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Building the 21st century leadership mindset among talents in Indonesian state-owned banks: The roles of knowledge-oriented leadership, learning Organisational culture, and breadth of experience

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Abstract

This study examines the interrelationships between Knowledge-Oriented Leadership (KOL), Breadth of Experience (BOE), Learning Organisational Culture (LOC), and the 21st-Century Leadership Mindset (LM) within the context of talent management in Indonesia's state-owned banking enterprises. Drawing upon theories of organisational learning, experiential development, and leadership identity, the research adopts a quantitative approach involving 210 talent pool participants from leading state-owned banks. Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) to test both measurement and structural models. The findings reveal that LOC has a significant and positive influence on LM, confirming its pivotal role as a cultural enabler in shaping adaptive, future-oriented leadership orientations. Contrary to theoretical expectations, KOL demonstrates a negative direct effect on LM, suggesting that an overemphasis on codified knowledge may hinder the emergence of agile leadership mindsets. Meanwhile, BOE exhibits an insignificant direct effect on LM but significantly enhances LM when mediated by LOC. Both KOL and BOE exert meaningful indirect effects through LOC, underscoring the mediating power of learning culture in leadership development. These results underscore the centrality of learning organisational culture in fostering leadership mindsets attuned to the demands of the 21st century. The study offers theoretical contributions by positioning LOC as a cultural infrastructure for leadership transformation and practical insights for state-owned enterprises seeking to future-proof their leadership talent. Limitations related to the cross-sectional design and sector-specific context are acknowledged, with recommendations for longitudinal and multi-sectoral research to validate and extend these findings.

Keywords: 21st century, Breadth of experience, Knowledge-oriented leadership, Leadership mindset, Learning organisational culture, State-owned enterprises, Talent management.

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1. Introduction

Over the past two decades, the academic discourse on leadership development in the 21st century has gained significant momentum, reflecting a growing urgency to redefine leadership in light of profound global changes [1-3]. The transition from the industrial-age business landscape to the volatile, uncertain, complex, and ambiguous (VUCA) environment of the 21st century has placed increasing demands on organisations to cultivate a new leadership mindset—one that is adaptable, reflective, and strategically future-oriented [4]. Despite the proliferation of leadership models such as transformational, ambidextrous, and systemic leadership [5-7] consensus remains elusive regarding the ideal characteristics and development pathways for future leaders [2, 8].

While much of the extant literature concentrates on the relationship between leadership styles and organisational performance, there has been insufficient scholarly attention to the processes and conditions that foster leadership readiness within organisations [9]. Particularly in state-owned enterprises (SOEs), including national banking institutions in Indonesia, the strategic imperative of developing future leaders is further complicated by the dual function of these organisations—not only as users but also as producers of leadership talent for the broader BUMN ecosystem. This systemic expectation necessitates a recalibration of leadership development strategies that extend beyond internal succession planning to include inter-organisational leadership supply [10, 11].

Amidst this complexity, recent initiatives by leading Indonesian SOEs such as Bank Mandiri and BRI have illustrated a forward-looking approach to talent development, including sending high-potential employees for advanced study at prestigious global institutions and investing in internal learning interventions such as mentoring and executive coaching. However, while these strategies are laudable, questions remain regarding the internal organisational conditions that facilitate the transformation of talent into effective 21st-century leaders.

From a theoretical standpoint, the formation of a 21st-century leadership mindset (LM) is increasingly understood as a dynamic outcome shaped by contextual learning, identity development, and lived experiences [12, 13]. Three interrelated factors appear to play a decisive role in this process: Knowledge-Oriented Leadership (KOL), which frames the leader's capacity to cultivate and leverage knowledge as a strategic resource [14] Learning Organisational Culture (LOC), which provides the cultural foundation for continuous learning and strategic adaptability [15] and Breadth of Experience (BOE), which encompasses the variety and depth of professional challenges that shape leadership identity and critical thinking through reflection and adaptation [16, 17].

Leadership development within the Indonesian BUMN banking sector provides an ideal context to examine the interactions between these factors [18]. On one hand, the knowledge-intensive nature of the banking industry necessitates leadership that is not only technically competent but also epistemically curious and strategically insightful. On the other, the organisational culture within these institutions—whether supportive or inhibitive of learning—can significantly influence the trajectory of leadership identity formation. Furthermore, the diversity of professional experiences, including cross-functional assignments, international exposure, and high-stakes decision-making, offers critical crucibles through which emerging leaders acquire the adaptability and resilience needed in a VUCA world.

Despite the growing body of research on talent management and leadership pipelines in SOEs, few empirical studies have explored the interplay between knowledge-oriented leadership, organisational learning culture, and breadth of experience in shaping a future-ready leadership mindset. This study seeks to address that gap by investigating the extent to which these three dimensions contribute—both directly and indirectly—to the formation of a 21st-century leadership mindset among senior managers and leadership talents within Indonesia's state-owned banking sector.

Accordingly, this study aims to investigate the extent to which Knowledge-Oriented Leadership (KOL), Breadth of Experience (BOE), and Learning Organisational Culture (LOC) contribute to the formation of a 21st-Century Leadership Mindset (LM) among leadership talents within Indonesian state-owned banking enterprises. Specifically, the research seeks to examine the direct influence of KOL and BOE on the development of LM, as well as their respective impacts on the cultivation of a learning-oriented organisational culture. Furthermore, the study explores the mediating role of LOC in the relationship between both KOL and BOE with the leadership mindset. By clarifying these relational dynamics, the research aspires to provide a comprehensive understanding of how internal organisational factors and leadership experiences interact to shape the cognitive, emotional, and strategic orientations necessary for effective leadership in the VUCA context of the 21st century.

By unpacking these relationships, the study aims to offer practical insights into how BUMN banks in Indonesia can more effectively design leadership development strategies that not only address internal succession needs but also contribute to the broader national leadership agenda. This research therefore contributes to both the theory and practice of talent and leadership development in emerging market contexts.

2. Literature

In responding to the demands of a volatile, uncertain, complex, and ambiguous (VUCA) world, organisations must cultivate leaders with the capacity to think systemically, learn continuously, and act adaptively [4, 16]. This requires a transformation in how leadership mindsets are developed, moving beyond technical competence towards a more holistic and future-ready orientation. A 21st-Century Leadership Mindset (LM)—characterised by cognitive agility, cultural intelligence, and collaborative problem-solving—has become a strategic imperative.

This study explores how three key enablers—Knowledge-Oriented Leadership (KOL), Breadth of Experience (BOE), and a Learning Organisational Culture (LOC)—contribute to the formation of this mindset. Drawing from established theoretical foundations and recent empirical insights, the following sections examine the interrelations among these constructs. Each subsection culminates in the development of hypotheses that guide this research.

Knowledge-Oriented Leadership and the Formation of a 21st-Century Leadership Mindset

In recent years, the concept of Knowledge-Oriented Leadership (KOL) has emerged as a critical enabler of organisational learning and strategic agility. KOL is characterised by a leadership approach that prioritises the cultivation, sharing, and application of knowledge across all organisational levels [19]. Leaders who adopt this orientation tend to promote open communication, critical reflection, and collaborative problem-solving—fostering a climate where continuous learning becomes embedded in both individual and collective practice [15].

The 21st-century leadership mindset demands agility, openness to change, and adaptive learning capabilities. Such a mindset reflects a leader's ability to engage with complexity and uncertainty while continuously seeking development opportunities. Fitzgerald [20] asserts that this mindset arises from a synthesis of rational analysis and intuitive insight—both of which flourish in knowledge-rich environments. Moreover, McClendon, et al. [21] theory of growth mindset reinforces the idea that when leaders are exposed to learning-oriented settings, they are more likely to develop flexible and resilient thought patterns.

Based on these arguments, this study formulates the following hypothesis:

H₁: Knowledge-Oriented Leadership has a direct and significant positive influence on the formation of a 21st-Century Leadership Mindset.

2.1. Knowledge-Oriented Leadership as a Catalyst for Learning Organisational Culture

Learning Organisational Culture (LOC) refers to the shared values, norms, and practices that encourage ongoing learning and adaptive thinking within an organisation [10]. A culture that supports learning fosters open inquiry, knowledge exchange, and collaborative experimentation—conditions which are essential for navigating change and promoting innovation. Leaders play a crucial role in shaping this culture through their behaviours and strategic priorities.

Knowledge-Oriented Leadership, in particular, is instrumental in nurturing LOC. Such leaders act as role models who inspire intellectual curiosity and remove barriers to knowledge sharing. By integrating learning into strategic routines and providing psychological safety for experimentation, they embed a learning ethos within the organisational fabric [19, 22].

Based on these arguments, this study formulates the following hypothesis:

H₂: Knowledge-Oriented Leadership positively and significantly influences Learning Organisational Culture.

2.2. Breadth of Experience as a Contributor to Organisational Learning Culture

Breadth of Experience denotes the range and diversity of professional roles, functions, industries, and challenges encountered by individuals throughout their careers [23, 24]. This multidimensional exposure cultivates cognitive diversity, enabling individuals to develop more integrative and innovative problem-solving skills.

Leaders who have traversed diverse professional landscapes are often better positioned to foster and reinforce a Learning Organisational Culture. Their accumulated insights from various contexts enrich organisational dialogue, promote cross-functional understanding, and support the institutionalisation of learning mechanisms. As Boak and Crabbe [25] suggest, such individuals often act as catalysts for learning by questioning entrenched assumptions and advocating for continuous development.

Drawing upon the aforementioned rationale, this research proposes the following hypothesis:

H₃: Breadth of Experience has a direct and significant impact on Learning Organisational Culture.

2.3. Breadth of Experience and the Development of a 21st Century Leadership Mindset

The demands of 21st-century leadership extend beyond technical expertise to include systemic thinking, resilience, and the ability to navigate ambiguity. Breadth of Experience equips leaders with the mental agility required to integrate multiple viewpoints, adapt to novel situations, and exercise inclusive judgement [26].

Marchi [24] highlights the strategic advantage conferred by varied career experiences, noting that such leaders are more likely to challenge prevailing norms and adopt growth-oriented perspectives. These experiences support the development of a mindset conducive to dynamic leadership and reflective learning—core attributes of effective leadership in today's volatile and interconnected world.

In light of the arguments presented above, the study puts forward the following hypothesis:

H₄: Breadth of Experience positively influences the formation of a 21st-Century Leadership Mindset.

2.4. The Impact of Learning Organisational Culture on Leadership Mindset Development

A Learning Organisational Culture shapes not only how knowledge is managed, but also how individuals perceive and engage with their roles as leaders. By promoting reflective practice, peer learning, and constructive feedback, LOC reinforces leadership behaviours that align with a growth-oriented mindset [15, 27].

Leaders embedded in such cultures are more likely to engage in self-inquiry, seek out diverse perspectives, and adapt their approaches in response to new challenges. These dynamics are fundamental to cultivating a leadership mindset that is future-focused, collaborative, and adaptive to change.

Following the preceding arguments, this study advances the following hypothesis:

H₅: Learning Organisational Culture directly and positively influences the development of a 21st-Century Leadership Mindset.

2.5. Learning Organisational Culture as a Mediator Between Knowledge-Oriented Leadership and Leadership Mindset

While Knowledge-Oriented Leadership sets the tone for knowledge-driven behaviours, its influence on leadership development may be amplified through the cultural context it creates. LOC functions as the intermediary through which the leader's values and actions are disseminated and institutionalised within the organisation [9, 12].

In this sense, a learning-oriented culture becomes the conduit that transmits and reinforces knowledge-based leadership principles, enabling them to shape the mindset of emerging leaders. Imam and Zaheer [28] underscore the mediating role of culture in translating leadership behaviour into meaningful outcomes.

Building upon the earlier analysis, the following hypothesis is constructed:

H₆: Knowledge-Oriented Leadership has an indirect effect on the 21st-Century Leadership Mindset through Learning Organisational Culture.

2.6. Breadth of Experience and Leadership Mindset: The Mediating Role of Learning Organisational Culture

Breadth of Experience, while significant in its own right, can exert greater impact when situated within a culture that supports learning and experimentation. Individuals with diverse backgrounds contribute to cultural richness, but it is the receptivity and reinforcement of that culture that ultimately shapes leadership development trajectories [4, 29].

A robust LOC serves as a framework in which experiential insights are not only valued but also systematically integrated into organisational learning processes. This interplay supports the emergence of leadership mindsets aligned with 21st-century challenges.

Based on these arguments, this study formulates the following hypothesis:

H₇: Breadth of Experience indirectly influences the 21st-Century Leadership Mindset through Learning Organisational Culture.

3. Method

This study adopts a quantitative research design employing Structural Equation Modelling (SEM) utilising the Partial Least Squares (PLS) method to investigate the complex relationships among variables shaping the 21st-century leadership mindset in executives of Indonesian state-owned banks [30]. The SEM-PLS approach is particularly suited to this study due to its robustness in handling models with latent constructs, both reflective and formative indicators, and its applicability for relatively modest sample sizes [31, 32]. The population targeted consists of all BoD-1 level executives from two prominent Indonesian state-owned banks, estimated at approximately 250 individuals. A census sampling strategy is implemented to include the entire population, thereby maximising representativeness, with an anticipated response rate of 90% (244 respondents) to ensure adequate statistical power.

Data collection utilises a structured questionnaire based on a four-point Likert scale without a neutral midpoint, thereby reducing central tendency bias and encouraging decisive responses [33, 34]. The research focuses on four key variables: Knowledge-Oriented Leadership and Breadth of Experience as exogenous predictors, Learning Organisational Culture as a mediating variable, and the 21st-Century Leadership Mindset as the primary endogenous outcome [4, 23]. Each construct is operationalised through validated reflective indicators, with internal consistency confirmed by Cronbach's Alpha values exceeding 0.7 and convergent validity established through Average Variance Extracted scores above 0.5.

The data analysis process is conducted using SmartPLS version 4.0. Initial assessments involve evaluating measurement model quality through convergent validity—verified by factor loadings and AVE thresholds—and discriminant validity confirmed via the Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio, which must remain below 0.9. Subsequently, structural model analysis assesses the significance of hypothesised paths, with path coefficients tested at a significance level of $p < 0.05$. The coefficient of determination (R^2) is utilised to gauge the explanatory power of the model, with values exceeding 0.25 considered acceptable. Effect size (f^2) analyses determine the substantive contribution of exogenous variables on endogenous outcomes. Mediation effects are examined to explore the indirect influence of Knowledge-Oriented Leadership and Breadth of Experience on the 21st-Century Leadership Mindset through Learning Organisational Culture, addressing hypotheses H6 and H7.

This quantitative methodology aligns with the study's objective to empirically validate causal relationships within a theoretical framework comprising Knowledge-Oriented Leadership, Breadth of Experience, Learning Organisational Culture, and Leadership Mindset. The SEM-PLS approach is advantageous for handling non-normal data distributions and

integrating multidimensional latent variables, although it limits qualitative insights into contextual nuances [31, 35, 36]. Ethical protocols are observed by ensuring respondent anonymity and securing informed consent for the use of collected data exclusively for academic purposes.

4. Result and Discussion

This chapter presents the results of the survey data analysis using SmartPLS 4.0, based on responses from 244 executive-level employees (BoD-1) across two state-owned banks. The analysis includes measurement model testing (reliability and validity), structural model assessment, and hypothesis testing. Descriptive frequency data are also provided to enhance the interpretation of findings. Data were collected via an online questionnaire distributed through WhatsApp. After cleaning, 244 valid responses were retained from an initial 250. The analysis includes outer model evaluation (Cronbach's Alpha and composite reliability) and construct validity testing, followed by hypothesis testing. Selected descriptive data are also presented to provide further insights and highlight potential differences between the two organisations.

5. Result

The data reveals that the senior executives participating in this study—drawn from two state-owned banking corporations—possess a mature blend of educational and professional experience. A total of 143 respondents (59%) were from PT Bank Mandiri (Persero) Tbk, while 101 respondents (41%) came from PT Bank Rakyat Indonesia (Persero) Tbk. This significant disparity in respondent numbers reflects organisational differences between the two banks, which mirror their actual organisational hierarchies. While both institutions maintain comparable asset sizes, Bank Mandiri has a broader structure at the headquarters level, in contrast to BRI's decentralised regional spread. For instance, Bank Mandiri has only 151 employees at the SEVP, EVP, and SVP levels across 139 domestic branches, whereas BRI, with a leaner executive cadre of 105 at similar ranks, operates over 453 branches.

Table 1.
Demographic profile of the respondents.

Attributes	Respondent		Attributes	Respondent	
Gender	Total	Percentage	Length of service	Total	Percentage
Male	186	76%	Less than 5 years	6	2%
Female	58	24%	5 to 10 years	11	5%
Sub Total	244	100%	10 to 20 years	53	22%
Education Background	Total	Percentage	More than 20 years	174	71%
Bachelor degree	90	37%	Total	244	100%
Master degree	150	61%	Current company	Total	Percentage
Doctoral degree	4	2%	Bank Mandiri	143	59%
Total	244	100%	Bank BRI	101	41%
International Scholarship Recipients	Total	Percentage	Total	244	100%
Yes	47	31%			
No	107	69%			
Total	154	100%			

In terms of educational attainment, the majority of executives—who are one level below the board of directors—hold postgraduate qualifications. Master's degree holders constitute 61% (150 respondents), and doctorate holders account for an additional 2% (4 respondents), leaving 37% (90 respondents) with a bachelor's degree. Notably, 47 of the postgraduate respondents (31%) received overseas scholarships. Regarding length of service, most respondents have been employed at their current institution for more than two decades, representing 71% (174 individuals). A further 22% (53 individuals) have between 10 and 20 years of tenure, while 5% (11 individuals) and 2% (6 individuals) have between 5–10 years and less than 5 years, respectively. These figures underline a strong foundation of institutional knowledge and experience among the respondents. However, the gender composition reveals a predominance of male executives, comprising 76% (186 individuals), while females represent only 24% (58 individuals).

5.1. Measurement Model Analysis (Outer Model)

To evaluate the internal consistency of the research instrument, this study employed both Cronbach's Alpha and Composite Reliability tests. According to Hair, et al. [32]; Hair Jr, et al. [30]; Ghazali [37] and Ghazali [38] a construct is deemed reliable if both measures yield values equal to or greater than 0.70. These indicators reflect the degree to which the items associated with each construct consistently and stably measure the intended variable. Ensuring instrument reliability is essential for validating the internal consistency of the data and providing statistically sound outcomes.

5.2. Convergent Validity

Construct validity was assessed through convergent validity analysis, as outlined by Hair, et al. [39] and Hair, et al. [40]. A factor loading above 0.70 was established as the threshold for each item to be retained. This process helps ensure

that each indicator reflects its associated latent construct adequately. The following tables present the number of indicators that met the loading threshold, along with those eliminated due to insufficient loading values.

Table 2.
Number of Indicator Items Before and After Loading Factor Test.

Variable	Number of Indicator Items on Instrument	Number of Qualified Indicator Items
BOE	24	11
KOL	31	21
LM	23	11
LOC	53	32
Total	131	75

A total of 75 indicators exceeded the 0.70 loading criterion and were retained, while 56 were eliminated. The retained indicators are presented per construct below.

For the Breadth of Experience (BOE) construct, most indicators demonstrated strong factor loadings. Indicators BOE6, BOE7, BOE8, and BOE24 exceeded 0.80, showing excellent representational power. Two indicators, BOE16 (0.546) and BOE22 (0.644), fell below the 0.70 threshold and were subsequently excluded to enhance the construct's AVE and reliability.

The Knowledge-Oriented Leadership (KOL) construct also exhibited strong convergent validity, with most indicators exceeding 0.80 (e.g., KOL15–KOL25). Indicators such as KOL1, KOL9, KOL11, KOL12, and KOL26 scored between 0.60 and 0.70. Though still acceptable in exploratory research, they were removed to increase the precision and parsimony of the construct.

The Leadership Mindset (LM) construct was strongly supported by high-loading indicators, including LM9 (0.931), LM10 (0.949), and LM14 (0.901). LM5, LM6, and LM7 also performed well, each exceeding 0.80. However, LM11 (0.559), LM12 (0.614), and LM13 (0.552) failed to meet the acceptable threshold and were thus removed.

For the Learning Organisational Culture (LOC) construct, a majority of indicators demonstrated high loadings (e.g., LOC3–LOC32, ranging from 0.725 to 0.842). Nevertheless, indicators such as LOC38 (0.522), LOC43 (0.547), and LOC53 (0.544) exhibited weak loading values and were excluded. Other marginal indicators, including LOC23, LOC24, and LOC40 (between 0.603 and 0.664), were also removed to improve the model's validity.

5.2. Discriminant Validity

Following the convergent validity assessment, discriminant validity was tested to ensure each construct measured a unique concept distinct from the others. This validation step strengthens the confidence that the constructs reflect distinct theoretical entities.

The Average Variance Extracted (AVE) was used to assess discriminant validity, whereby each construct's AVE value had to exceed 0.50 and be greater than its squared correlations with other constructs. Reliability was further assessed via Composite Reliability (CR), with a threshold of 0.70.

Table 3.
Construct Reliability (CR) and Average Variance Extracted (AVE) Testing.

Variable	Number of Items Indicator	Cronbach's alpha	Composite reliability (rho _a)	Composite reliability (rho _c)	Average Variance Extracted (AVE)
BOE	11	0.929	0.935	0.940	0.590
KOL	21	0.968	0.969	0.971	0.620
LM	11	0.937	0.957	0.947	0.626
LOC	32	0.970	0.970	0.972	0.526

The results obtained via Smart PLS demonstrated that all constructs satisfied the criteria for both reliability and convergent validity. The CR values for all constructs surpassed the 0.70 benchmark, ranging from 0.940 (BOE) to 0.972 (LOC), confirming excellent internal consistency. The AVE values were also above 0.50, ranging from 0.526 (LOC) to 0.626 (LM), indicating that each construct could explain more than 50% of the variance of its respective indicators.

5.3. Structural Model Analysis (Inner Model)

Following validation of the measurement model, the study proceeded with the structural model (inner model) assessment. This stage involved evaluating the model's overall fit and examining the strength and significance of the hypothesised relationships between latent constructs.

The primary indicator used to assess model strength was the R-square (R²) value, as proposed by Ghazali [41] and Hair and Alamer [31]. R² values range from 0 to 1, with higher values indicating stronger explanatory power.

Table 4.
R-Square Value Requirements.

R-Square Testing	Nilai R-Square	Interpretation
	0.25	Weak
	0.50	Moderate
	0.75	Substantial

Source: Author data processing results, 2025.

In this study, the Leadership Mindset (LM) construct achieved an R^2 of 0.403, indicating that 40.3% of its variance is explained by the predictor constructs in the model. The Learning Organisational Culture (LOC) construct yielded an R^2 of 0.421. The adjusted R^2 values were 0.390 (LM) and 0.416 (LOC), suggesting the models were stable and not overfitted.

Table 5.
R-Square Test Results.

	R-square	R-square adjusted
LM	0.403	0.390
LOC	0.421	0.416

Source: Author data processing results, 2025

According to Hair, et al. [32] these R^2 values are classified as moderate. Thus, the model is considered sufficiently capable of explaining the variances in both LM and LOC, supporting the theoretical relationships proposed in this research.

6. Discussion

This section discusses the findings of the hypothesis testing by interpreting the empirical relationships between the constructs: Knowledge-Oriented Leadership (KOL), Breadth of Experience (BOE), Learning Organisational Culture (LOC), and Leadership Mindset (LM). The discussion integrates theoretical expectations with empirical evidence to provide meaningful insight into the development of 21st-century leadership within state-owned banking institutions.

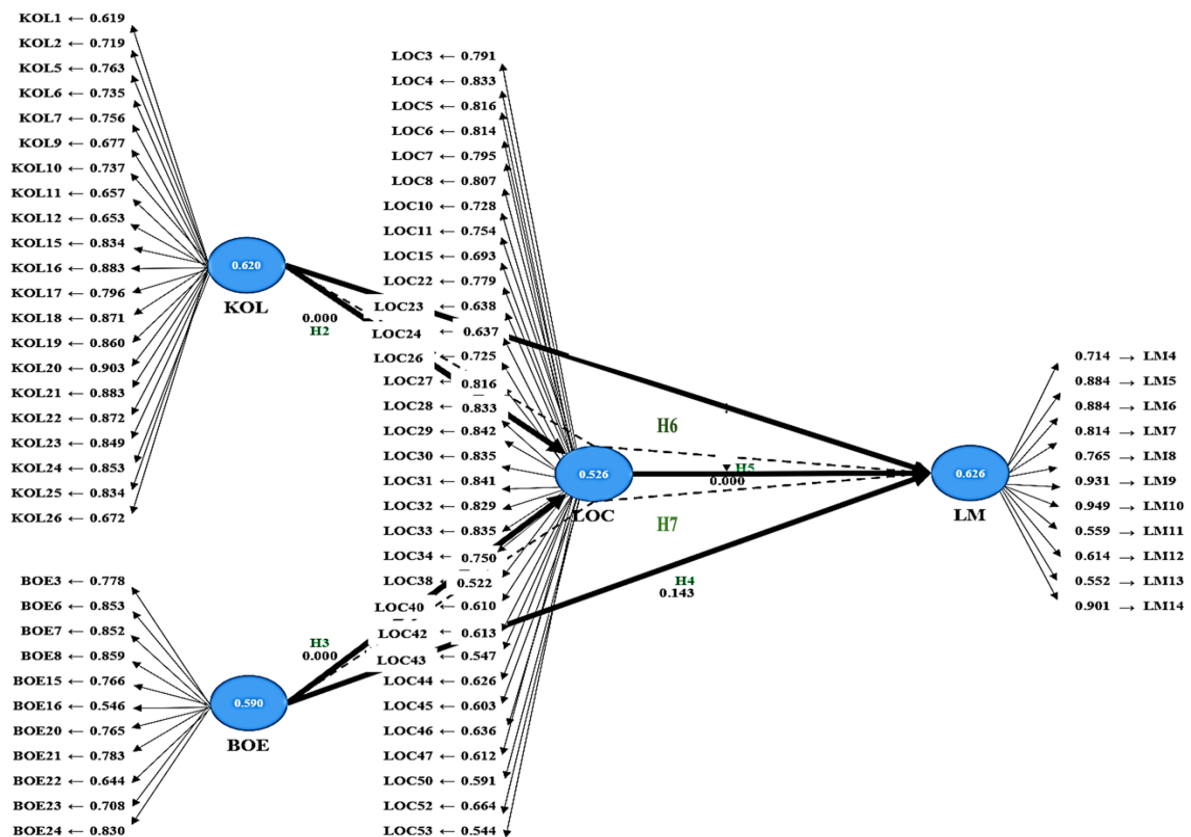


Figure 1.
Research Model.

Source: Author data processing results, 2025.

6.1. Direct Relationships

The results reveal both expected and unexpected patterns. Firstly, the direct influence of Knowledge-Oriented Leadership on Leadership Mindset (H1) yielded a significant but negative relationship. While the statistical metrics (T-value = 1.986; P-value = 0.024) support the hypothesis in terms of significance, the direction of the relationship runs

contrary to the anticipated positive effect. This suggests that a strongly knowledge-centric leadership style, when implemented without adequate contextual adaptation or cultural alignment, may paradoxically hinder the development of flexible, forward-looking leadership mindsets required in the 21st century. It indicates a possible tension between rigid knowledge systems and adaptive, growth-oriented mindsets, warranting further qualitative exploration.

Table 6.
Results of Hypothesis Test 1.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H1	Knowledge Oriented Leadership (KOL) → Leadership Mindset (LM)	-0.153	1.986	0.024

Source: Author data processing results, 2025.

Conversely, Knowledge-Oriented Leadership demonstrated a positive and significant effect on Learning Organisational Culture (H2). The findings (coefficient = 0.460; T = 5.834; P = 0.000) support theoretical propositions that leaders who actively manage and distribute knowledge are likely to cultivate a learning-oriented environment. This aligns with prior studies suggesting that knowledge-based leadership fosters a culture where continuous learning, experimentation, and knowledge sharing are institutionalised.

Table 7.
Results of Hypothesis Test 2.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H2	Knowledge Oriented Leadership (KOL) → Learning Organizational Culture (LOC)	0.460	5.834	0.000

Source: Author data processing results, 2025.

In relation to Breadth of Experience, two contrasting results were observed. On one hand, BOE positively influenced LOC (H3), with empirical support (coefficient = 0.243; T = 3.292; P = 0.001). This indicates that diverse managerial experiences contribute to the development of an organisational learning culture, possibly by enriching organisational knowledge, expanding cognitive frameworks, and encouraging reflective practices.

Table 8.
Results of Hypothesis Test 3.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H3	Breadth of Experience → Learning Organizational Culture	0.243	3.292	0.001

Source: Author data processing results, 2025.

On the other hand, the direct impact of BOE on LM (H4) was not statistically significant (coefficient = 0.027; T = 0.241; P = 0.405), suggesting that breadth of experience alone is insufficient to directly shape leadership mindset. This underscores the importance of cultural and organisational mechanisms that translate experience into mindset transformation.

Table 9.
Results of Hypothesis Test 4.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H4	Breadth of Experience → Leadership Mindset	0.027	0.241	0.405

Source: Author data processing results, 2025.

The most robust direct effect was observed between Learning Organisational Culture and Leadership Mindset (H5), where the coefficient of 0.587 (T = 8.290; P = 0.000) indicates a strong and highly significant relationship. This confirms the centrality of organisational culture as a facilitator of mindset development. In dynamic and complex environments such as banking, a learning culture appears to be a critical enabler for fostering leadership qualities that emphasise adaptability, systems thinking, and collaborative innovation.

Table 10.
Results of Hypothesis Test 5.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H5	Learning Organizational Culture → Leadership Mindset	0.587	8.290	0.000

Source: Author data processing results, 2025.

6.2. Indirect Effects and the Mediating Role of Learning Organisational Culture

The mediation analysis offers further theoretical and practical insights. Both indirect hypotheses (H7 and H8) were supported, confirming Learning Organisational Culture as a significant mediator. Specifically, KOL's indirect effect on LM via LOC (coefficient = 0.270; T = 5.195; P = 0.000) suggests that when knowledge-oriented leadership is embedded within

a culture of learning, its influence on leadership mindset becomes positive and substantial—thus moderating the unexpected negative direct effect found in H1. This underscores the transformative role of culture in aligning leadership practices with mindset evolution.

Table 11.
Results of Hypothesis Test 6.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H6	Knowledge Oriented Leadership → Learning Organizational Culture → Leadership Mindset	0.270	5.195	0.000

Source: Author data processing results, 2025.

Similarly, BOE exerted a positive and significant indirect influence on LM through LOC (coefficient = 0.143; T = 2.832; P = 0.002). This confirms that while managerial experience may not directly shape leadership mindset, its impact becomes meaningful when channelled through a supportive learning culture. The finding reinforces the conceptualisation of organisational culture as a conduit that transforms individual-level inputs into collective cognitive outcomes.

Table 12.
Results of Hypothesis Test 7.

Hypothesis	Direction of Relationship	Coefficient	T Value	P Value
H7	Breadth of Experience → Learning Organizational Culture → Leadership Mindset	0.143	2.832	0.002

Source: Author data processing results, 2025.

6.3. Synthesis of Findings and Theoretical Implications

The overall pattern of results suggests that Learning Organisational Culture (LOC) plays a pivotal role in the development of 21st-century leadership mindsets in BUMN banking institutions. LOC not only directly influences LM but also amplifies the effects of leadership styles (KOL) and managerial experiences (BOE). This reinforces theories that regard organisational learning culture as an essential antecedent of adaptive and agile leadership.

Table 13.
Direct Effects Analysis.

Relationship	Coefficient	T-Statistic	P-Value	Significance	Interpretation
KOL → LM	-0.153	1.986	0.024	Significant	KOL has a negative effect on LM
KOL → LOC	0.460	5.834	0.000	Significant	KOL has a significant positive effect on LOC
BOE → LOC	0.243	3.292	0.001	Significant	BOE positively affects LOC
BOE → LM	0.027	0.241	0.405	Not significant	BOE has no direct effect on LM
LOC → LM	0.587	8.290	0.000	Very significant	LOC is a positive main predictor of LM

Source: Author data processing results, 2025.

The negative direct influence of KOL on LM is particularly noteworthy and invites further investigation. It suggests that knowledge-oriented leadership may risk becoming overly procedural or hierarchical if not tempered by reflexivity, openness, and shared learning norms. Such leadership may unintentionally stifle the critical thinking and autonomy that are characteristic of modern leadership mindsets. Therefore, the study contributes to the refinement of KOL theory by highlighting contextual contingencies, especially the cultural milieu in which such leadership is enacted.

Table 14.
Indirect Effects Analysis

Indirect Path	Coefficient	T-Statistic	P-Value	Interpretation
KOL → LOC → LM	0.270	5.195	0.000	Very strong and significant mediation effect of LOC on KOL to LM path
BOE → LOC → LM	0.143	2.832	0.002	There is a significant mediation effect of LOC on BOE to LM relationship

Source: Author data processing results, 2025

From a practical standpoint, these findings advocate for strategic investments in building organisational learning infrastructures. Rather than focusing solely on leadership competencies or experience diversity, BUMN institutions should consider cultural interventions—including communities of practice, experiential learning mechanisms, and knowledge-sharing platforms—as levers for long-term leadership development.

Table 15.
Hypothesis Conclusion

Hypothesis	Status	Explanation
H1: KOL → LM	Supported	Significant negative
H2: KOL → LOC	Supported	Significant positive
H3: BOE → LOC	Supported	Significant positive
H4: BOE → LM	Not supported	Not significant
H5: LOC → LM	Supported	Highly significant
H7 and H8: LOC mediation (BOE and KOL to LM)	Supported	Both indirect paths are significant

Source: Author data processing results, 2025.

7. Conclusion

This study aimed to empirically examine the structural relationships between Knowledge-Oriented Leadership (KOL), Breadth of Experience (BOE), Learning Organisational Culture (LOC), and the 21st-Century Leadership Mindset (LM) within the context of talent management in state-owned banking institutions. Drawing on quantitative analysis via SmartPLS 4.0, the findings confirmed both direct and mediated effects among the constructs, shedding light on the dynamics of leadership development in complex organisational settings.

First, the findings confirmed that Learning Organisational Culture (LOC) plays a central and robust role in fostering the development of a 21st-century leadership mindset. LOC emerged as the strongest direct predictor of LM ($\beta = 0.587$, $p < 0.001$), and as a significant mediator for both KOL and BOE. These results underscore the importance of embedding continuous learning norms, reflective practices, and knowledge-sharing mechanisms within the organisational culture to promote adaptive and future-ready leadership thinking. Second, Knowledge-Oriented Leadership (KOL) was found to have a positive and significant effect on LOC ($\beta = 0.460$, $p < 0.001$), but a negative direct effect on LM ($\beta = -0.153$, $p = 0.024$). This counterintuitive finding suggests that while KOL facilitates a learning-oriented environment, its immediate impact on LM may not align with the transformational expectations of the 21st-century leadership paradigm—possibly due to overly rigid knowledge control or transactional leadership practices that constrain mindset agility. Third, Breadth of Experience (BOE) demonstrated a positive and significant effect on LOC ($\beta = 0.243$, $p = 0.001$) but had no significant direct impact on LM ($\beta = 0.027$, $p = 0.405$). However, its indirect effect on LM via LOC was statistically significant ($\beta = 0.143$, $p = 0.002$), implying that diverse managerial experience contributes meaningfully to mindset development only when mediated by a learning culture.

In sum, the model confirms that learning culture is the linchpin in the formation of a 21st-century leadership mindset. While leadership orientation and experience are foundational, their influence must be channelled through an environment that fosters reflection, learning agility, and adaptive thinking.

Although the model has yielded significant insights, this study is subject to certain limitations. The use of a cross-sectional design limits the inference of causality over time. Additionally, the sample is confined to state-owned banks in Indonesia, which may restrict generalisability. Future research could adopt a longitudinal approach to track leadership mindset evolution over time and explore how LOC dynamics change in response to strategic transformations. It would also be valuable to test this model in private-sector firms or public service institutions to explore contextual variations. Qualitative follow-ups could further unpack the reasons behind the negative direct effect of KOL on LM, potentially illuminating subtle cultural or structural barriers in the knowledge leadership process.

8. Theoretical Implications

This research contributes to the theoretical advancement in leadership development and organisational learning in several ways: Integration of Learning Culture as a Core Mediator: By empirically validating LOC as a mediating mechanism, the study enriches the understanding of how leadership behaviour and experiential learning translate into strategic mindset formation.

Reframing KOL's Role: The negative direct path between KOL and LM invites further theoretical exploration into the nuanced role of knowledge-oriented leadership—possibly reflecting tensions between control versus creativity, or between knowledge preservation and knowledge transformation.

Contextualising Leadership Development in SOEs: The study situates its findings within the unique governance and bureaucratic context of state-owned enterprises, thereby offering theoretical insights into how institutional constraints shape leadership pathways differently compared to private-sector contexts.

9. Practical Implications

For practitioners and decision-makers in talent management and leadership development—particularly in the state-owned banking sector—the study offers actionable implications: Cultivate Organisational Learning Culture: Interventions should prioritise establishing a strong LOC through mentoring systems, peer learning platforms, and mechanisms for critical reflection. These are vital for converting experience and leadership behaviour into strategic mindsets.

Reconfigure KOL Practices: Leaders should be trained not only to share and manage knowledge but also to foster innovation, adaptability, and open inquiry. A balance between knowledge discipline and mindset openness is essential.

Design Experiential Pathways within Learning Environments: Rather than assuming that breadth of experience alone will develop leadership quality, organisations should embed those experiences within reflective and knowledge-enabling frameworks.

Talent Development Policies: HR units should revise leadership pipelines and assessment centres to include indicators of learning agility, collaborative knowledge practices, and adaptive mindset rather than relying solely on tenure or technical mastery.

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