LEADING THROUGH INNOVATION: THE IMPACT OF AI AND THE METAVERSE ON ORGANIZATIONAL DEVELOPMENT IN BANKING

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Abstract

Purpose: The convergence of artificial intelligence (AI) and the metaverse in global finance is examined in this research. It dwells upon the impact of these technologies on the development of organizations and the leadership strategy. With the adoption of immersive, data-driven ecosystems by financial institutions in which digital banking is replacing their traditional digital banking, leadership is being redefined. Design/Methodology: This paper has a variety of cross-section of the banking business in Pakistan. The sample consisted of employees and managers of the Karachi, Lahore, Islamic, and digital banking units of both the public and the private. Purposive sampling was used to recruit 372 respondents as branch managers, IT officers and HR professionals who had direct experience with AI. The sample offers a strong and representative data to high-level PLS-SEM analysis. Findings: AI enhances managerial sense-making, risk evaluation, fraud detection, and speed of decision. It also transforms leadership to the command-based authority to people that facilitate human- algorithm cooperation. Metaverse and XR technologies will make compliance training and simulation of work in a virtual branch immersive, as well as remote collaboration possible. Nevertheless, digital fatigue, identity management, data privacy, and inclusivity are also among the challenges that they introduce. The most common themes that define trust and organizational culture are ethical issues, particularly algorithmic bias, surveillance and data governance. Originality: We suggest a three-layer leadership model to banks: (1) Technological Stewardship, (2) Human-AI Shared Leadership and (3) Strategic Digital Vision. This model adapts leadership to the financial environment that uses AI and the metaverse. Practical Implications: In order to accomplish responsible innovation, bank management must improve algorithmic literacy, ethical AI governance, and digital wellness policies. Organizational growth initiatives should be efficient, regulatory compliant, and psychologically safe, while also allowing everyone access to advanced digital technologies.

1. Introduction

Banking is also experiencing a paradigm shift as a result of the rapid adoption of big-data analytics, Artificial Intelligence (AI), and immersive digital technology. Financial institutions that were seen as pillars of stability were built with rigid, rule-based procedures. Machine learning (ML) and artificial intelligence (AI) are currently at the heart of bank operations in today's socio-technical market. They are used in predictive credit scoring, real-time fraud detection, and cutting-edge risk modeling (Arslanian, H & Fischer, F, 2019).

This is not only the technological upgrade, but it is the re-thinking of the entire banking value chain. Judges are making decisions with data and not intuitions.

Simultaneously, the financial services are emerging as a space in the Extended Reality (XR) and early-stage Metaverse applications. The physical boundaries of conventional banks are fading owing to virtual training of employees, online branch formats as well as remote counseling (Dionisio et al., 2013). Avatars and sustainable virtual areas mediate the relationship between the banker and the client in the Metaverse. As a result, the customer trust and brand loyalty have to be rethought. With the spread of such technologies through the industry, they strain the prevailing organizational development (OD) systems. The hierarchical control, physical supervision, and manual oversight, which are the primary features of traditional leadership, will be eliminated in an ecosystem with AI augmentation (Marr, B, 2022). The new leadership of banks is forced to incorporate algorithmic stewardship. Human-machine collaboration is facilitated by leaders who must be able to make autonomous systems perform in an efficient way while remaining ethical and not breaking regulatory rules (Larsson, A & Teigland, R, 2019). New limits are also imposed on leaders: cognitive (knowing how the AI works), ethical (dealing with algorithmic bias), and regulatory (moving virtual activities into the realm of international law). These issues increase in Pakistan with the requirement of digital financial inclusion and the swift proliferation of branchless banking. The success of organizational development will come as soon as the organization is no longer a command-and-control organization, but a facilitative organization, which promotes innovation and keeps the financial system intact.

The COVID-19 pandemic promoted the move towards digital banking, remote working, and automation, which increases the pressure on digitally capable leadership. Although AI enhances efficiency and accuracy, it also brings up the question of transparency, bias, employee surveillance, and diminished trust, which are more sensitive in the regulated banking industry. The banking executives are therefore expected to embrace a practice of boundary-spanning that incorporates technological savvy, ethical responsibility, and human centered management approach.

The study fills a very important gap in the literature by studying how leaders perceive and react to the AI and the Metaverse transformations. It concentrates on the

impacts of these technologies on the growth of organizations, the welfare of employees and management in financial institutions. The research question is as follows: How can the artificial intelligence and metaverse technologies integration affect organizational development and leadership performance in the banking industry of Pakistan?

2. Literature Review

2.1 Leadership and Digital Transformation in Banking

Digital transformation has completely changed the way modern banks operate, in their strategies, and governance. Advanced digital technologies, in particular, AI, big-data analytics, and automated decision support have changed the way the banks design processes, distribute resources, and risk management (Verhoef et al., 2021; Vial, G, 2025). According to scholars today, digital banking leadership has to integrate the traditional supervisory functions with the adaptive and technology-enabled data-driven decisions (Bharadwaj, A et al., 2013; Kane, G. C et al., 2019). In the current banking, AI systems are found to be useful in approving loans, credit risk, fraud detection and AML compliance, as well as customer segmentation. Such systems use sophisticated algorithms that process large volumes of unstructured and structured data, and in many cases, they can predict much faster and more efficiently than humans (Jarrahi, 2018; Raisch & Krakowski, 2021). This is causing the leaders and algorithms to share decision-making authority redefining power and responsibility in banks (Faraj et al., 2018).

The role of a leader in a digital banking setting requires not just the adoption of technology but also the skills to interpret AI findings, judge the recommendations presented by the algorithms as critically as possible, and combine professional judgment with the regulatory demands (Avolio et al., 2014; Dwivedi et al., 2021). Effective leaders also make sure that the AI-powered decision is subject to the financial reporting, data safety and privacy, as well as ethical and is transparent and auditable to both internal and external stakeholders (Gasser & Almeida, 2017; Martin, K, 2019). This is exacerbated in highly regulated financial contexts, where the employment of opaque algorithms has the potential to increase legal, reputational, and systemic risk. Besides, digital leadership in banking should be accompanied by high levels of digital literacy, which includes knowledge of the way AI models operate, their constraints, and possible sources of bias (Kane, G. C et al., 2019). There is also the need to show ethical awareness among leaders to overcome fairness, accountability, and explain ability issues related to algorithmic decision-making (Floridi et al., 2018). With the banking organizations working in more complex and uncertain financial ecosystems, leaders are supposed to deal with the uncertainty and risk of technology, strike a balance between innovation and risk control, and keep employee trust in the environment of the rapid digital change (El Sawy, O. A et al., 2020).

Therefore, as evidenced by the current literature, the effectiveness of digital transformation in the banking sector depends

on the ability of the leadership to combine human judgment, AI-based intelligence, ethical governance, and organizational learning. Banks which do not build such leadership competencies will be susceptible to technology-driven inefficiencies and resistance among employees, and their customer base will decline trust in them, and institutions which strive to build digitally competent and ethically based leadership are more likely to achieve sustainable performance and operational resilience (Raisch & Krakowski, 2021; Verhoef et al., 2021).

2.2 AI-Augmented Leadership and Decision-Making

AI has taken center, strategic position in the current banking leadership. It provides sophisticated predictive analytics, scenario planning and real time risk evaluation of core banking operations. Data-driven dashboards and machine-learning methods will allow the leaders to track credit portfolios, anticipate default risk, identify new threats, and respond promptly to market changes (Bussmann et al., 2021; Dwivedi et al., 2021).. These instruments enhance the speed, consistency, and accuracy of decisions and assist leaders to leave the realm of intuition behind and make evidence-based and forward-looking decisions (Kane, G. C et al., 2019; Verhoef et al., 2021). However, there are serious ethical and governance challenges that come with the increasing use of AI. Algorithms that make decisions related to determining credit, loan rates, and customer segments are prone to bias, are not transparent, and pose accountability issues (Floridi et al., 2018; Martin, K, 2019).

Unfair or hidden algorithms that could discriminate some group of people can be found in banking, which negatively affects regulatory compliance and destroys public trust (Barocas, S et al., 2020). As such, leaders must ensure that AI systems are auditable and explainable and meet regulatory and ethical requirements, particularly in highly regulated financial environments. It has been found out that AI does not displace leaders; it enhances their thinking and analysis, which justifies a human-AI partnership instead of the technological takeover (Jarrahi, 2018; Raisch & Krakowski, 2021). As the data processing and recognizing patterns are handled by AI, leaders are concerned with the tasks of a higher level: the interpretation of algorithmic outcomes, planning, ethics validation, and accountability (Faraj et al., 2018). This transition requires that leaders be digitally literate to ensure that they view AI suggestions critically, and not face value.

Therefore, the human-in-the-middle (HITL) models have become a critical aspect of bank management. With HITL, human judgment remains within AI decision cycles and the leader can review and override the outputs and contextualize outputs when necessary (Rahwan et al., 2019). HITL plays a pivotal part in responsible banking: it is fast and ethical, adheres to regulations, and safeguards customers. Research indicates that banks that have a hybrid decision structure are better placed to handle tech risks, keep trust, and experience sustainable digital transformation (Gasser & Almeida, 2017; Raisch & Krakowski, 2021). Overall, AI-based leadership

relies more on how the leaders can integrate AI insights with ethical reasoning, regulatory experience, and strategic control than on the complexity of the algorithm. This combination demonstrates the necessity of leadership systems that prioritize augmentation, responsibility, and ethical leadership in AI-based banking.

2.3 Metaverse and XR Applications in Banking

The use of metaverse and extended reality (XR) technology is emerging as a strategic asset in the banking industry. They can be applied in immersive training of employees, simulation of regulatory compliance, cybersecurity training, and virtual customer interaction. XR platforms are constructed in a way that allows bank employees to train on more technical skills (such as fraud detection, anti-money laundering (AML) compliance, and crisis response) in a simulated and non-risky environment (without risking the financial or reputational safety of the bank) (Dwivedi et al., 2021; Radianti et al., 2020). The use of metaverse-enabled virtual branches and avatar-based advisory services will provide customers with new means of interaction, enhance personalization, financial inclusion, and accessibility, particularly in remote or underserved markets (Kim et al., 2025; Mystakidis, 2022).

Leadership wise, immersive technologies enhance organizational learning and teamwork. They create experiential learning, social presence and interaction outside of conventional digital screens (Makransky, G et al., 2019). The immersive simulations are useful in banking, where procedural accuracy and alignment to regulations are important, the leaders would standardize the training results and reduce expenses related to physical infrastructure and travel (PWC, 2020). Therefore, the adoption of metaverse and XR is considered to be a spur to organizational development and upskilling of the workforce in digital banking ecosystems. Although these advantages are significant, the implementation of metaverse and XR technologies is associated with serious human, ethical, and governance issues. The prolonged experience of digital fatigue, cognitive overload, and technostress (in particular, among already stressed employees) is possible due to immersive environments (Tarafdar et al., 2019). The fact that physical and virtual identities are mixed during the interaction of avatars brings questions related to the clarity of identity, role delimiting, and professional boundaries, which can damage trust and accountability (Mystakidis, 2022).

Cybersecurity and data privacy are of particular concern in banking facilitated by the metaverse. Biometric information, behavioral monitoring and real-time communications are continuously being gathered and analyzed (Falchuk et al., 2018). The unavailability of immersive technologies that are caused by uneven digital infrastructure, skills and readiness of people can exacerbate inequalities among both the staff and consumers, particularly in developing economies (Dwivedi et al., 2021). These issues demonstrate that effective governance systems are required to

safeguard privacy, encourage ethical use of data, and be inclusive in immersive banking systems. As a result, the leaders in the banking sector will have to learn new skills that are appropriate in the virtual setting. They have to deal with presence online, nurture psychological safety, and establish explicit guidelines of online etiquette and professional behavior within the metaverse-supported work environments (Newman et al., 2020; Raghuram et al., 2019). Leaders must also watch over the wellbeing of employees, decrease the digital fatigue, and ensure that immersive tools reinforce and not diminish trust, teamwork as well as ethical banking behaviors. The implementation of metaverse and XR technologies in banking requires not only the technological ability but also the leadership that would be innovative and at the same time grounded on human consideration and morality.

2.4 Organizational Development in AI-Enabled Banks

AI-operated analytics already transforms the work of OD in banks, which makes it possible to personalize training and create predictions during workforce planning, as well as monitor performance constantly. Banks are able to identify skill gaps, anticipate future competencies, and align employee training with evolving strategy and regulation with advanced analytics, which in turn identifies skill gaps, predicts future competencies and aligns employee training accordingly (Margherita, 2022; Vial, G, 2025). The insights of machine-learning allow banks to transition to proactive, data-driven OD, which has the potential to increase the workforce agility and operational resilience (Bresciani et al., 2018). Simultaneously, XR-based learning is growing in the scope of experiential and simulation training in such major fields of banking as risk management, fraud detection, cybersecurity, and regulatory compliance. XR will allow employees to undergo the experience of immersive, scenario-based learning, enhancing knowledge retention, decision accuracy, and preparedness and shielding the organization against financial risk in real life (Makransky, G et al., 2019; Radianti et al., 2020). Immersive training methods are particularly useful in banking settings where mistakes in the procedures can be of grave legal and reputation-wise repercussions.

These benefits do not come without a great organizational and psychological price as the increased dependence on data-driven OD systems have critical organizational and psychological issues. Constant surveillance, algorithmic assessments may lead to technostress and surveillance anxiety, as well as feelings of a lack of freedom among workers (Tarafdar et al., 2019). The possibility of resistance to change may emerge when the staff perceives digital OD tools as instruments of control instead of development, which disrupts trust, engagement, and long-term change initiatives (Cascio & Montealegre, 2016). These risks are especially acute in banks, where the compliance monitoring is already vigorous. In this way, researchers emphasize the incorporation of ethical, clear, and participatory OD models in AI-enabled financial institutions. Good ethical OD

requires the clarity of data-use messages, protection against algorithm bias, and genuine employee engagement in digital transformation projects (Floridi et al., 2018; Martin, K, 2019). Inclusive ODs also make sure that the digital training and analytics solutions are able to accommodate a variety of skill levels and mitigate the digital divides among the workforce, particularly in the emerging economies (Dwivedi et al., 2021). Combining the principles of ethical governance with human-centered design, AI analytics and XR can be leveraged by banks to facilitate the process of sustainable organizational development and maintain the wellbeing of employees and the level of trust within the institution.

3. Methodology

3.1 Research Design

The purposive sampling approach will be adopted to ensure that the respondents are direct users of the AI-based banking systems or digital platforms. The major banking hubs that will be used as the source of the data include Karachi, Lahore, Islamabad, Faisalabad, and Hyderabad. In this way, the perception of leaders, their ethical issues, and adaptive strategies can be understood.

3.2 Sample and Data Collection

The target population will be composed of employees and managerial staff in the commercial banks of the public sector, commercial banks of the private sector, Islamic banks of Pakistan, and digital and branchless banking units. The respondents were branch managers, operations officers, credit analysts, risk managers, IT officers, HR professionals and compliance staff.

3.3 Data Analysis

The targeted sample size of 400 respondents will be sufficient to achieve sufficient representation of the PLS-SEM analysis and make it strong. Such initiatives are aimed at AI-enhanced decision-making, immersive technologies, ethical governance, organizational development, and human factors.

4. Results

The response rate is approximately 74 percent and 372 valid responses were obtained out of banking professionals working in Pakistan commercial and Islamic banks. The sample was made up of branch managers (21 percent), operations officers (27 percent), credit and risk analysts (18 percent), IT and digital banking personnel (17 percent), and HR/compliance personnel (17 percent). Islamic banks provided about 41 per cent of them and conventional commercial banks provided about 59 per cent of them. The sample is highly appropriate in the investigation of the issue of leadership and organizational development since the average years of work experience amount to 8.6.

4.1 Measurement Model Assessment

4.1.1 Indicator Reliability and Convergent Validity

All the indicators loading was above the recommended level of 0.70, which affirms that the indicators are sound. The values of Composite reliability (CR) and Average Variance Extracted (AVE) also satisfied the acceptable standards.

Table 1: Measurement Model Results

Construct	Cronbach's Alpha	Composite Reliability (CR)	AVE
AI Decision Support Systems	0.89	0.92	0.68
Metaverse/XR Adoption	0.87	0.91	0.66
Human–AI Shared Leadership	0.90	0.93	0.71
Ethical AI Governance	0.91	0.94	0.73
Technostress	0.88	0.92	0.69
Leadership Effectiveness	0.89	0.93	0.70
Organizational Development	0.91	0.94	0.72
Employee Well-Being	0.88	0.92	0.68
Operational Resilience	0.90	0.93	0.71

Interpretation:

All the different aspects we measured showed strong internal consistency and convergent validity, which means our way of measuring them is reliable.

4.1.2 Discriminant Validity

We also checked for discriminant validity using two methods; The Fornell–Larcker criterion and the HTMT ratio. In both cases, we obtained favorable results. The square root of the average variance extracted (AVE) for each item was greater than its association with any other item. Furthermore, the HTMT values were all less than the 0.85 cutoff mark, indicating that each item measures a different notion.

4.2 Structural Model Assessment

4.2.1 Collinearity and Model Fit

The Variance Inflation Factor (VIF) values ranged between 1.21 and 2.34, indicating that there were no issues with multicollinearity. Furthermore, the standardized root mean square residual (SRMR) was 0.061, showing that the model fit the data accurately.

4.2.2 Hypotheses Testing

To determine the statistical significance of the model's routes, we employed bootstrapping with 5,000 resamples.

Table 2: Structural Model Results

Hypothesis	Path	B	t-value	p-value	Result
H1	AI-DSS → Leadership Effectiveness	0.29	5.87	<0.001	Supported
H2	AI-DSS → Decision Quality	0.33	6.14	<0.001	Supported
H3	AI-DSS → Human–AI Leadership	0.41	8.02	<0.001	Supported
H4	Human–AI Leadership → Leadership Effectiveness	0.36	7.45	<0.001	Supported
H5	Metaverse/XR → Organizational Learning	0.27	5.11	<0.001	Supported
H6	Metaverse/XR → Employee Engagement	0.24	4.89	<0.001	Supported
H7	Technostress × XR → Engagement	−0.19	3.92	<0.001	Supported

H8	Technostress × AI → Well-Being	−0.22	4.36	<0.001	Supported
H9	Ethical AI → Employee Trust	0.38	7.66	<0.001	Supported
H10	Ethical AI → OD Effectiveness	0.31	6.03	<0.001	Supported
H11	Transparency → AI Acceptance	0.35	7.14	<0.001	Supported
H12	Leadership → OD Effectiveness	0.42	8.39	<0.001	Supported
H13	OD → Employee Well-Being	0.34	6.71	<0.001	Supported
H14	OD → Operational Resilience	0.39	7.83	<0.001	Supported
H15	Leadership → Performance (Mediation)	0.28	5.98	<0.001	Supported

4.2.3 Coefficient of Determination (R^2)

Endogenous Construct	R^2
Human–AI Shared Leadership	0.42
Leadership Effectiveness	0.56
Organizational Development	0.61
Employee Well-Being	0.49
Operational Resilience	0.58

Interpretation

Furthermore, the model explains a considerable amount of the variance in key banking outcomes, demonstrating its great predictive value.

4.2.4 Mediation Analysis

Indirect effects were tested using bootstrapping.

- Human–AI shared leadership **partially mediates** the relationship between AI-DSS and leadership effectiveness ($\beta = 0.15$, $p < 0.001$).

- Ethical AI governance **partially mediates** the relationship between AI adoption and organizational development ($\beta = 0.13$, $p < 0.001$).

- Leadership effectiveness **partially mediates** the relationship between digital adoption and banking performance ($\beta = 0.12$, $p < 0.001$).

4.2.5 Moderation Analysis

The huge reduction in technostress demonstrates that human elements are important to the success of digital transformation in Pakistan's banking system.

- Adoption of metaverse/XR affects employee engagement.

- Adoption of AI impacts employee well-being.

4.3 Multi-Group Analysis: Islamic vs. Conventional Banks

PLS-MGA demonstrated statistically significant differences: The relationship between ethical AI governance and trust was shown to be stronger in Islamic banks (p-value < 0.05, difference = 0.11). The negative effects of technostress were found to be more pronounced in conventional banks. The concept of shared leadership between humans and AI had a more significant positive impact on overall leadership effectiveness within Islamic banks.

- Ethical AI Governance → Trust was **stronger in Islamic banks** ($\Delta\beta = 0.11$, $p < 0.05$)

- Technostress effects were **stronger in conventional banks**

- Human–AI shared leadership had a **greater impact on leadership effectiveness in Islamic banks**

Table 3: PLS-MGA Results

Path	Islamic Banks (β)	Conventional Banks (β)	Difference
Ethical AI → Trust	0.44	0.33	**0.11**
Human–AI → Leadership	0.41	0.32	**0.09**
Technostress → Well-Being	−0.19	−0.27	**−0.08**

4.4 Summary of Results

The results are highly effective in supporting the suggested model. AI and metaverse technologies are literally making a difference. They strengthen leadership and contribute to the expansion of Pakistani banks. However, these advantages are founded on sound ethical standards. Humans must continue to drive the process, while managers must deal with the stress of technology. Islamic banks demonstrate that even with digital instruments, good ethics and trust can triumph. This highlights the significance of the basic principles that must guide leaders during the digital revolution.

5. Discussion

The leadership of banks is transforming, particularly the increased use of AI. Instead of the strict, top-down control of the past, most banks are merging human judgment with AI. This is referred to as hybrid-intelligence leadership. AI certainly accelerates work and enhances precision, yet executives have to address ethical issues and maintain productivity of workers. They are very significant factors. Then there is the virtual world that is the Metaverse. It is transforming cooperation and establishing fresh communication prospects. Nevertheless, leaders need to acquire additional competencies such as inclusion and well-being in these online spaces.

.5.1 AI and Leadership Adaptation in Banking

The first two hypotheses (H1 and H2) are highly supported by the study: AI decision-support systems provide leaders with an apparent advantage. The AI-based banks take faster decisions, can observe fraud more quickly, and more confidently evaluate risks (Rang, A. R et al., 2025). According to leaders, AI dashboards and prediction tools enable leaders to make improved and quicker decisions: either strategic plans or day-to-day operations (Ojonugwa et al., 2023). It is obvious that the conclusion is that AI performance enhances leadership performance (Bussmann et al., 2021; Verhoef et al., 2021).

The results are also in harmony with hypothesis 3 and 4. The problem is that AI does not replace leaders; it transforms leadership. It emphasizes the significance of co-leadership of humans and machines. The leaders should now be able to make their own judgment by interpreting the information that AI presents, putting them in context, and

making their own decisions concerning situations that have become complex or even incomplete. The combination of human intelligence and AI power burden the leadership (Jarrahi, 2018; Raisch & Krakowski, 2021). Moreover, the research gives much evidence to the hypotheses 9, 10 and 11. DIA has been found to be central to effective leadership and growth of an organization because of the presence of clear ethical norms in AI and the openness of algorithms. Managers emphasized that moral tightness,

neutrality in judgement and observance of rules are crucial, particularly when decision of interest directly involves customers, like loan approvals. Since transparent and ethical AI assist in establishing trust among the employees, it leads to a corporate development (Floridi et al., 2018; Martin, K, 2019). great AI-based bank leadership is not a hot technology. It involves the moral supervision, good human judgments, and effective administrative control at all levels.
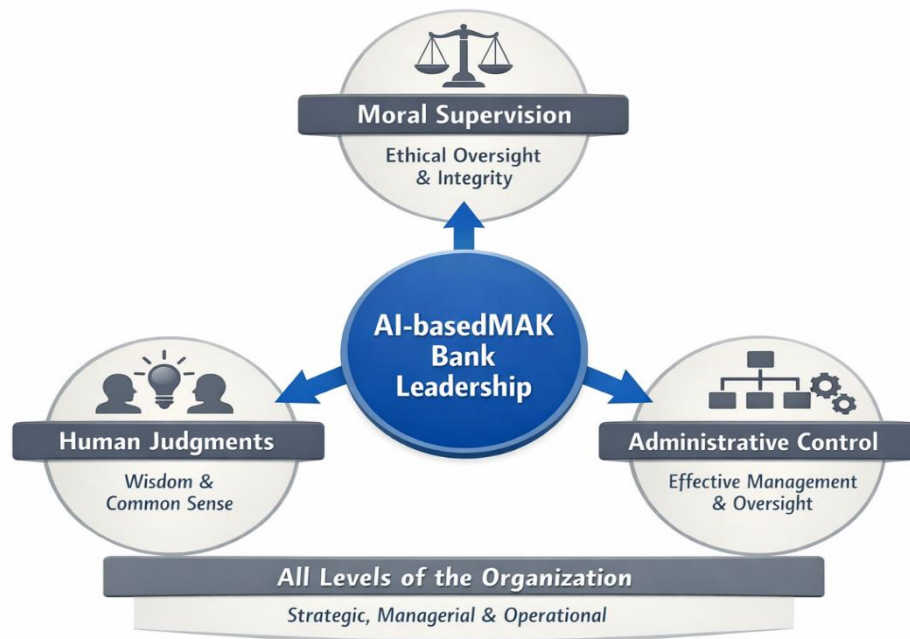
5.2 Metaverse and XR Challenges

It is confirmed that H5 and H6: XR and metaverse applications improve learning and employee engagement in banks. Leaders noted that immersive simulations enhance concentration, retention, and learning of complicated matters like compliance, risk

management, and cybersecurity. These tools involve more involved learning opportunities and are more interesting as compared to traditional online training. This is in line with previous research on practical learning and immersion (Makransky, G et al., 2019; Radianti et al., 2020).

The research also determines the XR and metaverse limitations, substantiating H7 and H8. As much as people were engaging more, spending too much time in digital space led to digital burnout, mental load, and stress caused by technology. These circumstances undermined the usefulness of XR training. According to the leaders, the employees when they became too engrossed without proper limits lost their focus and well-being. This is in accordance with the opinion of H7 that tech stress counterbalances the positive results (Manta & Gherțescu, 2025).

Other issues are privacy of the data, surveillance, and unequal access to VR. These concerns upsurge tension and diminish the integration, undermining the association between online technology and organizational wellness, which is anticipated in H8. According to the leaders, it is possible to limit the use of tech and ensure equal access and create clear rules of online behavior. The measures are necessary to have a safe, fair environment that exploits the maximum of XR and the metaverse without compromising the health of the employees.

5.3 Ethical Governance and Trust

Three big themes appeared: the bias in algorithms, surveillance of employees, and data security. These are correlated to points H9, H10, and H11. The leaders with whom we discussed the topic highlighted that the loss of trust among users (both customers and employees) occurs when AI seems unjust or unintelligible. The level of trust is also reduced in situations where AI makes high-stakes decisions like credit approvals, risk evaluation,

or performance reviews. Our findings support H9. Ethical standards that are clear and that respond to bias, focus on fairness, and follow regulations will make employees feel more confident about banking AI. Employees will be more ready to accept AI-driven decisions when they notice a decent and properly organized process, regardless of their position. The data also supports H10. Ethical AI governance is more than just a checkbox (Jerahian, 2024). It enhances the effectiveness of the organization through greater transparency, accountability and alignment of technology to the corporate values. By such precautions, the staff are exposed to less opposition to new AI regimes and feel more at ease when using data to make decisions.H11 is also critical. The leaders emphasized the fact that algorithms should be accessible and comprehensible. Explainable AI is an essential tool that is hard to do without because without it, explaining AI decisions to the regulators, staff, or consumers becomes difficult. Trust and credibility is more when people know what is involved in the decision process.

All this can be linked to H1 to H4. The actual worth of AI-powered banking is not simply the technical expertise and skills, but the capacity of a leader to interpret, justify and accept the algorithm results in an ethical manner. Therefore, the essential leadership qualities that a person in charge of a digital bank should possess are transparency and explain ability.

5.4 Organizational Development Transformation

The study is clear in depicting that organizations that rely on AI to forecast

learning requirements and investigate talent advance and evolve faster. XR technologies enhance compliance training, which is more interactive and realistic. This supports H5, H6, and H10. Through AI-based analytics, companies are able to design individual learning plans, determine future workforce shortcomings, and build corresponding skills. The outcome is more inclusive and versatile learning outcomes. Compliance training is also more interesting and relevant with the help of XR simulation as people realize the regulations rather than know them by heart. Immersive technology works well in development.

However, not everything goes that well. The study supports H7 and H8, as it reveals that employee resistance and technostress provide actual impediments to digital organizational development. As soon as the companies spy on employees with AI or make them spend hours in XR space, individuals begin to feel overwhelmed, exhausted psychologically, suspicious of being observed, and generally uncomfortable (Kedla et al., 2025). These issues dull the advantages of digital OD systems, in particular, the ability to retain staff and make them feel good at work. Technostress is the factor that determines the level of reward of the tech adoption.

The results also are consistent with H12 and H13: leaders are important. The capacity to reduce resistance and tech stress is more applicable to leaders who pay attention to people, consult employees in the process, maintain good communication, and effectively deal with workloads. Their practice does not only enhance the development of the organization, but also makes the employees feel healthier and more supported. Therefore, a sustainable digital transformation of banking requires an intelligent combination of new technologies, people-oriented management, and good morals.

6. Proposed Banking Leadership Framework

The given paper offers a three-part model of leadership in the digital banking sphere and the ways in which leaders can achieve success when banks implement AI and immersive technology.

The first is Technological Stewardship. Leaders should also make AI systems safe, reliable, and transparent. They control the data processing, secure the cybersecurity, implement the equity of the algorithms, and respond to the regulations. Imagine them as cyber guardians of the bank.

Second is Human-AI Shared Leadership. It is concerned with people and machine cooperation. AI cannot take all the decisions made by leaders. They need to make ethical decisions and put into perspective AI insights. The idea is to utilize the advantages of AI without affecting the responsibility and trust of human beings.

The last one is Strategic Digital Vision which links the new technologies of AI, virtual reality and the metaverse to the values and future of the bank. Leaders match these tools with long-term objectives and the anticipations of customers and employees in order to make the actual growth. They influence the digital advancement to establish trust and protect the welfare of all. According to the model, the leadership of a digital-banking enterprise needs

to strike the right balance between technology

governance, ethical guidance, and visionary strategy.

Proposed Banking Leadership Framework

Technological Stewardship — Ensuring secure, compliant, and transparent AI systems

Human-AI Shared Leadership — Balancing algorithmic insights with ethical human judgment

Strategic Digital Vision — Aligning AI and immersive technologies with long-term banking strategy and trust

7. Conclusion

The metaverse and artificial intelligence are transforming the banking sector, going beyond simple improvements in the speed and beauty of the decision-making process. These advancements are fundamentally changing the dynamics of leadership, and forcing executives to build out their teams, develop customer relationships and nurture their team. Leadership has moved out of the realm of technical knowledge and now contemporary stewardship requires a complete grasp of the tools available, advanced skills in their application and a strong ethical, empathetic and governance framework. Executives need to be aware of what AI does and does not do. Transparency, adherence, and strict examination of AI guidelines, especially regarding credit history, risk evaluation, fraud displacement, etc., are inevitable, due to the potentially significant costs of mistakes. Simultaneously the metaverse and immersive technologies, like XR, are changing the ways we learn, work and access client service. Leaders need to adjust to remote environments, foster trust from far away, and ensure that people have a sense of value. However, the free use of these technologies may lead to a stress or exhaustion, or a sense of being observed, which triggers the contagion that reduces motivation and engagement.

Digital transformation is not counter to human values, it should foster equality, trust and inclusivity. Only organizations who follow these principles will have ethical and visionary leaders that will see AI as a collaborator and invest resources in human talent. Such organizations aim to build dynamic, responsive and responsible units that can have sustainable success in an era where the pace of fast-changing technology is giving a new edge to the business world.

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