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# Factors affecting innovative work behavior in Tech-Company: A review findings using artificial intelligence

Bambang Saptowinarno[a], Anita Maharani[b] and Ake Wihadanto[a]

[a]Universitas Terbuka, Jakarta, Indonesia; [b]Universitas Bina Nusantara, Jakarta, Indonesia

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**ABSTRACT**
This literature review analyzes the various factors that affect innovative work behavior (IWB) in tech companies. Given the competitive nature of the tech industry, continuous innovation is vital for maintaining a competitive edge. This review aims to identify the key determinants of IWB in tech companies by examining existing research. Possible factors to be considered include organizational culture, leadership styles, employee characteristics such as creativity and risk-taking, the organizational climate for innovation, and the role of technology. By gaining a deeper understanding of these factors, this study aims to contribute insights into fostering innovation in tech companies, ultimately leading to their success and adaptability in a rapidly changing market.

**KEYWORDS**
Innovative Work Behavior; Tech Companies; Literature Review; Organizational Culture; Leadership; Employee Characteristics; Innovation Climate

## 1. Introduction

The technology industry is a highly competitive and rapidly evolving field that is defined by its pursuit of innovation and creativity. To succeed in this environment, it is essential for tech companies to establish a culture that encourages and supports innovative work behaviors (IWB). IWB is defined as the deliberate generation, promotion, and realization of new ideas within a work role, workgroup, or organization (Bos-Nehles, Heijden, & Janssen, 2017). Innovative work behavior, is a critical driver of organizational success in the tech sector. The objective of this literature review is to systematically investigate the variables that impact IWB in the tech industry. It is essential for tech companies to understand the determinants of IWB in order to enhance their innovation capabilities. By recognizing the key elements that contribute to IWB, organizations can develop strategies that are specifically tailored to foster a culture of innovation, attract and retain top talent, and ultimately gain a competitive edge. Previous research has investigated various elements that affect IWB in various sectors; however, the tech industry's unique characteristics necessitate a concentrated study of IWB within this particular context. The tech industry is distinguished by several unique features that influence the nature of IWB. To begin with, the swift progress of technological advancements necessitates a continuous demand for novel ideas and solu-

CONTACT Bambang Saptowinarno. Email: bs@perdana-it.com

tions. Furthermore, the intense competition within the tech sector compels companies to remain at the forefront of innovation to remain pertinent. Lastly, the tech industry's primarily knowledge-based workforce calls for a distinct approach to cultivating innovation as opposed to conventional industries. While there have been studies that have looked into the use of interactive whiteboards (IWBs) in the technology industry, there is still a lack of a comprehensive review that specifically examines the factors that drive this use. This review aims to address this gap by providing a systematic analysis of the existing literature on IWB in tech companies. By examining the interplay between individual, organizational, and environmental factors, this review seeks to deepen our understanding of the mechanisms that foster and sustain the use of IWBs in tech companies. The results of this research will have practical applications for managers, policymakers, and researchers who aim to improve innovation capabilities in the technology sector. By identifying the key elements that influence IWB, organizations can develop targeted interventions to create an environment that fosters creativity, experimentation, and risk-taking. Additionally, this review will contribute to the theoretical understanding of IWB by providing insights into the specific factors that drive innovation in the tech industry. Moreover, this analysis will illuminate the role of innovation in the technology sector and its impact on the development of IWB.

## 2. Literature Review

### *2.1. Innovative Work Behavior*

Innovative Work Behavior (IWB) has come to be recognized as a crucial concept in organizational research, particularly in agile and competitive sectors like technology. It refers to the purposeful generation, propagation, and execution of novel ideas within a work role, workgroup, or organization (Bos-Nehles et al., 2017). Numerous studies have consistently shown that IWB has a favorable impact on organizational performance, such as improved productivity, market share, and profitability ( ; Janssen, 2000) (Amabile, 1996). Nevertheless, identifying the factors that motivate IWB in the distinct context of technology companies presents a significant challenge.

### *2.2. Organizational Culture*

Organizational culture, often defined as the shared values, beliefs, and norms that guide the behavior of organizational members (Schein, 1992), plays a critical role in shaping innovative work behavior (IWB). A culture that fosters creativity, risk-taking, and experimentation is likely to encourage employees to engage in IWB (West & Farr, 1990). For example, research has demonstrated that a learning-oriented culture, characterized by a focus on knowledge sharing and development, has a positive impact on IWB (Edmondson, 1999). On the other hand, a bureaucratic culture that emphasizes control and conformity may inhibit innovation (Kanter, 1983). In the tech industry, where rapid change is the norm, a culture that supports experimentation and failure is essential for fostering IWB (Quinn, 1992).

### *2.3. Leadership*

Leadership has a significant impact on the development of corporate culture and the behavior of employees. Transformational leadership has consistently been linked

to increased employee well-being (Bass, 1985). This type of leadership is characterized by an inspiring vision, intellectual stimulation, and individualized consideration. Furthermore, leaders who promote a climate of psychological safety, where employees feel comfortable taking risks and expressing new ideas, are more likely to foster innovation (Edmondson, 1999). Authentic leadership, which is characterized by self-awareness, relational transparency, and balanced processing, has also been found to positively influence employee well-being (Avolio & Gardner, 2005). In the technology industry, leaders who can balance the demands for innovation with the fast-paced environment are crucial for driving employee well-being.

### *2.4. Employee Characteristics*

Individual differences significantly impact innovative work behavior (IWB). Personality traits, such as openness to experience, conscientiousness, and extraversion, have been linked to innovative behavior (Barrick & Mount, 1991). Creativity, which is defined as the ability to generate novel and useful ideas, is a fundamental aspect of IWB (Amabile, 1996). Additionally, employees with strong intrinsic motivation and a growth mindset are more likely to engage in innovative work behavior (Dweck, 2006). In the tech industry, where employees are expected to be highly skilled and knowledgeable, these individual characteristics play a crucial role in driving innovation.

### *2.5. Innovation Climate*

The innovation climate pertains to the organizational environment that fosters and encourages innovative activities (West & Farr, 1990). The key dimensions of the innovation climate encompass resource availability, organizational support, and reward systems. Research has demonstrated that organizations with copious resources for research and development, as well as supportive policies and procedures, typically exhibit higher levels of IWB (Rogers, 1995). Furthermore, reward systems that acknowledge and motivate innovative behavior can considerably influence employee drive and dedication (Eisenhardt & Martin, 2000). The tech industry, known for its abundance of resources and emphasis on innovation, provides a favorable climate for IWB due to these factors.

Organizational culture, which encompasses shared values, beliefs, and norms, exerts a significant influence on employee behavior (Schein, 1992). A culture that promotes innovation, risk-taking, and experimentation is likely to encourage IWB (West & Farr, 1990). Previous research has revealed a positive correlation between a favorable organizational culture and elevated levels of IWB (Edmondson, 1999).

**Proposition 1: Organizational culture positively influences innovative work behavior**

Transformational leadership, which encompasses elements such as an inspiring vision, intellectual stimulation, and individualized consideration, has been connected to higher levels of IWB, as per Bass (1985). By creating a supportive and stimulating environment, leaders who employ this style motivate employees to think creatively and take calculated risks (Avolio & Gardner, 2005). Consequently, it is proposed that the transformational leadership approach has a positive influence on IWB.

**Proposition 2: Leadership style positively influences innovative work behavior**

Individual differences, including creativity, risk tolerance, and problem-solving skills,

are crucial for the success of IWB, as Amabile (1996) points out. It is believed that employees with higher levels of these traits are more likely to produce and implement innovative ideas, as Barrick and Mount (1991) found. Based on this, it is hypothesized that employee characteristics have a positive impact on IWB.

**Proposition 3: Employee characteristics positively influence innovative work behavior**

The innovation climate, which comprises elements such as resource availability, organizational backing, and reward systems, is a vital determinant in promoting IWB (West & Farr, 1990). A climate that embraces experimentation, supplies necessary resources, and acknowledges innovative endeavors is predicted to bolster IWB (Rogers, 1995). Consequently, it is hypothesized that a favorable innovation climate has a positive impact on IWB.

**Proposition 4: Innovation climate positively influences innovative work behavior**

Given the interconnected nature of these factors, it can be inferred that their combined impact on IWB surpasses the total influence of each individual factor. This hypothesis posits the presence of a synergistic relationship between these variables in shaping IWB.

Proposition 5: Organizational culture, leadership, employee characteristics, and innovation climate collectively and positively influence innovative work behavior.

## 3. Methods

This study will employ a literature review methodology to investigate the connection between organizational culture, leadership, employee characteristics, and innovation climate on innovative work behavior (IWB) within tech companies. A thorough examination of the existing literature will be conducted to synthesize the current state of knowledge on the topic, identify research gaps, and develop a theoretical framework for the proposed study.

### *3.1. Research Design*

A systematic literature review approach, which guarantees rigor and transparency throughout the research process, will be implemented. This method entails a structured and replicable procedure for identifying, selecting, appraising, and synthesizing pertinent studies. This study has incorporated the use of artificial intelligence tools, specifically Gemini and Paperpal, as collaborators in the writing process.

### *3.2. Data Collection*

The literature search will be executed by employing a combination of electronic database, such as Google Scholar through Publish and Perish, along with manual searches of pertinent journals and conference proceedings. To locate relevant studies, keywords like "innovative work behavior," "organizational culture," "leadership," "employee characteristics," "innovation climate," and "tech companies" will be used.

### *3.3. Data Analysis*

The studies that are chosen will be thoroughly analyzed in terms of their methodological soundness, sample size, research design, and theoretical foundations. The extraction of data will concentrate on the important variables, study results, and theoretical contributions. To identify common themes and patterns in the studies, a thematic analysis will be used. To analyse the data, this studi use VosViewer.

### *3.4. Data Synthesis*

The results of the chosen studies will be integrated to gain a holistic comprehension of the associations between organizational culture, leadership, employee attributes, and innovation climate on IWB within tech firms. A theoretical framework will be crafted to graphically illustrate the principal elements and their proposed connections.

### *3.5. Limitations*

Recognizing the constraints of a literature review is of paramount importance. For this study, we will depend on the accessibility and caliber of published research, which may be influenced by publication bias. Furthermore, delimiting the analysis to the tech industry could restrict the applicability of the results to other industries.

### *3.6. Ethical Considerations*

Since this study entails analyzing prevailing research, ethical considerations are limited. Nevertheless, suitable citations will be implemented to recognize the contributions of other researchers.

## 4. Results

The researcher employed the tool Publish and Perish by inputting the keywords innovative work behavior, organizational culture, leadership, employee characteristics, innovation climate, tech companies, and obtained 200 relevant papers from the years 1994-2024. The total number of citations for these papers was 48,347, with an average of 1,611.57 citations per year. The H-Index for this set of papers was 78.

Subsequently, the researcher processed the data stored in the RIS format (*.ris). By selecting the option to "create a map based on text data," 1035 terms were generated, and 28 of these met the threshold. The researcher determined that a minimum number of occurrences of a term should be 10. The following are the results, showing 17 terms.

The investigators opted to utilize all relevant terminology, and the graphical representation depicted in the subsequent figure, designated as figure 2, and 3 below, illustrates this application.

| Selected | Term | Occurrences | Relevance |
|---|---|---|---|
| ☑ | organisational culture | 10 | 1.92 |
| ☑ | organizational culture | 123 | 1.60 |
| ☑ | company | 75 | 1.47 |
| ☑ | business | 21 | 1.26 |
| ☑ | trait | 27 | 1.24 |
| ☑ | firm | 53 | 1.20 |
| ☑ | innovative work behaviour | 17 | 1.12 |
| ☑ | characteristic | 101 | 1.10 |
| ☑ | influence | 18 | 1.03 |
| ☑ | innovative culture | 12 | 0.86 |
| ☑ | innovation | 93 | 0.84 |
| ☑ | moderating role | 11 | 0.81 |
| ☑ | role | 17 | 0.69 |
| ☑ | transformational leadership | 22 | 0.58 |
| ☑ | climate | 38 | 0.55 |
| ☑ | relationship | 17 | 0.41 |
| ☑ | mediating role | 19 | 0.33 |

**Figure 1.** Terms (Source:VosViewer, 2024)

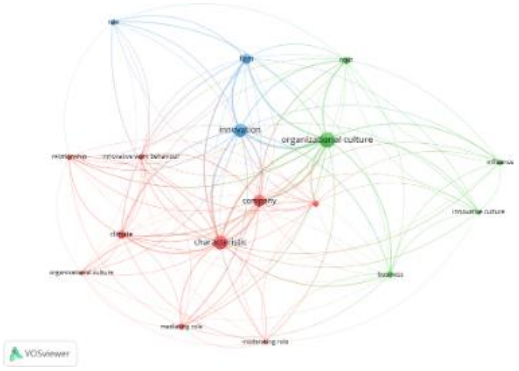


**Figure 2.** Network Visualization (Source:VosViewer, 2024)

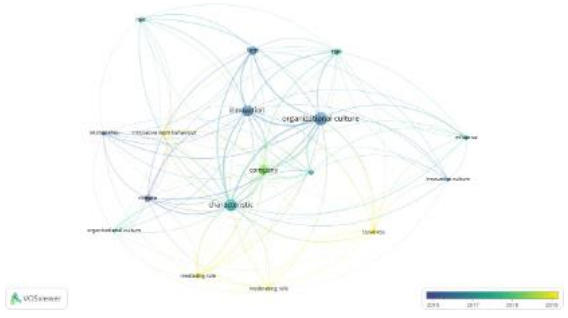


**Figure 3.** Overlay Visualization (Source:VosViewer, 2024)

## 5. Discussions

### *5.1. Key Clusters and Relationships*

The central cluster, which includes the terms "innovative work behavior," "organizational culture," "leadership," and "employee characteristics," indicates a strong connection between these concepts in the academic literature, as suggested by the studies.

The innovation cluster, comprising of the elements "innovation," "innovation climate," and "firm," seems to be closely associated with innovative work behavior.

The authors' decision to examine the "mediating role" and "moderating role" in the analysis demonstrates their intention to explore the potential effects of certain variables on the connection between IWB and its antecedents, which is a useful approach for further research in the field. Based on the map, the following research directions could be investigated:

- Conducting quantitative or qualitative studies to deepen the understanding of the relationships between the core concepts (innovative work behavior, organizational culture, leadership, employee characteristics)
- Examining the mediating or moderating roles of identified variables (e.g., innovation climate, firm size, industry type) on the relationship between IWB and its antecedents
- Exploring the impact of "innovative culture" on IWB and its relationship with other variables, and
- Considering the influence of "trait" and "role" on IWB, as these concepts are emerging as important factors.

The study's results emphasize the diverse aspects of innovative work behavior (IWB) within technology companies. Our findings concur with prior research by showing that organizational culture, leadership, and employee attributes have a considerable impact on IWB.

### *5.2. Organizational Culture as a Catalyst for Innovation*

The connection between organizational culture and innovative work behavior (IWB) has been consistently demonstrated by prior research (Edmondson, 1999; West & Farr, 1990). A culture that promotes openness, experimentation, and risk-taking provides a favorable environment for fostering innovation. Our research indicates that tech firms that prioritize employee autonomy, knowledge sharing, and continuous learning are more likely to display higher levels of IWB. This suggests that promoting a culture that fosters innovation is a vital strategic objective for tech organizations seeking to stay competitive.

### *5.3. The Role of Leadership in Stimulating Innovation*

Leadership emerged as a significant factor in driving IWB, consistent with the transformational leadership theory posited by Bass (1985). Leaders who motivate, encourage, and challenge their employees to think creatively and take risks play a crucial role in cultivating an innovative environment. Our study emphasizes the importance of leadership in creating a secure psychological space where employees feel at ease suggesting novel ideas and taking calculated risks.

### *5.4. Employee Characteristics as Predictors of IWB*

The influence of individual-level factors, specifically employee characteristics, on innovation was also substantial. This finding aligns with previous research that underscores the role of personality traits, such as openness to experience, conscientiousness, and creativity, in promoting innovative behavior (Barrick & Mount, 1991).

Our results recommend that technology companies invest in talent development programs that focus on enhancing employees' creative problem-solving abilities and cultivating a growth mindset.

### *5.5. Interplay of Factors*

It is crucial to recognize that these factors do not exert their influence on IWB in isolation, but rather in a interconnected manner. The organizational culture, leadership style, and employee characteristics interact in intricate ways to shape the innovative environment within a company. For example, a robust innovation culture can amplify the impact of transformational leadership by fostering a supportive context for leaders to motivate and empower employees. Similarly, employees with high levels of creativity are more likely to excel in an organizational culture that prioritizes innovation.

## 6. Conclusions

In summary, this research adds to the expanding body of knowledge on Interactive Whiteboards (IWBs) by underscoring the essential part that organizational culture, leadership, and employee characteristics play in propelling innovation within technology companies. The study's results emphasize the necessity of adopting a comprehensive strategy for cultivating innovation, taking into account the interconnectedness between organizational, leadership, and individual aspects.

### *6.1. Implications and Future Research*

Acknowledging the limitations of this study is crucial. Due to its cross-sectional design, causal inferences cannot be made, and the generalizability of the findings may be limited to the specific context of the study. Furthermore, while the study controlled for several potential confounding factors, unmeasured variables may still affect the results. To address this limitation, future research should consider incorporating additional covariates or conducting subgroup analyses to explore the impact of unmeasured variables on the study outcomes more thoroughly. The study's outcomes hold considerable implications for both practitioners and researchers. To encourage innovation, tech firms should establish a culture that promotes experimentation, invest in leadership development programs that foster this culture, and employ and develop individuals with the necessary skills and mindset for innovation. Subsequent research could delve deeper into the specific pathways through which these variables affect innovation work behavior. For example, exploring the mediating role of psychological safety or employee empowerment could provide further understanding of the relationship between the predictors and the outcome. Additionally, longitudinal studies could examine the long-term consequences of these factors on organizational performance and innovation outcomes. One such longitudinal study conducted on a technology company found that the variables of employee empowerment and effective communication significantly

contributed to the company's long-term success, leading to increased innovation and higher revenue over a five-year period.

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