European Economic Letters
ISSN 2323-5233
Vol 15, Issue 2 (2025)
http://eelet.org.uk

Critical Literature Review: The Impact of Organizational Learning Cultures and Psychological Climate on Artificial Intelligence Adoption and Implementation in Australian Banks in NSW Region

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Introduction

Artificial Intelligence indeed reaches out to transform industries at an industrial scale: health, manufacturing, retail, and mainly in banking. Now, the Impact of AI on Banks is deep; propelling new technologies significantly improves the overall operational efficiency, customer experience, and does create that much-needed competitive advantage for financial organizations willing to make the necessary adjustments to integrate those new technologies. The trend is that there are banks using AI in almost all activities throughout the entire institution, and some of the most common tasks involve automation of routine processes, personalization of customer interactions, simplification of complex decisions in terms of fraud detection, credit scoring, and risk management. The focus of AI adoption in the Australian banking sector, particularly in the New South Wales (NSW) region, has highlighted the reliance on cutting-edge innovation for growth and strategy. Fast and strategic increase in the reliance on AI technologies would throw a paradigm shift paradigm within the sector from traditional, human-cantered practices in banking towards more data-driven and automated, therefore, technology-centric approaches.

In addition to mere technological implementation, the process of adoption and integration carries significant repercussions on the dynamics of an organization concerning organizational learning culture and psychological climate. Organizational learning culture, (OLC), can thus be defined as shared attitudes, values, and practices of an institution that facilitate continuous learning and the transfer of knowledge. The OLC that is good promotes the seeking, spreading, and application of new knowledge and skills, which is also an excellent attribute in the changing technology environment surrounding AI. A good OLC encourages flexibility, innovation, and new technology advancement openness and therefore allows the banks to efficiently address the numerous issues brought about by the implementation of AI. A poor OLC can instead prevent the process through which an organization will embrace change. In this way, the organization becomes less innovative, and its growth rate for technology adoption decreases.
This aspect is equally important-the psychological climate of the organization. Psychological climate refers to 'the perception that employees have about their work environment-a combination of trust, support, fairness and open attitude to change'. Such a climate at work would indeed ensure that people feel secure and feel encouraged to try out and experiment with new ideas and interact with newer technologies like AI without fear of reprisals. For that reason, this is an important environment due to its creativity and innovativeness since the workers of this environment are most likely to abide by the attainment in the successful implementation of AI technology, if made to feel valued and supported. However, with fear, mistrust, or even a dread of change, the supposed psychological climate is well damaging to the capacity of an

organization that would be made to absorb AI properly and could then spur less than optimal or even entire technological failure outcomes.

Hence, these two factors - organizational learning culture and psychological climate - are supportive to how efficiently and effectively the banks will adapt to AI technologies. A good learning culture helps develop and acquire knowledge continuously; a constructive psychological climate creates an environment that is favourable to innovation and change. These organizational factors, therefore, are coming to combine to set a precedent of AI's integration success to let banks have a chance at a smooth transition in an industry that's now growing increasingly more technological. This paper attempts to conduct a critical review of extensive literature on organizational learning culture, psychological climate, and AI adoption with special references to the banking sector in NSW, Australia. This review will enable the paper to analyse the effects that these organizational factors exert on the AI technological implementation process across the banking sector and find gaps existing in past research to further propose directions for future studies. Using the lens of organizational culture and employee perception of the organization by the leader, this paper explores the complicated multi-level dynamics that might contribute to either facilitators or hindrances for AI adoption within the Australian banking sector. This study, therefore, offers a chance through which the dynamics of an organization set it up for success in this rapidly digitizing and AI-changing world.

Theoretical Foundations

Organizational Learning Culture

Organizational learning culture plays an important role in its ability to adjust to new technologies and keep at a competitive edge. Defined as the organization environment encouraging acquisition, sharing, and application of knowledge to an improved performance and innovation (Senge, 1990), OLC influences how well a firm responds to the technological shifts such as AI. It was Senge who conceptualized the "learning organization." This paved a way for understanding how firms with a strong learning culture fared much better in embracing the new technologies (Dörner & Rundel, 2021).

In such a competitive banking environment and where customer expectations keep changing over time, therefore, the inculcation of a learning culture is very essential. Good learning cultures at banks encourage innovation by "learning, experimenting, and challenging employees to learn new technologies, including AI." Organizations characterized by a strong learning culture: create an environment that is not just willing but more than willing to accept probably new ideas; exhibit tolerant behaviour toward error; and are continuous improvement oriented. These are very crucial characteristics for successful AI adoption (Garvin, Edmondson, & Gino, 2008).

This concept of the learning organization is introduced by injecting the concept of continuous learning into the core of the organization (Marsick & Watkins, 2003). They argue that for organizations to successfully integrate AI in banks, they should set up knowledge acquisition and application to solve real problems by sharing. It nurtures a learning culture that is enabling towards upskilling employees; therefore, it's important for understanding and operating with AI systems about the complexity and technical experience required in their operation (Canbul Yaroğlu, 2024).

Studies on AI adoption also reveal that adoption of this technology happens only when OLC is available as a pre-condition to build the required environment. Organizations with an applied culture for learning can experiment with and adopt AI solutions since they are mature enough to cope with the uncertainty and complexity arising out of it (Marsick & Watkins, 2003). Banks would need such a learning culture that introduces resilience, flexibility, and innovative capabilities. If the respective OLC is lacking, the full potential of AI would be extremely difficult to deploy and maintain in a bank context, in which employees might resist change because they are largely ignorant or fearful of being replaced by computers (Asfahani, 2022).

Psychological Climate

Psychological climate refers to the shared perception by members of an organization about the character of their work environment-includes perceptions of organizational trust, support, communication, and autonomy (Schneider & Reichers, 1983). Sure enough, it is a construct that has attitude-enhancing power about those perceptions toward innovation, especially concerning the new technologies of artificial intelligence. It reduces resistance to change and helps in increasing openness to innovation; it also builds a culture of experimenting with new tools and processes-all of which are important in embracing AI adoption in the banking sector. The notion of psychological climate is multicomponent in that it represents the common perceptions of organizational members regarding policies, practices, and procedures (Schneider & Reichers, 1983). It also influences the way employees react to the perceived risks against the benefits of embracing new technologies, such as AI. For example, positive psychological climate in terms of trust and open communications reduces the fear of out-of-job status or AI intricacy, which eventually results in higher involvement with the technology.
The concept that is related to psychological safety deals with the extent to which employees believe that, if they make a mistake or engage in some other form of unpopular behaviour at work, they will not suffer any negative consequences (Edmondson, 1999). Psychological safety leads the workforce to be more open and willing to test new AI-related technologies and engage in innovation. Therefore, low psychological safety will contribute to an increase in resistance to the adoption of AI. Employees are afraid of failing or losing their jobs. This is particularly important in the banking industries, where AI technologies will probably greatly alter the current traditional workflows and require corresponding new roles and responsibilities to be fulfilled by its employees.
A positive psychological climate, in the context of AI adoption, is a prerequisite for ensuring that employees do not fear the new process and are convinced that the ease of movement to processes driven by AI does not leave them shaken. Authorities at NS need to achieve such an environment wherein the employees are aware of the benefits of AI and feel psychologically secure enough to adopt these technologies without fear of repercussions. The psychological climate may not be considered. In such a case, the adoption of AI may become resistant. Hence, it will limit the prospective ability of these technologies to ensure the successful integration in practice.

AI Adoption in the Banking Sector

The adoption by the banking sector of AI over the last decade has been even more dramatic. The reports from the studies begin to indicate a transformational impact on conduct in banking business. First, machine learning and natural language processing boost the efficiencies of operations while achieving cost efficiency. Robotic process automation enables better customer

experiences (Ransbotham, Kiron, Gerbert, & Reeves, 2017). In this regard, banks use AI for automating mundane tasks, simplifying the process of decision-making, and providing a more bespoke experience to customers (Fares, Butt, & Lee, 2022).

However, as a fact, the benefits of AI are so obvious that its adoption has its set of problems. Most associate most organizations with the problems of implementing AI due to strategic non-alignment, deficiency of skills, and changes in the attitude of employees. Yet, it is likely that AI will bring an innovative twist to the traditionally consolidated ways and means in the banking industry, where not only the technology but also the organizational culture and the attitudes of the employees must change. For instance, AI may bring automation into such complex processes as risk assessment and fraud detection (Ransbotham, Kiron, Gerbert, & Reeves, 2017). This would necessitate a workforce with AI skills and one receptive to new ways of working.

Cultural resistance and lack of leadership not invested in investments in training and development remain the other sets of barriers related to adoption in AI (Bughin et al., 2018). This, indeed, will be very prevalent in the banking industry, one all about a change in structures, processes, and even job roles when taking up AI. Banks must invest in the organizational culture as means of continuous learning, experimentation, and innovation to counter the given barriers.

In this connection, two main factors will determine the success of AI adoption. They are the availability of leading-edge AI tools and organizational preparedness to adopt such technologies. The organizational preparedness, in turn, is a function of a combination of leadership, attitudes of employees, and the culture prevailing within the organization. Based on the competitive intensity and the evolving demands of the market, NSW Australian banking has no choice but to embrace AI. The most likely candidates that will succeed in fully exploiting the benefits of AI technology are those that can develop or build an innovation-enabled culture and change (Fares, Butt, & Lee, 2022).

The Role of Leadership in AI Adoption

Thus, leadership is the underpinning for designing the organizational culture and psychological climate indispensable for AI adoption to be successful. Transformational leadership is crucial because it promotes the fact that inspiration and motivation of personnel will provide the atmosphere that influences innovation and adoption of technology (Bass, 1985) (Eisenbeiss, van Knippenberg, & Boerner, 2008). Transformational leaders unmistakably portray a vision of technological change and take their organizations from the turmoil of embracing new technologies, such as AI, into society (Berkeley Executive Education, n.d.).

Transformational leadership: This is through the development of inspired and motivated leaders by the employees towards better performance as well as innovation standards. Leadership transformation creates an environment of learning and experimentation, which is central to embracing AI (Bass, 1985). Through visioning AI-driven change, and through the availability of resources and other needed forms of facilitation, transformational leaders can even drop the resistance to change and encourage employees to embrace new technologies (Konopik, Jahn, Schuster, Hoßbach, & Pflaum, 2021).

Very apparently, concerning the issue of transformational leadership and innovation, the transformational leader would face a much friendlier environment in which creativity and experimentation could thrive. In this regard, transformations in the banking sector call for much change in the traditional workflows; accordingly, a transformational leader will help them win

over resistance besides providing a strong culture of continuous learning and innovation (Eisenbeiss, van Knippenberg, & Boerner, 2008).

Very importantly, leadership most substantially influences the psychological climate that inspires adoption of AI. The open communication and trust-promoting, employee-control-oriented managers allow their followers to "try new things" without fear of adverse repercussions. The psychological safety, which has become a very crucial factor of AI adoption, is the ability of the employee to be confident about their ability to participate in AI technologies and to contribute to its success (Konopik, Jahn, Schuster, Hoßbach, & Pflaum, 2021).

However, point out challenges which organizations are likely to face in embracing AI technologies in case the leadership is not committed. Such would cause a lack of clear leadership that might lead to poor alignment of strategies by organizations towards the demands of AI adoption (Ransbotham, Kiron, Gerbert, & Reeves, 2017). This results in resistance to change and hence difficulties in the effective implementation of AI technologies. In other words, in the absence of a powerful leadership body, an adoption of AI in the banking sector is problematic to the organizations.

Employee Attitudes Towards AI Adoption

The attitude of employees toward AI acceptance varies with the organizational culture, psychological climate, and leadership among other factors. The perception that exists in the minds of employees about working in a supportive, innovative, and receptive environment will develop an attitude among employees toward new technology (Venkatesh et al., 2003). Employees who think that the work environment is stiff, formalistic, and not open to change will resist AI technologies (Suseno et al., 2020).

According to the UTAUT, performance expectancy, effort expectancy, social influence, and facilitating conditions are the factors that could shape the acceptance of new technologies by employees of a workplace (Asfahani, 2022). These influences emanate straight from the organizational learning culture and psychological climate. For example, a learning culture is expected to promote experimentation and continuous improvement and thereby positively enhance performance expectancy of employees toward AI technologies about realizing merit worth of their application in specific circumstances (Venkatesh et al., 2003).

Such a climate is positive psychologically and characterized by trust, support, and open communication. If AI leads to an otherwise potential positive psychology climate, introducing AI raises the level of risk and uncertainty for the employees (Suseno et al., 2020). Those employees who have been supported by their leaders and by their other colleagues are more likely to experiment with new technology and to contribute toward its successful implementation. Bad psychological climate, meaning no support with a fear of failure, might eventually find a party to increase resistance against the adoption of AI and not in Favor of the smooth integration of AI technologies into banks.

The type of leadership is also highly significant in terms of changing the attitude of employees toward AI adoption. Leadership transforming employees may motivate and inspire employees for innovation, which allows them not to fear new technologies. Openness in communication and psychological safety on the part of the leaders may make employees more positive about AI adoption. In fact, employee attitude is a critical success factor in AI adoption; it can make or break the implementation and integration of AI into the traditional workflow in the banking sector. Banks that could create a supportive organizational culture and psychology of work would be better placed to overcome resistance towards AI adoption and subsequently succeed in integrating these technologies into their operations.

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http://eelet.org.uk

Comparative Analysis of Existing Research

Organizational Learning Culture and AI Adoption

A significant portion of rigorous investigations has been carried out on the relationship between organizational learning culture and AI adoption. Literature studies indicate that only the strong organizations in the learning cultures ensure the tendency for new technology adoption. Such organizations promote continuous learning, experimentation, and innovation and motivate employees to seek and apply their knowledge to solving practical problems-what is necessarily required for AI adoption (Garvin, Edmondson, & Gino, 2008) (Marsick & Watkins, 2003).
Not all organizations are alike in terms of their predisposition to adopt AI technologies, however. As points out, for some organizations challenged by AI adoption, without a strong learning culture, the organization will present challenges, especially for those organizations without a robust culture of learning. Not only that, but the authors also purported that there are several reasons why organizations have not yet been able to utilize AI effectively because of not being properly aligned at the strategic level, and lacking adequate skills and having traits of great resistance to change (Ransbotham, Kiron, Gerbert, & Reeves, 2017). This may suggest that a pervasive robust learning culture would encourage more AI uptake but an organization for which innovation and learning are not core parts could be insurmountable barriers to AI uptake.

Strong adoption of AI in the Australian banking sector goes hand in hand with the need for a deep culture of learning. Institutions that focus on continuous learning and experimenting will ultimately be able to utilize AI technology. Conversely, institutions without such a learning culture will find it difficult to embrace AI due to negative attitudes by the employees or lack of the skills applied towards the interaction with AI technologies.

Psychological Climate and AI Adoption

The existing relationship between psychological climate and AI adoption has been more discussed across a variety of literature reports. Positive psychological climate, marked by trust, support, and open communication, helps innovate and decreases resistance to change (Schneider & Reichers, 1983). In a similar way, a positive psychological climate is associated with high adaptability to new technologies and with creativity among employees (Parker, Williams, & Turner, 2006).
Building a friendly psychological climate is, however, not easy as a challenge. Identify the cultural resistance in organizations, which pop up embracing AI technologies. They state that, without the commitment of leadership and investment in training, as it may bring impossible living conditions, which means almost impossible developing a supportive psychological climate and affecting AI technology implementation (Bughin et al., 2018). This should imply that the development of an appropriate psychological climate can promote the introduction and acceptance of AI, but it becomes hard to introduce AI without proper attention towards creating a safe and supporting psychological environment.

The establishment of a conduciveness psychological climate is key in the harmonization of AI in the banking sector. Trust, support, and open communication in a bank may augment the ability to overcome resistance to AI adoption since this may be a climate that empowers

employees to cope with new technologies. Banks that focus less on psychological safety will experience much difficulty in including AI (Salesforce, 2024).

Leadership and AI Adoption

The more attention brought to the role of the leader in AI adoption, so too has greater discussion taken place regarding the role based on the influence transformational leadership has on innovation and change (Hougaard & Carter, 2024). Transformational leaders hold importance as pivotal in the formation of a learning culture and environment, which is very important for new technology adoption; therefore (Bass, 1985), transformational leaders are more likely to build a creative and experimental environment that can potentially facilitate AI technology adoption (Eisenbeiss, van Knippenberg, & Boerner, 2008).
Not, however are all organizations suited with the leadership that will help them thrive in AI. Challenges organizations face in attempting to adopt AI technologies, in the absence of leadership commitment. They argue that many organizations fail with AI implementation due to a lack of strategic alignment and resistance to change (Ransbotham, Kiron, Gerbert, & Reeves, 2017). This means that even though transformational leadership may grease the skids for AI adoption, lacking organizations in prioritizing leadership development will be significantly impeded by the aspects of AI implementation (Hougaard & Carter, 2024).

Leadership is the most important factor in the adoption of AI in a bank. The change in leadership augments the possibility of adopting AI in banks. Only banks with powerful transformational leaders who nurture innovative and change-oriented approaches will have the propensity for using AI technologies optimally. Banks with weak leadership are less likely to adopt AI because their employees are either against change or lack the support systems for new technologies.

Gaps in the Literature and Research Questions

While much remains to be explored with the literatures outlined above in reference to organizational learning culture, psychological climate, and leadership, there is also very poor research on specific relationships these factors have with AI adoption within the banking sector, especially in Australia. Most studies done on AI adoption targeted larger industries or regions without looking into challenges and opportunities unique to the Australian banks operating in the New South Wales region.
The second strand of the literature focuses on the organizational culture and psychological climate aspects that are important in the AI adoption process. However, empirical research needs to be conducted that would disclose how different factors interlock to influence the adoption and implementation of AI technologies. For instance, whereas a learning culture per se is necessary and welcome psychological climate both are conducive to AI acceptance, much remains open to further exploration on how such factors interact in influencing an environment that is favourable toward innovation and change.

Based on these gaps, the following research questions are proposed-
1. Organizational Learning Culture and AI Usefulness in the Adoption of and Usage Practices by Australian Banks in NSW
2. Psychological climate in Australian banks and attitudes toward adopting AI among the employees

3. To what extent does leadership contribute to the development of an organizational supportive culture in the adoption of AI in banks of Australia?
4. What are the main hindrances and barriers to the adoption of AI in the banking sector of Australia, and how would organizational learning and psychological climate deal with those hindrances?

In this regard, the research gaps in the literature that these questions will seek to answer relate to how AI is adopted in the Australian banking sector, and thus they give a clearer perspective on factors that have an influence on its adoption. Potential future studies would thus include reviewing how organizational learning culture, psychological climate, and leadership are connected to answer more questions on how banks succeed in integrating AI into their business.

Conclusion

Some of the factors considered as organisation factors said to influence the adoption and implementation of AI in the banking sector include learning culture, psychological climate, and leadership. Dominant learning culture and positive psychological climate will boost the uptake of AI innovation through faster reduction of resistance to change and guarantee provision for incessant learning and experimentation. In contrast, organizations do not have such a supportive culture or climate that would pose modest barriers to AI implementation. Despite explanations in the current literature regarding the role played by organizational culture and psychological climate in AI adoption, there are still many research avenues that can be pursued by further conducting studies on how such factors influence AI adoption in banks, especially in Australia. Future studies may engage in exploratory analyses directed to exploring the relationships which involve organizational culture, psychological climate, and leadership influence in shaping the adoption as well as implementation of AI technologies within the banks. An opportunity for providing insights to the banks themselves about how they may better navigate the challenges and opportunities that follow with the use of AI, to create encouraging environments for innovation, learning, and technological change.

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