Journal of Economics
AND MANAGEMENT SCIENTIES
https://jems.ink
ISSN 2655-1934 (print), 2655-6685 (online)

Adaptive Leadership 5.0: Integration of AI and Emotional Intelligence (EQ) in the Organizational Transformation Process of Bank Muamalat West Sumatra in the Vuca Era

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ARTICLE HISTORY

Received: 13 November 25
Final Revision: 20 November 25
Accepted: 26 November 25
Online Publication: 31 December 25

KEYWORDS

Adaptive Leadership, Artificial Intelligence (AI), Emotional Intelligence (EQ), Organizational Transformation, VUCA

A B S T R A C T

This study explores the role of Adaptive Leadership 5.0, an integrative leadership model combining Artificial Intelligence (AI) and Emotional Intelligence (EQ), in facilitating organizational transformation within Bank Muamalat West Sumatra in response to VUCA (Volatility, Uncertainty, Complexity, Ambiguity) challenges. Employing a quantitative method using Structural Equation Modeling Partial Least Squares (SEM-PLS), data were gathered from 85 respondents through online surveys, complemented by qualitative insights from expert interviews. The findings reveal that while AI and EQ do not have a significant direct impact on organizational transformation, both significantly influence VUCA responsiveness. Specifically, adaptive leadership significantly enhances transformation outcomes and reduces VUCA effects. AI has a significant positive impact on VUCA but not directly on transformation, whereas EQ strongly influences VUCA but lacks direct influence on transformation outcomes. These results suggest that technological and emotional capacities function more effectively as mediating mechanisms rather than primary drivers of change. The study contributes theoretically by advancing the concept of Adaptive Leadership 5.0 within the context of Islamic banking and highlights practical implications for leadership development programs that emphasize the ethical integration of digital innovation and emotional intelligence.

KATA KUNCI

Kepemimpinan Adaptif, *Artificial Intelligence* (AI), *Emotional Intelligence* (EQ), Transformasi Organisasi, VUCA

A B S T R A K

Penelitian ini mengkaji peran Adaptive Leadership 5.0, sebuah model kepemimpinan integratif yang menggabungkan *Artificial Intelligence* (AI) dan *Emotional Intelligence* (EQ), dalam mendorong transformasi organisasi pada Bank Muamalat Sumatera Barat dalam menghadapi tantangan era VUCA (*Volatility*, *Uncertainty*, *Complexity*, *Ambiguity*). Metode yang digunakan adalah pendekatan kuantitatif dengan teknik analisis *Structural Equation Modeling Partial Least Squares* (SEM-PLS), berdasarkan data dari 85 responden yang diperoleh melalui survei daring, serta diperkuat oleh wawancara dengan informan kunci. Hasil penelitian menunjukkan bahwa AI dan EQ tidak berpengaruh langsung secara signifikan terhadap transformasi organisasi, namun keduanya memiliki pengaruh signifikan terhadap VUCA. Secara khusus, kepemimpinan adaptif berpengaruh signifikan dalam meningkatkan transformasi serta menurunkan dampak negatif VUCA. AI berpengaruh positif signifikan terhadap VUCA tetapi tidak secara langsung terhadap transformasi, sedangkan EQ sangat berpengaruh terhadap VUCA tanpa efek langsung terhadap transformasi organisasi. Temuan ini menunjukkan bahwa kapabilitas teknologi dan emosional lebih efektif berfungsi sebagai mekanisme mediasi daripada sebagai penggerak utama perubahan. Studi ini memberikan kontribusi teoritis melalui pengembangan konsep Adaptive Leadership 5.0 dalam konteks perbankan syariah, serta implikasi praktis bagi program pengembangan kepemimpinan yang menekankan integrasi etis antara inovasi digital dan kecerdasan emosional.

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DOI

10.37034/jems.v8i1.285

1. Introduction

Organizational transformation has emerged as a crucial capability for sustaining competitiveness in a rapidly evolving business environment. In the Islamic banking sector, transformation initiatives are challenged by the dual demands of technological advancement and adherence to Sharia principles [1]. Organizational transformation involves holistic changes across structures, processes, and culture to meet market demands and stakeholder expectations [2]. However, the volatility and complexity characterizing today's business climate, especially in financial institutions, necessitate deeper insight into the factors that shape successful transformation efforts.

The current era, defined by Volatility, Uncertainty, Complexity, and Ambiguity (VUCA), forces

organizations to remain agile and adaptive. In Indonesia, Bank Muamalat as a pioneer of Islamic banking faces growing pressure to integrate digital innovation without compromising Sharia compliance. Despite the growing digital adoption in banking, the Islamic financial sector still lags behind its conventional counterparts in service digitalization and customer experience [3]. Moreover, millennial and Gen Z consumers increasingly prefer user friendly and technology driven financial services. Yet, past studies have primarily focused on either technological or human resource aspects, without exploring their synergy within leadership and transformation contexts [4]. This highlights a gap in understanding how technology, leadership, and emotional dynamics converge in Islamic financial institutions' transformation journeys.

One of the pivotal constructs in addressing organizational transformation under uncertainty is adaptive leadership. Adaptive leadership refers to a leader's ability to respond to environmental challenges by promoting learning, flexibility, and responsiveness [5]. Leaders who demonstrate adaptive behaviors are more capable of fostering resilience, innovation, and strategic alignment in uncertain contexts [6]. In Islamic banking, such leadership plays a crucial role in mediating the tensions between modernization and religious compliance, ensuring transformation is not only effective but also value aligned [7]. Furthermore, adaptive leadership includes cognitive and emotional capacities that help organizations remain steady during disruptive changes.

Another key factor enabling transformation is Artificial Intelligence (AI), which has gained prominence in banking operations. AI technologies, including predictive analytics, chatbots, and fraud detection systems, enhance decision making and operational efficiency [8]. In banking, these tools contribute to rapid data driven responses and streamline customer interactions. However, technology implementation is not without challenges organizational culture, employee readiness, and ethical concerns often hinder seamless adoption [9]. In Islamic financial institutions, the integration of AI must also align with Sharia principles, adding layers of complexity that require leadership with both technical and ethical insight.

Complementing AI, Emotional Intelligence (EQ) has emerged as a vital leadership competency, particularly in navigating organizational change. Leaders with high EQ manage interpersonal relationships effectively, resolve conflicts constructively, and foster a collaborative culture [10]. In emotionally charged and value sensitive environments such as Islamic banking, EQ plays a crucial role in building trust and sustaining moral integrity during change processes [11]. Research suggests that EQ not only contributes to internal organizational harmony but also enhances adaptability in volatile external environments [12].

VUCA, in this regard, is not merely an external condition but also serves as a mediating variable that influences the relationship between leadership, AI, EQ, and transformation outcomes. Organizations that can interpret and address VUCA dynamics are more likely to succeed in their transformation endeavors [13]. Thus, understanding how adaptive leadership, AI, and EQ interact through the VUCA lens becomes essential in developing holistic transformation strategies.

Although substantial research has investigated the roles of Artificial Intelligence (AI) in digital innovation and Emotional Intelligence (EQ) in leadership effectiveness, these constructs have largely been examined in isolation. Existing literature often emphasizes AI as a tool to enhance efficiency and data driven decision making, while EQ is discussed primarily in relation to interpersonal communication and change management [14]. However, few studies have attempted to integrate these two critical competencies within a cohesive leadership framework, particularly in the context of organizational transformation under volatile, uncertain, complex, and ambiguous (VUCA) conditions. Furthermore, the mediating role of VUCA as a contextual factor that influences the effectiveness of leadership, AI adoption, and emotional capability remains insufficiently explored [15]. This gap is even more apparent in Islamic banking institutions, where transformation efforts must balance technological advancement with strict adherence to Sharia principles an intersection often overlooked in empirical studies.

To address these shortcomings, the present study introduces a novel conceptualization of Adaptive Leadership 5.0, a hybrid leadership model that strategically integrates AI capabilities and EQ attributes to enhance organizational adaptability in VUCA environments. This research is among the first to empirically examine how AI and EQ, mediated by VUCA dynamics, influence transformation outcomes within a Sharia compliant banking context. By focusing on Bank Muamalat West Sumatra, the study offers context specific insights while contributing to the theoretical advancement of leadership models that are both technologically driven and emotionally grounded. This integrative approach not only fills a critical gap in the leadership and digital transformation literature but also provides practical guidance for Islamic financial institutions seeking sustainable transformation under conditions of uncertainty [16].

This study aims to investigate the role of Adaptive Leadership 5.0 defined as a leadership approach integrating AI and EQ in facilitating organizational transformation in Bank Muamalat West Sumatra during the VUCA era. Theoretically, this research contributes to the advancement of leadership theory by

offering a multidimensional model that encompasses digital and emotional capabilities. Empirically, it provides strategic insights for Islamic banks on how to operationalize transformation in a manner that balances innovation, human values, and religious principles [17].

2. Research Method

2.1. Research Approach

This research adopts a quantitative approach to analyze the influence of Adaptive Leadership, Artificial Intelligence (AI), and Emotional Intelligence (EQ) on Organizational Transformation, with VUCA as a mediating variable. The quantitative method was chosen to statistically measure and test the relationships between variables using structured data from respondents. This approach enables objective evaluation of leadership strategies within the context of a dynamic banking environment. The study applies Structural Equation Modeling–Partial Least Squares (SEM-PLS) to process data and evaluate the strength of direct and indirect effects among variables. SEM-PLS is suitable for complex models and small to medium sample sizes, making it appropriate for this study. Although primarily quantitative, the research is supported by qualitative insights to provide deeper understanding. This approach ensures both measurable outcomes and contextual relevance, particularly in examining how leadership integrates technology and human values in facing VUCA challenges.

2.2. Object and Population of Research

The object of this research is the organizational transformation process at Bank Muamalat West Sumatra, specifically through the implementation of Adaptive Leadership 5.0. This leadership model integrates Artificial Intelligence (AI) and Emotional Intelligence (EQ) to navigate organizational change in the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) environment. The study focuses on how these leadership components influence internal adaptation and strategic transformation within a Sharia-compliant banking institution. The population includes all employees at Bank Muamalat in West Sumatra, both in leadership and operational roles. These individuals are directly involved in decision-making, AI system usage, and customer interaction, making them relevant sources for assessing leadership effectiveness. The inclusion criteria target permanent employees with at least two years of tenure, ensuring respondents have sufficient experience to evaluate leadership and organizational processes. This population selection ensures that the data reflects grounded insights from individuals actively engaged in the transformation efforts.

2.3. Sample and Sampling Technique

The sample in this study consists of 85 employees of Bank Muamalat West Sumatra, selected to represent both strategic and operational roles within the organization. The sample size was determined using the Slovin formula with a 5% margin of error to ensure representativeness and statistical reliability. Two categories of employees were targeted: branch managers or supervisors responsible for strategic leadership, and frontline operational staff directly interacting with AI systems and customers. Sampling was conducted using a proportionate stratified random sampling technique to maintain balanced representation across departments and job functions. This method ensures that insights from various organizational levels are captured fairly. For qualitative enrichment, purposive sampling was used to select informants for in-depth interviews, focusing on those with leadership responsibilities and familiarity with digital transformation. This combination of techniques allows the study to generate both generalizable findings and context specific perspectives on the effectiveness of Adaptive Leadership 5.0 in navigating transformation.

2.4. Data Collection Techniques

Data collection in this study employed both quantitative and qualitative methods to ensure comprehensive insights. Primary quantitative data were obtained through structured online questionnaires distributed to employees of Bank Muamalat West Sumatra. The questionnaire included indicators measuring Adaptive Leadership, Artificial Intelligence (AI) utilization, Emotional Intelligence (EQ), Organizational Transformation, and VUCA elements. Respondents answered using a Likert scale to reflect their perceptions and experiences. To complement and deepen the quantitative findings, qualitative data were collected through semi structured interviews with selected branch managers and department heads. These interviews explored participants' perspectives on leadership challenges, AI integration, and emotional dynamics in the transformation process. Secondary data were also used, including company reports, regulatory documents from the Financial Services Authority (OJK), and relevant academic literature. This triangulation of sources enhances the credibility and depth of the findings, ensuring that both measurable patterns and contextual understanding are well represented in the study.

2.5. Data Analysis Technique

The data analysis in this study was conducted using Structural Equation Modeling with the Partial Least Squares method (SEM-PLS), facilitated by SmartPLS software. SEM-PLS was chosen due to its effectiveness in handling complex relationships among latent variables and its suitability for studies with moderate sample sizes. This method allows researchers to test

both direct and indirect effects simultaneously, making it ideal for analyzing the influence of Adaptive Leadership, AI, and EQ on Organizational Transformation with VUCA as a mediating variable. Prior to structural analysis, the measurement model was assessed through validity and reliability tests using confirmatory factor analysis and Cronbach's alpha to ensure that the indicators accurately measured the intended constructs. The qualitative data from interviews were analyzed using thematic analysis, identifying key themes and insights that supported the quantitative findings. This two step analysis approach provided a robust understanding of how leadership practices influence organizational resilience and transformation in a VUCA environment.

2.6. Variable Measurement

Each variable in this study was measured using multiple indicators adapted from established research instruments. Adaptive Leadership was assessed through indicators such as flexibility, responsiveness, and learning orientation. Artificial Intelligence (AI) was measured based on the use of automation, predictive analytics, and AI-based decision support systems in organizational operations. Emotional Intelligence (EQ) included dimensions such as self awareness, emotion regulation, empathy, and social communication skills. Organizational Transformation was measured by evaluating changes in structure, work processes, digital integration, and cultural adaptation. Meanwhile, VUCA was assessed through perceptions of volatility, uncertainty, complexity, and ambiguity within the workplace. All items were measured using a 5-point Likert scale ranging from strongly disagree to strongly agree. Before analysis, all instruments were tested for validity and reliability to ensure accuracy and internal consistency. This measurement approach allowed for precise quantification of each construct's influence in the context of Islamic banking transformation.

3. Result and Discussion

These demographic characteristics are critical in assessing the readiness of the organization to undergo transformation through Adaptive Leadership 5.0, which integrates Artificial Intelligence (AI) and Emotional Intelligence (EQ). The educational background and age profile of the respondents suggest a workforce that is theoretically well positioned to embrace technological innovation and adaptive leadership strategies. Furthermore, the presence of a predominantly young workforce is a key factor in supporting digital transformation, as younger employees tend to be more open to change and innovation. Hence, the demographic profile does not merely serve a descriptive purpose but provides essential context for interpreting the perceptions and responses related to the core variables of the study: AI, EQ, adaptive leadership, organizational transformation, and the VUCA environment.

3.1. Respondent Profile

The sample consisted of 85 Bank Muamalat employees, predominantly male (60%), while females accounted for 40%. This reflects that the majority of employees at Bank Muamalat West Sumatra are still male. Most respondents were in the productive age range of 25–35 years (56%), followed by the 36–45 age group (30%). This indicates that most employees are still relatively young and in an active career phase. The majority of respondents had a Bachelor's degree (74%), followed by a Master's degree (19%) and a Diploma (10%). There were no respondents with a high school/vocational high school education, indicating a relatively high level of formal employee literacy.

Table 1. Respondent Profile

Characteristics	Number	Percentage (%)
Gender		
Male	49	60
female	36	40
Age		
<25 Years	5	7
25-35 Years	45	56
36-45 Years	25	30
>45 Years	5	7
Education Level		
High School (SMA/SMK)		
Diploma (D3)	10	10
Bachelor's Degree (S1)	75	75
Master's Degree (S2)		

3.2. Conceptual Framework

The conceptual framework illustrated in Figure 1 visualizes the structural relationships between the primary variables explored in this study: Adaptive Leadership (X1), Artificial Intelligence (X2), Emotional Intelligence (X3), VUCA (M) as a mediating variable, and Organizational Transformation (Y) as the dependent outcome. Each latent construct is measured by multiple indicators, shown as yellow-labelled items, representing observed variables or manifest indicators used in the structural equation modeling (SEM-PLS) analysis.

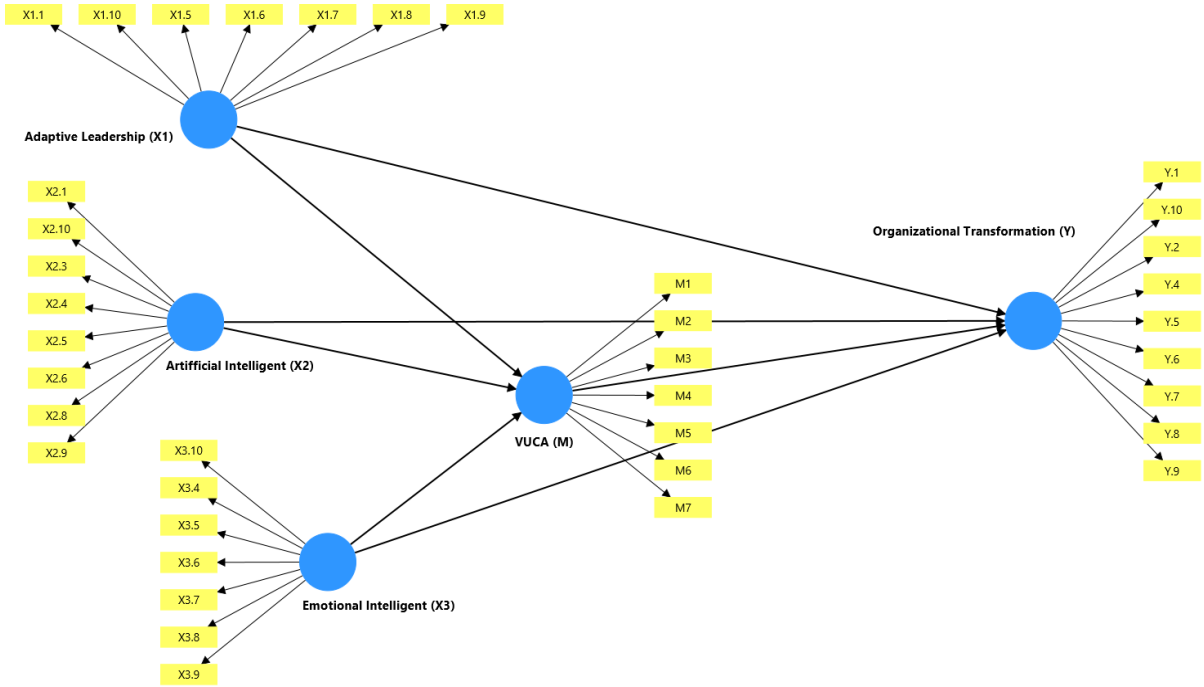

Figure 1. Conceptual Framework

This framework is grounded in the assumption that organizational transformation in the context of Islamic banking during the VUCA era is not solely driven by one-dimensional strategies. Instead, it integrates both technological (AI) and humanistic (EQ) elements through adaptive leadership as a central enabler. Adaptive Leadership (X1) is hypothesized to directly influence Organizational Transformation (Y), while also indirectly influencing it through VUCA (M). AI (X2) and EQ (X3) are also posited to affect VUCA, which subsequently influences transformation outcomes. The mediating role of VUCA captures the dynamic external environment's impact on the effectiveness of leadership and technological-human capabilities. This integrative model allows for a holistic examination of how leadership traits and digital-emotional competencies interact within an unpredictable and complex organizational environment. It aligns with recent literature that calls for more nuanced leadership models capable of balancing innovation with ethical and emotional responsiveness (Singh & Chouhan, 2023; Dwivedi, 2025). The operationalization of each construct into measurable indicators also supports the statistical robustness and validity of the SEM analysis.

3.3. Research Results On Direct And Indirect Influences

The analysis of the structural model was conducted to examine the hypothesized relationships among the five main variables: Adaptive Leadership (X1), Artificial Intelligence (X2), Emotional Intelligence (X3), VUCA (M), and Organizational Transformation (Y). This assessment aimed to determine both direct and indirect effects using the Structural Equation Modeling Partial Least Squares (SEM-PLS) approach. The results include key statistical outputs path coefficients (β), t-statistics, and p-values which are critical for assessing the significance of each causal pathway within the model.

Table 2. Research Results On Direct And Indirect Influences

Path	β	t-value	p-value	Sig.
AI → Org. Transformation	0.332	1.134	0.257	Not Sig.
AI → VUCA	0.277	3.627	0.000	Sig.
EQ → Org. Transformation	0.237	0.755	0.450	Not Sig.
EQ → VUCA	0.775	7.995	0.000	Sig.
Adaptive Leadership → Org. Transformation	0.470	2.693	0.007	Sig.
Adaptive Leadership → VUCA	–0.190	2.637	0.008	Sig.
Org. Transformation → VUCA	0.076	1.864	0.062	Sig.

Table 1 presents the statistical output of the SEM-PLS analysis, showcasing the strength and significance of the direct relationships between variables in the proposed conceptual model. The key findings from this analysis indicate distinct roles for Artificial Intelligence (AI), Emotional Intelligence (EQ), and Adaptive Leadership in influencing both Organizational Transformation and the mediating variable VUCA. Notably, AI does not exhibit a significant direct influence on Organizational Transformation (β = 0.332; p = 0.257), suggesting that AI tools, though present, may not directly initiate structural or cultural change within the organization. However, AI significantly impacts VUCA (β = 0.277; p = 0.000), indicating its role in enhancing organizational responsiveness to volatile and uncertain

conditions by enabling data-driven decision-making and operational efficiency.

Similarly, EQ does not have a direct significant impact on Organizational Transformation (β = 0.237; p = 0.450), but it shows a strong and statistically significant effect on VUCA (β = 0.775; p = 0.000). This finding emphasizes the importance of emotional competencies in helping leaders and employees navigate ambiguity and complexity, even if it does not directly transform organizational structures. Adaptive Leadership stands out with a significant positive influence on Organizational Transformation (β = 0.470; p = 0.007), reinforcing its pivotal role as a catalyst for change. It also has a significant negative influence on VUCA (β = –0.190; p = 0.008), which indicates that adaptive leaders help reduce the perceived volatility and uncertainty in the organizational environment.

Lastly, Organizational Transformation has a marginally significant positive effect on VUCA (β = 0.076; p = 0.062). Although slightly above the conventional significance threshold, this result suggests a potential feedback mechanism where transformation processes such as restructuring and digital integration might increase exposure to uncertain conditions temporarily, requiring strong leadership and emotional resilience to manage. In summary, the table underscores the mediating role of VUCA in the model and confirms that Adaptive Leadership is the most directly impactful variable on transformation, while AI and EQ contribute more significantly through indirect pathways by shaping how organizations respond to external volatility.

4. Conclusion

This study concludes that Adaptive Leadership 5.0, as a hybrid leadership model integrating Artificial Intelligence (AI) and Emotional Intelligence (EQ), plays a critical role in driving organizational transformation in Islamic banking, particularly under the volatile conditions of the VUCA era. The results highlight that adaptive leadership directly contributes to organizational change while simultaneously mitigating the adverse effects of environmental volatility. In contrast, AI and EQ, although not significantly affecting transformation directly, significantly influence how the organization perceives and responds to uncertainty, complexity, and ambiguity. The practical implication of these findings is that Islamic banking institutions should not rely solely on technology or emotional competence in isolation. Instead, they must adopt an integrative leadership approach that fosters technological responsiveness, emotional stability, and ethical alignment. This approach is particularly relevant for organizations operating under dual pressures: digital innovation and value based governance. Moving forward, organizations are encouraged to invest in leadership development programs that promote both AI literacy and emotional intelligence. Future research may expand this model across various sectors or apply longitudinal designs to observe transformation dynamics over time.

Acknowledgements

This Research was funded by the directorate of research and community service (*Lembaga Penelitian dan pengabdian Masyarakat* / LPPM Universitas Adzkia, *Direktorat Penelitian dan Pengabdian Kepada Masyarakat*/DPPM), Ministry of Higher education, Science and Technology of the Republic of Indonesia, under grant Agreement Numbers 131/C3/DT.05.00/PL/2025, 013/LL10/DT.05.00/PL/2025, and 010.22/LPPMPenelitian/UA/2025. The authors also extend their sincere gratitude to Universitas Adzkia for its support Throughout the research process and Ramadhi was help us to finished the Research.

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