

Respondent Characteristics

The results indicate that most respondents were aged between 25–35 years (45%), female (64%), and held a bachelor's degree (52%). Most respondents made purchases on Shopee between 5–10 times per month (38%), with an average monthly transaction value ranging from IDR 100,000 to 500,000.

Frequency Distribution

Table 1. Descriptive Statistics and Reliability Analysis

Variable	Mean	Std. Dev	Cronbach's Alpha	AVE	CR
HRM Quality	3.82	0.67	0.891	0.624	0.893
Employee Digital Competence	3.89	0.71	0.864	0.679	0.866
Performance Management System	3.76	0.68	0.847	0.641	0.849
Continuous Development Program	3.81	0.69	0.856	0.658	0.858
Adaptive Work Culture	3.82	0.65	0.832	0.672	0.835
Service Quality	3.91	0.63	0.904	0.697	0.906
System Efficiency	4.02	0.67	0.879	0.708	0.881
Platform Reliability	3.87	0.69	0.871	0.693	0.873
Order Fulfillment	3.94	0.65	0.863	0.681	0.865
Security and Privacy	3.81	0.71	0.845	0.706	0.847
Customer Satisfaction	4.12	0.58	0.924	0.742	0.926
Product-Expectation Fit	4.08	0.62	0.897	0.756	0.899
Transaction Ease	4.19	0.59	0.912	0.731	0.914
Delivery Speed	4.11	0.61	0.886	0.738	0.888
Service Responsiveness	4.09	0.64	0.903	0.742	0.905

Table 1 presents the descriptive statistics and reliability results for the three main variables: Human Resource Management (HRM) Quality, Service Quality, and Customer Satisfaction. The HRM quality construct received a mean score of 3.82 with a standard deviation of 0.67, reflecting generally positive respondent perceptions of Shopee's HR practices. A Cronbach's Alpha of 0.891 indicates excellent internal reliability. The AVE (Average Variance Extracted) of 0.624 and CR (Composite Reliability) of 0.893 confirm both convergent validity and construct reliability. Sub-variables such as Employee Digital Competence (mean = 3.89) and Adaptive Work Culture (AVE = 0.672) strengthen the construct. Service Quality had a slightly higher mean of 3.91 and a standard deviation of 0.63. A Cronbach's Alpha of 0.904 confirms high reliability. Its AVE (0.697) and CR (0.906) further support the construct's validity and consistency. Among the dimensions, System Efficiency scored the highest (mean = 4.02), while Security and Privacy also demonstrated adequate validity and reliability (AVE = 0.706, CR = 0.847). Customer Satisfaction reported the highest overall mean score

(4.12) with a standard deviation of 0.58, indicating high levels of satisfaction among Shopee users. A Cronbach's Alpha of 0.924 reflects excellent reliability, while AVE (0.742) and CR (0.926) show strong construct validity. The highest-rated sub-variable was Transaction Ease (mean = 4.19), followed by Delivery Speed and Service Responsiveness. Overall, all variables demonstrated high reliability (Cronbach's Alpha > 0.8), good convergent validity (AVE > 0.5), and strong composite reliability (CR > 0.7). These results affirm that the instruments used in this study are both valid and consistent for measuring the targeted constructs.

Table 2. Model Goodness of Fit Test Results

Index	Value	Cut-off Value	Interpretation
Chi-Square (χ^2)	486.32	–	–
df	227	–	–
χ^2/df	2.14	≤ 3.00	Good Fit
RMSEA	0.062	≤ 0.08	Good Fit
GFI	0.91	≥ 0.90	Good Fit
AGFI	0.89	≥ 0.90	Marginal Fit
CFI	0.94	≥ 0.90	Good Fit
TLI	0.93	≥ 0.90	Good Fit
NFI	0.91	≥ 0.90	Good Fit

Source: Research Data, 2025

Based on the model goodness-of-fit test results presented in Table 2, it can be concluded that the structural model demonstrates an acceptable fit to the data. The chi-square to degrees of freedom ratio (χ^2/df) is 2.14, which falls below the recommended threshold of 3.00, indicating a good fit. The RMSEA value of 0.062 is also within the acceptable limit (≤ 0.08), suggesting model adequacy. Other indices such as GFI (0.91), CFI (0.94), TLI (0.93), and NFI (0.91) all exceed the minimum requirement of 0.90, confirming strong model fit. The only indicator slightly below the cut-off is AGFI (0.89), categorized as marginal fit. Overall, the model is deemed suitable for further analysis.

Table 3. Hypothesis Testing Results (Direct Effects)

H	Path	Coefficient	S.E.	t-value	p-value	Interpretation
H1	HRM → Customer Satisfaction	0.387	0.092	4.207	0,000	Significant
H2	HRM → Service Quality	0.521	0.078	6.679	0,000	Significant
H3	Service Quality → Customer Satisfaction	0.678	0.084	8.071	0,000	Significant

Source: Research Data, 2025

Based on Table 3, all direct hypotheses were statistically supported. Hypothesis 1 (H1) confirms that Human Resource Management (HRM) has a significant positive effect on customer satisfaction (coefficient = 0.387; t-value = 4.207; $p < 0.001$). Hypothesis 2 (H2) indicates that HRM also significantly influences service quality (coefficient = 0.521; t-value = 6.679; $p < 0.001$). Lastly, Hypothesis 3 (H3) shows that service quality has the

strongest direct effect on customer satisfaction (coefficient = 0.678; t-value = 8.071; p < 0.001). Therefore, all three hypotheses are accepted.

The conceptual framework of this study illustrates a sequential relationship among three core constructs: Human Resource Management (HRM) quality, service quality, and customer satisfaction. This model proposes that improvements in HRM, particularly in employee digital competence, adaptive work culture, and continuous development, form the foundation for enhancing the quality of services delivered through digital platforms (Almashyakhi, 2022). When HRM practices are implemented effectively, employees become more capable of meeting technological demands and fulfilling customer expectations (Zhang & Chen, 2024). This results in improved system efficiency, service reliability, and customer responsiveness, which together define service quality in the e-commerce context.

The framework further suggests that superior service quality serves as a mediating variable that strengthens the influence of HRM on customer satisfaction. Customer satisfaction, in turn, is reflected through positive experiences in transaction processes, product conformity, delivery speed, and support responsiveness (Kotler & Keller, 2016). Through this relational model, the study integrates the Resource-Based View (RBV), which views HRM capabilities as strategic organizational resources (Barney, 2021; Uysal, 2020), and the Service-Dominant Logic (SDL), which emphasizes value creation through employee-customer interactions (Vargo & Lusch, 2004). The findings validate this model by showing that HRM has both a direct and an indirect impact on customer satisfaction through the mediating effect of service quality, supporting the need to examine layered or serial relationships within HRM-outcome models (Jnaneswar, 2024). Overall, the structural model provides a comprehensive explanation of how human capital investments contribute to customer-centric outcomes and sustained competitive advantage in digital business environments.

Table 4. Mediation Analysis Results

Effect	Coefficient	S.E.	Lower CI	Upper CI	p-value
Direct Effect (HRM → Satisfaction)	0.387	0.092	0.206	0.568	0,000
Indirect Effect (HRM → SQ → Satisfaction)	0.353	0.071	0.214	0.492	0,000
Total Effect	0.740	0.089	0.565	0.915	0,000
Variance Accounted For (VAF)	47.7%				

Source: Research Data, 2025

Table 4 shows that HRM significantly influences customer satisfaction both directly (β = 0.387, p < 0.001) and indirectly through service quality (β = 0.353, p < 0.001), with confidence intervals that do not cross zero, indicating statistically significant mediation. The total effect is 0.740. The Variance Accounted For (VAF) is used to determine the size of the mediation effect. It is calculated by dividing the indirect effect by the total effect, then multiplying by 100%. The Variance Accounted For (VAF) value of 47.7% suggests partial mediation, meaning that service quality partially mediates the relationship between HRM and customer satisfaction.

Table 5. The Result of Correlation Analysis Between Variables

Variable	1	2	3
Human Resource Management	1.000		
Service Quality	0.521	1.000	
Customer Satisfaction	0.612	0.745	1.000

Source: Research Data, 2025

As shown in Table 5, all variables in this study exhibit positive and moderately strong correlations. HRM quality correlates with service quality at 0.521, indicating that improvements in HRM practices are associated with better service quality. HRM also correlates with customer satisfaction at 0.612, reflecting its substantial influence. The highest correlation is between service quality and customer satisfaction (0.745), demonstrating a strong and direct relationship between these two constructs

DISCUSSION

The findings of this study offer significant contributions to understanding the complexity of the relationship between human resource management (HRM) quality, service quality, and customer satisfaction in the e-commerce context. The analysis revealed that the proposed model possesses strong explanatory power, with a total variance explained of 68.4% for customer satisfaction, demonstrating the theoretical robustness of the integrated model developed.

The Effect of HRM Quality on Customer Satisfaction

The results confirm that HRM quality has a positive and significant effect on customer satisfaction (β = 0.387, p < 0.001). This aligns with the findings of Bondarouk, Parry & Furtmueller (2017), who emphasized that digital HRM transformation creates a workforce that is more responsive to customer needs. In the context of Shopee, employees with strong digital competencies can deliver more personalized and effective customer touchpoints, which ultimately enhance customer satisfaction. The digital competence of employees was the strongest predictor (loading factor = 0.847) within the HRM quality construct, indicating that investments in digital upskilling and reskilling yield substantial returns in the form of increased customer satisfaction.

However, this relationship between HRM quality and customer satisfaction requires deeper critical examination within the Indonesian socio-economic context. The significant beta coefficient (0.387) may reflect the unique characteristics of Indonesia's digital economy, where consumers demonstrate higher tolerance for digital service variations due to rapid digitalization adoption patterns and collectivistic cultural values that emphasize relationship-building over transactional efficiency. Furthermore, the theoretical assumption that digital competence automatically translates to customer satisfaction overlooks the potential mediating role of cultural competence and local market understanding. In Indonesia's diverse archipelagic market, employees must navigate not only technological interfaces but also complex regional preferences, linguistic variations, and socio-economic disparities that influence customer expectations. This suggests that while RBV theory provides a foundational framework, its application in emerging markets requires consideration of contextual factors that may moderate the direct relationship between human capital quality and customer outcomes,

potentially explaining why the effect size, though significant, remains moderate rather than strong.

These findings support the Resource-Based View (RBV) theory, proposed by Barney (2021), which posits that human capital is a sustainable source of competitive advantage. Strohmeier (2020) further explains that digital HRM capabilities represent valuable and inimitable resources that can lead to superior performance. In the e-commerce environment, employees equipped with digital competencies are not only proficient in operating systems but also capable of anticipating customer needs and offering proactive solutions, as described by Cascio & Montealegre (2022) in their work on digital transformation in HRM.

The Effect of HRM Quality on Service Quality The relationship between HRM quality and service quality recorded the strongest coefficient in the model ($\beta = 0.521$, $p < 0.001$). This aligns with the Service-Profit Chain framework, which has been revisited and expanded by Hogreve et al. (2021), highlighting that employee satisfaction and competence remain foundational to achieving superior service delivery. In line with this, Astari and Pagalung (2023) provide contextual evidence from the tourism sector in Indonesia, reinforcing the role of HRM in shaping service quality through internal employee-focused strategies. These findings support the proposition that organizations implementing digital HRM practices effectively are better positioned to deliver high-quality services across digital platforms.

The substantial coefficient magnitude (0.521) warrants critical theoretical interrogation, particularly regarding the assumed linear relationship between HRM quality and service quality in Indonesia's unique e-commerce ecosystem. While the Service-Profit Chain theory provides Western-centric theoretical grounding, its direct application may oversimplify the complex dynamics of Indonesian digital commerce, where service quality perceptions are heavily influenced by cultural constructs such as "gotong royong" (collective responsibility) and hierarchical communication patterns.

The theoretical framework fails to address how digital HRM practices interact with traditional Indonesian organizational cultures that emphasize personal relationships and informal knowledge transfer mechanisms. Moreover, the strong coefficient may reflect methodological limitations rather than true causal strength, as common method variance and the cross-sectional design cannot capture the temporal dynamics of capability building in rapidly evolving digital markets. This raises questions about whether the observed relationship represents genuine organizational capability enhancement or merely correlational artifacts influenced by Indonesia's specific socio-economic transition patterns, where traditional service paradigms coexist with digital transformation imperatives.

This research also aligns with Utomo et al. (2024), who demonstrated that experiential learning models significantly enhance employee digital competencies and adaptability in dynamic environments. In Shopee's context, employee engagement in continuous development programs (loading factor = 0.823) has proven to significantly enhance their ability to deliver quality service. These findings resonate with Mayombe (2023), who emphasized the importance of non-school-based technical training in cultivating self-reliant and digitally skilled workers among marginalized populations, which is a model increasingly mirrored in fast-paced e-commerce ecosystems.

The Effect of Service Quality on Customer Satisfaction

Service quality emerged as the strongest predictor of customer satisfaction (β = 0.678, p < 0.001). This result is consistent with the research of Parasuraman et al. (2021), who found that electronic service quality has a positive and significant impact on customer satisfaction. In the e-commerce setting, customers hold high expectations for system efficiency, platform reliability, and service responsiveness, as discussed by Zeithaml et al. (2021) in their exploration of service quality within digital environments.

The exceptionally high coefficient (0.678) demands critical theoretical scrutiny, as it suggests an almost deterministic relationship that may oversimplify the multifaceted nature of customer satisfaction in Indonesia's heterogeneous digital marketplace. These findings challenge prevailing service quality theories that typically acknowledge more modest effect sizes, raising questions about whether the relationship reflects genuine service excellence or methodological artifacts inherent in customer satisfaction measurement within collectivistic cultures where respondents may exhibit acquiescence bias or social desirability responses.

Furthermore, the theoretical foundation rooted in Western service quality paradigms may inadequately capture the Indonesian context where customer satisfaction is deeply intertwined with cultural values such as "basa-basi" (politeness expectations) and patience tolerance levels that differ significantly from Western consumer behaviors. The dominance of system efficiency (loading factor = 0.892) over relational aspects contradicts anthropological research suggesting that Indonesian consumers, despite digital adoption, retain strong preferences for interpersonal connection and relationship-building in service encounters. This discrepancy indicates potential theoretical gaps in applying Western-derived service quality frameworks to Southeast Asian markets, where digital transformation occurs within pre-existing cultural frameworks that may moderate or reshape the service quality-satisfaction relationship in ways current theories fail to account for

Among service quality dimensions, system efficiency had the highest loading factor (0.892), indicating that ease and speed of interaction with the platform are critical for generating customer satisfaction. This aligns with the nature of digital consumers who prioritize convenience and instant gratification, as explained by Venkatesh et al. (2012) in their work on consumer behavior in digital platforms.

The Mediating Role of Service Quality

The mediation analysis shows that service quality plays a strong partial mediating role (VAF = 47.7%) in the relationship between HRM quality and customer satisfaction. This suggests that the effect of HRM on satisfaction occurs not only directly but also through the enhancement of service quality. These findings align with Pei et al. (2020), who emphasize that service-related constructs significantly mediate the relationship between internal capabilities and customer satisfaction. Similarly, Yo et al. (2021) confirm the critical role of service quality in influencing customer satisfaction within Shopee's digital ecosystem, further validating its position as an intervening variable.

The partial mediation finding (VAF = 47.7%) necessitates deeper theoretical interrogation regarding the assumed causal mechanisms underlying HRM-service quality-customer satisfaction relationships in Indonesia's distinctive socio-economic context. While mediation analysis provides statistical evidence of indirect effects, it fails

to address the theoretical complexity of how Indonesian organizational culture mediates these relationships through informal knowledge sharing networks and relationship-based service delivery that exist parallel to formal HRM systems. The moderate VAF value suggests substantial unexplained variance that may stem from contextual factors unique to Indonesia's transitional economy, where traditional service paradigms coexist with digital transformation imperatives, creating hybrid service delivery models not captured by Western theoretical frameworks. Furthermore, the theoretical assumption that service quality serves as a universal mediator overlooks the potential for reverse causation in collectivistic cultures, where customer satisfaction may actually drive service quality perceptions through relationship reciprocity expectations embedded in Indonesian cultural values. This challenges the linear mediation model's validity and suggests that indigenous theoretical frameworks considering "gotong royong" (mutual assistance) principles and hierarchical communication patterns may better explain the observed relationships than imported Western mediation theories

The significance of this mediation effect implies that investment in HRM yields a dual impact: a direct improvement in customer satisfaction and an indirect effect through enhanced service quality. This provides strong economic justification for investments in human capital development in e-commerce, as also evidenced by Colbert et al. (2022) in their study of digital HRM and organizational performance.

Theoretical Foundations for Digital HRM

This study reinforces several foundational theories in HRM, particularly as adapted to the digital context. First, the Resource-Based View (RBV) Theory (Barney, 2021) remains relevant, with HRM quality serving as a valuable, rare, inimitable, and non-substitutable (VRIN) resource that drives competitive advantage through superior customer satisfaction. Second, Human Capital Theory (Becker, 2020) posits that investments in employees' digital competencies result in higher service quality and improved customer satisfaction.

Nevertheless, applying these theoretical frameworks to Indonesia's organizational context requires careful consideration. Western-origin theories may not fully capture the interaction between digital transformation and deeply rooted cultural practices. For example, the assumption that the VRIN attributes of RBV operate universally overlooks the influence of Indonesian organizational norms, which are often shaped by paternalistic leadership patterns (commonly referred to as *bapakisme*) and group-based decision-making processes. These characteristics can significantly influence how resources are perceived and utilized, thereby affecting competitive outcomes.

Moreover, the individualistic assumptions of Human Capital Theory appear to contrast with Indonesia's collectivist values, where the development of knowledge and competencies typically occurs within community-based learning networks rather than through isolated individual efforts. In addition, the emphasis on Western models tends to marginalize indigenous perspectives that may offer deeper insights. For instance, the cultural practice of *silaturahmi*, or relationship maintenance, plays a key role in delivering excellent service but is rarely accounted for in conventional HRM theories.

Most importantly, the synthesis of these theories does not sufficiently address the tensions that may arise when they are applied simultaneously within emerging market environments. In Indonesia, digital transformation often unfolds within pre-existing

traditional organizational structures. This creates hybrid management paradigms that are difficult to explain using purely Western theoretical lenses.

Third, the updated Service-Dominant Logic (Vargo & Lusch, 2016) highlights employees as co-creators of value within the service ecosystem, reinforcing their strategic importance in shaping customer experiences. Fourth, digital transformation in HRM, as described by Lou et al. (2024), involves not only adopting digital technologies but also rethinking how human capital is managed to promote innovation and sustainability. Fifth, Stakeholder Theory remains relevant. Recent applications (Hörisch et al., 2014) show that effective management of internal stakeholders, such as employees, contributes to positive outcomes for external stakeholders, including customers.

CONCLUSION

This study confirms that the quality of digital human resource management (digital HRM) has a significant effect on customer satisfaction in the Indonesian e-commerce context. Among the various indicators, employee digital competence emerged as the most influential factor, underscoring the importance of continuous upskilling programs in enhancing service quality.

The findings also highlight that customer satisfaction is shaped not only by digital platform interactions but also by an organization's capacity to empower employees to deliver adaptive and value-driven service. Service quality plays a mediating role, strengthening the relationship between HRM quality and customer satisfaction.

In Indonesia's rapidly evolving digital market, organizations must reposition HRM as a strategic function aligned with customer-centric goals and capable of leveraging digital transformation to build sustainable competitive advantage. Future research is recommended to explore long-term effects and industry-specific variations, given the ongoing technological shifts that continuously reshape customer expectations and organizational capabilities.

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