



## Organizational Readiness, Digital Technology, and Sustainable Performance: The Moderating Role of Knowledge Acquisition

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### Abstract

This study examines the factors influencing organizational readiness and its impact on sustainable employee performance (economic, social, and environmental) in Thailand Telkom Service Sector. It explores the moderating role of knowledge acquisition on the relationship between organizational readiness and digital technology use. Limited research has investigated the mediating role of digital technology use in the link between organizational readiness and sustainable employee performance. Telecommunication, being a customer-driven and operation-based industry, prioritizes enhancing customer satisfaction. Data were collected from 255 middle management personnel in the Thailand Telkom Service Sector and analyzed using structural equation modeling. The findings indicate that organizational readiness directly affects sustainable employee performance across economic, social, and environmental dimensions. Knowledge acquisition moderates the relationship between organizational readiness and digital technology use, while digital technology use mediates the link between organizational readiness and sustainable employee performance. The study offers valuable insights for stakeholders, telecom companies, and policymakers, providing strategic guidance for Thailand's transition towards a more technologically advanced and inclusive digital landscape. Additionally, it outlines practical implications, limitations, and directions for future research in sustainable employee performance.

### Keywords

Organizational Readiness, Sustainable Employee Performance, Economic, Social, Environmental, Thailand's Telkom Service Sector, Knowledge Acquisition, Digital Technology Use

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## 1. Introduction

Organizations must continuously adapt to technological advancements in today's rapidly evolving business landscape to stay competitive and achieve sustainable performance. The integration of digital technologies has become central to improving operational efficiency and overall sustainability (Onifade et al., 2023). Organizational readiness for the adoption and effective implementation of these technologies plays a critical role in long-term success, particularly in sectors like telecommunications, which heavily rely on technological innovations (Haleem et al., 2022; Wang et al., 2021). The telecom sector, in particular, faces increasing pressure to maintain technological leadership while addressing sustainability concerns such as resource efficiency, societal impact, and environmental challenges. In response to these challenges, Thailand telecom service providers must be ecologically conscious and technologically adaptive (Skare & Soriano, 2021). Therefore, exploring the factors influencing sustainable performance and employee performance related to organizational readiness has become an important issue for academics and practitioners. Organizations must adapt swiftly in this era of rapid change to survive and achieve long-term sustainability. Sustainable development emphasizes the efficient use of natural resources to prevent resource depletion (Inthavong et al., 2023).

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Moreover, sustainability has been recognized as a potential source of competitive advantage (Lin & Fan, 2024). In the past two decades, there has been growing attention on building sustainability to secure long-term employee and organizational performance (Tu & Wu, 2021). To remain competitive and achieve sustainable development, companies must meet their direct and indirect stakeholders' economic, social, and environmental needs. Previous studies have examined factors influencing organizational readiness for technological adoption (Alami et al., 2021; Walker et al., 2020; Weiner, 2020). Organizational readiness facilitates efficient resource use, technological adoption, and the pursuit of competitive advantages. Various factors, such as business size (Walker et al., 2020), network infrastructure (Alami et al., 2021), enterprise systems (Hussain & Papastathopoulos, 2022), and technical human resources (Antony et al., 2023), influence sustainable performance (Guenduez & Mergel, 2022). The emergence of digital tools, such as cloud computing, big data analytics, artificial intelligence (AI), and the Internet of Things (IoT), has transformed business operations, offering opportunities for better decision-making, innovation, and operational efficiency (Onifade et al., 2023). However, an organization's ability to absorb, integrate, and use new information is crucial for achieving sustainable performance and successfully implementing digital technology (Harahap et al., 2023; Kateb et al., 2022; Shahadat et al., 2023). Technology has simplified human tasks, including social interaction, employment, and information access (Gkeredakis et al., 2021; Taormina & Baraldi, 2023). It enables employees to work more efficiently, collaborate more effectively, and operate in safer environments (Harahap et al., 2023; Lin & Fan, 2024). Despite widespread technology use, many organizations struggle to integrate emerging technologies fully. Knowledge acquisition plays a key moderating role in the relationship between organizational readiness, digital technology adoption, and sustainable performance. It significantly impacts an organization's ability to manage digital transitions (Arias-Pérez et al., 2021; Azeem et al., 2021; Papa et al., 2020; Spiteri & Chang Rundgren, 2020; Wang et al., 2020). Knowledge acquisition enables organizations to stay informed about the latest technological developments and guides the effective use of these technologies to drive innovation, sustainability, and efficiency. It also supports a culture of continuous learning, helping organizations adapt and grow in response to changing market conditions (Arias-Pérez et al., 2021; Guerreiro et al., 2021; Papa et al., 2020).

This study's primary objective is to examine organisational readiness's impact on sustainable employee performance, focusing on the mediating role of digital technology use and the moderating role of knowledge acquisition. This paper is structured as follows: first, the study reviews the conceptual background and previous literature; second, it develops and tests hypotheses and proposes a conceptual framework; third, it outlines the study's methodology, data collection methods, and measures; finally, the results are discussed in terms of implications, limitations, and directions for future research.

## **2. Theoretical Background and Research Model**

### ***2.1. Conceptualization and Antecedents of Sustainable Employee Performance***

Sustainability involves efficiently managing, using, and recycling natural resources (Dey et al., 2022). Employee performance is an individual's value to an organization through their actions and outcomes during a given period (Iqbal et al., 2020; Jerónimo et al., 2020). While behavior refers to what employees do, performance is about the expected organizational value of that behavior (Dey et al., 2022). Effective behaviors that contribute to organizational goals lead to good performance, satisfying both the individual and the organization (He et al., 2021). Sustainable work systems, which maintain productivity while renewing social, human, and occupational resources, are critical for long-term human sustainability and sustainable job performance (Jerónimo et al., 2020). The concept of sustainable employee performance extends beyond traditional measures of output and profit, integrating social, economic, and environmental dimensions. This reflects the growing emphasis on sustainability in contemporary business practices (Sharma et al., 2021). Sustainable employee performance aligns with the Triple Bottom Line (TBL) framework, encompassing economic, social,

and environmental sustainability (Iqbal et al., 2021). Under this framework, employees are expected to contribute economically, act socially responsibly, and promote environmental care, contributing to the organization's long-term success (Mousa & Othman, 2020).

The economic aspect of sustainable employee performance focuses on an employee's contribution to the organization's financial stability and success. This includes traditional measures of output, efficiency, and quality of work. Employees who excel in economic sustainability consistently deliver high-quality work, meet performance targets, and enhance the organization's profitability (Bush, 2020). Beyond short-term outcomes, economic sustainability emphasizes innovation, resource efficiency, and continuous improvement. Employees are encouraged to develop lifelong learning and skills to ensure long-term competitiveness and adaptability to changing market conditions (Piwowar-Sulej & Iqbal, 2023). The social aspect examines how employees contribute to broader societal goals, employee well-being, and workplace culture. Sustainable employee performance in this context includes promoting collaboration, teamwork, and a positive work environment. Employees are expected to support diversity and inclusion, contributing to a workplace where everyone has an equal opportunity to succeed (Yusliza et al., 2020). Socially sustainable performance also involves corporate social responsibility (CSR), where employees participate in community-oriented projects. Achieving work-life balance, job satisfaction, and overall well-being are crucial for long-term success for individuals and organizations.

The environmental aspect of sustainable employee performance involves reducing the company's environmental impact through responsible practices such as minimizing waste, conserving energy, and efficiently using resources (Bush, 2020; Haleem et al., 2022). Employees who are aware of their environmental impact contribute to organizational efforts to support green initiatives or environmental management systems. This is particularly important in industries like manufacturing and telecommunications, where environmental concerns are significant. In these sectors, employees are often involved in efforts to reduce emissions, optimize energy use, and enhance the sustainability of products and services (Dey et al., 2022; Jerónimo et al., 2020)

### *2.1.2. Theoretical underpinning*

Social exchange theory (SET) suggests that relationships and behaviors within organizations are built on reciprocal exchanges driven by mutual benefits, trust, and obligations. Social exchanges are typically more open-ended and flexible, involving greater trust than economic exchanges, which are more transactional and monitored (Saglam et al., 2022). SET has been used to explore key topics in organizational behavior, including organizational readiness (Stafford & Kuiper, 2021), commitment (Chang, 2021), knowledge acquisition (Arsawan et al., 2022), and sustainable employee performance. From a social exchange perspective, organizational readiness can be viewed as a series of exchanges between employees and the organization. Employees who trust the organization's commitment are more likely to engage with digital technologies. SET also explains how employees' perceptions of benefits influence their willingness to adopt new technologies. When employees are provided with the tools and training to use advanced technologies, such as artificial intelligence, big data, or the Internet of Things, their productivity, efficiency, and creativity improve (Bakker & Demerouti, 2017; Rattrie et al., 2020). This supports organizational objectives, including sustainable performance.

Achieving sustainable performance involves ongoing communication between the organization and its stakeholders, including the workforce. Employees contribute to the organization's sustainability goals by adopting sustainable practices, while the organization provides resources, training, and a clear vision for sustainability initiatives. In response, employees embrace new technologies, enhancing organizational readiness and contributing to sustainability efforts (Teune, 2023). This reciprocal exchange leads to better outcomes regarding sustainable performance and the integration of digital technologies.

The proposed framework is illustrated below (Figure 1).

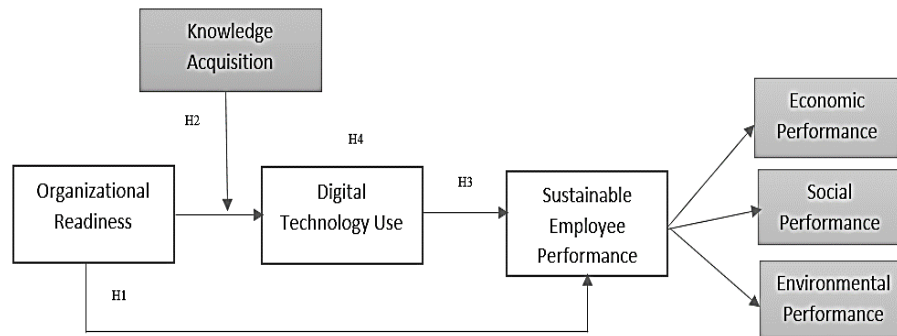


Figure 1: Conceptual Model

## 2.2. Antecedents of Sustainable Employee Performance

### 2.2.1. Organizational Readiness

Organizational readiness, particularly when aligned with sustainability initiatives, creates an environment where employees contribute to long-term financial success, social responsibility, and environmental stewardship (Wang et al., 2023). Organizational readiness impacts economic sustainable performance by providing employees with access to technology, training, and leadership support, enhancing their productivity, efficiency, and creativity (Antony et al., 2023). This preparedness encourages employee participation in continuous process optimization and development, promoting economic sustainability (Alami et al., 2021). In the social domain, organizational readiness is reflected in leadership's commitment to social goals such as corporate social responsibility (CSR) programs, employee well-being, and inclusivity. Companies emphasising social sustainability and creating a healthy work environment experience increased employee cooperation, team spirit, and engagement in CSR initiatives (Hussain & Papastathopoulos, 2022). Employees who perceive their organization as supportive of social goals are more likely to engage in socially responsible activities (Hradecky et al., 2022).

In the environmental aspect, organizational readiness is demonstrated by the organization's commitment to environmental sustainability through the availability of green technologies, environmental training, and clear sustainability policies (Guenduez & Mergel, 2022). Studies suggest that employees are more likely to adopt eco-friendly practices and contribute to reducing the company's environmental impact when they perceive their organization as environmentally conscious (Alami et al., 2021). The influence of organizational readiness on employee engagement in economic, social, and environmental sustainability activities plays a crucial role in maintaining sustainable employee performance (Hussain & Papastathopoulos, 2022). Based on the proposed model, the hypothesis is:

H1: Organizational readiness directly influences sustainable employee performance (economic, social, and environmental).

### 2.2.2. Digital technology use

Automation, artificial intelligence (AI), and data analytics are examples of digital technologies that enhance worker productivity, efficiency, and creativity, supporting an organization's long-term financial success (Onifade et al., 2023). Digital tools enable employees to make more informed decisions, streamline processes, and reduce operational costs, all of which contribute to improved economic performance (Jeon et al., 2020). Employees with these technologies can innovate continuously, optimizing workflows and enhancing the organisation's competitiveness (Iqbal et al., 2021). Collaboration tools such as cloud computing, digital communication platforms, and online collaboration systems allow employees to work together across geographical boundaries, improving teamwork and increasing social performance (Skare & Soriano, 2021). Digital platforms also support remote work and offer flexible communication, leading to more inclusive work environments and higher employee satisfaction.

Furthermore, these technologies facilitate transparency, data sharing, and employee participation in social initiatives, contributing to the success of corporate social responsibility (CSR) efforts (Wang et al., 2021). In the environmental sphere, digital technologies promote sustainable practices by enabling employees to adopt eco-friendly behaviors. Technologies such as smart grids, Internet of Things (IoT) devices, and digital monitoring systems allow employees to track and reduce energy consumption, minimize waste, and optimize the use of resources (Jeon et al., 2020). Digital solutions provide real-time data on emissions and resource usage, helping organizations make informed decisions that contribute to environmental sustainability (Wang et al., 2021). Digital technology enhances employee performance by aligning their actions with the organization's broader sustainability goals, covering economic, social, and environmental dimensions (Onifade et al., 2023). Based on the conceptual framework, the hypothesis is:

H2: Digital technology use directly influences sustainable employee performance (economic, social, and environmental).

### 2.2.3. Moderating role of knowledge acquisition

Organizational readiness, defined by factors such as resource availability, a culture that embraces change, and leadership support, reflects an organization's capability to adopt new technologies and processes (Wang et al., 2023). Employee knowledge and skills in digital technologies are crucial for successful implementation within organizations. Knowledge acquisition refers to the processes by which individuals and organizations acquire, share, and apply knowledge, ultimately impacting their ability to use digital tools effectively. Employee knowledge acquisition strengthens the relationship between digital technology use and organizational readiness (Hussain & Papastathopoulos, 2022). Providing employees with training and learning opportunities equips them with the skills and competencies necessary to use new technologies, enhancing organizational readiness efficiently. Employees with knowledge of digital tools and their applications tend to perform better and be more productive, as they can seamlessly integrate these technologies into their daily tasks. Knowledge acquisition, therefore, acts as a catalyst in enhancing the benefits derived from organizational readiness for digital technology adoption (Haleem et al., 2022). Moreover, knowledge acquisition helps reduce resistance to change. Employees are less likely to resist digital technology if they possess the requisite knowledge and skills. Instead, they are more inclined to view these technologies as valuable tools that can improve their performance and contribute to the organization's success (Jeon et al., 2020). In organizations that prioritize knowledge acquisition, employees feel empowered and take ownership of the digital tools at their disposal, fostering innovation and continuous improvement. Encouraging a culture of learning further enhances organizational readiness. Organizations that cultivate a culture of continuous learning and value knowledge-sharing practices inspire employees to experiment with and adopt new technologies (Papa et al., 2020). Based on the conceptual framework, the hypothesis is:

H3: Knowledge acquisition moderates the relationship between organizational readiness and digital technology use.

#### 2.2.4. Mediating role of digital technology use

Organizations with high preparedness create an environment that supports adopting and integrating digital technologies, subsequently influencing employee performance in sustainability-related areas (Skare & Soriano, 2021). Employees who work in a prepared organization are more likely to leverage digital tools that enhance creativity, efficiency, and productivity. Organizational readiness provides the infrastructure and resources that facilitate the adoption of digital technologies, leading to improved decision-making and streamlined processes (Iqbal et al., 2021). For example, employees with advanced analytics tools can optimize operations and reduce costs by making data-driven decisions. As digital technologies empower employees to achieve higher performance levels through efficient technology use, they serve as the mechanism through which organizational readiness leads to economic sustainability. Digital technology use also enhances employee engagement, collaboration, and communication. Organizations that are ready for digital transformation provide the necessary support and training for employees to effectively use collaboration platforms, remote communication tools, and social media (Wang et al., 2021). This increased connectivity strengthens teamwork, promotes diversity and inclusion initiatives, and fosters a positive organizational culture. Consequently, digital technology use mediates the relationship between organizational readiness and social employee performance, encouraging greater involvement in organizational and community initiatives.

Regarding environmental sustainability, the mediating role of digital technology use is crucial (Jeon et al., 2020). Organizations prepared for digital transformation are better positioned to implement environmentally friendly technologies, such as Internet of Things (IoT) devices for energy management and monitoring. These technologies enable employees to monitor resource consumption, identify inefficiencies, and implement sustainable practices (Onifade et al., 2023). Therefore, digital technology mediates the relationship between organizational readiness and environmental sustainability by equipping employees with the tools needed to support the company's green initiatives. Moreover, the mediating role of digital technology use highlights how organizational readiness influences the adoption and effectiveness of new technologies. Even the most advanced digital technologies may fail to be adopted if organizational readiness is lacking, limiting their potential to contribute to long-term performance (Papa et al., 2020). Thus, maximizing the impact of digital technologies on sustainable employee performance requires fostering a culture of preparedness characterized by resource allocation, leadership support, and a commitment to continuous learning. Based on the conceptual framework, the hypothesis is:

H4: Digital technology use mediates the relationship between organizational readiness and sustainable employee performance (economic, social, and environmental).

### 3. Methods

#### 3.1. Measures

To ensure the validity of the research model, the measures in this study were carefully selected to align with the context and nature of the variables. Organizational readiness was measured using the scale adapted from (Guenduez & Mergel, 2022). Knowledge acquisition was measured using items adapted from (Arias-Pérez et al., 2021). Digital technology use was measured by adapting items from (Sert & Boynuegri, 2017). Sustainable employee performance was captured using three dimensions: economic performance, social performance, and environmental performance, all adapted from (Lin & Fan, 2024). Each item was tailored to fit the context of this study, ensuring alignment with the content. The final survey items can be found in the Appendix. Face and content validity were conducted before including the adapted items in the questionnaire. Responses were collected on a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree").

### 3.2. Data Collection

Data collection was conducted through a survey approach, where questionnaires were distributed to gather responses. A cross-sectional time horizon was applied as data was collected once from the unit of analysis. The respondents were middle management employees working in the Telkom service sector in Thailand. A total of 300 questionnaires were distributed, and 255 were completed and returned, representing a response rate of 85%, which is significant. Since the population size was unknown, a non-probability sampling technique was used, specifically the snowball sampling method. The respondent demographics showed that 63.1% were male and 36.9% were female. Approximately 33.2% of respondents were aged 25-35, and 57.4% held undergraduate degrees.

### 3.3. Data Analysis

The data was analyzed using SmartPLS 3.0, employing partial least squares-based structural equation modeling (PLS-SEM). PLS-SEM is suitable for studies with smaller sample sizes, such as this one, and performs well with complex models (Hair et al., 2024). PLS-SEM aims to maximize the explained variance of the endogenous constructs in the model. It is particularly appropriate for this study as it is less sensitive to deviations from normality assumptions, making it a robust choice for data analysis in this context (Hair et al., 2024).

## 4. Results

### 4.1. Measurement Model

The measurement model was evaluated using convergent reliability, Cronbach's alpha, and individual item reliability, as recommended in prior studies (Hair et al., 2024). Table 1 presents the reliability metrics, where all item reliabilities in this study are above 0.715, meeting the criteria for item reliability. The composite reliability (CR), or internal consistency reliability, also met the threshold of 0.7 or higher (Hair et al., 2019). For all constructs, the Average Variance Extracted (AVE) exceeded the minimum threshold of 0.50, indicating that the constructs have adequate convergent validity (Hair et al., 2020). Additionally, Cronbach's alpha values in this study range between 0.789 and 0.928, which falls within the acceptable range for reliability.

Table 1: Reliability, AVE and Factor Loading

Construct/ Item	Composite Reliability	Cronbach Alpha	AVE	Factor Loadings
<b>Digital Technology Use</b>	0.932	0.912	0.695	
<b>DTU1</b>				0.749
<b>DTU2</b>				0.843
<b>DTU3</b>				0.873
<b>DTU4</b>				0.833
<b>DTU5</b>				0.851
<b>DTU6</b>				0.849
<b>Sustainable Employee Performance</b>	0.938	0.928	0.525	
<b>Economic Performance</b>	0.909	0.879	0.626	
<b>EP1</b>				0.814
<b>EP2</b>				0.858
<b>EP3</b>				0.857
<b>EP4</b>				0.784
<b>EP5</b>				0.713

<b>EP6</b>				0.707
<b>Environmental Performance</b>	0.864	0.789	0.614	
<b>EnP1</b>				0.819
<b>EnP2</b>				0.700
<b>EnP3</b>				0.711
<b>EnP4</b>				0.838
<b>Social Performance</b>	0.899	0.849	0.689	
<b>SP1</b>				0.840
<b>SP2</b>				0.839
<b>SP3</b>				0.877
<b>SP4</b>				0.761
<b>Knowledge Acquisition</b>	0.896	0.845	0.682	
<b>KA1</b>				0.841
<b>KA2</b>				0.840
<b>KA3</b>				0.818
<b>KA4</b>				0.805
<b>Organizational Readiness</b>	0.896	0.826	0.743	
<b>OR1</b>				0.805
<b>OR2</b>				0.862
<b>OR3</b>				0.915

To confirm discriminant validity, the square root of the AVE for each construct must exceed the correlation between that construct and others. The analysis confirmed that the correlations between constructs were lower than the square root of the AVE of individual constructs, thus supporting the discriminant validity (Hair et al., 2024).

Table 2: Discriminant Validity

	<b>DTU</b>	<b>KA</b>	<b>OR</b>	<b>SEP</b>
<b>Digital Technology Use</b>	0.844			
<b>Knowledge Acquisition</b>	0.717	0.825		
<b>Organizational Readiness</b>	0.594	0.645	0.862	
<b>Sustainable Employee Performance</b>	0.823	0.555	0.771	0.810

#### 4.2. Structural Model

The structural model was tested using path coefficients and R-squared values, followed by bootstrapping with 500 samples to assess the significance of the path coefficients (Hair et al., 2024). The results indicate that organizational readiness positively and significantly affects digital technology use ( $\beta = 0.225$ ,  $P = 0.000$ ). Knowledge acquisition moderates the relationship between organizational readiness and digital technology use, showing a significant positive effect ( $\beta = 0.269$ ,  $P = 0.021$ ). The findings also reveal that digital technology use significantly and directly impacts sustainable employee performance, including economic, social, and environmental aspects ( $\beta = 0.823$ ,  $P = 0.000$ ). Additionally, digital technology use mediates the relationship between organizational readiness and sustainable employee performance ( $\beta = 0.287$ ,  $P = 0.000$ ).



Table 3: Evaluation of Structural Model

Dependent	Independent	$\beta$ value	P Values	R-Square
Digital Technology Use	Organizational Readiness	0.225	0.000	0.596
	Knowledge Acquisition (Moderator)	0.269	0.021	
Sustainable Employee Performance	Organizational Readiness	0.287	0.000	0.693
	Digital Technology Use (Mediator)	0.823	0.000	

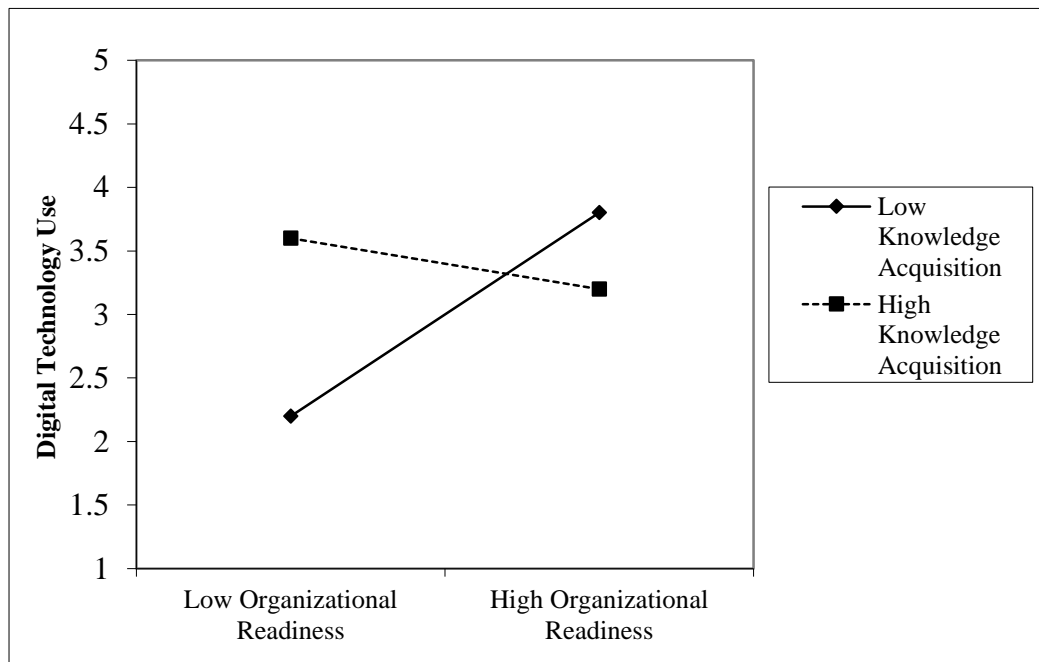


Figure 2: Moderating role of knowledge acquisition on organizational readiness and digital technology use

Figure 2 illustrates the positive relationship between organizational readiness and digital technology use, with knowledge acquisition serving as a moderator. When organizational readiness is low, the use of digital technology is also low. Conversely, when organizational readiness is high, the use of technology increases correspondingly. Figure 2 shows the moderating effect of knowledge acquisition on the relationship between organizational readiness and digital technology use.

### 5. Discussion

The study underscores the significance of sustainable employee performance driven by organizational readiness. It builds on previous research by exploring the mediating role of digital technology use and the moderating impact of knowledge acquisition. This study contributes to developing a conceptual framework applicable to various industries, including the telecom sector in Indonesia, the education sector in Thailand, and medium- and large-sized businesses in Thailand (Guo et al., 2022; Ivaldi et al., 2022; Kateb et al., 2022). The results demonstrate that organizational readiness and digital technology use positively and significantly impact sustainable employee performance across economic, social, and environmental dimensions.

Previous research highlights the strong connection between organizational readiness and digital technology adoption. Employees are trained to assess their proficiency in digital tools like email and online conferencing, providing access to internal and external information. The findings indicate that knowledge acquisition moderates the relationship between organizational readiness and digital technology use. Knowledge acquisition plays a critical role in facilitating collaboration among staff and ensuring continuous improvement across departments through the enhanced application of digital technology (Arias-Pérez et al., 2021). Contrary to other research (Guenduez & Mergel, 2022), which found no link between organizational readiness and digital technology, this study's results align with findings from earlier investigations (Alami et al., 2021; Weiner, 2020). Several studies consistently point to common factors supporting organizational innovation and readiness (Kienzler et al., 2023; Sahoo et al., 2023). In summary, this research confirms the importance of both organizational readiness and the effective use of digital technology for promoting sustainable performance, with knowledge acquisition serving as a crucial moderator in this relationship.

The results of this study align with previous research suggesting that operational routines and capacities influenced by environmental dynamics drive entrepreneurial initiatives (Do et al., 2022; Orth & Schuldis, 2021). Organizational success is shaped by competitive advantages and strategic investments supporting growth and sustainability (Yuan et al., 2021). The findings emphasize the role of knowledge acquisition in improving social sustainability by raising awareness within community enterprises and promoting social responsibility. This, in turn, enhances the quality of life for employees and strengthens internal and external business networks. Organizational enrichment and skill development are crucial for successful adaptation to change and promoting long-term growth (Inthavong et al., 2023). As organizations grow and acquire knowledge, employees can implement better working methods that improve adaptability, flexibility, and effectiveness, contributing to the organization's resilience and competitiveness. The positive effects of digitalization are evident, with digital technologies facilitating process optimization, cost reduction, and efficiency improvements (Taormina & Baraldi, 2023). Technology use can also improve employee well-being in social contexts by enabling flexible work arrangements, enhancing communication, and increasing engagement (Harahap et al., 2023). Organizational readiness plays a significant role in determining how well an organization performs, as it influences the source and content of information (Guenduez & Mergel, 2022).

In practical terms, financial variables related to investments are more critical in sectors such as the Telkom Service sector, where larger organizations are often more exposed to investment risks due to their greater capital. However, some studies suggest that excessive formal control imposed by digital technology can hinder information sharing, potentially impacting employee performance. This research provides valuable insights for professionals in the manufacturing industry, highlighting the importance of integrating knowledge acquisition into administrative operations to foster consideration of social, economic, and environmental factors. This approach is increasingly important as firms face growing pressure to adapt to technological and environmental changes. Through the analysis of interactions between multiple factors affecting worker productivity, the study demonstrates digital technology's key role in enabling this transformation. By adopting new tools and processes, digital technology boosts operational efficiency and empowers employees to work more sustainably. The research further explores how knowledge development enhances the positive impact of digital technology on performance. Employees who continually learn and apply new skills are better equipped to innovate in their roles and adapt to technological advancements. The findings suggest that organizations should focus on improving their digital infrastructure and fostering a culture of continuous learning for sustained success. This has important managerial implications, as it encourages leaders to prioritize knowledge acquisition and make technological investments part of their long-term success strategies.

## 6. Limitations

First, the study's sample size was limited, which restricted the number of responses collected within the given time frame. Future research could benefit from a larger sample size to improve the robustness of the findings. Furthermore, due to limited funding, the study only collected data from Thailand's telecom industry, which poses challenges for generalizing the results. Future studies could gather data from telecom industries in other cities within Thailand to ensure the findings are broadly applicable. Additionally, future research may expand the focus to include other industries beyond the telecom and industrial sectors, as this study relied on random data collection. Secondly, the cross-sectional nature of this study limits the ability to draw conclusions about the temporal relationships between the variables. Longitudinal studies would benefit future research to gain deeper insights into how these relationships evolve over time and compare the results of cross-sectional and longitudinal approaches. Lastly, the reliance on self-reported surveys introduces potential bias, as subjective perceptions may influence responses. Future studies could incorporate secondary data sources to strengthen the empirical rigor of the research and mitigate bias from self-reporting.

## 7. Conclusion

This study contributes significantly to understanding the conceptualization and antecedents of sustainable employee performance, including economic, social, and environmental dimensions, within the context of Thailand's Telkom Service Sector. It also highlights the moderating role of knowledge acquisition and the mediating influence of digital technology use on the relationship between organizational readiness and sustainable performance. First, unlike prior research, this study examines sustainable employee performance and knowledge acquisition and investigates how digital technology use moderates the link between organizational readiness and performance outcomes. The findings offer a nuanced view of how organizational readiness relates to sustainable employee performance across various dimensions. Second, the study explores the mediating role of digital technology use between organizational readiness and sustainable performance, demonstrating that the use of digital technologies can significantly enhance employees' economic, social, and environmental performance. Third, the research provides empirical evidence supporting the positive effects of digital technology on sustainable employee performance. In particular, it highlights how organizations can promote social sustainability by fostering social responsibility, raising awareness, and improving business networks. Environmental sustainability can be advanced by adopting eco-friendly practices, optimizing resource use, and minimizing waste. Future research should further investigate the determinants and antecedents of the mediating variables. The results emphasize the critical role of knowledge acquisition as a moderator, showing that businesses with strong knowledge acquisition practices are better equipped to leverage digital technologies for sustainability. This underscores the importance of continued research into how organizations can create environments that facilitate continuous learning and adaptability in the digital age. From a practical perspective, businesses should prioritize cultivating a culture of knowledge acquisition to better prepare for digital transformation. This involves investing in knowledge-sharing initiatives, collaboration platforms, and training programs that empower employees to innovate and adapt to technological changes effectively.

## 8. Appendix

Variables	Items	Sources
<b>Organizational Readiness</b>	<ol style="list-style-type: none"> <li>1. The ICT based technology procedure is easily understandable to me.</li> <li>2. We have all the readiness resources for ICT base business operation.</li> <li>3. We have different ways (virtual, in person, etc.) of training in our organization</li> </ol>	(Alami et al., 2021)
<b>Knowledge acquisition</b>	<ol style="list-style-type: none"> <li>1. Search for information in the environment</li> <li>2. Monitoring of customers' needs</li> <li>3. Contacts with external institutions or specialised sources</li> <li>4. Availability within the firm of people, teams or services specialised in environmental scanning</li> </ol>	(Papa et al., 2020)
<b>Digital Technology Use</b>	<ol style="list-style-type: none"> <li>1. I can use multimedia programs effortlessly (for example, media players, Adobe Creative Cloud, etc.).</li> <li>2. I can use computer communication programs effortlessly (e-mail, instant messenger).</li> <li>3. I can use video programs effortlessly (YouTube, etc.)</li> <li>4. I can use social media effortlessly (blogs, Facebook, twitter, etc.).</li> <li>5. I can use necessary databases effortlessly (for example, English grammar databases; English Language Learners databases, etc.)</li> <li>6. I can use spreadsheet programs effortlessly (for example, Microsoft excel, Apache Open Office Calc., etc.).</li> </ol>	(Sert & Boynuegri, 2017)
<b>Sustainable Employee Performance</b>		
<b>Economic Performance</b>	<ol style="list-style-type: none"> <li>1. In our company we have improved our productivity in recent years</li> <li>2. In our company we have improved our turnover in recent years</li> <li>3. In our company we have reduced our operation costs in recent years</li> <li>4. Our business is experiencing growth in recent years</li> <li>5. Our level of customer loyalty has increased in recent years</li> <li>6. Our level of customer satisfaction has increased in recent years</li> </ol>	(Lin & Fan, 2024)
<b>Social Performance</b>	<ol style="list-style-type: none"> <li>1. In our company we have improved work safety in recent years</li> <li>2. In our company we have improved work environment in recent years</li> <li>3. In our company we have improved our relationship with the community and/or stakeholders in recent years</li> <li>4. In our company we have improved living quality of surrounding community in recent years</li> </ol>	(Lin & Fan, 2024)
<b>Environmental Performance</b>	<ol style="list-style-type: none"> <li>1. In our company we have reduced waste across our processes</li> <li>2. In our company we have achieved resource efficiency across our processes</li> <li>3. In our company we have improved compliance with environmental standards</li> </ol>	(Lin & Fan, 2024)

## References

- Alami, H., Lehoux, P., Denis, J.-L., Motulsky, A., Petitgand, C., Savoldelli, M., Rouquet, R., Gagnon, M.-P., Roy, D., & Fortin, J.-P. (2021). Organizational readiness for artificial intelligence in health care: insights for decision-making and practice. *Journal of Health Organization and Management*, 35(1), 106-114. <https://doi.org/10.1108/JHOM-03-2020-0074>
- Antony, J., Sony, M., McDermott, O., Jayaraman, R., & Flynn, D. (2023). An exploration of organizational readiness factors for Quality 4.0: an intercontinental study and future research directions. *International Journal of Quality & Reliability Management*, 40(2), 582-606. <https://doi.org/10.1108/IJQRM-10-2021-0357>
- Arias-Pérez, J., Velez-Ocampo, J., & Cepeda-Cardona, J. (2021). Strategic orientation toward digitalization to improve innovation capability: why knowledge acquisition and exploitation through external embeddedness matter. *Journal of Knowledge Management*, 25(5), 1319-1335. <https://doi.org/10.1108/JKM-03-2020-0231>
- Arsawan, I. W. E., Koval, V., Rajiani, I., Rustiarini, N. W., Supartha, W. G., & Suryantini, N. P. S. (2022). Leveraging knowledge sharing and innovation culture into SMEs sustainable competitive advantage. *International journal of productivity and performance management*, 71(2), 405-428. <https://doi.org/10.1108/IJPPM-04-2020-0192>
- Azeem, M., Ahmed, M., Haider, S., & Sajjad, M. (2021, 2021/08/01). Expanding competitive advantage through organizational culture, knowledge sharing and organizational innovation. *Technology in Society*, 66, 101635. <https://doi.org/10.1016/j.techsoc.2021.101635>
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of occupational health psychology*, 22(3), 273-285. <https://doi.org/10.1037/ocp0000056>
- Bush, J. T. (2020, 2020/09/01). Win-Win-Lose? Sustainable HRM and the promotion of unsustainable employee outcomes. *Human Resource Management Review*, 30(3), 100676. <https://doi.org/10.1016/j.hrmr.2018.11.004>
- Chang, K. C. (2021, 2021/02/01). The affecting tourism development attitudes based on the social exchange theory and the social network theory. *Asia Pacific Journal of Tourism Research*, 26(2), 167-182. <https://doi.org/10.1080/10941665.2018.1540438>
- Dey, M., Bhattacharjee, S., Mahmood, M., Uddin, M. A., & Biswas, S. R. (2022, 2022/02/20). Ethical leadership for better sustainable performance: Role of employee values, behavior and ethical climate. *Journal of cleaner production*, 337, 130527. <https://doi.org/10.1016/j.jclepro.2022.130527>
- Do, H., Budhwar, P., Shipton, H., Nguyen, H.-D., & Nguyen, B. (2022, 2022/03/01). Building organizational resilience, innovation through resource-based management initiatives, organizational learning and environmental dynamism. *Journal of business research*, 141, 808-821. <https://doi.org/10.1016/j.jbusres.2021.11.090>
- Gkeredakis, M., Lifshitz-Assaf, H., & Barrett, M. (2021, 2021/03/01). Crisis as opportunity, disruption and exposure: Exploring emergent responses to crisis through digital technology. *Information and Organization*, 31(1), 100344. <https://doi.org/10.1016/j.infoandorg.2021.100344>
- Guenduez, A. A., & Mergel, I. (2022, 2022/10/01). The role of dynamic managerial capabilities and organizational readiness in smart city transformation. *Cities*, 129, 103791. <https://doi.org/10.1016/j.cities.2022.103791>
- Guerreiro, L., Silva, F. N., & Amancio, D. R. (2021, 2021/05/01). A comparative analysis of knowledge acquisition performance in complex networks. *Information Sciences*, 555, 46-57. <https://doi.org/10.1016/j.ins.2020.12.060>
- Guo, M., Brown, G., & Zhang, L. (2022, 2022/06/01). My knowledge: The negative impact of territorial feelings on employee's own innovation through knowledge hiding. *Journal of Organizational Behavior*, 43(5), 801-817. <https://doi.org/10.1002/job.2599>
- Hair, J. F., Howard, M. C., & Nitzl, C. (2020, 2020/03/01). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of business research*, 109, 101-110. <https://doi.org/10.1016/j.jbusres.2019.11.069>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J. F., Sharma, P. N., Sarstedt, M., Ringle, C. M., & Liengaard, B. D. (2024). The shortcomings of equal weights estimation and the composite equivalence index in PLS-SEM. *European Journal of Marketing*, 58(13), 30-55. <https://doi.org/10.1108/EJM-04-2023-0307>
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022, 2022/01/01). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275-285. <https://doi.org/10.1016/j.susoc.2022.05.004>
- Harahap, K. M. A., Sutrisno, S., Fauzi, F., Jusman, I. A., & Almaududi Ausat, A. M. (2023, 03/26). The Impact of Digital Technology on Employee Job Stress: A Business Psychology Review. *Jurnal Pendidikan Tambusai*, 7(1), 3635-3638. <https://doi.org/10.31004/jptam.v7i1.5775>
- He, J., Morrison, A. M., & Zhang, H. (2021, 2021/05/01). Being sustainable: The three-way interactive effects of CSR, green human resource management, and responsible leadership on employee green behavior and task performance. *Corporate Social Responsibility and Environmental Management*, 28(3), 1043-1054. <https://doi.org/10.1002/csr.2104>
- Hradecky, D., Kennell, J., Cai, W., & Davidson, R. (2022, 2022/08/01). Organizational readiness to adopt artificial intelligence in the exhibition sector in Western Europe. *International journal of information management*, 65, 102497. <https://doi.org/10.1016/j.ijinfomgt.2022.102497>
- Hussain, M., & Papastathopoulos, A. (2022, 2022/01/01). Organizational readiness for digital financial innovation and financial resilience. *International journal of production economics*, 243, 108326. <https://doi.org/10.1016/j.ijpe.2021.108326>
- Inthavong, P., Rehman, K. U., Masood, K., Shaukat, Z., Hnydiuk-Stefan, A., & Ray, S. (2023). Impact of organizational learning on sustainable firm performance: Intervening effect of organizational networking and innovation. *Heliyon*, 9(5). <https://doi.org/10.1016/j.heliyon.2023.e16177>
- Iqbal, Q., Ahmad, N. H., & Ahmad, B. (2021). Enhancing sustainable performance through job characteristics via workplace spirituality. *Journal of Science and Technology Policy Management*, 12(3), 463-490. <https://doi.org/10.1108/JSTPM-02-2018-0022>
- Iqbal, Q., Ahmad, N. H., Nasim, A., & Khan, S. A. R. (2020, 2020/07/20). A moderated-mediation analysis of psychological empowerment: Sustainable leadership and sustainable performance. *Journal of cleaner production*, 262, 121429. <https://doi.org/10.1016/j.jclepro.2020.121429>
- Ivaldi, S., Scaratti, G., & Fregnan, E. (2022). Dwelling within the fourth industrial revolution: organizational learning for new competences, processes and work cultures. *Journal of Workplace Learning*, 34(1), 1-26. <https://doi.org/10.1108/JWL-07-2020-0127>
- Jeon, H. M., Sung, H. J., & Kim, H. Y. (2020, 2020/12/01). Customers' acceptance intention of self-service technology of restaurant industry: expanding UTAUT with perceived risk and innovativeness. *Service Business*, 14(4), 533-551. <https://doi.org/10.1007/s11628-020-00425-6>
- Jerónimo, H. M., de Lacerda, T. C., & Henriques, P. L. (2020, 2020/12/01). From Sustainable HRM to Employee Performance: A

- Complex and Intertwined Road. *European Management Review*, 17(4), 871-884. <https://doi.org/10.1111/emre.12402>
- Kateb, S., Ruehle, R. C., Kroon, D. P., van Burg, E., & Huber, M. (2022, 2022/07/01/). Innovating under pressure: Adopting digital technologies in social care organizations during the COVID-19 crisis. *Technovation*, 115, 102536. <https://doi.org/10.1016/j.technovation.2022.102536>
- Kienzler, J., Voss, T., & Wittwer, J. (2023, 2023/08/01). Student teachers' conceptual knowledge of operant conditioning: How can case comparison support knowledge acquisition? *Instructional Science*, 51(4), 639-659. <https://doi.org/10.1007/s11251-023-09627-7>
- Lin, J., & Fan, Y. (2024, 2024/01/01/). Seeking sustainable performance through organizational resilience: Examining the role of supply chain integration and digital technology usage. *Technological Forecasting and Social Change*, 198, 123026. <https://doi.org/10.1016/j.techfore.2023.123026>
- Mousa, S. K., & Othman, M. (2020, 2020/01/10/). The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework. *Journal of cleaner production*, 243, 118595. <https://doi.org/10.1016/j.jclepro.2019.118595>
- Onifade, M., Adebisi, J. A., Shivute, A. P., & Genc, B. (2023, 2023/08/01/). Challenges and applications of digital technology in the mineral industry. *Resources Policy*, 85, 103978. <https://doi.org/10.1016/j.resourpol.2023.103978>
- Orth, D., & Schuldis, P. M. (2021). Organizational learning and unlearning capabilities for resilience during COVID-19. *The Learning Organization*, 28(6), 509-522. <https://doi.org/10.1108/TLO-07-2020-0130>
- Papa, A., Dezi, L., Gregori, G. L., Mueller, J., & Miglietta, N. (2020). Improving innovation performance through knowledge acquisition: the moderating role of employee retention and human resource management practices. *Journal of Knowledge Management*, 24(3), 589-605. <https://doi.org/10.1108/JKM-09-2017-0391>
- Piwoar-Sulej, K., & Iqbal, Q. (2023, 2023/01/01/). Leadership styles and sustainable performance: A systematic literature review. *Journal of cleaner production*, 382, 134600. <https://doi.org/10.1016/j.jclepro.2022.134600>
- Rattrie, L. T. B., Kittler, M. G., & Paul, K. I. (2020, 2020/01/01). Culture, Burnout, and Engagement: A Meta-Analysis on National Cultural Values as Moderators in JD-R Theory. *Applied Psychology*, 69(1), 176-220. <https://doi.org/10.1111/apps.12209>
- Saglam, C. Y., Yildiz Çankaya, S., Golgeci, I., Sezen, B., & Zaim, S. (2022, 2022/11/01/). The role of communication quality, relational commitment, and reciprocity in building supply chain resilience: A social exchange theory perspective. *Transportation research part E: Logistics and Transportation review*, 167, 102936. <https://doi.org/10.1016/j.tre.2022.102936>
- Sahoo, S., Kumar, A., & Upadhyay, A. (2023, 2023/01/01). How do green knowledge management and green technology innovation impact corporate environmental performance? Understanding the role of green knowledge acquisition. *Business Strategy and the Environment*, 32(1), 551-569. <https://doi.org/10.1002/bse.3160>
- Sert, N., & Boynuegri, E. (2017, 01/02). Digital technology use by the students and english teachers and self-directed language learning. *World Journal on Educational Technology: Current Issues*, 9(1), 24-34. <https://doi.org/10.18844/wjet.v9i1.993>
- Shahadat, M. M. H., Nekomahmud, M., Ebrahimi, P., & Fekete-Farkas, M. (2023). Digital Technology Adoption in SMEs: What Technological, Environmental and Organizational Factors Influence in Emerging Countries? *Global Business Review*, 09721509221137199. <https://doi.org/10.1177/09721509221137199>
- Sharma, S., Prakash, G., Kumar, A., Mussada, E. K., Antony, J., & Luthra, S. (2021, 2021/06/20/). Analysing the relationship of adaption of green culture, innovation, green performance for achieving sustainability: Mediating role of employee commitment. *Journal of cleaner production*, 303, 127039. <https://doi.org/10.1016/j.jclepro.2021.127039>
- Skare, M., & Soriano, R. D. (2021, 2021/10/01/). How globalization is changing digital technology adoption: An international perspective. *Journal of Innovation & Knowledge*, 6(4), 222-233. <https://doi.org/10.1016/j.jik.2021.04.001>
- Spiteri, M., & Chang Rundgren, S.-N. (2020, 2020/03/01). Literature Review on the Factors Affecting Primary Teachers' Use of Digital Technology. *Technology, Knowledge and Learning*, 25(1), 115-128. <https://doi.org/10.1007/s10758-018-9376-x>
- Stafford, L., & Kuiper, K. (2021). Social exchange theories: Calculating the rewards and costs of personal relationships. In *Engaging theories in interpersonal communication* (pp. 12). Routledge.
- Taormina, F., & Baraldi, S. B. (2023). Museums and digital technology: a literature review on organizational issues. In *Rethinking Culture and Creativity in the Digital Transformation* (pp. 69-87).
- Teune, L. (2023). *Is AI a diamond in the rough for HR? Identifying the attributions towards AI-enabled HR practices. A grounded theory approach* [Essay Master, University of Twente].
- Tu, Y., & Wu, W. (2021, 2021/04/01/). How does green innovation improve enterprises' competitive advantage? The role of organizational learning. *Sustainable Production and Consumption*, 26, 504-516. <https://doi.org/10.1016/j.spc.2020.12.031>
- Walker, T. J., Brandt, H. M., Wandersman, A., Scaccia, J., Lamont, A., Workman, L., Dias, E., Diamond, P. M., Craig, D. W., & Fernandez, M. E. (2020, 2020/11/11). Development of a comprehensive measure of organizational readiness (motivation × capacity) for implementation: a study protocol. *Implementation Science Communications*, 1(1), 103. <https://doi.org/10.1186/s43058-020-00088-4>
- Wang, J., Xue, Y., Sun, X., & Yang, J. (2020, 2020/03/20/). Green learning orientation, green knowledge acquisition and ambidextrous green innovation. *Journal of cleaner production*, 250, 119475. <https://doi.org/10.1016/j.jclepro.2019.119475>
- Wang, L., Chen, Y., Ramsey, T. S., & Hewings, G. J. D. (2021, 2021/08/01/). Will researching digital technology really empower green development? *Technology in Society*, 66, 101638. <https://doi.org/10.1016/j.techsoc.2021.101638>
- Wang, T., Olivier, D. F., & Chen, P. (2023, 2023/11/02). Creating individual and organizational readiness for change: conceptualization of system readiness for change in school education. *International Journal of Leadership in Education*, 26(6), 1037-1061. <https://doi.org/10.1080/13603124.2020.1818131>
- Weiner, B. J. (2020). Chapter 8: A theory of organizational readiness for change Handbook on Implementation Science. In (pp. 215-232). Edward Elgar Publishing. <https://doi.org/10.4337/9781788975995.00015>
- Yuan, Y., Yang, L., Cheng, X., & Wei, J. (2021). What is bullying hiding? Exploring antecedents and potential dimension of knowledge hiding. *Journal of Knowledge Management*, 25(5), 1146-1169. <https://doi.org/10.1108/JKM-04-2020-0256>
- Yusliza, M. Y., Yong, J. Y., Tanveer, M. I., Ramayah, T., Noor Faezah, J., & Muhammad, Z. (2020, 2020/03/10/). A structural model of the impact of green intellectual capital on sustainable performance. *Journal of cleaner production*, 249, 119334. <https://doi.org/10.1016/j.jclepro.2019.119334>