

# STRENGTHENING DIGITAL LITERACY, FINANCIAL MANAGEMENT, AND SPECIAL SKILLS TO FACE HUMAN RESOURCES MANAGEMENT MARKET COMPETITION

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## Article history:

Received

17 July 2024

Revised

13 November 2024

Accepted

30 January 2025

Available online

31 May 2025

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## Abstract:

**Background:** In a rapidly changing labor market, three factors are essential: ownership of digital literacy, financial management skills, and specialized knowledge in increasing competitiveness in HR Management. These three factors are relevant to technological developments and market needs, so it is also essential for companies to implement the right strategy to achieve high competitiveness.

**Purpose:** This paper aims to analyze digital literacy, financial management, and special skills in the context of human resources management market competition and simultaneously analyze all independent variables with the dependent variable.

**Design/methodology/approach:** This research design uses a quantitative approach. The study population consisted of 158 managers of financial institutions in Bekasi, with a sample size of 158 managers selected. The respondents were selected through the random sampling method. The data analysis technique uses multiple linear regression analysis.

**Findings/Result:** The research results show that the variables Digital Literacy, Financial Management, and Special Skills have a positive and significant effect on Human Resources Management Market Competition. Moreover, all independent variables have a significant effect on Human Resources Management Market Competition by 54.4%, while the remainder is influenced by other variables.

**Conclusion:** Digital literacy, financial management, and special skills collectively form a powerful arsenal for HR professionals seeking to excel in the market.

**Originality/value (State of the art):** This study contributes to the limited empirical literature by quantitatively assessing the combined impact of digital literacy, financial management, and special skills on HR market competitiveness, offering practical insights for HR strategy development in the context of emerging market economies.

**Keywords:** digital literacy, financial management, special skills, human resources management, market competition

## How to Cite:

Usmar U., Sismiati S., Sulaiman S., & Lanori T. (2025). Strengthening Digital Literacy, Financial Management, and Special Skills to Face Human Resources Management Market Competition. *Jurnal Aplikasi Bisnis Dan Manajemen*, 11(2), 715. <https://doi.org/10.17358/jabm.11.2.715>

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## INTRODUCTION

The rapid advancement of digital technology and the intensifying competition in the labor market compel organizations to be more selective in recruiting and retaining human resources capable of adapting. In this Industry 4.0 era, companies seek candidates who not only possess technical competencies but also demonstrate digital literacy, financial management skills, and specialized expertise aligned with business needs. The fierce competition in the HRM market requires organizations to understand how digitalization is transforming recruitment, training, and performance management processes while also identifying emerging skill gaps. Without a deep comprehension of employees' digital and financial backgrounds, organizations risk falling behind in attracting top talent, especially in environments that are rapidly changing due to crises and technological transformations.

Previous studies have emphasized the importance of digital literacy, financial management, and specialized skills from various perspectives (Audrin et al. 2024; Deschênes, 2024). For instance, Shatila et al. (2025) shows that digital literacy and digital accessibility supported by human capital enhance innovation and entrepreneurial resilience, particularly when moderated by agility. These findings suggest that HR professionals and employees with high digital literacy can respond more agilely to disruptions. Likewise, Al-shami et al. (2024) reveals that financial literacy and digital financial literacy among Indonesian batik SMEs significantly improve financial inclusion, with online social networks strengthening these effects (Al-Shami, 2024). Dabić et al. (2023) highlights the utopian and dystopian aspects of digitalization. While it creates opportunities for developing specialized skills, it also generates risks of mismatches and job insecurity if those skills are not adequately balanced (Bedemariam & Ramos, 2021). Meanwhile, Ruiz et al. (2024) demonstrates that a digital HR strategy integrating HR processes with technology drives organizational performance, implying that HR must combine digital literacy, financial acumen, and specialized expertise to manage recruitment and retention effectively.

Although the literature has examined digital literacy, financial management, and specialized skills individually, few studies analyze how all three simultaneously influence HRM competitiveness. In the context of an increasingly complex labor market,

organizations need to understand the interactions among these competencies to formulate comprehensive human capital development policies. Drawing on the resource-based view and dynamic capabilities theory, this study aims to test the simultaneous effects of digital literacy, financial management, and specialized skills on HRM competitiveness measured through recruitment efficiency, employee retention, and organizational agility and to elucidate the interaction mechanisms among these variables. By doing so, this research is expected to contribute to both HRM theory and practice in addressing labor market competition in an era defined by digital and financial complexity.

Research on competencies driving organizational competitiveness has extensively examined digital literacy, financial management, and specialized skills, but often in isolation or within narrow contexts. Studies on digital literacy have focused primarily on entrepreneurial resilience and innovation. For example, Shatila (2025) demonstrates that digital literacy and digital accessibility, when underpinned by human capital, significantly enhance entrepreneurial resilience in Qatar and the UAE, especially when agility moderates these effects. Similarly, Robertsons & Lapiņa (2023); Kraus et al. (2022) and Verhoef (2021) map the broader evolution of digital transformation, emphasizing that digital capabilities must be continuously developed to sustain competitive advantage. Within HRM specifically, Ruiz et al. (2024) introduces the concept of a digital HR strategy, showing empirically that integrating HR processes with digital technologies yields performance gains. However, empirical evidence directly linking employee-level digital literacy to HRM outcomes (e.g., recruitment efficiency or retention) remains limited.

In parallel, financial management competencies, particularly digital financial literacy, have been analyzed in various entrepreneurial and SME settings. Al-shami et al. (2024) finds that, among Indonesian batik SMEs, both financial literacy and digital financial literacy drive financial inclusion, with online social networks amplifying this relationship. Although such findings underscore the strategic importance of financial acumen (and its digital extension) for business performance, there is scant research examining how these competencies affect HRM-specific indicators such as talent acquisition or retention. Moreover, financial management in the existing literature is often treated as a standalone skill set rather than an integral

component interacting with digital and specialized skills within HRM processes.

Specialized skills in the digital era have been conceptualized through contrasting utopian and dystopian lenses. Dabić et al. (2023) synthesizes four theoretical streams to illustrate that digitalization can polarize jobs and create both opportunities and risks, such as skill mismatches, if employees do not acquire relevant specialized competencies (e.g., data analytics, platform management). While this literature offers valuable insights into the changing nature of work, most studies stop short of empirically linking specialized skill sets to HRM competitiveness. Taken together, the three domains of digital literacy, financial management, and specialized skills have each been recognized as critical contributors to organizational success, yet no comprehensive framework exists that simultaneously assesses their relative and joint influence on HRM market competition.

This study's primary novelty lies in its simultaneous examination of digital literacy, financial management, and specialized skills as independent variables influencing HRM competitiveness. Whereas existing research typically investigates one competency in isolation, such as digital literacy's role in entrepreneurial resilience (Shatila et al. 2025) or financial literacy's impact on SME inclusion (Al-Shami et al. 2024), our approach integrates all three within a single, unified model. This allows for the assessment of both direct effects and interaction mechanisms among competencies, addressing a critical gap in the literature regarding how these skill sets jointly shape HRM outcomes (e.g., recruitment efficiency, employee retention, organizational agility).

Methodologically, the study applies structural equation modeling (SEM) to survey data collected from HR professionals and employees across diverse industries. By incorporating SEM, we can test complex mediation and moderation relationships, such as whether specialized skills moderate the link between digital literacy and HRM competitiveness or whether financial management mediates the effect of digital literacy on retention rates. This advanced analytical strategy moves beyond simple regression frameworks used in prior studies (e.g., Al-Shami et al. 2024; Ruiz et al. 2024), providing deeper insights into the dynamic interplay of competencies.

Theoretically, our research extends the resource-based view (RBV) and dynamic capabilities perspective into the HRM domain. While RBV emphasizes the strategic importance of firm-specific assets (e.g., human capital) and dynamic capabilities stress adaptability in rapidly changing environments, most literature applies these theories to firm-level digital transformation (Kraus et al. 2022; Verhoef et al. 2021) or entrepreneurial settings (Shatila et al. 2025). By foregrounding HRM competitiveness as the dependent outcome, we bridge a conceptual gap demonstrating how individual-level competencies aggregate into organizational capabilities that enhance market positioning.

Finally, by focusing specifically on HRM market competition, this study offers practical novelty for HR leaders. We identify which competency combinations most strongly predict key HRM performance metrics, thereby enabling targeted training and recruitment strategies. In doing so, the research advances both academic understanding and actionable guidance on how organizations can cultivate a workforce equipped to thrive amid digital disruption and financial complexity.

To strengthen digital literacy, financial management, and specialized skills in order to face HRM market competition, we develop a conceptual model rooted in resource-based and dynamic capabilities perspectives, positioning these three competencies as critical levers of HRM competitiveness measured through recruitment efficiency, employee retention, and organizational agility and employ regression analysis on survey data collected from HR professionals and employees across diverse industries. We refine our survey by adapting validated scales to assess levels of digital literacy (such as proficiency with HR information systems and analytics), financial management (including budgeting and digital payroll tools), and specialized skills (for example, data analytics and platform administration), then use stratified random sampling across firm sizes and sectors to ensure representativeness. After confirming construct validity via confirmatory factor analysis, we test the direct effects of each competency on HRM competitiveness, introduce interaction terms (digital literacy  $\times$  financial management, digital literacy  $\times$  specialized skills) to examine how strengthening one competency amplifies another's impact.

This study aims to analyze the individual and joint effects of digital literacy, financial management, and specialized skills on HRM market competitiveness by

developing a conceptual model grounded in resource-based and dynamic capabilities perspectives and testing it via multiple linear regression.

## **METHODS**

The object of this study comprises all 158 financial managers working in Bekasi, Indonesia. Rather than sampling a subset, we conducted a census by surveying the entire population to ensure comprehensive coverage and maximize result reliability. Assumptions: Respondents' self-reported measures accurately reflect their actual levels of digital literacy, financial management skills, specialized competencies, and perceptions of HRM market competition, with minimal social desirability or response bias. Simplifications: HRM Market Competition is treated as a unidimensional dependent construct, consolidating recruitment efficiency, retention, and agility into a single composite score rather than modeling each subdimension separately. Contextual factors such as firm-level culture, external economic fluctuations, and industry-specific regulations are held constant across all respondents, under the assumption that their effects on the dependent variable do not vary significantly within the Bekasi financial manager population.

The study population includes all 158 financial managers in Bekasi. Since this research employed a census approach, every member of the population was invited to participate. Data collection occurred over a two-week period in 2024. Ultimately, 158 complete questionnaires were returned, achieving a 100% response rate. A structured questionnaire was constructed on the basis of established theoretical frameworks and validated instruments describing. Digital Literacy (DL): Comprising five items that measure respondents' proficiency with HR information systems (HRIS), e-recruitment platforms, and HR analytics tools. Financial Management (FM). Comprising five items assessing capabilities in budgeting, use of digital payroll/compensation systems, and interpretation of financial reports in HR contexts. Special Skills (SS). Comprising five items that gauge domain-specific competencies such as workforce data analytics, learning-management-system administration, and strategic workforce planning techniques. HRM Market Competition (HRM-MC). Comprising six items covering perceived recruitment efficiency (time-to-fill, quality of hire), employee retention (turnover

intention, actual turnover rate), and organizational agility (responsiveness to market changes, ability to redeploy talent quickly). Measurement Scale: All items utilized a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Higher scores indicate greater agreement or higher self-assessed competence (for DL, FM, SS) and stronger perceived competitiveness levels (for HRM-MC).

This study employed multiple linear regression analysis to examine the influence of the independent variables Digital Literacy, Financial Management, and Special Skills on the dependent variable, Human Resources Management Market Competition. The analysis was conducted using SPSS version 25, which ensured accurate and reliable statistical processing.

### **Digital Literacy with Human Resources Management Market Competition**

An organization's strategic action plan for utilizing digital technology to accomplish its objectives is contained in its digital strategy. This includes using digital tools and platforms to create customer value, streamline operations, and drive progress (Ng et al. 2021). Seeing the relationship between the two variables from several studies, companies should analyze the development of the digital era, update and improve HR management resources, fully mobilize the enthusiasm of employees, encourage employees to maximize value in their work tasks, and help companies move to a better stage of development (Yuliantini et al. 2024). The journey of digitizing human resources has seen significant advancements, particularly in artificial intelligence (AI) recruitment (Li et al. 2022).

AI approaches ensure interviews are managed quickly and cost-effectively throughout the recruitment process. AI facilitates the improvement of various Human Resources (HRM) department functions, including training, onboarding, and career planning. The need to create a culture of consumption. Consciously, the importance of considering the aspects of planetary synergy is emphasized so that each country does not lose its identity but does not oppose the world trend and does not form its own digital culture determined by scientific, technological, social, economic, and educational development programs. The trend of digital consumption has a significant impact on personal and social life and the business environment, and digital transformation will continue at high speed in the

future (Jayawardena et al. 2023; Rejman Petrovic et al. 2022; Verhoef et al. 2021; Wang et al. 2020). Based on the existing references of the two variables related to the evidence of research results between these two variables, the proposed hypothesis in this paper is as follows:

H1: Digital literacy has a significant effect on HR Management Market Competition.

### Financial Management with Human Resources Management Market Competition

Financial management means managing an organization's financial resources to achieve its objectives, including planning, organizing, directing, and directing financial functions such as budgeting, accounting, financial reporting, and investment management (Meles et al. 2016). Financial management can have an impact on human resource management market competition; financial management is a critical skill that helps people make informed decisions about their finances, including budgeting, saving, investing, and debt management; people who are good at financial management experience less financial stress, make better career decisions, and are better prepared for retirement, related to human resource management, financial management can improve service quality and overall organizational effectiveness across a range of industries (García Castro et al. 2021; Tsai, 2018). The proposed hypothesis in this paper is as follows:

H2: Financial management skills significantly affect HR Management Market Competition.

### Special Skills in Human Resources Management Market Competition

Special skills can be defined as a person's ability or expertise in a particular field or area. Specialized skills can be acquired through education, training, or experience and are transferable or specific to a particular

job or industry. Examples of specialized skills include basic accounting skills, financial reporting skills, communication skills, e-learning, specialized data analysis skills, machine learning or advanced design techniques, specialized skills related to women's employment laws, and specialized parts required in the local workforce (Jafari Navimipour et al. 2015). The impact of HR implementation on business strategy in creating sustainable competitive advantage, unique skills to manage organizational environment and resources can be a source of competitive advantage for organizations (Banmairuoy et al. 2021). Based on the results of existing research related to the variables in this paper, the proposed hypothesis is:

H3: Special skills have a significant effect on HR Management Market Competition.

The conceptual framework guiding this study, as illustrated in Figure 1, outlines the relationships between Digital Literacy, Financial Management, and Special Skills as independent variables and Human Resources Management Market Competition as the dependent variable.

## RESULTS

The data was processed using data collection tools. Based on the predetermined number of respondents, 158 questionnaires were distributed and returned. After sorting the questionnaires, it was found that they met the criteria and were suitable for analysis. Furthermore, data analysis and interpretation were carried out using SPSS 25.00 to answer previously formulated research questions. The results provide insights into each of the variables studied, namely digital literacy (X1), financial management (X2), and human resource competition (Y), particularly in financial institutions. This knowledge is detailed in the next section of the data description.

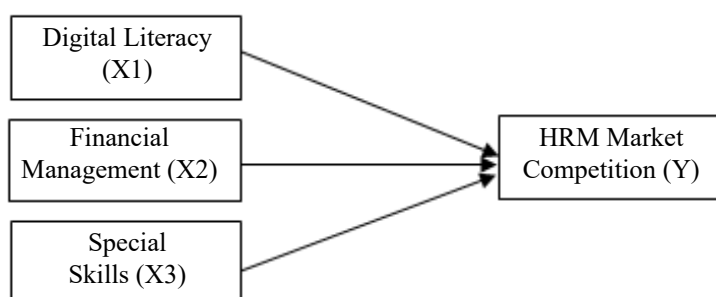


Figure 1. Research framework

## Normality Test Results

Based on Table 1, the significance value (2-tailed) of the Digital Literacy variable (X1) is 0.118, the Financial Management variable (X2) is 0.40, while for Special Skills (Y) is 0.411. All three significance values (2-tailed) of the measuring instrument are above 0.05, so the data is said to be normally distributed.

## Multiple Linear Regression Analysis

Table 2 presents the estimation results from the multiple regression of the research model. Effect Digital Literacy (X1) on Human Resources Management Market Competition (Y). Based on the coefficients table 2, the t count value for the Environmental Literacy variable (X1) is 5.248, while the t table value for N = 158 is 1.962. So  $4.898 > 1.962$ , then  $H_0$  is rejected, and  $H_a$  is accepted; it can be stated that Digital Literacy (X1) has a significant effect on HR Market Competition (Y). Effect Financial Management (X2) on Human Resources Management Market Competition (Y). Based on the coefficients Table 2, the t count value for the Financial

Management (X2) variable is 5.282, while the t table value for N = 158 is 1.962. So  $3.737 > 1.962$ , then  $H_0$  is rejected, and  $H_a$  is accepted, it can be concluded that partially, the Financial Management variable (X2) affects HR Market Competition (Y). Effect Special Skills (X2) on Human Resources Management Market Competition (Y). Based on the coefficients Table 2, the t count value for the Special Skills (X2) variable is 8.8242, while the t table value for N = 158 is 1.962. So,  $8.824 > 1.962$ ,  $H_0$  is rejected, and  $H_a$  is accepted. It can be concluded that the Special Skills variable (X2) partially affects HR Market Competition (Y).

From the results in the Table 2, testing is carried out jointly between the three variables, and based on the Model Summary table, the R Square result is 0.544. This shows that 54.4% of Digital Literacy Variables (X1), Financial Management (X2), and Special Skills (X3) simultaneously affect HR Market Competition (Y), while the rest is influenced by other factors not examined. Digital literacy has become a cornerstone in HRM, encompassing the ability to use, understand, and leverage digital technologies effectively.

Table 1. The result of Normality

Control Variables			Digital Literacy	Financial Management	Special Skills
Human Resources	Digital Literacy	Correlation	1.000	0.118	0.411
		Significance (2-tailed)	.	0.140	0.000
		df	0	155	155
Management Market Competition	Financial Management	Correlation	0.118	1.000	0.098
		Significance (2-tailed)	0.140	.	0.220
		df	155	0	155
	Special Skills	Correlation	0.411	0.098	1.000
		Significance (2-tailed)	0.000	0.220	.
		df	155	155	0

Table 2. Multiple Linear Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	13.319	2.719		4.898	0.000
Digital Literacy	0.022	0.069	0.021	0.320	0.749
Financial Management	0.185	0.049	0.222	3.737	0.000
Special Skills	0.476	0.054	0.609	8.824	0.000

The findings of this study offer important insights into how digital literacy, financial management, and special skills contribute to competitiveness in the Human Resources Management (HRM) market. The regression results reveal varying levels of significance among the independent variables in influencing HRM market competition.

First, digital literacy showed a positive but statistically insignificant effect on HRM market competition ( $\beta = 0.021$ ,  $t = 0.320$ ,  $p = 0.749$ ). This suggests that while digital literacy may be foundational, it alone is not a strong determinant of competitive advantage in the HR sector. These findings align with Shatila (2025), who emphasizes that digital literacy must be complemented by other digital capabilities and agility to meaningfully impact entrepreneurial resilience and competitiveness. In the context of HR, it may be that digital literacy serves as a necessary but not sufficient condition, requiring integration with higher-order digital competencies or strategic implementation to yield tangible advantages.

In contrast, financial management demonstrated a statistically significant positive effect ( $\beta = 0.222$ ,  $t = 3.737$ ,  $p < 0.001$ ), indicating that financial competence plays a crucial role in strengthening the strategic positioning of HR professionals and institutions. This result corroborates the findings of Al-Shami (2024), who showed that financial literacy enhances financial inclusion and sustainability for SMEs. In the HR context, proficient financial management supports better resource allocation, performance-based budgeting, and long-term organizational resilience factors essential for navigating market competition.

The most substantial impact was observed for special skills, which exhibited the strongest and most significant influence on HRM market competition ( $\beta = 0.609$ ,  $t = 8.824$ ,  $p < 0.001$ ). This finding underscores the importance of domain-specific competencies such as data analytics, talent management, strategic leadership, or emotional intelligence in securing competitive advantage. This aligns with the observations of Dabić et al. (2023), who emphasized the shift in workplace dynamics due to digitalization and the need for specialized capabilities to adapt to evolving demands. It also supports Ruiz (2024), who demonstrated that a digitally informed HR strategy boosts organizational performance.

Collectively, these results highlight the differentiated impact of individual competencies. While digital literacy forms a basic layer of readiness, financial acumen and special skills are more directly linked to tangible market competitiveness in HRM. Practitioners, educators, and policymakers should consider these findings when designing HR development programs, prioritizing not only digital awareness but also practical financial and specialized skill training to fully prepare the workforce for dynamic HRM challenges.

### Managerial Implications

The results of this study carry significant implications for HR managers, organizational leaders, and training institutions aiming to strengthen competitiveness in the Human Resources Management (HRM) market. The strong influence of special skills and financial management competencies on HRM market competition underscores the need for targeted investment in human capital development.

First, HR managers should prioritize the enhancement of special skills among their workforce. This includes not only technical competencies such as data-driven HR analytics, talent forecasting, and strategic workforce planning but also soft skills such as communication, adaptability, and leadership. Organizations can achieve this through specialized training programs, certifications, and mentoring initiatives aligned with market demands and technological shifts.

Second, financial management capabilities should be considered a core competency for HR professionals. Understanding budgeting, cost control, and economic analysis empowers HR personnel to contribute more strategically to organizational goals. Therefore, companies are advised to integrate financial literacy modules into their HR development frameworks and leadership pipelines.

Although digital literacy did not show a significant statistical impact in this study, it remains a foundational skill. Managers should ensure a baseline level of digital proficiency across teams, particularly as technology continues to transform HR functions. However, efforts should be focused not only on basic literacy but also on cultivating digital fluency and the ability to leverage digital tools strategically for innovation and efficiency in HR practices.

Lastly, policy-makers and educators must tailor curricula and certification standards to reflect the current labor market landscape, embedding financial and specialized skill development into vocational and professional education tracks.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

This study concludes that among the three independent variables analyzed digital literacy, financial management, and special skills only financial management and special skills have a significant influence on the competitiveness of human resource management in the market. Digital literacy, while conceptually important in the digital era, did not show a statistically significant effect within the context of this study. The findings underscore that practical financial capabilities and specialized competencies are more directly correlated with the ability to compete in the HR market, particularly in the dynamic and competitive business environment of Bekasi.

### Recommendations

It is recommended that organizations and educational institutions prioritize the enhancement of financial management and specialized skills training for their human capital to improve competitiveness in the HR market. Although digital literacy did not have a significant statistical impact, it should not be overlooked, as it remains a fundamental competency in adapting to future technological developments. Policymakers, HR professionals, and training institutions should adopt a more integrative approach by combining financial acumen and industry-specific skills in capacity-building programs to ensure a workforce that is both agile and strategically competitive.

**FUNDING STATEMENT:** This research did not receive any specific grant from public, commercial, or not-for-profit funding agencies.

**CONFLICTS OF INTEREST:** The author declares no conflict of interest.

**DECLARATION OF GENERATIVE AI STATEMENT:** During the preparation of this work the authors used ChatGPT in order to check grammar and polish text. After using this tool/service, the authors reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

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