








“The role of talent management in mediating the effect of workforce engagement and organizational culture on workforce agility in educational foundations”

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THE ROLE OF TALENT MANAGEMENT IN MEDIATING THE EFFECT OF WORKFORCE ENGAGEMENT AND ORGANIZATIONAL CULTURE ON WORKFORCE AGILITY IN EDUCATIONAL FOUNDATIONS

Abstract

Workforce agility signifies the workforce's adeptness in navigating rapid transitions and confronting challenges within the occupational sphere. It entails the aptitude of individuals and collectives to assimilate novel circumstances, swiftly adjust to shifting organizational requisites, and perpetuate innovation to sustain efficacy under varying conditions. This study aimed to examine the influence of organizational culture and workforce engagement on workforce agility, with talent management serving as an intervening variable. The study employed a quantitative survey method, collecting data through structured questionnaires from 330 respondents, comprising staff and managerial personnel, affiliated with private educational foundations across North Sumatra, Indonesia. These participants were selected using purposive sampling based on their active involvement in organizational operations and decision-making processes, ensuring relevance to the constructs examined. Structural equation modeling (SEM) was employed using SmartPLS 4.0 for data analysis. The results indicate that workforce engagement does not have a direct effect on workforce agility ($p > 0.05$), but it significantly influences talent management ($p < 0.05$). Organizational culture has a significant positive effect on both talent management ($p < 0.05$) and workforce agility ($p < 0.05$). Talent management contributes directly and significantly to enhancing workforce agility ($p < 0.05$). Furthermore, talent management significantly mediates the relationship between workforce engagement and workforce agility ($p < 0.05$), as well as between organizational culture and workforce agility ($p < 0.05$).

Keywords

workforce agility, engagement, organizational culture,
talent management, SEM-PLS, Indonesia

JEL Classification

M12, M14, M54, O15

INTRODUCTION

The contemporary world of work is experiencing rapid transformation driven by globalization and technological advancements, affecting all organizational sectors, including educational foundations in North Sumatra, Indonesia. These institutions face mounting pressures from shifting national education policies, demands for digital learning environments, and expectations for high-quality educational services, factors that necessitate the cultivation of workforce agility. Defined as the ability to adapt swiftly, learn continuously, and respond effectively to change, workforce agility is shaped not only by workforce engagement and organizational culture, but also by the strategic application of talent management. Talent management acts as a critical bridge that aligns employee capabilities with institutional goals, yet research examining its mediating role in this dynamic remains limited, especially within educational contexts.

This study deliberately focuses on educational foundations due to their dual mandate: ensuring operational excellence while sustaining pedagogical relevance in an evolving educational landscape. Workforce agility is essential for these institutions to respond to curriculum reforms, digitalization, and performance-based demands. The North Sumatran context presents unique challenges, including decentralization, infrastructure disparities, and a growing need for adaptable, tech-savvy graduates, making it a compelling setting for this inquiry. Many regional foundations struggle to align HR practices with strategic outcomes, reinforcing the urgency to explore how talent management mediates the influence of engagement and culture on agility. Consequently, this study enriches the literature on organizational behavior in education and offers timely insights into region-specific workforce development strategies.

1. LITERATURE REVIEW AND HYPOTHESES

The notion of workforce agility materializes as a pivotal response to this exigency, underscoring the imperative of flexibility, adaptability, and resilience among employees amid continuous change. Alviani et al. (2024) characterize workforce agility as the ability of individuals to remain proactive, resilient, and adaptive, transcending mere multi-tasking competencies to encompass cognitive dexterity, collaboration, and leveraging social capital. However, scholarly discourse remains fragmented regarding the uniform conceptualization and operationalization of workforce agility. Muduli (2017) contends that workforce agility signifies the capacity of employees to contribute meaningfully within rapidly shifting contexts. Similarly, Storme et al. (2020) highlight that workforce agility encapsulates proactive engagement, active learning, self-directed development, and the pursuit of continuous innovation at the workplace. Azmy (2021) further elaborates that workforce agility is an attribute fostered through organizational processes and is inherently linked to tenure and experiential learning within the organization. Sherehiy and Karwowski (2014) also emphasize that proactivity, adaptability, and resilience are core antecedents of workforce agility. According to Panduwinarsih and Gusriani (2024), indicators for measuring workforce agility encompass navigating unpredictability, engaging in creative problem-solving, demonstrating professional flexibility, mastering new tasks and procedures, interpersonal adaptability, and effectively managing occupational stress.

Talent management is a strategic approach encompassing integrated processes to attract, develop, motivate, and retain individuals with high perfor-

mance and strong potential. According to Silzer and Dowell (2010), talent management is a deliberate and strategic effort encompassing a range of organizational processes to attract, develop, motivate, and retain individuals who demonstrate superior performance and potential. Collings and Mellahi (2009) further emphasize that talent management is not merely a human resources function, but a strategic intervention that focuses on identifying roles crucial for sustaining competitive advantage, and then systematically developing and retaining high-potential individuals to fill these roles. Reinforcing these assertions, Armstrong (2006) describes talent management as a systematic and dynamic process that ensures the organization has a sufficient pool of capable individuals ready to meet present and future organizational challenges. This comprehensive view highlights that talent management is essential for operational effectiveness, strategic agility, and long-term organizational resilience. Organizations are better positioned to respond to shifting demands, foster innovation, and maintain competitive agility by focusing on talent acquisition, capability development, and strategic retention. Furthermore, workforce engagement has been identified as a critical factor in this equation, serving as a linchpin for maintaining high productivity and adaptability within increasingly volatile and unpredictable business environments.

Schneider et al. (2018) conceptualize workforce engagement as the collective experience of individual engagement within an organization, asserting that elevated engagement levels significantly predict organizational performance across key metrics such as financial outcomes and customer satisfaction. This perspective underscores that engagement is not merely an individual phenomenon

but a collective organizational asset. Furthermore, Jufrizen, Farisi, et al. (2024) emphasize that workforce engagement involves a conscious, intentional commitment by individuals, physically, emotionally, and cognitively, to their professional roles, aiming not only to fulfill organizational objectives but also to attain personal growth and fulfillment. This holistic view of engagement is essential in understanding its impact on productivity and organizational culture. Schaufeli and Bakker (2014) describe engagement as a positive psychological state characterized by vigor, dedication, and absorption in one's work. These attributes foster a sense of energy, persistence, and deep involvement, which contribute significantly to job satisfaction and long-term organizational success. Importantly, engagement extends beyond simple task completion; it represents an emotional and intellectual investment that leads to increased innovation, reduced turnover, and stronger organizational loyalty. As noted by Jufrizen et al. (2023), and reinforced in the later work of Jufrizen, Khair, et al. (2024) and Jufrizen, Hasibuan, et al. (2025) engaged employees are more likely to exhibit behaviors that drive value creation, support teamwork, and contribute meaningfully to the organization's strategic goals. Consequently, workforce engagement is pivotal in shaping a high-performance, adaptive, resilient organizational environment.

Organizational culture, encompassing shared values, beliefs, and behavioral norms, plays a pivotal role in shaping an institution's identity, employee behavior, and overall operational effectiveness. It is more than just an abstract concept; it influences decisions, employee interactions, and the organization's response to internal and external challenges. Davis and Newstrom (1985) argue that organizational culture is a fundamental determinant of an institution's direction, influencing employee loyalty and fostering harmony within the workplace. Schein (2010) defines it as a set of basic assumptions developed and shared by a group as it learns to cope with external adaptation and internal integration. Once proven effective, these assumptions are taught to new members as the correct way to perceive and act within the organization. Robbins and Judge (2017) describe organizational culture as a shared interpretive system that sets one institution apart from another, highlighting its unique influence. Deal and Kennedy (1982)

simplify this by stating that organizational culture is "the way things are done around here," reinforcing the notion that culture is practically embedded in daily routines. Pratiwi and Nawangsari (2021) emphasize that culture significantly affects behavior, decision-making, and job satisfaction, advocating for intentional and strategic cultural development to ensure long-term organizational success.

Menon and Suresh (2022) emphasize the pressing need to address deficiencies in workforce agility, particularly in critical areas such as employee empowerment, recognition, and managerial support. Their development of a fuzzy workforce agility index revealed that agility is not a standalone trait but is intricately linked with creativity, continuous learning, and the capacity for strategic growth. These interdependencies underscore the necessity of adopting comprehensive and integrated organizational interventions beyond traditional performance metrics. For example, Kazu and Demiralp (2016) found that educators operating in spiritually enriched work environments exhibit higher levels of resilience and adaptability, suggesting that spiritual well-being and meaningfulness at work contribute significantly to workforce agility. This highlights the role of workplace spirituality as a catalyst for fostering mental and emotional readiness to face change. Therefore, policy strategies to enhance agility must holistically encompass employee empowerment, innovation, managerial support, and spiritual wellness. Ultimately, workforce agility emerges as a dynamic outcome of the interplay between organizational culture, strategic talent management, and sustained workforce engagement. These synergistic elements must be deliberately cultivated to ensure institutions remain flexible, competitive, and future-ready in the digital era.

This paper aims to investigate and elucidate the ramifications of workforce engagement, organizational culture, and talent management upon the construct of workforce agility. The population of interest encompasses personnel affiliated with educational foundations located within the territorial confines of North Sumatra Province, Indonesia. The conceptual framework underpinning this investigation is visually delineated in Figure 1. The research hypotheses formulated for empirical validation are articulated as follows:

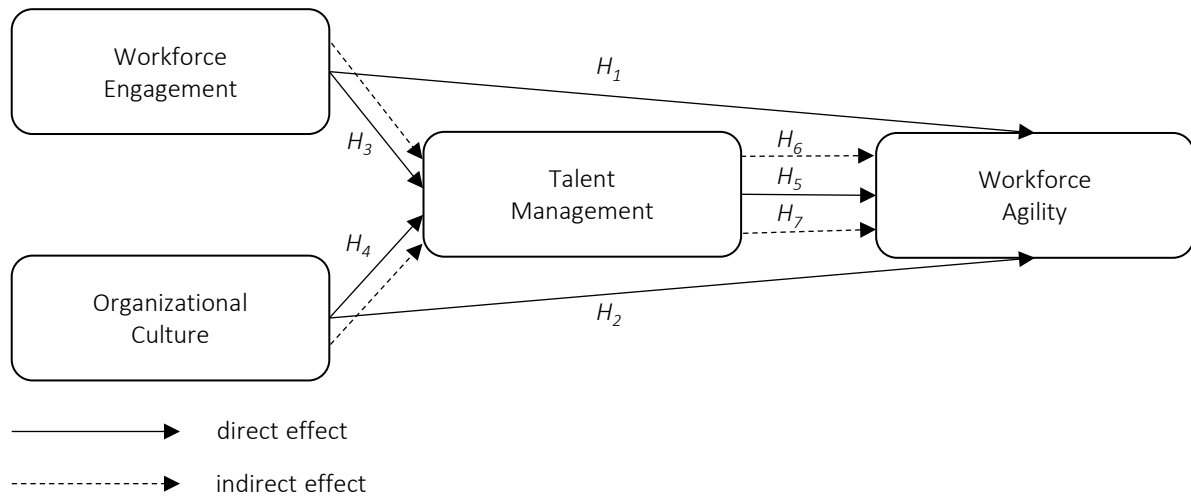


Figure 1. Research model

- H1: Workforce engagement has a positive effect on workforce agility.*
- H2: Organizational culture has a positive effect on workforce agility.*
- H3: Workforce engagement has a positive effect on talent management.*
- H4: Organizational culture has a positive effect on talent management.*
- H5: Talent management has a positive effect on workforce agility.*
- H6: Talent management mediates the effect of workforce engagement on workforce agility.*
- H7: Talent management mediates the effect of organizational culture on workforce agility.*

2. METHODS

This investigation adopts a quantitative paradigm employing a survey-based method to examine the interrelations among workforce engagement, organizational culture, talent management, and workforce agility. The methodological framework was designed to rigorously test causal relationships and assess the mediating role of talent management through empirical data collection using structured questionnaires. The study's target population comprises employees working within

educational foundations across North Sumatra, Indonesia. Determination of the sample size adheres to recommendations (Ghozali & Latan, 2015) concerning SmartPLS software utilization, stipulating that the sample must range between five and ten times the number of indicators involved. Given that this research encompasses 33 measurement indicators, a multiplication factor of 10 is applied, resulting in a recommended minimum sample size of 330 respondents. Data collection was operationalized via the distribution of questionnaires (Appendix A) to the selected participants. Participants were selected via purposive sampling based on their active roles in organizational operations and strategic decision-making, ensuring their relevance to the constructs examined.

Regarding gender distribution, 57% of the participants were female, 40% were male, and 3% preferred not to disclose their gender, indicating a predominantly female respondent base. Age-wise, 12% of respondents were under 25 years old, 32% were between 25 and 34, 30% were aged 35 to 44, 19% were between 45 and 54, and the remaining 7% were over 55 years old. Concerning organizational tenure, 9% of participants had worked for less than one year, 23% for 1 to 3 years, 27% for 4 to 6 years, 20% for 7 to 10 years, and 22% for more than ten years. Regarding job positions, 45% were staff, 21% supervisors, 19% managers, 10% senior managers or directors, and 6% held other roles. Regarding educational qualifications, 11% completed high school, 19% held an associate degree, 49% had a bachelor's degree, 18% obtained a master's de-

gree, and 3% earned a doctoral degree. This diverse demographic background provides a robust foundation for analyzing organizational variables.

Talent management is measured through eight indicators (Chmeis & Zaiter, 2024; Tarique & Schuler, 2010; McDonnell et al., 2017), covering talent identification, training, internal recruitment, compensation, and career planning. Workforce agility indicators (Sherehiy et al., 2007; Boudreau & Jesuthasan, 2011; Alavi et al., 2014) cover empowerment, virtual collaboration, automation, work flexibility, adaptive work environments, and strategic alignment for organizational and individual outcomes. Workforce engagement indicators (Kahn, 1990; Saks, 2006) cover performance as a source of self-esteem, self-alignment with work, the meaning of work as a life goal, and active participation in organizational activities. These organizational culture indicators refer to dimensions (Denison, 1990; Schein, 2010), which include job satisfaction, individual growth, rule compliance, initiative, teamwork, innovation, efficiency, mutual respect, and collective conflict resolution.

Data analysis was conducted utilizing SmartPLS software, which necessitated inner and outer model assessments per the guidelines by Hair et al. (2021). The structural equation modeling method based on partial least squares (SEM-PLS) was chosen because it can estimate complex models with many indicators. It remains effective even when the sample size is relatively small and the data are not normally distributed. In addition, SEM-PLS is more exploratory and suitable for theory development and predicting relationships between latent variables. Construct validity was assessed through internal consistency reliability (Cronbach's Alpha, Composite Reliability), convergent validity (AVE), and discriminant validity via cross-loading analysis.

3. RESULTS

In quantitative studies leveraging the partial least squares structural equation modeling (PLS-SEM) approach, verifying construct validity and reliability is essential to ensuring analytical rigor. Hair et al. (2017) emphasize that evaluating the outer model, namely the relationship between latent constructs and their indicators, constitutes a foundational phase in the validation process.

Table 1. Reliability and convergent validity values

Variable	CA	rho_A	CR	AVE
Organizational Culture	0.915	0.924	0.928	0.504
Talent Management	0.944	0.947	0.953	0.719
Workforce Agility	0.919	0.925	0.934	0.642
Workforce Engagement	0.892	0.894	0.925	0.755

Table 1 summarizes the reliability and validity assessments for the four principal constructs: organizational culture, talent management, workforce agility, and workforce engagement. The organizational culture construct demonstrates exceptional internal consistency, with a Cronbach's Alpha of 0.915, reinforced by a rho_a value of 0.924, and a composite reliability of 0.928. Furthermore, its average variance extracted (AVE) of 0.504 signifies that it accounts for more than 50% of the variance in its indicators.

Talent management exhibits a similarly robust measurement profile, as evidenced by a Cronbach's Alpha of 0.944, rho_a of 0.947, and composite reliability of 0.953. The AVE value of 0.719 indicates a high proportion of explained variance. In parallel, workforce agility reveals strong psychometric properties, with a Cronbach's Alpha of 0.919, rho_a of 0.925, and composite reliability of 0.934. Its AVE score of 0.642 affirms its explanatory power regarding observed variables. Workforce engagement also manifests high reliability, reflected in a Cronbach's Alpha of 0.892, a rho_a value of 0.894, and a composite reliability of 0.925. The AVE of 0.755 further supports the construct's convergent validity. Collectively, these four constructs exceed the standard thresholds (AVE > 0.5; α , rho_a, and CR > 0.8), affirming the model's robust reliability and convergent validity.

Cross-loading analysis was employed by Hair et al. (2020) to assess discriminant validity. This method entails comparing the indicator loadings of each construct with its loadings on other constructs. The results in Table 2 reveal that all indicators load more strongly on their respective constructs than others, thereby satisfying the criterion for discriminant validity.

The model's explanatory power was further examined using *R*-squared (R^2) values, which denote the proportion of variance in endogenous variables accounted for by the exogenous variables. Based

Table 2. Discriminant validity

Variable	Organizational Culture	Talent Management	Workforce Agility	Workforce Engagement
Organizational Culture	0.710			
Talent Management	0.855	0.848		
Workforce Agility	0.897	0.887	0.895	
Workforce Engagement	0.880	0.793	0.830	0.869

on Hair et al. (2014), R^2 values of 0.33, 0.19, and 0.67 represent weak, moderate, and substantial predictive accuracy, respectively. As presented in Table 3, the R^2 value for talent management is 0.739, and for workforce agility, it is 0.860, indicating a high level of explanatory strength in both constructs.

Table 3. R-squared value

Variable	R-squared	R-squared adjusted
Talent Management	0.739	0.737
Workforce Agility	0.860	0.859

Moreover, the predictive relevance of the model, quantified through Q^2 , was calculated as follows: $Q^2(1) - 1 = -R_1^2(1 - R_2^2) = 1 - (1 - 0.739)(1 - 0.860) = 0.88282$, implying that the model elucidates approximately 88% of the variance in the dataset. This encompasses 74% for talent management and 86% for workforce agility, with the remainder attributable to exogenous variables beyond the model's scope.

The path coefficients and significance levels of hypothesized relationships are outlined in Table 4. The results demonstrate statistically significant relationships ($p < 0.05$) between organizational culture and talent management, organizational culture and workforce agility, talent management and workforce agility, and workforce engagement

and talent management. Conversely, the direct relationship between workforce engagement and agility is statistically insignificant.

The hypothesis testing results show that organizational culture significantly influences talent management ($t = 14.753; p < 0.05$) and workforce agility ($t = 6.832; p < 0.05$). Workforce engagement also has a significant effect on talent management ($t = 2.624; p < 0.05$), but does not directly affect workforce agility ($t = 0.073; p > 0.05$). Meanwhile, talent management positively affects workforce agility ($t = 6.352; p < 0.05$). These findings highlight that organizational culture and workforce engagement can enhance workforce agility through the mediating role of talent management.

Further analysis in Table 5 reveals that talent management mediates the relationships between organizational culture and workforce agility and between workforce engagement and agility.

The mediation testing results show that organizational culture indirectly influences workforce agility through talent management ($t = 5.467; p < 0.05$), indicating a strong and statistically significant mediating effect. Likewise, workforce engagement indirectly influences workforce agility via talent

Table 4. Hypothesis testing results

Path	Original Sample (O)	Sample Mean (M)	T-statistics (O/STDEV)	P-Values	Decision
Organizational Culture → Talent Management	0.698	0.702	14.753	0.000	Accepted
Workforce Engagement → Talent Management	0.179	0.178	2.624	0.009	Accepted
Organizational Culture → Workforce Agility	0.435	0.436	6.832	0.000	Accepted
Workforce Engagement → Workforce Agility	0.105	0.109	1.797	0.073	Rejected
Talent Management → Workforce Agility	0.431	0.426	6.352	0.000	Accepted

Table 5. Hypothesis testing results of the mediating variable

Path	Original Sample (O)	Sample Mean (M)	T-statistics (O/STDEV)	P-Values	Decision
Organizational Culture → Talent Management → Workforce Agility	0.301	0.3	5.467	0.00	Accepted
Workforce Engagement → Talent Management → Workforce Agility	0.077	0.075	2.577	0.01	Accepted

management ($t = 2.577$; $p < 0.05$), confirming the presence of a significant, though relatively smaller, mediation effect. These results further emphasize the strategic role of talent management in linking organizational factors to workforce agility.

4. DISCUSSION

The test results of the first hypothesis (H1) show that organizational culture has a positive and statistically significant effect on talent management ($t = 14.753$, $p = 0.000$). This suggests that institutions with stronger, more constructive cultural environments tend to implement talent management more effectively. Culture, through its embedded values, norms, and behaviors, is a foundational mechanism supporting talent identification, development, and retention. These findings align with Huynh et al. (2020), who demonstrated that organizational culture strongly influences recruitment, training, compensation, and performance evaluation in Vietnamese public companies. Similarly, Zhang et al. (2023) highlighted that cultures promoting ethics, achievement, and growth significantly enhance the effectiveness of talent initiatives, driving both performance and retention. Additional support comes from Meng et al. (2016), Krishnakumar and Vasu (2024), and Kira and Kamel (2021), who also identified a significant positive relationship between culture and talent strategies. While much existing research focuses on corporate environments, this study contributes to the literature by validating the same relationship within nonprofit educational institutions. This suggests that organizational culture remains a strategic driver of talent management success even in mission-driven, resource-constrained settings. Confirming H1 thus reinforces theoretical frameworks that position culture as central to the effective execution of talent strategies. Institutions that foster cultures of innovation, learning, and respect are better positioned to develop resilient, high-performing talent pipelines. Such alignment improves internal human resource practices and supports broader institutional competitiveness and sustainability in a dynamic environment.

The second hypothesis (H2) test results indicate that workforce engagement has a positive and statistically significant effect on talent manage-

ment ($t = 2.624$, $p = 0.009$). This finding implies that when employees are more engaged, emotionally and cognitively, they are more likely to contribute to effective talent management practices such as identifying, developing, and retaining top performers. As described in the job demands-resources (JD-R) Model, engagement arises from the interplay between job demands and support resources, influencing performance and retention. Empirical evidence supports this theoretical link. Al-Khateeb and Al-Louzi (2020) found that engagement significantly impacted talent management in Jordan's telecommunications and IT sectors, particularly recruitment and development. Likewise, Obedgiu et al. (2023) demonstrated that engagement mediates the relationship between talent management and employee performance in a Ugandan public university. These studies suggest that engaged employees are more proactive, development-oriented, and invested in organizational success. Supporting evidence also comes from Sumarto and Rumaningsih (2021), Ekhsan et al. (2023), and Yuniati et al. (2021), who confirm the positive effect of engagement on talent management across diverse organizational contexts. By confirming H2, this study reinforces the view that employee engagement is not merely a behavioral byproduct but a strategic asset essential to executing talent strategies. Organizations, especially nonprofit educational foundations, should cultivate engagement by offering constructive feedback, recognizing contributions, and involving employees in meaningful roles. These practices enhance commitment and satisfaction and the efficiency and sustainability of talent development systems over time.

The third hypothesis (H3) is confirmed, which shows that organizational culture has a positive and statistically significant effect on workforce agility ($t = 6.832$, $p = 0.000$). This finding suggests that institutions with a strong and constructive culture are more capable of fostering an agile workforce, one that is adaptable, resilient, and responsive to dynamic environmental demands. A supportive organizational culture enhances employee capacity to manage change and uncertainty effectively. This result aligns with Alahyari et al. (2019), who noted that agility thrives in environments that consistently promote innovation, collaboration, and continuous improvement. Radu

(2023) further demonstrated that cultures prioritizing well-being, professional development, and teamwork significantly boost agility. Consistent evidence is also presented by Felipe et al. (2017), Kovynyov et al. (2021), and Neumann et al. (2023), who confirmed the robust relationship between organizational culture and agility across different sectors. While many previous studies focused on corporate or technological contexts, this study extends the application of that relationship to non-profit educational institutions, thereby affirming the universality of culture as a driver of agility. Confirming H3 thus contributes to the theoretical understanding of culture as a structural enabler of workforce agility. Practically, it highlights the importance of educational foundations to purposefully foster a culture that encourages learning, experimentation, and adaptability. By embedding these values, organizations can build agile teams capable of navigating uncertainty, responding to shifts in the external environment, and sustaining performance in the face of continuous change.

The fourth hypothesis (H4) test reveals that workforce engagement does not have a statistically significant direct effect on workforce agility ($t = 1.797, p = 0.073$). This suggests that in the context of nonprofit educational foundations in North Sumatra, engagement alone may not be sufficient to foster agile behavior. While engaged employees typically exhibit enthusiasm and commitment, these traits may not translate into agility without supporting structural or psychological factors. This finding diverges from previous research identifying a positive relationship between engagement and agility. For instance, Hanifah and Wicaksana (2024) found that psychological empowerment moderates this relationship, enabling engaged employees to exhibit agility when they feel empowered. Similarly, Azmy (2021) identified engagement as a mediating variable between talent management and agility in the healthcare sector, suggesting that contextual enablers shape how engagement contributes to adaptive behaviors. Additional studies by Natapoera and Mangundjaya (2020), Azmy et al. (2022), and Hanifah and Wicaksana (2024) confirm similar outcomes, but often within frameworks involving leadership, job design, or organizational climate. The inconsistency with past findings may reflect sectoral differences, institutional maturity, or lack of enabling systems in the study context. These results support the no-

tion that engagement is necessary but insufficient for agility. Structural supports such as psychological empowerment, innovative culture, and flexible systems are needed to fully realize an engaged workforce's agility potential. Practically, foundations must combine engagement strategies with systemic initiatives that promote autonomy, collaboration, and responsiveness to cultivate a workforce capable of navigating complex change.

The fifth hypothesis (H5) test confirms that talent management has a positive and statistically significant effect on workforce agility ($t = 6.352, p = 0.000$). This result indicates that organizations with structured and strategic talent systems are more capable of cultivating agile behaviors among employees, enabling them to respond effectively to change and complexity. Talent-focused practices, such as development, retention, and succession planning, directly contribute to building a responsive and adaptable workforce. These findings align with the dynamic capability theory, which holds that organizations that continuously develop and reconfigure internal competencies are more resilient and agile. Supporting this view, Ajaonkar et al. (2022) noted that agility is fostered through dynamic HR practices embedded in innovative and collaborative cultures. Similarly, Azmy et al. (2022) found that talent management mediates the relationship between engagement and agility, particularly in service institutions, showing that engaged employees exhibit greater adaptability when supported by structured talent strategies. Further evidence from Tobeery (2017), Yulian and Ekhsan (2023), and Prasetiawan et al. (2025) confirms that talent management enhances agility across various sectors. While prior studies often focused on private or healthcare settings, this study broadens the scope by demonstrating similar effects within nonprofit educational foundations. Confirming H5 thus reinforces the theoretical view of talent management as a strategic enabler of workforce agility. Practically, foundations should implement long-term talent strategies, including identifying high-potential individuals, investing in continuous development, and creating structured career pathways. These efforts will enhance adaptability, responsiveness, and long-term institutional competitiveness amid ongoing environmental change.

The sixth hypothesis (H6) test confirms that organizational culture has a positive and significant indirect effect on workforce agility through the mediating role of talent management ($t = 5.467$, $p = 0.000$). This suggests that a constructive and development-focused culture enhances the effectiveness of talent strategies, strengthening workforce agility. Culture is a foundational context that enables talent management to function optimally, creating conditions where employees become more adaptable and responsive. Theoretically, this supports the notion that organizational culture shapes how individuals interpret opportunities for growth, collaboration, and contribution. Cultures that promote innovation, learning, and shared accountability foster the psychological safety and motivation needed to develop agility-related capabilities. In such an environment, talent management becomes a strategic enabler, enhancing individual potential and collective adaptability. These findings are aligned with Alahyari et al. (2019), who emphasized the importance of iterative learning and value creation for agility, and Ajgaonkar et al. (2022), who found that innovation-focused cultures amplify the impact of talent systems on workforce responsiveness in technology sectors. Extending this evidence, the current study validates the same cultural mechanism within nonprofit educational foundations, underscoring its relevance in mission-driven environments. The confirmation of H6 thus reinforces the theoretical view that culture not only influences agility directly but also empowers the human resource infrastructure, particularly talent management, to drive agile outcomes. Practically, foundations should embed cultural values that support experimentation, continuous learning, and collaboration, ensuring that their talent initiatives translate into meaningful agility. A culturally aligned talent system builds employees equipped and motivated to thrive in rapidly changing environments.

The seventh hypothesis (H7) is supported by the study's results, showing that workforce engagement has a positive and significant indirect effect on workforce agility through the mediating role of talent management ($t = 2.577$, $p = 0.001$). This indicates that while engagement alone does not directly enhance agility, as reflected in H4's rejection, it significantly contributes to agility when channeled through effective talent management systems. Engaged employees, characterized by energy, dedication, and absorption in work, are more likely to exhibit agile behaviors when supported by structured development programs, succession planning, and capability-building efforts. Talent management thus serves as the organizational mechanism that transforms personal commitment into an adaptable and responsive workforce. This mediating effect aligns with Azmy et al. (2022), who found that innovative talent management systems strengthen the link between engagement and agility, especially in service-based organizations. Natapoera and Mangundjaya (2020) also noted that engagement influenced 33.6% of agility variance, though institutional factors conditioned the strength of the relationship. By validating this mechanism in nonprofit educational foundations, this study extends the empirical base of engagement–agility research beyond corporate contexts. Confirming H7 reinforces the theoretical argument that talent management is a critical intermediary in converting employee engagement into organizational agility. Practically, foundations must promote engagement through recognition, feedback, and inclusive practices and embed that engagement in structured talent strategies. Doing so enhances adaptability, responsiveness, and resilience, helping institutions navigate ongoing challenges and maintain performance in rapidly changing environments.

CONCLUSION

This study investigated how organizational culture and workforce engagement shape workforce agility, emphasizing talent management's mediating role within North Sumatra's educational foundations. The empirical evidence shows that organizational culture influences workforce agility directly and indirectly, highlighting its foundational role in fostering adaptability and responsiveness. In contrast, workforce engagement does not directly enhance agility; however, its indirect influence becomes significant when channeled through structured talent management systems. Talent management emerges as a pivotal

mediating mechanism, amplifying the effect of organizational culture and transforming employee engagement into agile behavior. These findings underscore the strategic importance of cultivating strong organizational culture and robust talent development frameworks to build a responsive and future-ready workforce in the educational sector.

The implication is that building an agile workforce requires more than isolated HR initiatives. Institutions must embed agility into the broader organizational fabric, aligning cultural values, engagement mechanisms, and talent strategies into a coherent system. A culture that fosters learning and adaptability, combined with structured talent pipelines and opportunities for involvement, can produce resilient, responsive, and future-ready employees.

Future research should test this model across different sectors or regions to assess its generalizability beyond nonprofit educational institutions in North Sumatra. Qualitative or mixed-method studies could further unpack how cultural values and talent systems interact at the operational level. Moreover, examining variables such as leadership style, organizational digital maturity, or institutional scale could provide richer insights into what strengthens or weakens the connection between culture, talent, and agility.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Table A1. Research questionnaire

Statement	Please put a tick mark (✓) in the appropriate box				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
WORKFORCE AGILITY					
I feel empowered and autonomous in carrying out my responsibilities.					
My job performance is evaluated based on outcomes and results.					
I often work in virtual or remote teams.					
Automation tools/systems are used in my team's work.					
Trust-based relationships strongly characterize my workplace.					
My organization promotes win-win-win solutions for the company, staff, and clients.					
The physical work environment is flexible and supports teamwork.					
My work schedule is flexible and enhances productivity.					
TALENT MANAGEMENT					
My organization recognizes individuals with strong potential as future talent.					
Candidates are ranked based on their qualifications.					
New employees receive structured, high-quality training.					
There is effective cooperation between managers and staff in talent development.					
The internal recruitment process is clear and transparent.					
Compensation policies are perceived as fair and competitive.					
The organization provides clear career planning for all employees.					
Regular training programs support skill development.					
WORKFORCE ENGAGEMENT					
My performance at work is a major source of my self-esteem.					
My performance reflects my identity.					
I consider work to be an important life goal.					
I actively engage in workplace activities and programs.					
ORGANIZATION CULTURE					
I am satisfied with my job at this organization.					
I strongly desire personal and professional growth.					
I consistently adhere to organizational rules and policies.					
I take initiative even without direct instructions from leaders.					
My team collaboratively decides on strategies and implements them.					
Employees greet and respect one another regularly.					
Team members assist each other in task completion.					
Everyone's opinions are given value and respect.					
High quality is consistently prioritized in tasks.					
Continuous innovation is encouraged in the organization.					
Efficiency and effectiveness are central to daily work.					
Team assignments are completed collaboratively.					
Problems in the team are consistently resolved effectively.					