

## Literature Synthesis on the Impact of Organizational Culture and Innovation Climate on HRM Digital Technology Adoption in the Border Public Sector



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**ABSTRACT:** This research aims to understand how organisational culture and innovation climate influence the adoption of digital technologies in human resource management (HRM) practices in the public sector, particularly in border regions. In this context, organisational culture encompasses the values and norms present in an organisation that can support or hinder change, while innovation climate refers to an atmosphere that encourages creativity and acceptance of new technologies. This research method uses a literature study approach with the following steps: 1. Literature Search: Collecting relevant sources on the application of digital technology in HRM. 2. Initial Screening: Screening literary works based on title and abstract. 3. Inclusion Criteria: Establishing criteria to select the analysed literature. 4. Literature Analysis: Analysed the selected literature to synthesise findings and relationships between factors. 5. Recommendations: Provide recommendations for organisations in the public sector. The results showed that an organisational culture that supports change and innovation positively contributes to the adoption of digital technology in human resource management (HRM). In addition, a positive innovation climate, with support for innovative behaviour, also promotes successful adoption. However, challenges in the public sector, such as limited infrastructure, may affect organisational readiness to adopt new technologies. The study's conclusions suggest that an organisational culture that supports change and a climate of innovation play an important role in the adoption of digital technologies in human resource management (HRM), especially in the public sector. Recommendations for future research include focusing on the context of border regions, conducting longitudinal studies to understand the evolution of technology adoption, as well as exploring other factors such as infrastructure and government support that may influence the adoption process.

**KEYWORDS:** Organizational Culture, Technology Adoption, Digital HR, Innovation Climate

### 1. INTRODUCTION

In today's digital age, the adoption of digital technologies in human resource management (HRM) practices has become an urgent necessity for organisations around the world. Digital transformation not only offers opportunities to improve operational efficiency, but also enables organisations to adapt quickly to dynamic changes in the business environment. In this context, technologies such as Human Resource Information Systems (HRIS) and human resource analytics are becoming essential tools that can assist organisations in workforce management, data-driven decision-making, and improved employee experience. However, the successful implementation of digital technologies in HRM does not only depend on the availability of the technology itself. Organisational factors, such as organisational culture and innovation climate, play a very important role in determining the extent to which such technologies can be adopted and utilised effectively. Organisational culture encompasses a set of values, beliefs and norms shared by members of an organisation, which influence the way they behave and interact (Schein, 2010). A culture that supports innovation, learning and openness to change is likely to facilitate the adoption of new technologies, while a culture that is resistant to change may hinder the process.

On the other hand, innovation climate reflects the extent to which organisations create an environment that supports and encourages innovative behaviour. A positive climate, where new ideas are valued and supported, can be a key driver in the adoption of digital technologies. Conversely, a climate that does not support innovation can hinder initiatives to implement new technologies. In the context of the public sector, the challenges in adopting digital technologies for HRM are more complex, especially in border areas. Border regions often have unique characteristics, such as remote locations, limited infrastructure, and

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cultural and social barriers that can affect an organisation's readiness to adopt new technologies. Therefore, it is important to understand how organisational culture and innovation climate can influence the adoption of digital technology in HRM in this sector. Through this literature synthesis, this study aims to explore the impact of organisational culture and innovation climate on the adoption of digital technologies in HRM in the border region public sector. By understanding the interaction between these two factors, it is expected to provide valuable insights for managers and decision-makers in designing appropriate strategies and interventions to support a successful adoption process. This research is also expected to contribute to the development of theory and practice in the field of Management Information Systems, as well as provide practical recommendations for organisations in border regions in dealing with the unique challenges they face.

## 2. LITERATURE REVIEW

### 2.1. Organisational Culture

Organisational culture is one of the key factors that influence digital technology adoption. According to Schein (2010), organisational culture is a set of values, beliefs and norms shared by members of an organisation. Cultures that support innovation and change tend to facilitate the adoption of new technologies. Research by Aasiet al. (2018) showed that innovation-oriented and risk-taking organisational cultures support the adoption of digital technologies in human resource management practices. This finding is in line with the theory that an organisational culture that is open to change can facilitate the adoption of new technologies in organisations.

### 2.2. Innovation Climate

Innovation climate refers to the environment created by an organisation to encourage creativity and innovation among its members. Research by Amabile (1996) shows that a positive innovation climate, where new ideas are valued and supported, can increase employee motivation to innovate. In the context of digital technology adoption, a favourable innovation climate can be a key driver in the successful implementation of new technologies. Research by Jansen et al. (2006) found that organisations with a strong innovation climate are more likely to adopt new technologies in HRM practices.

### 2.3. Digital Technology Adoption in HRM

The adoption of digital technology in HRM covers various aspects, including the implementation of human resource information systems (HRIS), human resource analytics, and the use of other digital tools to improve operational efficiency. Research by Marler and Fisher (2013) shows that the adoption of digital technologies in HRM can improve data-driven decision-making and enhance employee experience. However, the success of this adoption is highly dependent on organisational factors, including culture and innovation climate.

### 2.4. Organisational Culture and Digital Technology Adoption

An organisational culture that supports innovation and change plays an important role in facilitating the adoption of digital technologies. Organisations with a culture that is open to new ideas and learning tend to adopt new technologies faster. Conversely, a culture that is resistant to change can hinder the technology adoption process. Research shows that organisational values and norms can influence employees' attitudes towards new technologies, thus influencing the decision to adopt digital technologies in HRM.

### 2.5. Innovation Climate and Digital Technology Adoption

A positive innovation climate, where employees feel supported to innovate and come up with new ideas, can increase their motivation and involvement in the technology adoption process. When organisations create an environment that supports creativity and experimentation, employees are more likely to accept and use new technologies in HRM practices. Research shows that a good innovation climate contributes to the successful implementation of digital technologies.

### 2.6. Organisational Culture and Innovation Climate

Organisational culture and innovation climate influence each other. A culture that supports innovation will create a positive innovation climate, while a good innovation climate can strengthen an organisational culture that is open to change. Both serve as complementary enablers in creating an environment conducive to digital technology adoption. Research shows that the interaction between organisational culture and innovation climate can influence the effectiveness of technology adoption in organisations.

## 3. RESEARCH METHODS

This research uses a literature study approach method. It aims to understand how organisational culture and innovation climate

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influence the adoption of digital technology in human resource management (HRM) practices in the public sector, particularly in border areas. By synthesising findings from previous studies, this research seeks to identify the relationship between these two factors and their impact on the successful adoption of digital technology. In this research method, the steps are as follows:

## 1. Literature Selection Criteria:

- Sources: Reputable academic journals, reference books, dissertations, theses, and research reports from credible institutions.
- Year of Publication: Focus on 2013-2023 literature, but seminal works before 2013 are considered.
- Relevance: Should be related to organisational culture, innovation climate, digital technology adoption, and human resource management (HRM), especially within the public sector or frontier region.

## 2. Data Collection Procedure:

A literature search was conducted through several academic databases such as *Web of Science*, *Scopus*, *ProQuest*, and *Google Scholar*, using a combination of relevant keywords such as 'organisational culture', 'technology adoption', and 'digital HR'.

## 3. Data Analysis:

- Literature was screened by title and abstract, followed by further screening using inclusion criteria that included source, relevance, and year of publication.
- Selected literature was then read in full to ensure relevance, and references were used to find additional sources.

A systematic approach to literature selection and analysis ensured the relevance and novelty of the information in the context of the study.

## 4. RESULTS AND DISCUSSION

### 4.1 Results and Discussion

A description of the results of empirical studies relevant to the research topic 'Literature Synthesis on the Impact of Organisational Culture and Innovation Climate on HRM Digital Technology Adoption in the Border Public Sector', and how the findings support or reject existing theories, as follows:

An empirical study by **Aasi et al. (2018)** examined the influence of organisational culture on IT governance performance in the IT department of a large Swedish company. Through a case study approach with interviews and document analysis, the study found that an innovation-oriented and risk-taking organisational culture supports digital technology adoption. This finding supports the theory that an organisational culture that is open to change and innovation can facilitate the adoption of new technologies in organisations.

Research by **Heavin and Power (2018)** identified challenges in digital transformation through a literature review and interviews with managers. One of the key findings was that organisational culture, specifically resistance to change, was one of the main challenges in the adoption of digital technology. This finding is in line with theory, which suggests that an organisational culture that is resistant to change can hinder the adoption process of new technologies in organisations.

The study by **Njoku (2016)** examined the contribution of e-HRM (human resource information system) to sustainable business performance in public sector organisations in Nigeria. Using a survey method, the study found that an organisational culture that supports innovation and openness to change facilitates HRIS adoption. This finding supports the theory that an organisational culture that supports innovation and change can promote the adoption of digital technology in HRM.

**Alibegović et al. (2017)** investigated the role of HRM in developing a knowledge-sharing culture in ICT companies in Croatia. Through interviews, they found that an organisational culture oriented towards learning and knowledge sharing promotes the adoption of digital technologies in HRM practices. This finding is in line with theories that link organisational cultures that support learning and innovation with the successful adoption of new technologies.

**The journal Schmidt et al. (2023)** is a case study of a traditional multinational energy company to identify factors that influence technology adoption. Using a qualitative approach, the study found three important factors: constructive tension, open innovation, and knowledge standardisation that positively influence the acceleration of technology adoption. The findings provide managerial implications for companies to manage tensions well, engage external parties, and standardise technological knowledge for faster adoption.

**Deep's (2023) conceptual article** discusses the impact of digital transformation on organisational culture. The author explores the influence of digital technologies on communication, collaboration, decision-making, innovation and other aspects of organisational culture. The article highlights the importance of building an organisational culture that supports digital transformation to survive in the digital age. Although conceptual in nature, the article provides valuable insights into the dynamics

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of organisational culture in adopting new technologies.

**The qualitative research of Algassim et al. (2023)** explored the factors that influence technology adoption in the architecture industry. Through interviews with managers, factors such as cost, concept preparation, service quality, deliverables demonstration capability, project time, environmental considerations, training needs, and user-friendliness were found to be determinants of technology adoption at the managerial level. The findings provide insights into the challenges and special considerations in adopting technology in the architectural services industry.

**The quantitative study of Al Halbusi et al. (2022)** examined the factors influencing technology adoption for online purchases in Qatar during the COVID-19 pandemic. Using structural equation modelling, the study found that hedonic motivation, habit, perceived risk, technology trust, and technology awareness positively influence online purchase customer satisfaction and continuous intention to use the website. In addition, word-of-mouth recommendations act as a moderator in the relationship. The findings are useful for practitioners in understanding online consumer behaviour during a crisis.

**Mulwa's research (2023)** analysed the effect of technology strategy (technology sources, technology posture, technology culture change, technology capacity) on the performance of the justice sector in Nairobi, Kenya. Using survey and regression methods, results showed that all technology strategy variables were positively and significantly related to performance, with technological culture change having the greatest influence. The findings imply the need for the Kenyan judiciary to adopt more advanced technology strategies, especially in relation to sourcing and operational culture to improve performance.

**The journal of Oberts et al. (2021)** is a case study of the oil and gas industry to explore the psychological factors that influence technology adoption decision-making by corporate decision-makers. Using the multiple case study method, the study confirmed 15 psychological factors grouped into six categories (personality, attitudinal, motivational, cognitive, social and organisational) that influence technology adoption in the industry. The findings support the validity of the Psychological Technology Adoption Framework (P-TAF) developed in the previous study. This study provides valuable insights into the influence of psychological factors on the innovation adoption process in the context of the oil and gas industry.

**Ghanem & Hamid's (2021)** research examines the effect of social media adoption and organisational culture on SME performance in the United Arab Emirates using the TOE framework (Technology, Organisation, Environment) and the Competitive Value Framework. Using a quantitative approach and PLS-SEM, the results show that technological factors have a significant effect on SME performance, while organisational and environmental factors have a negative effect. Social media adoption mediates the relationship between these factors and SME performance. However, organisational culture has a negative effect on the relationship between social media adoption and SME performance in the UAE. This study provides insights into the mediating role of social media adoption and moderation of organisational culture on SME performance in the country.

The study of **Arief et al. (2021)** evaluated the factors influencing teachers' intention to use a learning management system (LMS) using the *Technology Acceptance Model (TAM)* which is influenced by computer *self-efficacy* and organisational culture. Surveying teachers in Salatiga and Boyolali, the results showed that organisational culture had no significant effect on attitudes or intentions to use the Schoology LMS. Computer *self-efficacy* did not affect perceived usefulness, but had a significant effect on perceived ease of use. Although they found it difficult, teachers had a positive attitude towards LMS technology. This research provides theoretical insights into the factors that influence teachers' acceptance of technology.

## 4.2. Critical Analysis

The following is a critical analysis of the literature discussed, identifying the strengths and weaknesses of each study:

Study	Strength	Weakness
Aasi et al. (2018)	In-depth case study approach Provides empirical insight into the influence of organisational culture	Focuses only on one company Does not explore the role of innovation climate
Heavin dan Power (2018)	Combining literature review and interviews Identified organisational culture as a key challenge	Does not focus on the public sector or frontier regions Does not explore the innovation climate in depth
Njoku (2016)	Focuses on the public sector in Nigeria Used survey method	Did not explore border areas Focused only on HRIS adoption
Alibegović et al. (2017)	Exploring the role of HRM in knowledge sharing culture Using interview method	Focuses on ICT companies in Croatia Does not explore HRM digital technology adoption

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Schmidt et al. (2023)	In-depth qualitative approach Provides managerial implications	Focuses on energy companies Does not explore organisational culture and innovation climate specifically
Deep (2023)	Provides conceptual insights into the impact of digital transformation Highlights the importance of an organisational culture that supports digital transformation	Conceptual in nature, does not provide empirical data Does not focus on the public sector or border regions
Algassim et al. (2023)	Explore the factors of technology adoption in the architecture industry Provide insights into the challenges of technology adoption in the service industry	Focuses on the architecture industry Does not explore organisational culture and innovation climate specifically
Al Halbusi et al. (2022)	Using a quantitative approach and structural equation modelling Provides insights into online consumer behaviour during the COVID-19 crisis	Focuses on individual consumer behaviour Does not explore the public sector frontier
Mulwa (2023)	Analysing the influence of technology strategy on the justice sector in border areas Using survey and regression methods	Focuses on the justice sector Does not explore organisational culture and innovation climate specifically
Roberts et al. (2021)	Explores the psychological factors of technology adoption Using multiple case studies Confirmed the validity of the Psychological Technology Adoption Framework (P-TAF)	Focused on the oil and gas industry Does not specifically explore the interaction of organisational culture and innovation climate
Ghanem & Hamid (2021)	Using quantitative approach and PLS-SEM Provides insight into the mediating role of social media adoption and moderation of organisational culture on SME performance	Focuses on the context of SMEs in the UAE Does not explore the specifics of the innovation climate
Arief et al. (2021)	Evaluating the factors that influence teachers' intention to use an LMS Using the Technology Acceptance Model (TAM) model	Focuses on the educational context and teachers' use of the LMS Does not explore innovation climate specifically

### 4.3. Study Limitations

Study Limitations and Effects:

1. Most of the studies discussed focus on specific contexts or sectors (e.g. the oil and gas industry, ICT companies, or the education sector), so generalisations to the public sector in borderlands may be limited. The borderlands context has unique characteristics that may not be fully captured in these studies.
2. While these studies explore the influence of organisational culture and innovation climate separately, most do not deeply explore the interaction between these two factors in influencing HRM digital technology adoption. The lack of understanding of these interactions may limit the ability to design effective strategies.
3. Research Some studies use limited research methods, such as a single case study or a survey of one organisation. This may limit the generalisability and depth of understanding of the phenomenon under study.
4. Some studies are conceptual or literature reviews, thus lacking robust empirical data on the impact of organisational culture and innovation climate on HRM digital technology adoption in the border region public sector.

These limitations may affect the accuracy and completeness of the findings and conclusions that can be drawn from this literature review. Therefore, the results of this literature review should be interpreted with caution and consideration of its limitations.

## 5. CONCLUSIONS AND SUGGESTIONS

### 5.1. Conclusion

An organisational culture that supports innovation and change and a positive innovation climate are important factors that facilitate the successful adoption of digital technologies in human resource management (HRM) in the public sector, particularly in border areas. A culture that is resistant to change can actually hinder technology adoption. The findings contribute theoretically

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and practically, providing guidance for managers in border regions to support more effective digital technology adoption.

## 5.2. Suggestion

Based on the results of the study, some suggestions that can be given by further research:

1. Research in Border Areas: Future research needs to focus on the public sector in border regions to gain more contextually relevant insights.
2. Interaction of Culture and Innovation Climate: There is a need for more in-depth exploration of the interaction between organisational culture and innovation climate in influencing digital technology adoption.
3. Mixed Research Approach: The use of a mixed approach (qualitative and quantitative) is recommended to gain a more comprehensive understanding.
4. Longitudinal Studies: Long-term research is recommended to monitor changes in organisational culture and innovation climate in digital technology adoption.
5. Exploration of Other Factors: Additional factors such as demographics, technology infrastructure, and government support also need to be explored in future research.

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