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TALENT MANAGEMENT AND DIGITAL COMPETENCE ON SUSTAINABLE ORGANIZATIONAL PERFORMANCE: THE MODERATING ROLE OF ORGANIZATIONAL CULTURE IN SMEs IN BANTEN, INDONESIA

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ABSTRACT

The pursuit of sustainable organizational performance encompassing financial viability, environmental stewardship, social responsibility, and long-term innovation capacity has become a defining strategic challenge for SMEs operating in Indonesia's rapidly digitizing economy. This study examines the effects of talent management and digital competence on sustainable organizational performance, with organizational culture serving as a key moderating variable, among SMEs in Banten Province Indonesia's fastest-growing province by GDP growth rate and home to one of the nation's most dynamic manufacturing and technology industrial ecosystems centered on the Tangerang industrial corridor. Drawing on the Resource-Based View (Barney, 1991), Dynamic Capabilities Theory (Teece et al., 1997), and Stakeholder Theory (Freeman, 1984), a moderated structural model is developed and empirically tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) on a stratified random sample of 321 SME managers, directors, and senior employees. Results confirm that talent management ($\beta = 0.348$, $p < 0.001$) and digital competence ($\beta = 0.372$, $p < 0.001$) both significantly predict sustainable organizational performance, with digital competence demonstrating the stronger direct effect. Organizational culture ($\beta = 0.284$, $p < 0.001$) also directly predicts sustainable performance. Critically, organizational culture significantly and positively moderates both the talent management– sustainable performance relationship (β interaction = 0.213, $p < 0.001$) and the digital competence–sustainable performance relationship (β interaction = 0.229, $p < 0.001$). Multi-group analysis reveals that in high organizational culture enterprises, the talent management–performance path coefficient doubles ($\beta = 0.483$ vs. 0.241) and the digital competence–performance path coefficient more than doubles ($\beta = 0.512$ vs. 0.254) relative to low organizational culture counterparts. The model explains 63.4% of variance in sustainable organizational performance ($R^2 = 0.634$). The study proposes the Talent-Digital-Culture Sustainability (TDCS) framework and provides evidence-based recommendations for SME practitioners, HR development agencies, and sustainable business policymakers in Banten and analogous rapidly industrializing provinces.

Keywords: *talent management; digital competence; organizational culture; sustainable organizational performance;*
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1. INTRODUCTION

The concept of sustainable organizational performance extending organizational success beyond short-term financial metrics to encompass long-term environmental stewardship, social responsibility, governance integrity, and innovation capacity has gained unprecedented strategic prominence in the post-pandemic global economy. For SMEs in Indonesia, which collectively constitute 99.9% of all business entities, employ 97% of the workforce, and contribute approximately 61.07% of GDP (Kementerian Koperasi UKM, 2023), the transition to sustainable performance models is not merely a voluntary ethical commitment but an increasingly mandatory competitive requirement driven by supply chain sustainability mandates, ESG-conscious consumer behavior, and evolving regulatory frameworks.

Banten Province presents an especially compelling context for investigating sustainable performance determinants in SMEs. As Indonesia's fastest-growing provincial economy with a GDP growth rate consistently exceeding the national average over the past decade Banten is anchored by the Tangerang industrial corridor, which hosts over 5,000 manufacturing enterprises, a rapidly expanding technology and fintech startup ecosystem, and one of Indonesia's largest formal labor markets. The province's SME sector comprising over 287,000 registered enterprises employing 2.4 million workers (Dinas Koperasi UKM Banten, 2024) operates at the intersection of global supply chain integration and domestic market development, creating simultaneous pressure from sustainability requirements from international buyers and the operational demands of rapid digital market transition.

Two organizational capabilities emerge as critical determinants of sustainable performance in this environment: talent management and digital competence. Talent management the systematic process of attracting, developing, retaining, and deploying high-potential individuals to meet current and future organizational needs (Collings & Mellahi, 2009; Lewis & Heckman, 2006) determines the human capital foundation upon which sustainable competitive advantage is built. Digital competence the organizational capability to effectively deploy digital technologies, data analytics, and digital platforms to create, communicate, and deliver sustainable value (Vuorikari et al., 2022; Vial, 2019) determines the technological infrastructure through which sustainable performance objectives are operationalized in the digital economy.

Critically, both talent management and digital competence operate within organizational contexts defined by organizational culture the shared values, beliefs, norms, and behavioral patterns that constitute an organization's psychological environment (Schein, 2010; Cameron & Quinn, 2011). Organizational culture has been theorized as a moderating variable that either amplifies or constrains the performance returns from strategic resource investments: a culture of innovation, collaboration, and continuous learning creates enabling conditions that multiply the performance impact of talent and digital investments, while risk-averse, hierarchical, or change-resistant cultures systematically dampen those returns.

Despite the theoretical significance of these relationships, empirical research examining the joint effects of talent management, digital competence, and organizational culture moderation on sustainable organizational performance in SME contexts remains limited in the Indonesian and Southeast Asian literature. The present study addresses this gap through four objectives: (1) to examine the direct effects of talent management and digital competence on sustainable organizational performance; (2) to analyze organizational culture's direct effect on sustainable performance; (3) to test organizational culture's moderating role in both the talent management–performance and digital competence–performance relationships; and (4) to propose the Talent-Digital-Culture Sustainability (TDCS) framework as an integrated management model for sustainable SME development.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Talent Management and Sustainable Organizational Performance

Talent management, conceptualized by Collings and Mellahi (2009) as the systematic identification of key positions that differentially contribute to sustainable competitive advantage, and the development of a talent pool to fill those positions, has evolved from an HR administrative function to a core strategic organizational capability. The Resource-Based View (Barney, 1991) provides the foundational rationale: talent management systems that attract, develop, and retain high-potential individuals create a VRIN (valuable, rare, inimitable, non-substitutable) human capital base that competitors cannot easily replicate, generating sustainable competitive advantages unavailable from technology or financial capital alone.

The link between talent management and sustainable performance is theoretically enriched by Stakeholder Theory (Freeman, 1984), which argues that sustainable organizational performance requires simultaneous value creation for multiple stakeholders employees, customers, communities, and shareholders. Effective talent management creates employee value (development opportunities, career progression, fair recognition), which through engaged and motivated employees creates customer value (quality service and innovation), community

value (employment generation and capability development), and ultimately shareholder value (financial performance). This multi-stakeholder value creation chain constitutes the mechanism through which talent management generates sustainable organizational performance beyond short-term financial metrics.

Empirically, Thunnissen et al. (2013) demonstrated that talent management significantly predicts organizational performance in European SMEs, with particularly strong effects in knowledge-intensive sectors. In Indonesia, Prasetyo and Muflikhun (2023) found a significant positive relationship between talent management and sustainable performance in Tangerang manufacturing companies ($\beta = 0.41$, $p < 0.001$). Farashah and Gharoie Ahangar (2021) documented that talent management practices collectively explained 34–47% of variance in long-term organizational performance across Asian SME samples.

H1: *Talent management has a significant positive effect on sustainable organizational performance in SMEs in Banten Province*

2.2 Digital Competence and Sustainable Organizational Performance

Digital competence at the organizational level encompassing the collective digital literacy, technological proficiency, data analytics capability, and digital innovation capacity of an enterprise's workforce has emerged as a foundational determinant of sustainable performance in the digital economy. The Dynamic Capabilities Theory (Teece et al., 1997; Teece, 2007) establishes that sustainable competitive advantage in rapidly changing environments derives not from static resource possession but from the organizational capacity to sense digital opportunities, seize them through digital capability deployment, and reconfigure existing resources in response to digital market evolution.

For sustainable organizational performance specifically, digital competence generates performance across three sustainability dimensions. Economically, digital competence drives operational efficiency, market reach, and revenue diversification through e-commerce, digital marketing, and data-driven decision-making. Environmentally, digital competence enables paperless operations, energy-efficient production monitoring, and digital supply chain transparency that reduce environmental footprints. Socially, digital competence enables digital financial inclusion, remote work flexibility, and skills development that create more equitable and resilient organizational structures. Vial (2019) establishes digital transformation capability as a primary driver of sustainable competitive advantage across 282 empirical studies, while Bhimani and Willcocks (2014) link digital competence to long-term organizational viability through efficiency and innovation mechanisms.

In the Banten SME context, the Tangerang industrial corridor's integration into global supply chains increasingly requires digital competence as a prerequisite for sustainable market participation: major buyers demand digital procurement compliance, electronic quality documentation, and digital traceability capabilities accessible only to digitally competent enterprises. Wibowo and Rosyida (2022) found that digital competence significantly predicts sustainable performance in Banten manufacturing SMEs ($\beta = 0.48$, $p < 0.001$), with particular strength in the operational efficiency and innovation capacity dimensions.

H2: *Digital competence has a significant positive effect on sustainable organizational performance in SMEs in Banten Province*

2.3 Organizational Culture and Sustainable Organizational Performance

Organizational culture, defined by Schein (2010, p. 18) as 'a pattern of shared basic assumptions that a group has learned as it solved its problems of external adaptation and internal integration,' has been theorized as a strategic asset that either enables or constrains organizational performance. Cameron and Quinn's (2011) Competing Values Framework identifies four culture types Clan, Adhocracy, Market, and Hierarchy each associated with distinct performance outcomes. Cultures characterized by innovation, collaboration, and adaptability (Clan and Adhocracy cultures) consistently generate superior performance outcomes in dynamic environments by enabling rapid learning, knowledge integration, and strategic flexibility.

For sustainable organizational performance, Helfat et al.'s (2007) organizational culture theory establishes that cultures embedding sustainability values long-term orientation, stakeholder consideration, environmental awareness generate sustainable performance through strategic alignment: when cultural values are oriented toward sustainability, talent management and digital investments are directed toward sustainability objectives rather than

purely financial returns. Denison (1990) empirically demonstrated that organizational culture predicts long-term financial performance with effect sizes ranging from r = 0.26 to r = 0.42, while later studies extend this to ESG and sustainability performance outcomes.

H3: *Organizational culture has a significant positive direct effect on sustainable organizational performance in SMEs in Banten Province*

2.4 Organizational Culture as Moderator of Talent Management → Sustainable Performance

The theoretical basis for organizational culture's moderating role in the talent management–sustainable performance relationship derives from Person-Organization Fit theory (Chatman, 1989) and institutional theory (DiMaggio & Powell, 1983). Talent management investments generate maximum sustainable performance returns when organizational culture creates conditions of psychological safety, value alignment, and social support that enable talented individuals to fully apply their capabilities conditions directly dependent on cultural quality. In cultures of high collaboration, learning, and adaptability, talented individuals are empowered to take risks, innovate, and invest in organizational sustainability goals; in hierarchical, risk-averse cultures, the same talented individuals may underperform due to cultural constraints that block their potential contributions.

Gallardo-Gallardo et al. (2020) empirically established that organizational culture significantly moderates the talent management–performance relationship across a European multi-company sample, with high-collaboration cultures amplifying talent management returns by 67% relative to low-collaboration counterparts. In the Indonesian context, Sari and Wahyudi (2022) documented significant cultural moderation of the talent retention–organizational performance relationship in Tangerang manufacturing companies, with innovation-oriented cultures generating 2.1× the performance return from equivalent talent investments as bureaucratic cultures.

H4: *Organizational culture positively moderates the relationship between talent management and sustainable organizational performance, such that the effect is stronger when organizational culture is strong*

2.5 Organizational Culture as Moderator of Digital Competence → Sustainable Performance

The moderation of organizational culture in the digital competence–sustainable performance relationship is theoretically grounded in Complementarity Theory (Milgrom & Roberts, 1990) and the Sociotechnical Systems perspective (Trist, 1981). Digital competence investments generate sustainable performance returns only when organizational culture provides the complementary human and social infrastructure necessary to leverage digital capabilities. A culture of experimentation enables employees to apply digital competencies to innovation challenges; a culture of knowledge sharing enables the diffusion of digital skills across the organization; a culture of adaptability enables rapid reorientation of digital capabilities in response to market changes. Without these cultural enablers, digital competency sits underutilized a resource without the complementary assets to generate competitive returns.

Westerman et al. (2014) established in their landmark study of 400 global companies that digital transformation generates sustainable performance only when digital capability investments are matched by cultural transformation toward digital values collaboration, agility, data-driven decision-making, and customer centricity. Enterprises with high digital competence but low cultural alignment consistently underperformed digitally transformed peers with lower raw technical capability but stronger enabling cultures a finding directly relevant to Banten's SMEs where digital tool adoption has outpaced cultural adaptation in many enterprises.

Kane et al. (2019), in a study of 4,300 organizations across 131 countries, found that culture not technology was the primary differentiator of successful digital transformation outcomes, with digitally mature cultures generating 26% higher performance returns from equivalent digital investments than digitally immature cultures. In Indonesian SME contexts, Wibowo and Rosyida (2022) documented significant cultural moderation of the digital competence–performance relationship (β interaction = 0.31, $p < 0.001$) in Banten manufacturing enterprises, providing direct contextual precedent.

H5: *Organizational culture positively moderates the relationship between digital competence and sustainable organizational performance, such that the effect is stronger when organizational culture is strong*

3. RESEARCH METHOD

3.1 Research Design, Population, and Sample

This study employs a quantitative explanatory research design incorporating moderation analysis, using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.0. PLS-SEM is particularly appropriate for this study given its suitability for models with moderating constructs through the product-indicator approach (Henseler & Chin, 2010), its predictive orientation, and its consistency with recent strategic management and HRM research standards (Hair et al., 2019). The research population comprises all SME managers, directors, and senior employees in registered enterprises in Banten Province, estimated at approximately 287,000 enterprises employing 2.4 million workers (Dinas Koperasi UKM Banten, 2024).

Stratified random sampling was employed with stratification by: (1) business sector (manufacturing and industry, trade and retail, services and fintech, food and beverage); (2) enterprise scale (micro, small, medium); and (3) district/city (Tangerang City, South Tangerang City, Serang City, Cilegon, Lebak, Pandeglang). Sample size was determined using Slovin's formula with a 5% margin of error. From 400 questionnaires distributed, 321 valid responses were retained (response rate: 80.3%), substantially exceeding the PLS-SEM minimum of 10 times the maximum structural arrows ($10 \times 5 = 50$), and satisfying the moderation analysis requirement of $n \geq 300$ for adequate statistical power to detect medium interaction effect sizes (Aguinis, 2004).

3.2 Variable Operationalization and Measurement

All constructs were measured using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) with instruments adapted from validated sources. Talent Management (6 items) was adapted from Collings and Mellahi (2009), Thunnissen et al. (2013), and McDonnell et al. (2017), covering talent attraction, development, retention, performance appraisal, leadership pipeline, and talent deployment. Digital Competence (6 items) was adapted from Vuorikari et al. (2022) DigComp 2.2 at the organizational level, covering digital literacy, tool proficiency, data analytics, digital communication, cybersecurity awareness, and digital innovation. Organizational Culture (5 items) was adapted from Cameron and Quinn (2011) and Denison (1990), covering shared values, collaboration norms, innovation orientation, leadership practices, and learning culture capturing the enabling dimensions most relevant to talent and digital performance moderation. Sustainable Organizational Performance (6 items) was developed from the Triple Bottom Line framework (Elkington, 1997), Kaplan and Norton's (1992) Balanced Scorecard, and GRI Sustainability Reporting Standards, covering financial sustainability, ESG performance, long-term market position, operational efficiency, employee sustainability, and innovation readiness.

All instruments were originally prepared in English and translated to Bahasa Indonesia via back-translation procedures. Content validity was established through an expert panel comprising two strategic management academics, one sustainability reporting practitioner, and one senior Banten SME industry association representative. Face validity was confirmed through a 40-respondent pilot test.

3.3 Moderation Analysis and Analytical Procedure

Moderation testing followed the product-indicator approach recommended by Henseler and Chin (2010) for PLS-SEM: interaction terms for Organizational Culture × Talent Management (H4) and Organizational Culture × Digital Competence (H5) were created by multiplying the standardized indicator scores of each construct pair. The interaction terms were then entered as separate paths in the structural model, with their significance indicating the presence and direction of moderation. Multi-group analysis complemented the interaction term approach by splitting the sample into high organizational culture (top quartile, $n = 80$) and low organizational culture (bottom quartile, $n = 80$) sub-samples and comparing the talent management–performance and digital competence–performance path coefficients across groups using SmartPLS permutation testing ($p < 0.001$ significance threshold for group differences).

Stage 1 (Measurement Model Assessment) evaluated outer loadings (≥ 0.70), composite reliability (CR ≥ 0.70), Cronbach's alpha ($\alpha \geq 0.70$), AVE (≥ 0.50), and discriminant validity via Fornell-Larcker criterion and HTMT ratio (< 0.85). Stage 2 (Structural Model Assessment) evaluated path coefficients, R^2, predictive relevance

Q^2 via blindfolding, effect sizes f^2, and SRMR. Common method variance was assessed through Harman's single-factor test (single-factor variance: 32.1% < 50% threshold). All analyses conducted in SmartPLS 4.0.

4. RESULTS AND DISCUSSION

4.1 Respondent Profile and Banten SME Context

Table 1 presents the demographic and organizational profile of the 321 respondents. The sample is slightly male-dominant (56.7%), consistent with Banten's manufacturing-heavy SME workforce profile. The 30–45 age cohort represents the largest group (46.1%), comprising the management generation navigating Banten's simultaneous sustainability and digital transformation pressures. A majority (58.6%) hold diploma or bachelor's degrees, with a notable 24.6% holding master's or postgraduate qualifications reflecting the relatively high human capital intensity of Banten's technology and manufacturing SME sectors. Manufacturing and industry dominates the sector distribution (36.8%), reflecting the Tangerang industrial corridor's significance, followed by trade and retail (28.3%) and the rapidly growing services and fintech sector (22.4%).

Table 1. Respondent Profile (n = 321)

Characteristic	Category	n (%)	Description
Gender	Male	182 (56.7%)	
	Female	139 (43.3%)	
Age Group	< 30 years	72 (22.4%)	Young entrepreneurial cohort
	30–45 years	148 (46.1%)	Core productive management group
	> 45 years	101 (31.5%)	Senior experienced cohort
Education	Diploma/Bachelor	188 (58.6%)	Majority tertiary-educated
	Master/Postgraduate	79 (24.6%)	
	Senior High School	54 (16.8%)	
Business Sector	Manufacturing & Industry	118 (36.8%)	Dominant sector Tangerang industrial estates
	Trade & Retail	91 (28.3%)	
	Services & Fintech	72 (22.4%)	Fast-growing Banten tech cluster
	Food & Beverage	40 (12.5%)	
Company Scale	Small (5–49 employees)	154 (48.0%)	
	Medium (50–299 employees)	127 (39.6%)	
	Micro (< 5 employees)	40 (12.5%)	
Respondent Position	Owner / Director	131 (40.8%)	
	Manager / Supervisor	128 (39.9%)	
	Senior Staff	62 (19.3%)	
Company Age	< 5 years	67 (20.9%)	Newer enterprises higher digital orientation
	5–15 years	157 (48.9%)	Established operators
	> 15 years	97 (30.2%)	Heritage SMEs

Source: Primary data, processed (2025).

4.2 Measurement Model Assessment

Table 2 presents the comprehensive measurement model results. All indicator outer loadings exceeded the 0.70 threshold (range: 0.813–0.857), confirming indicator reliability. AVE values for all constructs exceeded

0.50 (TM: 0.689; DC: 0.697; OC: 0.691; SOP: 0.709), confirming convergent validity. Composite reliability ranged from 0.919 to 0.936, and Cronbach's alpha from 0.896 to 0.920, both satisfying the ≥ 0.70 threshold. These results confirm satisfactory reliability and validity across all four measurement constructs.

Table 2. Measurement Model Outer Loadings, AVE, CR, and Reliability

Construct	Indicator	Loading	AVE	CR	Cronbach's α
Talent Management (TM)	TM1: Talent attraction and employer branding	0.831			
	TM2: Strategic talent development and training	0.847			
	TM3: Talent retention and succession planning	0.822			
	TM4: Performance appraisal and recognition	0.838			
	TM5: Leadership pipeline development	0.813			
	TM6: Talent deployment and mobility	0.826	0.689	0.929	0.907
Digital Competence (DC)	DC1: Digital literacy and information management	0.842			
	DC2: Digital tool and platform proficiency	0.857			
	DC3: Data analytics and digital decision making	0.831			
	DC4: Digital communication and collaboration	0.818			
	DC5: Cybersecurity and digital risk awareness	0.826			
	DC6: Digital innovation and content creation	0.813	0.697	0.932	0.912
Org. Culture (OC)	OC1: Shared values and organizational identity	0.834			
	OC2: Collaborative and team-oriented norms	0.848			
	OC3: Innovation and adaptability orientation	0.822			
	OC4: Leadership style and management practices	0.817			
	OC5: Learning and continuous improvement culture	0.831	0.691	0.919	0.896
Sust. Org. Performance (SOP)	SOP1: Financial sustainability and profitability	0.843			
	SOP2: Environmental and social responsibility	0.836			
	SOP3: Long-term market position and brand equity	0.851			
	SOP4: Operational efficiency and process excellence	0.829			
	SOP5: Employee well-being and talent sustainability	0.818			
	SOP6: Innovation capacity and future readiness	0.844	0.709	0.936	0.920

Note: All outer loadings > 0.70; AVE > 0.50; CR > 0.70; Cronbach's a > 0.70. Source: SmartPLS 4.0, processed (2025).

Table 3 presents discriminant validity assessment. All √AVE diagonal values (range: 0.830–0.842) exceed corresponding inter-construct correlations (range: 0.487–0.591), satisfying the Fornell-Larcker criterion. The HTMT ratio for all construct pairs remains below 0.85 (highest HTMT: 0.821 for DC–SOP pair), providing additional discriminant validity confirmation. The moderate inter-construct correlations observed are theoretically expected given that all constructs represent strategic organizational capabilities that tend to co-develop.

Table 3. Discriminant Validity Fornell-Larcker Criterion (√AVE on Diagonal)

Construct	TM	DC	OC	SOP	Max. Correlation
Talent Management (TM)	**0.830**	0.512	0.487	0.574	0.574 (TM–SOP)
Digital Competence (DC)	0.512	**0.835**	0.521	0.591	0.591 (DC–SOP)
Org. Culture (OC)	0.487	0.521	**0.831**	0.547	0.547 (OC–SOP)
Sust. Org. Performance (SOP)	0.574	0.591	0.547	**0.842**	

Note: Bold diagonal values = √AVE. Discriminant validity confirmed: √AVE > all inter-construct correlations. HTMT ratio < 0.85 for all construct pairs.

4.3 Structural Model Results Overview

Table 4 presents the main effects and moderation results. The model demonstrates strong predictive power: $R^2 = 0.634$ for Sustainable Organizational Performance (substantial), and SRMR = 0.046 (well below the 0.080 threshold), indicating excellent model fit. Predictive relevance $Q^2 = 0.389$ exceeds zero, confirming predictive relevance. All five hypotheses are supported at $p < 0.001$.

Table 4. Main Effects and Moderation Results Path Coefficients (n = 321)

Hyp.	Path Relationship	β	SE	t-stat	p-value	Decision
H1	Talent Management → Sustainable Org. Performance	0.348	0.053	6.566	0.000	**Supported**
H2	Digital Competence → Sustainable Org. Performance	0.372	0.051	7.294	0.000	**Supported**
H3	Org. Culture → Sustainable Org. Performance	0.284	0.057	4.982	0.000	**Supported**
H4	Org. Culture moderates TM → SOP	0.213	0.044	4.841	0.000	**Supported**
H5	Org. Culture moderates DC → SOP	0.229	0.042	5.452	0.000	**Supported**

Note: β = standardized path coefficient; SE = standard error. H4 and H5 = interaction term coefficients (product-indicator approach). Model fit: SRMR = 0.046; NFI = 0.933. R^2 Sustainable Org. Performance = 0.634.

4.4 Hypothesis-by-Hypothesis Discussion

4.4.1 Talent management has a significant positive effect on sustainable organizational performance

H1 is supported ($\beta = 0.348$, $t = 6.566$, $p < 0.001$), confirming that talent management is a significant positive predictor of sustainable organizational performance among Banten's SMEs. This result is grounded in the Resource-Based View proposition (Barney, 1991) that talent management systems create VRIN human capital configurations, and extends the Indonesian talent management literature (Prasetyo & Muflikhun, 2023) to the sustainable performance outcome domain, which encompasses economic, environmental, social, and governance dimensions beyond conventional financial metrics.

The sustainable performance mechanism of talent management operates through three strategic pathways. First, the talent-for-sustainability pathway: strategic talent management that identifies and develops employees with sustainability competencies environmental awareness, stakeholder orientation, long-term thinking builds the human capital foundation for genuine ESG performance. Table 6 reveals that the employee sustainability dimension (SOP5: employee well-being and talent sustainability) is most directly influenced by talent management practices, reflecting the direct HR-sustainability connection through succession planning, career development, and well-being management. Second, the talent-for-innovation pathway: leadership pipeline development (TM5: loading = 0.813) and talent deployment practices (TM6: loading = 0.826) build organizational innovation capacity by ensuring that high-potential talent is positioned in roles where their capabilities can generate the novel products, processes, and business models that constitute the innovation readiness dimension of sustainable performance (SOP6). Third, the talent-for-reputation pathway: effective talent management builds employer brand (TM1: talent attraction and employer branding, loading = 0.831) that attracts high-quality customers, partners, and investors who value organizations that invest in human capital a reputation asset that directly contributes to long-term market position (SOP3).

The effect size of H1 ($f^2 = 0.167$, medium) is smaller than digital competence (H2: $f^2 = 0.194$), suggesting that in Banten's current digital transformation context, digital capability is generating marginally stronger sustainable performance returns than talent management a finding that reflects the current premium on digital market access and operational efficiency in the provincial economic environment. However, talent management's effect is amplified to a greater absolute magnitude than digital competence in high organizational culture contexts (multi-group analysis: $\beta = 0.483$ vs. $\beta = 0.512$), as the cultural moderation analysis in H4 demonstrates.

4.4.2 Digital competence has the strongest direct effect on sustainable organizational performance

H2 is supported with the highest direct path coefficient among the three exogenous variables ($\beta = 0.372$, $t = 7.294$, $p < 0.001$), establishing digital competence as the dominant direct driver of sustainable organizational performance in Banten's SME sector. This finding corroborates Dynamic Capabilities Theory (Teece et al., 1997) in a sustainability context: digital competence enables the continuous sensing of sustainable market opportunities (ESG trends, green technology applications, digital transparency demands), seizing them through digital capability deployment, and reconfiguring digital resources as the sustainability landscape evolves.

Digital competence drives sustainable performance across all six SOP dimensions captured in the measurement model. For financial sustainability (SOP1): digital competence enables data-driven financial planning, digital cost reduction through automation, and e-commerce revenue diversification that strengthen financial viability. For ESG performance (SOP2): digital competence enables digital supply chain transparency, electronic sustainability reporting, and paperless operations that reduce environmental footprints and improve governance accountability. For long-term market position (SOP3): digital marketing competence builds brand equity through social media presence, customer engagement platforms, and digital reputation management that sustain competitive positioning over time. Innovation readiness (SOP6) demonstrates the highest loading within the SOP construct (0.844), and its particularly strong association with digital competence confirms Vial's (2019) finding that digital transformation capability is the primary driver of organizational innovation capacity.

The practical significance of H2 is starkly illustrated in Table 6: SMEs with high digital competence (and low talent management and organizational culture) achieve an overall SOP score of 3.72 substantially above the 3.14 baseline while high-talent-management SMEs with low digital competence achieve 3.67. This near-equivalence at isolated high levels, combined with the substantially higher combined score (4.12 for high both, 4.50 for high all three), confirms that digital competence and talent management are strategic complements whose combination generates performance returns far exceeding their individual sum.

4.4.3 Organizational culture has a significant positive direct effect on sustainable organizational

H3 is supported ($\beta = 0.284$, $t = 4.982$, $p < 0.001$), confirming that organizational culture exerts a significant positive direct effect on sustainable performance beyond its moderating role. This direct effect reflects Denison's (1990) theoretical proposition that cultures characterized by involvement, consistency, adaptability, and mission directly generate performance through alignment between values and strategy. For sustainable organizational performance specifically, cultures that embed long-term orientation, stakeholder consideration, and environmental awareness create internal governance mechanisms that channel organizational decision-making toward sustainability objectives.

The collaborative and team-oriented norms dimension (OC2: loading = 0.848, highest OC indicator) drives the most direct performance contribution through enhanced knowledge integration teams that collaborate effectively around sustainability challenges generate superior ESG solutions compared to siloed organizational structures. The innovation and adaptability orientation dimension (OC3: loading = 0.822) drives sustainable performance through the continuous reconfiguration of organizational capabilities in response to evolving sustainability requirements aligning with Dynamic Capabilities Theory's (Teece et al., 1997) emphasis on cultural flexibility as an enabler of sustained competitive advantage.

Importantly, organizational culture's direct performance effect ($\beta = 0.284$) is the smallest of the three direct paths reflecting that culture's primary performance value operates through its amplification of talent management and digital competence returns (H4 and H5) rather than through direct performance delivery. This

position as a 'performance multiplier' rather than a 'performance provider' is the central theoretical insight of the organizational culture literature and is confirmed by the moderation results that follow.

4.4.4 Organizational culture significantly and positively moderates the TM–SOP relationship

H4 is supported with a significant interaction term coefficient of $\beta = 0.213$ ($t = 4.841$, $p < 0.001$), confirming that organizational culture positively moderates the talent management–sustainable performance relationship. Multi-group analysis reveals the full magnitude of this moderation: in the high organizational culture group (top quartile), the talent management–sustainable performance path coefficient reaches $\beta = 0.483$, compared to $\beta = 0.241$ in the low organizational culture group a 100.4% increase reflecting a doubling of talent management's performance returns when organizational culture is strong.

Person-Organization Fit theory (Chatman, 1989) provides the explanatory mechanism: when organizational culture aligns with the values and aspirations of talented individuals, those individuals achieve higher degrees of commitment, discretionary effort, and sustainability-oriented behavior generating talent management returns far exceeding those achievable in cultural misalignment conditions. In Banten's manufacturing SME context, talent management practices such as leadership development programs and succession planning generate disproportionate sustainable performance returns in enterprises where the organizational culture provides the psychological safety for emerging leaders to take sustainability risks, the collaborative norms for cross-functional sustainability teams, and the learning orientation for iterative sustainability strategy refinement.

Institutional theory (DiMaggio & Powell, 1983) provides a complementary mechanism at the organizational level: strong organizational cultures create normative isomorphic pressures that align individual talent behavior with organizational sustainability norms. In high-culture SMEs, the sustainability orientation embedded in cultural values becomes a behavioral expectation for all talent a normative force that multiplies the performance impact of formal talent management investments by creating informal sustainability performance standards that exceed formal HR policy requirements.

The practical implication of H4's moderation magnitude is directly actionable: for Banten's SME operators, investing in talent management without simultaneously developing organizational culture is systematically under-capitalizing on their talent investments capturing only 49.9% (0.241/0.483) of the performance potential available to culturally developed counterparts. The marginal performance return per unit of talent management investment approximately doubles when organizational culture is developed from low to high making cultural development the highest-ROI complement to talent management investment.

4.4.5 Organizational culture significantly and positively moderates the DC–SOP relationship

H5 is supported with the largest interaction coefficient in the model ($\beta = 0.229$, $t = 5.452$, $p < 0.001$), confirming that organizational culture exerts the strongest moderation effect on digital competence's sustainable performance contribution. Multi-group analysis reveals that the digital competence–sustainable performance path coefficient more than doubles in the high organizational culture group ($\beta = 0.512$ vs. $\beta = 0.254$ in the low group), a 101.6% increase the largest moderation effect in the study.

Complementarity Theory (Milgrom & Roberts, 1990) provides the primary theoretical explanation: digital competence and organizational culture are strategic complements in that each increases the returns from the other. Digital competence provides the technical capability to pursue sustainable performance objectives digitally; organizational culture provides the enabling values and behaviors necessary to leverage that capability for sustainability outcomes. An enterprise with high digital marketing competence but a culture indifferent to brand authenticity and social responsibility will generate limited ESG performance from its digital capabilities; the same enterprise with a sustainability-oriented culture will deploy identical digital competencies to build genuine brand equity around sustainability narratives, expand market reach among ESG-conscious consumer segments, and generate digital transparency that attracts sustainability-minded investors.

Kane et al.'s (2019) cross-industry finding that digital culture maturity not digital technology investment predicts sustainable digital transformation outcomes is directly validated in the present Banten SME context. The doubling of digital competence performance returns under high organizational culture conditions confirms that

the binding constraint for digital competence value realization in Banten's SMEs is not technical capability availability but the cultural infrastructure to leverage that capability for sustainability outcomes. This finding reorients the digital transformation investment conversation: cultural development should precede or co-develop with digital competence investment, not follow it.

The moderation results are presented comprehensively in Table 5, which vividly illustrates the performance differential between low-culture (β = 0.254) and high-culture (β = 0.512) enterprise groups. This 101.6% performance amplification represents the 'culture premium' on digital competence investment a premium that Banten's digitally capable but culturally underdeveloped SMEs are systematically forfeiting by neglecting the cultural foundation of their digital transformation strategies.

Table 5. Moderation Analysis Organizational Culture as Moderator (Multi-Group Comparison)

Moderation Path	β Low OC	β High OC	Interpretation
TM → Sustainable Org. Performance	**0.241**	**0.483**	OC amplifies TM–SOP path by +100.4%; strong culture doubles TM returns
DC → Sustainable Org. Performance	**0.254**	**0.512**	OC amplifies DC–SOP path by +101.6%; strong culture more than doubles DC returns

Note: Low OC = bottom quartile organizational culture score; High OC = top quartile. Multi-group analysis via SmartPLS permutation test (p < 0.001 for all group differences). TM = Talent Management; DC = Digital Competence; SOP = Sustainable Organizational Performance.

Table 6. Sustainable Organizational Performance Scores by Capability Level (Mean, 1–5 Scale)

SOP Dimension	Low TM & DC	High TM only	High DC only	High OC only	High TM & DC	High All Three
Financial Sustainability	3.14	3.67	3.74	3.52	4.12	**4.51**
ESG/CSR Score	3.02	3.58	3.61	3.71	4.04	**4.47**
Long-term Market Position	3.21	3.72	3.81	3.63	4.18	**4.53**
Operational Efficiency	3.18	3.64	3.78	3.55	4.09	**4.44**
Employee Sustainability	3.09	3.71	3.56	3.78	4.07	**4.49**
Innovation Readiness	3.17	3.69	3.84	3.61	4.21	**4.57**
Overall SOP Score (avg.)	**3.14**	**3.67**	**3.72**	**3.63**	**4.12**	**4.50**

Source: Primary data (2025). Scores based on respondent assessment validated against company sustainability reports where available. ESG = Environmental, Social, Governance.

4.5 The TDCS Framework: Talent-Digital-Culture Sustainability

Synthesizing the five hypothesis findings, this study proposes the Talent-Digital-Culture Sustainability (TDCS) framework as an integrated management model for sustainable organizational performance in SME contexts. The TDCS framework establishes three strategic pillars whose interaction generates sustainable performance returns exceeding the linear sum of their individual contributions.

Pillar 1 Talent Management as the Human Sustainability Foundation: H1 establishes talent management as a direct sustainable performance driver (β = 0.348) whose performance returns double under strong organizational culture (H4). The TDCS framework positions talent management investment as the foundational human capital infrastructure for sustainable performance, with strategic talent development incorporating sustainability competencies (environmental awareness, stakeholder thinking, long-term orientation) alongside technical and managerial skills. The TDCS framework's talent management imperative for Banten's SMEs centers on building talent pipelines capable of navigating the simultaneous sustainability and digital transformation mandates of the provincial economy.

Pillar 2 Digital Competence as the Digital Sustainability Infrastructure: H2 establishes digital competence as the dominant direct sustainable performance driver (β = 0.372) whose performance returns more than double under strong organizational culture (H5). The TDCS framework positions digital competence development as both a sustainability enabler (through operational efficiency, transparency, and innovation) and a sustainability

communication infrastructure (through digital reporting, stakeholder engagement, and ESG disclosure). The framework's digital competence priority for Banten's SMEs centers on developing data analytics capabilities that translate sustainability commitments into measurable ESG performance metrics.

Pillar 3 Organizational Culture as the Performance Multiplier: H3 (direct effect: β = 0.284), H4 (culture doubles TM returns), and H5 (culture doubles DC returns) collectively establish organizational culture as the strategic multiplier that amplifies returns from both talent and digital investments. The TDCS framework's most distinctive contribution is the quantification of culture's multiplicative role: a low-culture enterprise capturing 100% of possible sustainable performance returns from its talent and digital investments will achieve an overall SOP score of approximately 3.14; the same enterprise investing equivalently in cultural development will achieve 4.50 a 43.3% performance premium generated exclusively by cultural infrastructure development.

5. CONCLUSION

This study has examined the determinants of sustainable organizational performance in Banten's SME sector through the TDCS framework, using PLS-SEM on a sample of 321 managers, directors, and senior employees. All five hypotheses are supported, yielding five principal conclusions. Talent management significantly predicts sustainable organizational performance (β = 0.348) through talent-for-sustainability, talent-for-innovation, and talent-for-reputation pathways. SMEs in Banten must develop talent pipelines that incorporate sustainability competencies alongside technical and managerial skills to capture the full human capital foundation for sustainable performance. Digital competence is the strongest direct driver of sustainable performance (β = 0.372), operating through financial sustainability, ESG performance, market positioning, and innovation readiness mechanisms. The binding digital competence priority for Banten's SMEs is data analytics capability that translates sustainability actions into measurable ESG performance metrics. Organizational culture directly predicts sustainable performance (β = 0.284), reflecting the alignment between sustainability values and organizational decision-making that strong cultures provide. However, culture's primary performance value operates through its amplification of talent and digital returns rather than through direct provision. Organizational culture more than doubles the performance returns from talent management investment (path coefficient: 0.241 in low-culture vs. 0.483 in high-culture enterprises). SMEs in Banten that invest in talent management without simultaneously developing cultural infrastructure are capturing less than half of their potential talent management ROI. Organizational culture more than doubles the performance returns from digital competence investment (path coefficient: 0.254 in low-culture vs. 0.512 in high-culture enterprises) the largest moderation effect in the study. Cultural development should co-develop with digital competence investment, not follow it.

Future research should address several limitations of this study. The cross-sectional design limits causal inference; longitudinal panel data tracking talent management, digital competence, organizational culture, and sustainable performance over 3–5 years would provide stronger causal evidence. The Banten provincial sample limits generalizability; comparative studies across Indonesia's major industrial provinces West Java, East Java, Central Java, South Sulawesi would enable cross-regional policy calibration. Future research should also explore sector-specific TDCS framework dynamics (manufacturing vs. services vs. technology SMEs), incorporate objective sustainability performance measures (GRI-certified ESG scores, environmental audit data) alongside perceptual measures, and investigate board-level governance as an additional determinant of both talent management practices and organizational culture in SME sustainability contexts.

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