THE DYNAMICS OF LEARNING ORGANIZATION CULTURE AND KNOWLEDGE SHARING ON PERFORMANCE AND SUSTAINABILITY

by

SUMI LEE

(Under the Direction of Caleb S. Han)

ABSTRACT

The primary objective of HRD is to bolster organizational performance and sustain competitive advantage by optimizing the organization's human, social, and intellectual capital. This necessitates a sharp focus on the effective management of intangible resources and capabilities, as outlined in the Resource-Based View. Consequently, this study aimed to determine how intangible resources (e.g., learning organization culture) and capabilities (e.g., knowledge sharing) impact a firm’s performance and sustainability. The study sought to identify and implement the most impactful mechanisms that would not only enhance the firm's short-term performance but also significantly contribute to its long-term sustainability.

Data were collected from 373 employees across six large companies in South Korea. The study then utilized a structural equation modeling (SEM) model, confirmatory factor analysis (CFA), regression analysis, and t-tests to investigate the research hypotheses.

This study found that learning organization culture significantly impacts performance and sustainability. Knowledge Sharing also directly affects sustainability, yet its direct influence on performance is insignificant. Additionally, Knowledge sharing serves as a mediator between the learning organization culture and both performance and sustainability. It implies that the

influence of learning organization culture on performance and sustainability partially operates through its impact on knowledge sharing.

Notably, this study unequivocally validates the RBV theory and DLOQ model extending their significance beyond short-term performance to encompass the critical concepts of long-term sustainability. it boldly leads the charge in pioneering sustainability research within the realm of HRD literature, paving the way for new insights and advancements. Building upon these findings, several implications, limitations, and suggestions for future research are discussed.

INDEX WORDS: learning organization culture, knowledge sharing, performance, sustainability, RBV theory

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A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2024

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August 2024

DEDICATION

Dedicated to

My dearest husband, Wanki Kim

My loving and wise daughter, Chaeyeon Kim

My faithful and affectionate son, Namseok Kim,

and

My everything, my parents, Wonjae Lee & Jeonghee Seo

Above all, to my God who guides my path.

ACKNOWLEDGEMENTS

I am profoundly grateful to my advisor, Dr. Caleb Han, whose mentorship, expertise, and unwavering support have been indispensable throughout this academic journey. He is my academic and spiritual mentor, and a God-sent guide in my life. His guidance, encouragement, and constructive criticism have not only shaped the content and methodology of this dissertation but have also inspired me to strive for excellence in all aspects of my scholarly pursuits. In particular, the SLAB Meeting was amazing. I extend my heartfelt appreciation to the members of my dissertation committee, Dr. Watkins, Dr. Bierema and Dr. Oh, for their invaluable contributions and scholarly insights. Their rigorous review, thoughtful feedback, and scholarly expertise have been instrumental in refining the research design, analyzing the data, and interpreting the findings.

I am also grateful to the Korean HRD community. Specifically, I am thankful to my mentors, Dr. Yonjoo Cho and Dr. Seung Won Yoon, as well as esteemed professors Dr. Dae Seok Chai, Dr. Jieun You, Dr. Doo Hun Lim, Dr. Soebin Jang, and Dr. Woocheol Kim. I appreciate the collaboration with Dr. Chung il Chae, Dr. Jiwok Park, Dr. Jeong-Ha Yim, Dr. Sokyum Yun, and Dr. Chang Sung Jang, with whom I have conducted joint research. Moreover, I am thankful to the members of the K-HRD Writing Group-Kyungnam, Yob, Mihee, Yoojeong, Hyunryeong, Jeongeun, Minjeong, Yoonjung, and Jeongsan-for their consistent support and encouragement. You all are my research companions in my life.

Most importantly, I express my deepest gratitude to my beloved daughter, Chaeyeon, my son, Namseok, and my husband, Wanki Kim, for their enduring love, patience, infinite support,

and prayers. My deepest gratitude extends to my family for their unwavering love, encouragement, and faith in my abilities. From my mother, who supports me late-studying daughter from afar with prayers and boundless love, to my sister and brother, as well as my nieces and nephews, who have been unwavering in their support, understanding, and sacrifices, serving as the bedrock of my academic journey. I am profoundly thankful for their unwavering presence in my life.

I would like to extend my sincere thanks to my friends Minseon, Inhee, and Haeok, as well as to my former colleagues who generously assisted me with my dissertation survey. Lastly, I extend my gratitude to the faculty members and friends of the LLOD program as well as my church members.

Above all, I commend myself for bravely embracing the challenge of starting anew in life after making the courageous decision to depart from a deeply fulfilling career. I commend my resilience in adapting to the unfamiliar American culture while simultaneously juggling multiple responsibilities, including caring for my children, supporting my husband, and navigating the education system, while persevering through tears and prayers. I will be wholeheartedly committed to aligning with God's path and making a meaningful transformation in the lives of many as I embark on this next chapter of my journey.

"Those who are wise will shine like the brightness of the heavens,
and those who lead many to righteousness, like the stars for ever and ever."
(Daniel 12:3)

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CHAPTER 1

INTRODUCTION

Work culture changes, global market pressures, and increased technological complexities prompt Human Resource Development (HRD) to place a strong focus on organizational learning (Watkins & Marsick, 2023). HRD plays a pivotal role in promoting a culture of learning, fostering knowledge-sharing, and supporting individual growth within organizations. Watkins (1989) characterized HRD as a domain focused on the cultivation of enduring work-related learning capacities across individuals, groups, and organizations. Indeed, organizations that prioritize and facilitate continuous learning among their employees are better equipped to face challenges, stay innovative, and improve overall performance (Han, 2018).

While individual learning is an essential component, it is insufficient in itself to drive organizational change. For meaningful and sustainable change to occur within organizations, continuous learning and adaptation at all levels are necessary (Egan et al., 2004; Marsick & Watkins, 2003; Song, 2008). To foster such a culture of learning, organizations should create an environment that encourages high levels of individual learning and development. This effort is achieved by cultivating a learning organization culture to encompass cultural aspects - vision, values, assumptions, and behaviors - that support a learning environment (Armstrong & Foley, 2003). As Marsick and Watkins (2003) argued, learning should be captured and integrated into ongoing systems, practices, and structures. This practice enables sharing and regular utilization of knowledge to intentionally improve performance (p. 133).

Watkins and Marsick (1993, 1996) developed the dimensions of the learning organization questionnaire (DLOQ) to assess the cultural aspects of learning organizations at various levels of individuals, groups, and organizations. The DLOQ includes seven factors that contribute to a learning organization culture. These factors include as follows: continuous learning opportunities, promoting dialogue and inquiry, encouraging collaboration and team learning, creating systems to capture and share learning, empowering people toward a collective vision, connecting the organization to its environment, and having leaders who support learning. HRD domains have widely used DLOQ to gain a holistic understanding of the cultural and structural elements that influence organizational learning at different levels within organizations (Watkins & Dirani, 2013). This instrument has also been applied in various countries and within diverse cultural contexts, exploring numerous variables related to learning organization culture.

Further, learning organization culture plays a crucial role in shaping employees' identities and behaviors, which are vital factors influencing knowledge creation and sharing (De Long & Fahey, 2000). Han et al. (2016) emphasized that a firm's competitive advantage hinges on its ability to effectively manage knowledge sharing among individuals, teams, and an entire organization. Wang et al. (2014) argued that a firm's productivity is contingent upon managers' capacity to generate new knowledge and promote employees' intentions to share knowledge. Ultimately, knowledge sharing serves to translate individual and group knowledge into organizational knowledge, further enhancing the organization's overall intellectual capital (Han et al., 2016; Wang & Wang, 2012). When individuals' knowledge is successfully embedded and transformed into organizational knowledge, it has the potential to boost commercial viability and enhance overall organization (Senge, 1990). To foster this engagement, learning organizations invest in knowledge management, including knowledge generation, appropriation, and

exploitation, as part of their strategy to sustain business (Lundberg, 1995). Accordingly, cultivating a strong organizational culture that encourages knowledge sharing and establishing a learning environment are essential practices. Such efforts lead organizations to capitalize on their intellectual assets, achieve a competitive edge, and ensure long-term success. In essence, organizational learning catalyzes performance enhancement, enables organizations to leverage their knowledge assets effectively, and positions them for future success (Watkins & Golembiewski, 1995). It is through continuous learning and improvement that organizations can achieve sustained growth and maintain their competitive advantage in an ever-changing business landscape.

Ongoing debate surrounding the effectiveness of diverse HRD initiatives, such as fostering learning organization culture and facilitating knowledge sharing, highlights escalating relevance in shaping organizational performance. Swanson and Holton (2001) asserted that the central goal of HRD practices is to systematically boost performance by harnessing and advancing human knowledge. Consequently, there has been extensive discourse among scholars regarding the evaluation and measurement of HRD interventions. Research evidence has consistently shown that HRD plays a crucial role in improving organizational performance. Kamasak (2017)'s study highlighted three key factors that contribute to organizational performance: intangible resources (e.g., company reputation, organizational culture, human resource management policies), capabilities (e.g., knowledge sharing, human capital, networking abilities), and tangible resources (e.g., cash, land, physical structures). According to the resource-based view (RBV) theory, intangible resources and capabilities have a more significant impact on a firm's performance compared to tangible resources. This finding emphasizes the strategic importance of HRD in developing and leveraging intangible resources and learning capabilities

to drive organizational success. From this approach, RBV theory is a fundamental theoretical framework widely used to explore the relationship between performance and the combination of resources and capabilities within organizations. Resources that are linked semi-permanently to a firm, along with performance that contributes to the sustainable competitive advantage of the firm, are the key focal points (Barney, 1986, 1991, 2001). By understanding how the resource-based process operates in the context of HRD, organizations can investigate the synergistic combination of resources and capabilities that drive performance and sustained competitive advantage.

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In the HRD literature, sustainability has been defined in two main ways. Firstly, sustainability is regarded as program continuation, where the focus is on maintaining continuous learning and development (e.g., Gunn, 2010; Lawrenz et al., 2003; Prugsamatz, 2010; Shediac-Rizkallah & Bone, 1998; Scheirer, 2005). Secondly, sustainability is understood through the lens of the triple bottom line: social, environmental, and financial factors (e.g., Chow & Chen, 2012; Smith, 2012; Sajan et al., 2017; Wiengarten & Longoni, 2015; Yusoff et al., 2019). Increasingly, organizations are prioritizing social, environmental, and economic goals as part of their commitment to sustainability (Sajan et al., 2017; Wiengarten & Longoni, 2015; Yusoff, 2019). Accordingly, although still in its early stages both academically and practically, the recognition of sustainability in HRD highlights the necessity for a comprehensive approach that surpasses mere program continuation to encompass the broader triple bottom line framework (Lee et al., 2024).

Emphasizing sustainability within HRD aligns with societal goals and holds profound implications for the future of learning. Cultivating a robust learning organization culture is paramount for driving sustainability initiatives forward (Senge et al., 1999). By fully embracing sustainability and embedding it within their organizational ethos of learning, HRD can wield

substantial influence in realizing both organizational objectives and broader societal sustainability ambitions (Bierema & Callahan, 2014). Thus, it is imperative for HRD to thoroughly investigate sustainability as an outcome variable, transcending conventional corporate performance metrics and recognizing its comprehensive impact on organizational success.

Context of This Study

Korea has achieved remarkable success in combining rapid economic growth despite the financial crisis. At that time, the most urgent need was to align HRD with business strategy and promote training after the financial crisis, which became an opportunity to settle the HRD department in an organizational setting (Cho et al., 1999). Moreover, Korea has little in terms of natural resources, so it tends to recognize the most critical resource is human capital (Song et al., 2009).

Past research consistently underscores that the distinctive culture in Korea often poses a challenge to the implementation of HRD practices. According to Cho et al.'s (2016) study on women's leadership, Confucian values emphasizing a strong work ethic, loyalty, obedience to authority, and a military culture serve as significant barriers to women's experiences in modern Korea. Further, Korean employees tend to prioritize harmony and avoid direct confrontations. Organizations lean towards establishing clear goals or directions for tasks, as employees feel unsettled in unclear or ambiguous circumstance (Kim et al., 2015). These characteristics foster passive participation and impede progress in cultivating a learning organization.

Regarding organizational learning, the Hunet report in 2023 revealed that face-to-face learning among Korean companies increased by 5% compared to the previous year and by 12% compared to 2020. This increase was further augmented by the integration of EdTech, flipped

learning, and live classes. In 2023, Korean organizations planned to focus relatively more heavily on formal education in their corporate learning programs, with online learning accounting for 33%, face-to-face learning for 24%, and hybrid learning for 21%. In this regard, Kim et al. (2008) emphasized the need for Korean HRD to formalize informal learning practices in the workplace through structured HRD interventions.

Indeed, historically, there has been a focus on organizational management interests that prioritize corporate growth and development over the interests of learners in Korea (Kim & Cervero, 2007). Consequently, the emphasis has primarily been on formal learning approaches, resulting in a partially supported learning organization culture (Bae & Rowley, 2004). This performance-oriented focus within the traditional organizational framework has posed new challenges for HRD practitioners (Kim et al., 2008). Despite significant advancements in HRD both academically and practically in Korea, there is a pressing need to reassess its application and approach. This reevaluation is crucial to ensure that HRD practices align with contemporary demands and learner-centered approaches. By revisiting and reevaluating HRD strategies, practitioners can address the evolving needs of learners and organizations, cultivate a more inclusive and dynamic learning organization culture, and enhance the overall effectiveness of HRD efforts. As the business landscape continues to evolve in Korea, HRD is encouraged to adapt and evolve accordingly to meet the changing demands of learners and organizations, fostering a learning environment that encourages innovation, continuous improvement, and individual development.

Problem Statement

The primary objective of HRD is to enhance organizational performance and sustain competitive advantage by improving the organization's human, social, and intellectual capital.

(Swanson & Holton, 2001; Wright et al., 2001). The Resource-Based View (RBV) theory suggests that a firm's competitive advantage and performance stem from its distinctive resources and capabilities, which enable firms to establish barriers against imitation by competitors. While early literature on RBV primarily emphasized tangible assets within a firm's control, a substantial body of research shifted toward evaluating the effectiveness of intangible resources and capabilities (Dierickx & Cool, 1989). However, HRD has overlooked the critical element of effective management by failing to earnestly identify and strategically deploy resources and capabilities (Clardy, 2008; Kuchinke, 2003), given the limited number of empirical studies examining this aspect. Specifically, Korea recognizes the nation's limited natural resources and the importance of human capital as its most critical asset (Song et al., 2009). Therefore, considering the pivotal role that effective HRD plays in enhancing organizational performance through human resource management, there is a compelling and urgent need, especially in Korea, for expanded research to deepen our understanding and integration of the intricate dynamics of both intangible resources and capabilities.

In the context of RBV theory, organizational culture learning is regarded as an intangible resource, while knowledge sharing is identified as a crucial capability, both exerting significant influence on enhancing firm performance (Arsawan et al., 2020; Barney, 1991). Previous research offered valuable insights into the influence of a learning organization culture on performance, particularly within the South Korean context, utilizing the DLOQ framework (Jo & Joo, 2011; Song, 2008; Song & Kolb, 2013). However, it is important to note that these studies were conducted a decade ago, highlighting the need for updated research in this area. With organizational dynamics constantly evolving, there is a compelling need to revisit and refresh these findings. Notably, Song and Kolb (2013), which solely focused on management-level

employees as the sample framework, failed to convincingly establish the generalizability of the results. Additionally, existing research has predominantly centered on investigating the relationship between learning organization culture and various other variables, rather than directly assessing its impact on performance (Jo & Joo, 2011; Park & Joo, 2022; Yoon & Park, 2023).

Understanding knowledge sharing entails grappling with a multitude of factors, rather than relying on singular or limited explanations (Blumenberg et al., 2009). Despite this complexity, the pivotal role of the mediator remains persistently overlooked, contradicting its well-established importance within the organizational learning literature. Above all, given that the majority of empirical research on learning organization culture and knowledge-sharing has been conducted in Western countries, there is a pressing need for further investigation into how cultural differences impact these aspects in emerging economies, which significantly influence firm performance.

In addition, the ongoing debate around the challenge of effectively measuring the outcomes and impact of various HRD initiatives remains. Various indices have been utilized in relation to the construct of performance, but there has not been a systematic approach to address them, leaving uncertainty about which construct is the most accurate. For instance, several studies have focused on financial performance using constructs such as return on equity (ROE), return on assets (ROA), return on investment (ROI), relationship with suppliers, customer complaints, company reputation, etc. (Choi, 2020; Davis & Daley, 2008; Ellinger et al., 2003; Fuentes, 2008; Škerlavaj et al., 2007; Xiaojun & Mingfei, 2008). However, this approach may overlook common method biases in single-respondent designs. Additionally, questions arise about the immediate measures of financial performance (Wilcox & Zeithaml, 2003), inaccuracies

in the data (Jiang et al., 2006), and difficulties in providing real financial data due to company security issues (Hung et al., 2010), which may lead to hesitancy in using real financial data. In this context, it is noted that intangible knowledge has a positive correlation with future financial performance (Banker et al., 2000; DeCarolis & Deeds, 1999; Kim et al., 2017; Wilcox & Zeithaml, 2003). Watkins and Kim (2018) emphasized the necessity of conducting further research to comprehensively investigate and unpack this dynamic of knowledge performance, as well as financial performance.

Beyond performance, the HRD field should prioritize a long-term perspective, aiming to contribute to sustainable growth, strategic planning, and holistic employee development. Alagaraja (2013) argued that the HRD and performance domain has mainly embraced a prescriptive approach, emphasizing explicit guidance rather than fostering an environment for experimentation, learning, and adaptation with a long-term perspective. Given the pivotal role of HRD in aligning with overarching business goals (Torraco & Lundgren, 2020), sustainability ought to emerge as a central consideration within both academic and practitioner spheres in the HRD field. However, despite the overwhelming adoption of sustainability reporting by 96% of the top 250 global companies (KPMG International, 2022), discourse on sustainability within HRD literature continues to be disproportionately limited. Recent studies identified that organizations often leverage sustainability as a marketing tool rather than embedding it as a responsible practice in enhancing knowledge and learning on sustainability within the organization (Alizadeh et al, 2021). Research on sustainability and a nuanced understanding of the implementation of both learning organization and knowledge sharing remain lacking, which limits our comprehensive grasp of these concepts.

Lastly, some scholars identified that learning organizations tend to prioritize the big picture rather than specific prescriptions (Garvin et al., 2008; Kuchinke, 1995). Specifically, studies often overlook the irrational, unproductive, and recurring mistakes that occur during attempts to enhance a learning organization through various interventions in the field (Argyris & Schön, 1996, Sterling, 2011). For instance, one-time learning, only focusing on formal or individual learning, and learning not related to practical work or organizational strategies should be avoided (Kim et al., 2008). Still, prior research focused on theoretical research rather than empirical and practical implications to create the learning organization (Ellinger et al., 2002; Rebelo & Gomes, 2008). Hence, it is crucial to not only expand our understanding of the impact of a learning organization culture but also to provide actionable insights that organizations can utilize to foster a more competitive environment.

In sum, there is a pressing need to focus on the effective management of intangible resources and capabilities, as outlined in the Resource-Based View theory within the HRD field. While these assets are acknowledged as crucial for organizational success, empirical studies focusing on the specific dynamics of learning organization culture and knowledge sharing remain scarce, limiting their applicability across diverse organizational contexts. Understanding the mediators of knowledge sharing is vital for enhancing knowledge management practices, yet this area remains largely undervalued, leading to suboptimal outcomes in organizational learning. Addressing these gaps is paramount for advancing HRD theory and practice, enabling organizations to navigate complexities and drive sustainable success in today's rapidly evolving business landscape in the long term.

Purpose of the Study and Research Questions

The purpose of this study is to examine the effects of a learning organization culture and knowledge sharing on performance and sustainability in the South Korean context. In doing so, this study comprehensively explored the mediating role of knowledge sharing between learning organization culture and performance and sustainability in organizations. To meet this goal, the following research questions (RQs) were established to guide this study:

RQ1: To what extent does learning organization culture predict performance and sustainability?

RQ2: To what extent does knowledge sharing predict performance and sustainability?

RQ3: To what extent does learning organization culture predict knowledge sharing?

RQ4: To what extent does performance predict sustainability?

RQ5: Does knowledge sharing mediate relationships between learning organization culture and performance and between learning organization culture and sustainability?

These proposed research questions stem from empirical knowledge developed during the author's HRD practitioner experiences. In this capacity, I encountered two primary dilemmas. Firstly, despite implementing numerous learning programs and interventions, I observed a predominant focus on formal learning, often seen as quick fixes to address immediate issues identified by neglecting the long-term view. Consequently, these initiatives had limitations in sustaining long-term employee and organizational performance. When problems persisted in post-learning programs, the burden fell on the HRD department for failing to resolve them (Torraco & Lundgren, 2020). Besides, working confidently within the organization proved challenging, as HRD departments are commonly perceived as adding less value compared to

other departments prioritized for business interests. Organizations frequently reduced HRD budgets without hesitation, particularly during challenging times. Despite scholars emphasizing that Human Resource Management (HRM) and HRD are parallel pathways (McGoldrick & Stewart, 1996), in practice, HRD is often viewed as a subset of HRM (Haslinda, 2009). I was deeply fascinated by the notion of creating a learning organization and its implications for performance and long-term sustainability. This led me to ponder the role of the HRD department and find strategies to strengthen its influence within the organization. Accordingly, these dilemmas and concerns resonated greatly with my research and juxtaposed two future roles of HRD: ensuring continuous learning effects and becoming a powerful learning organization.

Significance of the Study

There are several compelling reasons to conduct the present research. First, this study unequivocally validates the RBV theory, demonstrating that intangible resources, such as learning organization culture, and capabilities, particularly knowledge sharing, robustly and positively contribute to explaining a firm's performance and sustainability (Barney, 1991). Second, this research more convincingly extended the measurement of the effectiveness of HRD intervention beyond short-term outcomes to encompass the concepts of long-term output and performance. In the long run, this dynamic could impact the overall efficacy and sustainability of HRD strategies within the organizational context. Third, this study leads the way in pioneering sustainability research within the HRD literature. To date, the field of HRD has not adequately addressed sustainability and related issues in research. This study provides a rich reservoir of insights and validated empirical results, enhancing our understanding of sustainability. It serves as a guiding compass for future research endeavors and practical applications, marking a significant advancement in the field. Lastly, the study additionally furnished compelling

evidence of Korea's distinct national cultural characteristics in the arena of both learning organization culture and knowledge sharing. Ultimately, this study firmly establishes that the dimensions of knowledge sharing play a statistically influential role in shaping the learning organization culture within Korean organizations.

The practical implications of this study for HRD professionals are outlined below. HRD professionals should take a comprehensive and strategic approach to cultivate learning organization culture, integrating it into HRD systems and plans, and breaking away from traditional and useless chronic efforts in the organizational setting. It also needs to thoroughly investigate and address barriers that impede the establishment of a robust learning culture to effectively advance the concept of learning organization. Also, the pivotal importance and indispensable nature of such data, especially in assessing the effectiveness of HRD interventions and measuring performance, unequivocally underscore its vital role in both research and practical applications. It provides a solid foundation for assessing the impact of HRD initiatives, guiding strategic planning, and promoting continuous improvement. Thus, this study contributes toward moving the field beyond the question of whether organizational learning and knowledge sharing are linked to performance and toward understanding conditions for learning organizations and why sustainability must be involved.

Definitions of Terms

The constructs of this study include as follows: 1) Learning organization culture, 2) Knowledge sharing, 3) Performance, and 4) Sustainability.

Learning organization culture

Watkins and Marsick (1993) defined the learning organization as “one that learns continuously and transforms itself”. Learning organization culture can be defined as a culture

geared towards fostering and facilitating learning among its employees. It promotes the sharing and dissemination of acquired knowledge, to advance the development and success of the organization.

Knowledge sharing

Knowledge sharing refers to the movement of knowledge across individual and organizational boundaries, into and from repositories, and into organizational routines and practices. It focuses on the willingness of individuals in an organization to share the knowledge they have acquired or created (Han, 2015) as a pivotal factor. It hinges upon the readiness of individuals within an organization to actively share the knowledge they have amassed or generated (Han et al., 2016).

Performance

Marsick and Watkins (2003) defined financial performance as "the evaluation of financial well-being and resources allocated for expansion" (p. 139) and characterized knowledge performance as "the development and improvement of products and services derived from the organization's learning and knowledge capabilities (serving as leading indicators of intellectual capital)" (p. 139).

Sustainability

Sustainability, as delineated by the World Commission on Environment and Development (1987), pertains to "development that addresses the current needs without undermining the ability of future generations to fulfill their own needs" (p. 43). Developing this concept, Kaynak and Montiel (2009) articulated that corporate sustainability involves an organization's strategic integration of social, environmental, and economic dimensions.

Chapter Summary

Chapter 1 provides the background of the study and examines gaps in the research. The problems of this study are discussed in this chapter along with the purpose of the study, employed theory, research questions, and significance of the study. The following chapter describes the literature review and research hypotheses.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study is to examine the effects of a learning organization culture and knowledge sharing on performance and sustainability in the South Korean context. The following research questions are proposed.

RQ1. To what extent does learning organization culture predict performance and sustainability?

RQ2. To what extent does knowledge sharing predict performance and sustainability?

RQ3. To what extent does learning organization culture predict knowledge sharing?

RQ4. To what extent does performance predict sustainability?

RQ5. Does knowledge sharing mediate relationships between learning organization culture and performance and between learning organization culture and sustainability?

This chapter provides a comprehensive review of literature about learning organization culture and knowledge sharing, focusing on their impacts on performance and sustainability. The chapter is structured into four main sections. Firstly, it addresses to the conceptualizations of key constructs such as learning organization culture, knowledge sharing, performance, and sustainability. By defining each construct and elucidating their interrelationships, a framework is established for validating an existing model. The subsequent section entails a review of empirical studies investigating antecedents and outcomes of knowledge sharing. Relevant articles are examined to present a thorough overview of current literature pertinent to the research study. The

third section delineates the theoretical framework adopted in this study. Lastly, hypotheses addressing research questions are formulated based on the research model.

Learning Organization Culture

Watkins and Marsick (1993) stressed that learning is a prerequisite for successful organizational change, innovation, and performance. Organizational learning is a broad term that has given excessive attention to organizational studies and other disciplines in the world. Despite voluminous research on the topic, literature reviews on organizational learning are still experiencing conceptual confusion. Also, scholars and practitioners often use the terms "organizational learning" and "learning organization" alternately. To expand the understanding of organizational learning, this section will provide the definitions, characteristics, and related concepts of organizational learning. Then, it also expands constructs of learning organization culture and discusses related theoretical development, especially the learning organization culture model by Watkins and Marsick (1993, 1996)

History of Organizational Learning

Cangelosi and Dill (1965) were the first scholars to advance the definition of organizational learning. They concluded that more empirical studies are needed, and further scholars should focus on the interactions between individual and organizational learning. Then, a few scholars recognized that theories or models of widespread acceptance of the notion of organizational learning have not been systematically organized to reflect such progress (Fiol & Lyles, 1985; Huber, 1991; Simon, 1991). However, it gained prominence in the literature on organizations (Lundberg, 1995), since about 1990.

Later, learning as a relevant organizational process was proposed about 40 years ago by Argyris and Scho¨n. (1978, 1996). They described organizational learning as an organization's

detection and correction of error, whose contributions resulted in two new terms in the field of organizational learning: single-loop and double-loop learning. It was only in the 1990s, the golden age of organizational learning, that the concepts of organizational learning and learning organization started to be emphasized and highlighted its importance, capturing the interest of the academic world. At that time, Senge (1990) contributed to the appearance of the learning organizations through the publication of the Fifth Disciplines. This book provides an overview of the key issues and arguments in the literature on organizational learning. These include personal mastery, mental models, building shared vision, team learning, and systems thinking. Over time, Watkins and Marsick (1993) expanded the importance of understanding learning organization culture and confirmed that DLOQ is a useful measure of learning organization culture. In particular, Watkins and Marsick disagreed with Senge's view (1990) that individuals are intrinsically motivated through a habit of personal mastery. Their research showed that motivation is enduring when it comes from a culture that stimulates learning, regardless of employment status, intrinsic motivation, or job demands. Figure 1 illustrates the number of citations for influential studies relating to organizational learning.

Defining Organizational Learning

There is perhaps no phrase other than “organizational learning” that prompts so much attention and discussion in the HRD field today. The following provides a more detailed accounting of organizational learning research related to definition, classifications, and conceptualization to provide a comprehensive view of the concept of organizational learning.

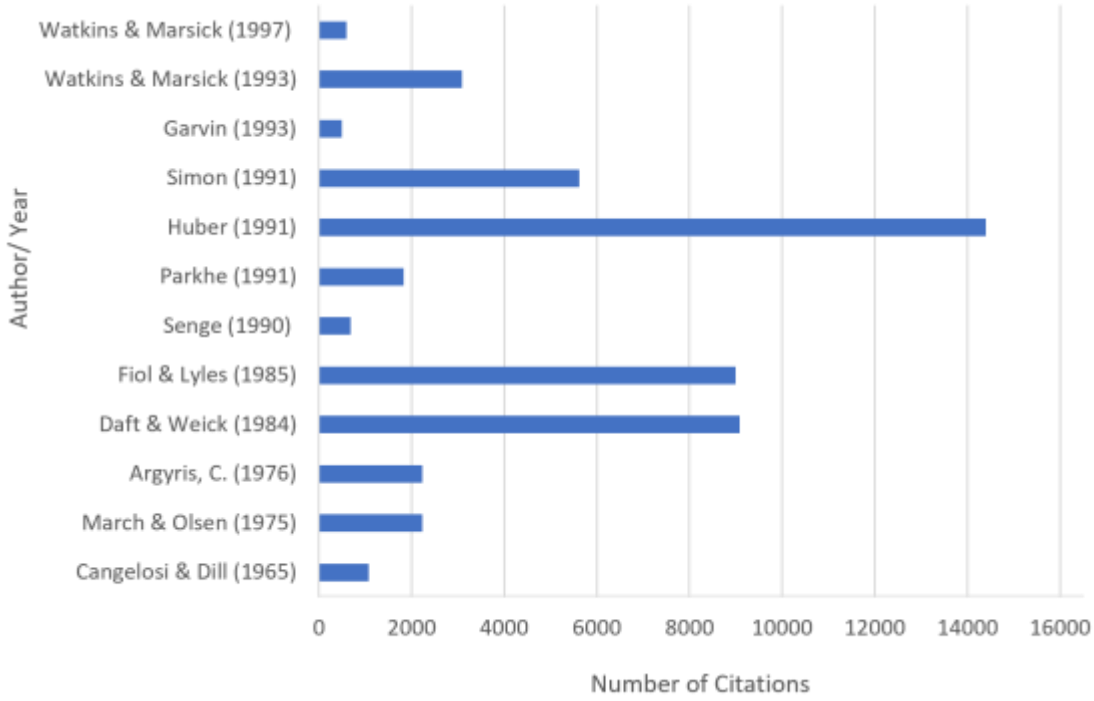

Figure 1

Influential Articles for Organizational Learning

Cyert and March (1963) first used the concept of organizational learning. Employees' adaptive behavior maintains self-integration and leads to new ways of learning. It becomes a cumulative effect and prompts feedback into the organization, thereby reinforcing itself. Duncan and Weiss (1979, p. 84) defined organizational learning as the process of developing knowledge about the relationships between actions taken by an organization and the outcomes it produces in its environment. Also, the goal of organizational learning is to translate organizational learning into organizational capacities (Watkins, 2017). Ultimately, both individuals and organizations can experience growth and enhance productivity through organizational learning. Specifically, employees in learning-oriented organizations continually enhance their ability to generate new modes of thinking and to operate effectively (McGill & Slocum, 1994). Organizations recognize

learning as a potent tool for supporting restructuring efforts (Hernandez, 2003). Consequently, the capability for organizational learning is closely linked to organizational performance and is poised to serve as a sustainable competitive advantage in the future.

Some scholars have defined organizational learning based on when it occurs. For example, Senge (1990) emphasized that organizational learning occurs in environments where new and expansive patterns of thinking are fostered, where collective aspirations are liberated, where individuals consistently improve their capacity to achieve desired outcomes, and where there is continuous collective learning (p. 3). Additionally, Argyris (1995, 1999) identified organizational learning as happening whenever errors are detected and corrected, or when there is alignment between intentions and outcomes for the first time.

Organizational Learning and Learning Organization

To grasp the concept of organizational learning, it is significant to differentiate between similar terms. Scholars have delineated distinctions between a "learning organization" and "organizational learning." The term "learning organization" typically refers to entities that exhibit continuous learning and adaptive characteristics. Garvin (1993) defined the learning organization as one that facilitates the learning of all its members and continually transforms itself. Similarly, Senge (1990) described it as an entity where individuals continuously improve their capacity to achieve desired outcomes through collective learning and fostering new patterns of thinking. In essence, a learning organization is a company that intentionally builds structures and strategies to enhance and optimize organizational learning (Dodgson, 1993). On the contrary, Müller (2011) offered a unique perspective on the learning organization, emphasizing its alignment with long-term strategies rather than fixating on short-term goals. Additionally, Beckhard and Pritchard (1992) underscored the crucial link between a learning organization and

a learning culture. They argue that learning organizations cultivate a culture that prioritizes learning and acknowledges progress, not solely outcomes.

By comparison, "organizational learning" has been defined as the collective learning experiences utilized to acquire knowledge (Yang et al., 2004). Schein (1993) argued that organizational learning is a construct used to describe certain processes or types of activities that may occur at various levels of analysis. In this regard, Watkins and Marsick (1993) proposed that the learning organization incorporates embedded systems or mechanisms to capture and share learning.

In summary, organizational learning refers to the process of acquiring and applying knowledge within an organizational setting. Meanwhile, a learning organization is intentionally designed to facilitate continuous learning and development.

Levels of Organizational Learning

Organizational researchers have made distinctions based on assumptions regarding the extent of organizational learning. Cangelosi and Dill (1965) posited that learning takes place at individual, group, and organizational levels, assuming that the learning process occurs across each level. Senge (1990) further highlighted that the five-discipline model implicitly connects with three levels of learning: individual level (mental models and personal mastery), group level (teamwork), and organizational level (shared vision and systems thinking). However, there is a divergence of opinions regarding the appropriate levels of organizational learning.

Individual Level. The individual level serves as the fundamental unit where the learning process unfolds. Simon (1991) proposed that all learning takes place within the minds of individuals, indicating that organizations learn either through the learning of their members or by integrating new members with previously upheld knowledge. Both Senge (1990) and Huber

(1991) underscored that organizational learning is deeply intertwined with individual learning but extends to encompass the organizational level. Weick (1984) observed that while individuals may enter and exit, organizations retain knowledge, behaviors, mental models, norms, and values over time. However, Marsick and Watkins (2003, p. 136) cautioned that while individual learning is essential for organizational change, it alone is insufficient. This perspective is supported by Dodgson (1993), who argues that learning primarily occurs through individuals, suggesting that organizations themselves are not inherently capable of independent learning.

Team & Group Level. At the team level, the focus shifts towards addressing cross-functional issues, fostering quality relationships, and managing team dynamics (Sarin et al., 2009). It is crucial to acknowledge that knowledge generated by individuals does not operate independently within the organizational context. Seely-Brown (1993) underscored that learning occurs within the dynamic of groups or communities, heavily influenced by social interactions, aligning with the organization's group-focused approach. Within teams, learning often occurs through the active sharing of knowledge among team members, facilitating collective growth in understanding and capabilities. Huber and Daft (1987) recognized the pivotal role of group learning, considering it as an extension of individual learning processes. Deepening our understanding of organizational learning at the team or group level has the potential to inform strategies for enhancing organizational performance and effectiveness.

Organizational Level. Numerous scholars have emphasized the importance of individual learning, but it is generally understood that organizational learning entails more than just individual development. Marsick and Watkins (1994) asserted that organizational learning goes beyond the sum of individual learning. As employees enhance their skills, personalities, and beliefs, the organization also maintains its values and norms while developing competitive

strategies to understand management and the environment over time. Building on this perspective, Shrivastava (1983) defined this process as the conversion of individual knowledge and insights into a systematic organizational knowledge base that informs decision-making. Further, organizational learning occurs when organizations establish knowledge associated with their culture or function. Fiol and Lyles (1985) suggested that organizations develop learning systems and are influenced by contextual factors such as organizational culture, structure, and systems. In this regard, Hedberg (1981) recognized that the systems, structures, and procedures of the organization serve as repositories for learning.

In this context, it is essential to thoroughly analyze the mechanism by which various levels of learning are seamlessly engaged and integrated within the organizational framework. The 4I model proposed by Crossan et al. (1999) delineates four key processes of learning:

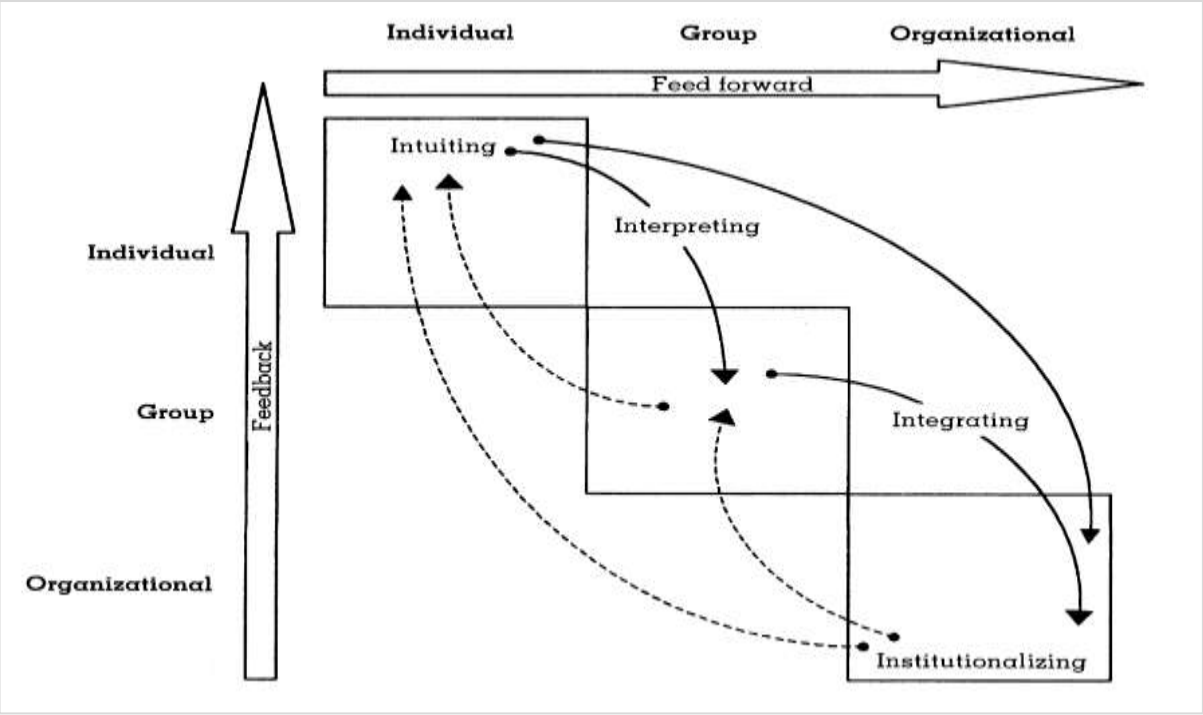

Figure 2

Model of Organizational Learning. Adapted from Crossan et al. (1999, p.532)

intuiting, interpreting, integrating, and institutionalizing, as depicted in Figure 2. Initially, intuiting is shaped by individuals' prior experiences and learning. Subsequently, individuals interpret their findings to ascertain whether and how they should disseminate them among other organizational members. Integrating represents a collaborative effort where a shared understanding translates into actionable steps to adapt practices. Lastly, institutionalizing occurs at the nexus of individual cognition and group dynamics, fostering shared understandings and collective decisions to refine practices. Organizational learning unfolds over time across multiple levels. Through the feed-forward process, novel ideas and actions migrate from individual to group, and ultimately, to organizational levels. Concurrently, existing knowledge and insights emanate from the organization to the group and individual levels, influencing their actions and cognition.

Other Classifications. Expanding on the aforementioned levels, Argyris and Schön (1992) delineated three additional levels of organizational learning. These include single-loop learning, double-loop learning, and triple-loop learning. Double-loop and triple-loop learning are dedicated to exploring the root causes and strategies for organizational change. By comparison, single-loop learning involves accepting change without questioning underlying assumptions and core beliefs. Moreover, Fiol and Lyles (1985) emphasized a clear distinction between learning, primarily associated with cognition, and adaptation, predominantly linked to behavior. They argued that the relationship between cognition and behavior represents two separate phenomena and may not accurately reflect each other. In other words, changes in behavior can occur without cognitive processes, and knowledge acquisition does not always lead to behavioral changes. In this context, Duncan and Weiss (1979) suggested that organizational learning is the journey through which organizations acquire knowledge about how their actions contribute to specific

outcomes. This finding implies that organizational learning involves acquiring knowledge and effectively applying it to drive improvements and to facilitate adaptation within the organization. Additionally, Fiol and Lyles (1985) categorized organizational learning into lower and higher-level processes. Lower-level learning involves repeating past behaviors, typically yielding short-term and superficial outcomes, while also forming new associations. Conversely, higher-level learning focuses on revising overarching rules and norms rather than specific activities or behaviors.

Further, researchers suggested discussions about levels of organizational learning that may limit researchers from fully understanding the depth of learning (Nicolini & Meznar, 1995). Nevertheless, multiple studies have highlighted the significance of investigating various dimensions of learning levels as a pertinent research inquiry (Miner & Mezias, 1996), offering valuable insights for conceptualization (Crossan et al., 1995). Exploring which dimensions of learning levels hold essential importance represents meaningful work for effectively applying organizational learning in practice.

Organizational Learning Theory

Organizational learning theory spans multiple disciplines, including psychology, sociology, anthropology, ontology, and management science (Easterby-Smith, 1997). While some researchers argue that there is no widely accepted theory or model of organizational learning, others challenge this notion. For example, Fiol and Lyles (1985) disputed the claim that "no theory or model of organizational learning has widespread acceptance." Meanwhile, Shrivastava (1983) underscored the scarcity of well-established and clearly defined concepts within organizational learning theories. However, despite these challenges, several theories of organizational learning have been proposed (Crossan et al., 1995; Watkins & Marsick, 1993;

Senge, 1990), focusing on related concepts such as the theory of action, espoused theory, theory in use, single-loop learning, and double-loop learning.

When individuals engage in learning within organizational contexts, their interactions are influenced by two distinct behavioral patterns: espoused theory and theory in use. Espoused theory pertains to the formal rules, policies, and procedures established within the organization, prescribing how tasks should be performed (Drejer, 2000). In contrast, theory in use reflects actual practices and behaviors observed within the organization. Errors within organizations often arise from a discrepancy between planned strategies and their execution. This disparity represents the difference between espoused theories ("what we think we do") and theories-in-use ("what we actually do"). Argyris and Schön (1978) argued that organizational errors stem from a failure to critically examine the fundamental assumptions guiding behavior. While adherence to formal rules may seem appropriate initially, these rules can often be too specific and restrictive in practice. This perspective led to the development of concepts such as single-loop and double-loop learning. According to Argyris and Schön (1996), organizational learning occurs when there is a change in the behavior of the organization or its members, which is driven by a shift in the underlying theory in use. Therefore, discrepancies observed in employees' actions should be incorporated into both the espoused theory and the theory in use that guides daily actions (Visser & Van der Togt, 2016).

Levitt and March (1988), among other theorists of organizational learning, underscore routine-based learning as a significant aspect. This approach entails encoding historical inferences into routines that steer behavior. Their work suggests that lessons are retained and built upon within routines, persisting despite changes in personnel and the passage of time. Such routines are sustained through various elements such as rules, procedures, technologies, beliefs,

cultures, and capabilities. Notably, culture may vary based on individual choices, yet it can also be shaped by coercion at times within routines (Mokyr, 2016).

Organizational learning theory also encompasses two key dimensions: behavior and cognitive theory. It is acknowledged as a social process (Akgün et al., 2003), with scholars in social cognition exploring how individual cognition is shaped by interactions with others and by organizational norms, routines, and culture. Additionally, Cyert and March (1963) introduced behavioral theory, suggesting that companies learn from experience to adapt to environmental conditions. Sullivan and Nonaka (1986) further elucidated that organizational learning theory clarifies organizational behavior by facilitating information creation and reducing uncertainty.

Culture and Learning Organization Culture

Culture encompasses the way of life of a group of people, encompassing behaviors, values, attitudes, assumptions, and beliefs (Tharp, 2009). Typically, culture is a collective phenomenon as it is shared, at least in part, among individuals who live or have lived within the same social environment where it was learned (Hofstede et al., 2010, p. 6). In an organizational setting, culture is regarded as the "glue" that binds an organization together and the "compass" that provides direction. While culture may be influenced by individual choices, it is also frequently shaped by coercion during certain periods (Mokyr, 2016). Schein (1985) defines, “organizational culture” as a model of basic assumptions and beliefs that are shared by members of an organization, operate unconsciously, and define an organization’s view of itself and its environment.

Contemporary approaches to organizational learning prioritize routines, which conceptualize learning as the creation and updating of routines through experiences. Routines are recurrent sequences of actions, with cultural practices being one such organizational routine

(Levitt & March, 1988). This perspective situates routine-based learning at an organizational level, transcending individual learning. Consequently, previous research has frequently addressed definitions of learning organization culture and methods for measuring it. The crucial question arises: How can we cultivate a learning culture to effectively operate the learning organization in the long term? This question is of paramount importance and warrants ongoing investigation. Gupta et al. (2000) emphasized that organizational learning necessitates a high level of commitment across all organizational levels, characterized by a culture that prioritizes improvement and learning and is embraced by all members. To gain a deeper understanding of learning organization culture, it is imperative to investigate intrinsic characteristics and attributes of different organizational cultures.

Jacobson (1996) highlighted that humans share learned systems and experiences through cultural interactions. Brown et al. (1989) researched deeper, illustrating that learning is intricately linked to immersing oneself in a cultural meaning system. Additionally, Lakoff and Johnson (1980) emphasized that language mediates learning systems, which are interpreted within specific meanings and values of culture. Individual behavior is dynamic, continuously seeking knowledge by assimilating artifacts of collective cognition within organizational settings. Culture serves as a pervasive influence, fostering relationships and facilitating learning within organizational contexts. Employees navigate complex situations within a learning organization culture, imposing coherence and discerning the consequences of their perspectives (Schön, 1987). Moreover, culture is acquired by recognizing problems and their resolutions, serving as a catalyst for employee growth (Argyris & Schön, 1978). Consequently, organizational learning unfolds through collective cognitive processes, spanning individual, team, and organizational levels.

Organizational learning necessitates the harmonious integration of individual competence and organizational culture (Watson, 1994; Yeo, 2005). However, not all organizations successfully cultivate an effective learning culture. Many companies offer sporadic learning opportunities for their employees and neglect to establish a comprehensive learning culture with overarching perspectives and goals. The development of a learning organization culture is no longer merely an aspirational concept; rather, it is indispensable for sustainable success in today's competitive landscape. Consequently, the field of HRD provides extensive literature and practices aimed at fostering and enriching such a culture of learning within organizations.

Measuring Learning Organization Culture and DLOQ

Watkins and Marsick (1993) emphasized the importance of assessing the organization's current capacity for learning and change as a foundational step in building a learning organization. Their research identified several critical factors that organizations should consider: 1) Individual change: Behavior, knowledge, motivation, and learning capacity, 2) Group innovation: Ability to generate new knowledge. 3) Organizational innovation: Capacity for innovation and knowledge production, and 4) Societal impact: Quality of work life and broader community effects. By considering and addressing these critical dimensions, organizations can strategically navigate the complexities of change, fostering resilience, growth, and positive societal outcomes.

The concept of a learning organization extends beyond a singular notion, encompassing interconnected dimensions that involve individuals, groups, organizations, and society. Watkins and Marsick (1993, 1996) devised the Dimensions of the Learning Organization Questionnaire (DLOQ), which explores these levels on individual, group, and organizational scales. HRD practices frequently employ DLOQ to assess the cultural aspects of learning within

organizations. This dimension comprises seven factors, including continuous learning opportunities, promoting inquiry and dialogue, encouraging collaboration and team learning, empowering people toward a collective vision, establishing systems to capture and share learning, connecting an organization to its environment, and providing strategic leadership for learning. The questionnaires consist of 43 items measuring seven dimensions, with an additional 12 items assessing perceptions of financial and knowledge performance. As shown in Table 1, Watkins and Marsick (1993, 1996) differentiated organizational learning across three levels: individual level (continuous learning, dialogue, and inquiry), team or group level (team learning and collaboration), and organizational level (embedded system, system connection, empowerment, and provide leadership for learning). Another classification for a learning organization comprises two components: people and structure. Yang et al. (2004) illustrated that learning at the structural level integrates individual and group learning into organizational processes and outcomes. People also change within teams and organizations as they engage in learning activities independently. Ultimately, the learning organization enhances the capacity of both individuals and structures, fostering continuous learning and transformation within the organization.

Moreover, the Dimensions of the Learning Organization Questionnaire (DLOQ) stands as a powerful tool for measuring crucial facets of organizational change, including climate, culture, systems, and structures. Its effectiveness stems from its capacity to capture the essence of learning organizations at every level of organizational learning. Consequently, organizations must regularly utilize the DLOQ to monitor these changes and to enhance the learning organization's capacity accordingly. Watkins and Dirani (2013) highlighted that HRD practitioners can gain a comprehensive understanding of cultural and structural elements across

Table 1

Dimensions of a Learning Organization and Level Analysis

Dimension	Definition	Theoretical Framework	
Create continuous learning opportunities	Learning is designed into work so that people can learn on the job; opportunities are provided for ongoing education and growth	People level	Individual Level
Promote inquiry and dialogue	People gain productive reasoning skills to express their views and capacity to listen and inquire about the views of others; culture is changed to support questioning, feedback, and experimentation		
Encourage collaboration and team learning	Work is designed to use groups to access different modes of thinking; groups learn and work together; collaboration is valued by the culture and rewarded		Team Level
Empower people toward a collective vision	People are involved in setting, owning, and implementing a joint vision; responsibility is distributed close to decision making so that people are motivated to learn what they are held accountable to do		Organization Level
Create systems to capture and share learning	Both high and low technology systems to share learning are created and integrated with work; access is provided; systems are maintained	Structural Level	
Connect the organization to its environment	People are helped to see the effect of their work on the entire enterprise; people scan the environment and use information to adjust work practices; the organization is linked to its communities		
Provide strategic leadership for learning	Leaders model, champion and support learning; leadership uses learning strategically for business results		

Adapted from Watkins and Marsick (1993, 1996), Yang et al. (2004)

individual, team, and organizational levels through DLOQ implementation. With this comprehensive insight, HRD practitioners can offer invaluable guidance on organizational performance by leveraging their understanding of the learning organization's features as revealed through the DLOQ. The DLOQ has proven to be a valuable tool for evaluating the culture of learning organizations across different areas and cultural contexts, considering various variables. Numerous studies have explored its effectiveness in diverse settings, highlighting its versatility and relevance in comprehending organizational learning dynamics. Examples of such studies include:

1. Nations: Turkey (Basim et al., 2007), Spain (Hernandez & Watkins, 2003), Taiwan (Lien et al., 2006), Korea (Jo & Joo, 2011; Song et al., 2009), India (Jain & Moreno, 2015), China (Zhang et al., 2004), Malaysia (Maria, 2003), Iran (Sharifirad, 2011), and developing countries (Jamali et al., 2009).
2. Organizational contexts: bank (Dirani, 2009), engineering (Jain & Moreno, 2015), IT (Jamali et al., 2009), nonprofit (McHargue, 2003), and higher education institutions (Ponnuswamy & Manohar, 2016).
3. Organizational behaviors: organizational commitment (Dirani, 2009), work engagement (Bhaskar & Mishra, 2014), innovative behavior (Park et al., 2014), and motivation (Egan et al., 2004).
4. Other factors: job performance (Dekoulou & Trivellas, 2015; Dirani, 2009), job satisfaction (Dirani, 2009; Egan et al., 2004), leadership (Abdo & Edgar, 2019; Sahaya, 2012), informal learning (Kim & Marsick, 2013), employee attitude (Ju et al., 2021), and turnover intention (Egan et al., 2004).

Triggers and Barriers in Learning Organization

Organizational learning is a dynamic process through which employees acquire enhanced knowledge and understanding, thereby optimizing organizational capacities. However, within such learning organizations, factors exist that can either impede or promote this process. This session offers two distinct viewpoints: Triggers, which facilitate the establishment of a learning organization, and Barriers, which hinder its development.

Trigger. Triggers within a learning organization can be categorized as internal and external. Internal triggers manifest within the organization, primarily involving human elements. Undoubtedly, the role of managers, who oversee and support the daily activities of individuals and teams, becomes increasingly crucial. For sustainable change to take root, managers must exemplify principles of continuous learning (Bennett & O'Brien, 1994). Virany et al. (1992) underscored the pivotal role of executive officers in initiating essential organizational learning among members of the top management team. Mohanan (2006) highlighted the characteristics of effective teachers who serve as triggers for learning. These traits encompass teaching skills, a constant quest for innovation, strong passion, and high emotional intelligence. Moreover, the impact of supportive management practices on continuous learning cannot be overstated, as they play a pivotal role in shaping the culture of a learning organization. In such an environment, trust and openness are cultivated, allowing individuals to feel secure in expressing their thoughts and ideas. By actively eliminating barriers to communication and collaboration, organizations create fertile ground for innovation and growth (Bennett & O'Brien, 1994).

The necessity for close collaboration and cooperation within teams underscores the importance of triggering and emphasizing organizational learning (Lewis, 1991). Successful learning organizations prioritize the development of entire teams. "Communities of practice"

exemplify team learning, enabling collective learning and continuous reinvention of work processes. In this regard, Bennett and O'Brien (1994) pose essential questions to learning organizations: Does your organization foster team learning? Do individuals and teams have high-quality development plans? Are on-the-job learning opportunities readily accessible and integrated into job roles?

External triggers, including political, economic, socio-cultural, and technological factors, have spurred the evolution of learning organizations and theories to attain sustainable competitive advantage and ensure survival (Jamali, 2005). These factors have provided new insights into our understanding of contemporary learning organizations and theories, shifting focus from hierarchy, inwardness, cost reduction, and production efficiency to learning, teamwork, value creation, innovation, agility, and integration (Senior, 2002), as illustrated in Figure 3.

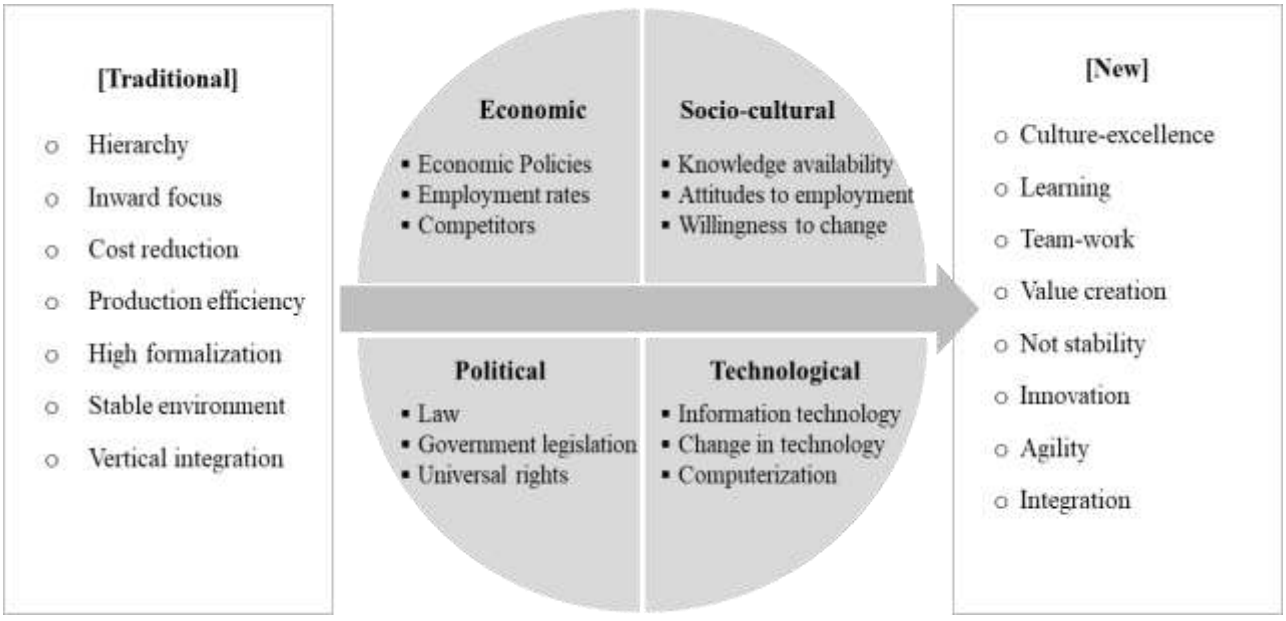

Figure 3

External Trigger in Learning Organization. Adapted from Jamali (2005) & Senior (2002)

Organizations can foster continuous learning by embracing flexible job descriptions to adapt to external changing demands (Bennett & O'Brien, 1994). This approach promotes organizational learning by empowering employees to enhance their capabilities and acquire new knowledge while adjusting to novel applications. Notably, the rapid pace of technological change diminishes the significance of formal education. Learning-oriented companies leverage advanced technology to access and disseminate information. Hence, organizations must equip their members with the skills to keep pace with technological advancements through continuous learning (Atkinson, 1994).

Moreover, learning can be triggered by disjuncture, discrepancies between actual and expected results, surprises, or challenges (Marsick & Watkins, 2003). In this regard, Miles and Randolph (1980) highlighted that while there is ample evidence of organizational learning stemming from failure, there is notably less evidence of organizations learning from their successes.

By comparison, Marsick et al. (1999) emphasized that the initial step toward enhancing organizational learning must adhere to specific criteria. These include identifying what one wants to learn (learning goals); understanding how this learning will contribute to one’s own life or career goals and those of the organization (without assuming that these goals are always congruent); determining the most effective way to accomplish this type of learning, considering differences in learning styles, personality, motivation variables, and organizational constraints. In other words, recognizing the learner's willingness to learn and aligning it with the learning goal to develop a learning program is a key driver of triggering learning. Adult learners are more likely to engage in learning when it aligns with overarching goals and when they approach learning with curiosity and eagerness. Similarly, Zhang and Zheng (2013) asserted that adult

learners are more self-directed, drawing on prior experiences, and internally motivated to learn subjects that are relevant to life and can be applied immediately. In this sense, understanding the attributes and needs of employees is the first step in triggering their willingness to learn.

Barriers. Organizations tend to be less proactive in learning compared to individuals (Watkins & Marsick, 1993). Given the significant pressures on organizational performance and the competitive market landscape, including technological advancements and global competition, organizations must prioritize the development of new knowledge alongside the utilization of existing knowledge (Levinthal, 1991). A positive learning climate is closely tied to the absence of inhibitors to learning and learning barriers among learners (Baert et al., 2006). Consequently, numerous scholars have explored both theoretical and practical reasons for barriers that hinder organizational learning. Relatedly, Marsick and Watkins (1994) identified barriers that hinder learning within organizations. Examples include an individual's inability to change mental models, learned helplessness, tunnel vision, truncated learning, a return to individualism, cultures of disrespect and fear, entrenched bureaucracy, the part-time or overtaxed workforce, and managing versus capitalizing on diversity. Among these barriers regarding organizational vision, it must support and promote organizational learning for it to become integral to the company. Strong leaders define the principles of their vision, and engaged teams align recruitment, training, performance management, reward, and recognition with the vision. This approach has led to significant transformations through the adoption of a vision and strategy of continuous learning. Similarly, Steiner (1998) identified organizational dilemmas related to learning barriers, including a lack of meaningful mental models, challenges in establishing a shared vision, difficulty achieving team learning without shared uncertainty, inadequate individual competence, and managerial actions contributing to barriers.

Sun and Scott (2003) noted several reasons why organizations encounter barriers that hinder the development of learning organizations. These include a limited understanding of the barriers to transferring learning between different levels; insufficient practical understanding of the triggers that motivate the need for survival and learning; and a lack of understanding of how the constructs or processes forming the learning organizational model affect the learning processes (p. 209). By thoroughly comprehending these challenges, organizations can effectively navigate and overcome dilemmas associated with organizational learning. Organizations must realize that addressing these issues requires strategic and sustained efforts toward reform, rather than expecting them to resolve spontaneously. Without a doubt, organizational learning is a continual and dynamic progression. Crossan et al. (1999) posited that this journey unfolds gradually over an extended period, presenting a persistent tension between integrating new insights and leveraging existing knowledge. Watkins and Marsick (1993) underscored that learning is deeply ingrained within day-to-day work activities, blurring the distinction between learning and routine organizational practices. In essence, learning is not an isolated occurrence but rather an ongoing evolution intertwined with the organization's adaptation to learning interventions amidst recurring challenges. Moreover, the impact of learning may occur at the individual level without necessarily extending to the organizational level. It is crucial to underscore the importance of fostering a culture of organizational learning to consistently drive change and enhance the efficacy of education initiatives. In this regard, Marsick and Watkins (1994) highlighted that:

> Almost any organization that has seriously tried to transform itself must have a collection of such ghosts, including learning organizations. Architects of the learning organization

> hope to thwart this turner by creating a culture where mistakes or failures are opportunities to learn what does not work (p. 132)

Indeed, effective leadership is crucial for establishing and sustaining a learning culture in the long term. Organizational learning relies heavily on the strong commitment of leaders or managers. Without supportive leadership, initiatives aimed at fostering learning can be hindered, impeding the development of a learning culture within organizations.

Additionally, Green and Cluley (2014) highlighted that one reason impeding organizational learning is the impact of radical innovation within an organization. Radical innovation can fragment a shared organic organizational culture, leading toward a more mechanistic approach. Hence, they suggested that further research explore how managers can balance the need for innovation and maintaining an organizational culture receptive to new ideas. Moreover, organizations dominated by a performance-oriented paradigm may not fully embrace a learning culture. In such cases, stakeholders may prioritize rapid growth and development over fostering learning and individual growth in the long term (Kim et al., 2008). Consequently, learners' needs and approaches to learning programs may be sidelined in decision-making processes. This research underscores the importance of aligning organizational values and priorities with a commitment to ongoing learning and development.

Knowledge Sharing

Previously, organizations tightly controlled access to knowledge systems due to pervasive concerns about trust issues, potential hidden agendas, and anxieties surrounding the confidentiality of information (Boyett & Boyett, 2001). However, recently, there has been a noticeable shift in organizational learning paradigms, emphasizing the critical importance of fostering a culture that actively promotes the acquisition and practical application of knowledge.

This transformative perspective has spurred organizations to proactively invest in developing robust knowledge systems aimed at expediting the learning process (Khalil & Wang, 2002). Consequently, there has been a concerted effort to create environments conducive to continuous learning and improvement, empowering individuals and teams to access and leverage knowledge resources effectively.

Further, knowledge is often described as information characterized by contextual relevance and applicability (Abdullah, 2008). Ahmad and Daghfous (2010, p. 154) provide a comprehensive definition of knowledge as a state of understanding that encompasses facts, concepts, principles, laws, causal relationships, insights, judgments, intuitions, and emotions. It is widely acknowledged as meaningful information. In contrast, information is defined as a structured dataset (Bhatt, 2001), lacking the depth and complexity inherent in knowledge. In a significant contribution to the field of knowledge management, Nonaka (1994) outlined a pivotal distinction between explicit and tacit knowledge. Tacit knowledge refers to knowledge that is not easily codified or expressed in written or verbal form. It encompasses skills, know-how, or practical knowledge that is often difficult to communicate with others. By comparison, explicit knowledge refers to knowledge that can be readily articulated and communicated to others through written or verbal means. It is easily transferable and can be transmitted to others without significant difficulty. Knowledge can be categorized as either tacit or explicit based on how effectively it can be verbalized (Cabrera & Cabrera, 2002). Tacit knowledge sharing forms the basis of socialization within organizations, facilitating the transfer of implicit expertise through interpersonal interactions and experiences. By contrast, explicit knowledge sharing enables the integration and combination of codified knowledge assets within certain organizational contexts, fostering innovation and collaboration (Wang & Wang, 2012). By recognizing the unique

characteristics and transfer mechanisms of each type of knowledge, organizations can implement strategies to capture, share, and leverage tacit and explicit knowledge assets to drive innovation, improve performance, and enhance competitiveness in the marketplace.

In the organizational context, knowledge is widely regarded as the most valuable asset (Hislop et al., 2018). It is viewed as a strategic resource with immense potential (Alavi & Leidner, 2001). Forward-thinking organizations prioritize the creation, transfer, and utilization of knowledge, fostering a culture that actively leverages this resource (Pfeffer & Sutton, 1999). Effective organizational performance hinges significantly on the seamless sharing of knowledge across individuals, teams, and departments (Alavi & Leidner, 2001; Argote & Ingram, 2000). Accordingly, the management of an organization's knowledge assets emerges as a critical priority (Bhatt, 2001; Alavi & Leidner, 1999).

Given the paramount importance of knowledge to organizational success, Knowledge Management (KM) has become an indispensable facet of corporate strategy. According to Hislop et al. (2018), KM catalyzes significant social and economic transformations within organizations, leading to enhanced business performance and competitive advantage. Consequently, HRD practices should prioritize KM initiatives to not only incentivize employees to leverage and exchange their knowledge effectively but also to cultivate organizational commitment, bolster social-cultural dynamics, and facilitate greater participation in decision-making processes. Ahmad and Daghfous (2010) emphasized that effective KM empowers organizations to identify, create, represent, and disseminate knowledge, thereby serving as a crucial organizational resource. In essence, KM strategies are imperative for organizations to retain, develop, utilize, and share their resources efficiently. Thereby, they contribute to sustained organizational success and growth. Knowledge sharing has garnered significant attention in both academic and practical

organizational settings (Han et al., 2016). For instance, Kogut and Zander (1996) argued that knowledge sharing behaviors contribute to the development of various organizational capabilities, such as innovation, which is crucial for firm performance. Han et al. (2016) further emphasized that a firm's competitive advantage hinges on the effective management of knowledge sharing among individuals, teams, and organizations. Chang and Lin (2015) revealed that the success of a company depends on whether individuals intend to create, store, transfer, or apply their knowledge within the organization. Therefore, as Wang et al. (2014) contend, a firm's productivity is contingent upon managers' ability to generate new knowledge and foster employees' intentions to share knowledge. Importantly, knowledge sharing serves as a conduit to transform individual and group knowledge into organizational knowledge (Wang & Wang, 2012). Ultimately, the primary objective of knowledge sharing is to facilitate the transfer of knowledge among employees and departments within the firm, accelerating knowledge absorption and adoption (Du & Ren, 2007).

Further, scholarly literature extensively explored the relationship between knowledge sharing and organizational learning, emphasizing its profound impact on employee skills enhancement and overall organizational effectiveness. For instance, Yang (2007) highlighted that knowledge sharing serves as a mechanism for individuals to not only retain acquired knowledge but also to develop their thoughts, beliefs, experiences, and insights. This process of assimilation enables them to apply newfound knowledge in their day-to-day activities, thereby enriching the effectiveness of organizational operations. Similarly, Nugroho (2018) emphasized the pivotal role of knowledge sharing as a determinant of organizational learning. Nugroho argued that organizations must focus on the patterns and dynamics of knowledge sharing within their ranks to effectively support the learning process. By fostering a culture of knowledge sharing,

organizations can facilitate continuous learning among employees, enabling them to replicate critical actions and behaviors essential for organizational growth and development. Moreover, Abbas et al. (2019) asserted that organizational learning facilitated through knowledge sharing enables employees to gain valuable insights from the organizational context. By imitating successful practices and behaviors, employees contribute to the organization's ability to adapt and innovate, ultimately driving sustainable growth and success. Taken together, the intricate interplay between knowledge sharing and organizational learning underscores their critical importance for organizations striving to achieve sustainable productivity and competitive advantage in today's dynamic business environment.

Performance

Organizational performance stands as a paramount concern for every organization, serving as a barometer of its success and competitiveness in the marketplace. Across numerous scholarly reviews, organizational learning emerges as a pivotal factor linked to organizational performance. In the field of organizational performance, the concept encompasses a myriad of definitions and dimensions owing to its inherent complexity (Kim et al., 2017). Traditionally, organizational performance has often been equated with financial performance. According to Javier (2002), performance is synonymous with achieving the three fundamental aspects of economy, efficiency, and effectiveness within a particular framework or context. Further, De Waal (2007) posited that high-performance organizations consistently outperform their peers in terms of financial results over extended periods. Moreover, the correlation between intangible knowledge and enhanced financial performance sparked a resurgence of interest in performance measurement literature. For instance, Kim et al. (2017) elucidated that the presence of a learning organization correlates positively with knowledge performance, which in turn exerts a positive

influence on financial performance. Organizational performance, as described by Daft (2000), refers to an organization's ability to achieve its objectives by efficiently and effectively utilizing resources. Lebas (1995) further defined performance as forward-looking, tailored to reflect the unique characteristics of each organization and individual. Some scholars distinguished it between organizational performance and the broader concept of organizational effectiveness. For instance, Cameron and Whetten (1983) noted that organizational effectiveness is a comprehensive framework that encompasses organizational performance but is rooted in organizational theory, aiming to fulfill various performance objectives.

In the field of HRD, researchers often use performance as an outcome variable to examine the effectiveness of organizational approaches. Performance is defined as organizations achieving their goals and can be observed at the organizational, process, and individual levels. There is also a reverse relationship between culture and performance, where high performance leads to the development of a 'strong' corporate culture (Ouchi & Wilkins, 1985). Firms that acquire and use knowledge more effectively and efficiently tend to perform better. Darroch (2005) noted that knowledge acquisition has a more indirect than direct influence on organizational performance. Empirical findings consistently support the theory, showing a positive relationship between organizational learning and performance (Akhtar et al., 2011; Jiménez-Jiménez & Sanz-Valle, 2011).

Sustainability

Sustainability is a fashionable topic and has become one of the foremost issues facing the world. Over the past two decades, despite technological advances and improved living standards, concerns have grown about economic systems and business models that promote economic and environmental imbalances. Consequently, companies have shifted their focus from

immediate profits to long-term success by investing in their employees, environmental protection, and ethical dealings with suppliers, rather than solely prioritizing shareholder interests (Gelles & Yaffe-Bellany, 2019). Simultaneously, organizations face pressure to incorporate sustainability into their performance metrics, extending beyond their traditional responsibilities (Edwards, 2009). These concerns have sparked significant research interest and discussions within the realm of organizational learning regarding sustainability.

Sustainability originally encompasses several meanings: 1) conserving natural resources; 2) efficiently using resources; 3) renewing and recycling resources; and 4) preserving the culture and values of communities threatened by globalization and modernization (Navarro, 2010; Pfeffer, 2010). These diverse meanings have significantly broadened the scope of sustainability within organizational contexts. Senge et al. (2006) emphasized that sustainability entails the capacity of systems and organizations to endure indefinitely without depletion or diminished profits. Expanding on this, Kaynak and Montiel (2009) articulated that corporate sustainability involves an organization's strategic integration of social, environmental, and economic dimensions.

Sustainability has been extensively addressed across multiple academic fields, including the physical sciences, business, and human resource management (HRM). Within the management domain, research attention has been particularly directed toward the intersection of profitability, performance, and sustainability. HRM initiatives have played a significant role in addressing various human factors such as well-being, work-life balance, health and safety, meaningful engagement, and recruitment and retention policies. However, Pfeffer (2010) criticized organizational efforts for primarily focusing on addressing the consequences of

economic development and resource exploitation, rather than prioritizing management practices that cater to human factors.

Distinctions exist among ESG (Environmental, Social, and Governance), CSR (Corporate Social Responsibility), and sustainability. They are interconnected yet have unique implications within corporate responsibility. ESG, an acronym similar to sustainability, serves as a significant indicator for corporate investment decisions (Azapagic & Perdan, 2000). The main difference between sustainability and ESG lies in focus and purpose. ESG serves as an investment framework used by external investors to assess company performance concerning environmental, social, and governance factors, involving stakeholders such as the board, CEO, and employees. On the other hand, sustainability encompasses business practices aimed at ensuring the longevity and success of a business (Hübel & Scholz, 2020). In short, ESG evaluates how the world impacts a company or investment; meanwhile, sustainability examines how a company (or investment) impacts the world (Park & Jang, 2021). Corporate Social Responsibility (CSR) encompasses voluntary initiatives by companies to address their social and environmental impacts, often through philanthropy, ethical labor practices, and community engagement. While CSR initiatives are often short-term and project-based, sustainability demands long-term planning and systemic changes to integrate sustainable practices throughout the organization. Essentially, CSR can be regarded as a component of sustainability, reflecting a more comprehensive and strategic approach to corporate responsibility.

As regards HRD, sustainability has garnered significant attention from researchers (Prugsamatz, 2010; Scheirer, 2005; Scully-Russ, 2012; Spooner & Kaine, 2010). Molnar and Mulvihill (2003) advocate for learning initiatives focused on sustainability, promoting dialogue among businesses and organizations to develop entities that coexist harmoniously with the

natural and social environment. Previous studies emphasized the importance of cultivating a sustainability-oriented mindset and awareness within HRD domains (Albinsson & Arnesson, 2012; Rimanoczy, 2020; Scully-Russ, 2012). Garbie (2015) investigated methodologies for assessing the extent of sustainability awareness within organizational contexts. Consequently, Garavan and McGuire (2010) underscore the pivotal role of HRD in enhancing employee awareness and fostering positive attitudes toward sustainability, thereby nurturing a culture supportive of sustainability, CSR, and ethical practices.

Learning sustainability entails various approaches and applications: utilizing and recycling existing knowledge more extensively (Di Fabio, 2017; Hays & Reinders, 2020; Tractenberg et al., 2016); maintaining ongoing learning initiatives and promptly implementing new knowledge (Brandi & Christensen, 2018); and adhering to the triple bottom line, which encompasses the three pillars of sustainability: social, environmental, and financial considerations (Chow & Chen, 2012; Smith, 2012; Sajan et al., 2017; Wiengarten & Longoni, 2015; Yusoff et al., 2019). For instance, Prugsamatz (2010) defined learning for sustainability as the ongoing pursuit of continuous learning. Similarly, Scheirer (2005) characterized sustainability as the perpetuation of programmatic efforts, encompassing sustained program activities, ongoing benefits or outcomes, continual community support, and sustained dissemination of program work. As illustrated in Figure 4, the termination of initial funding can often leave training programs incomplete or subject to restrictions. This presents a challenge to sustainability as the intended program objectives may not be fully realized. Consequently, organizations are faced with decisions to either continue, discontinue, or replace training initiatives based on various factors such as organizational circumstances and program effectiveness. However, sustainability should not be narrowly defined as merely prolonging a

learning program; rather, there is a growing expectation for organizations to adopt a triple bottom line approach, focusing on social, environmental, and economic goals. This broader perspective reflects the evolving landscape of organizational responsibility. A notable challenge highlighted in literature reviews is the absence of agreed-upon frameworks for sustainability

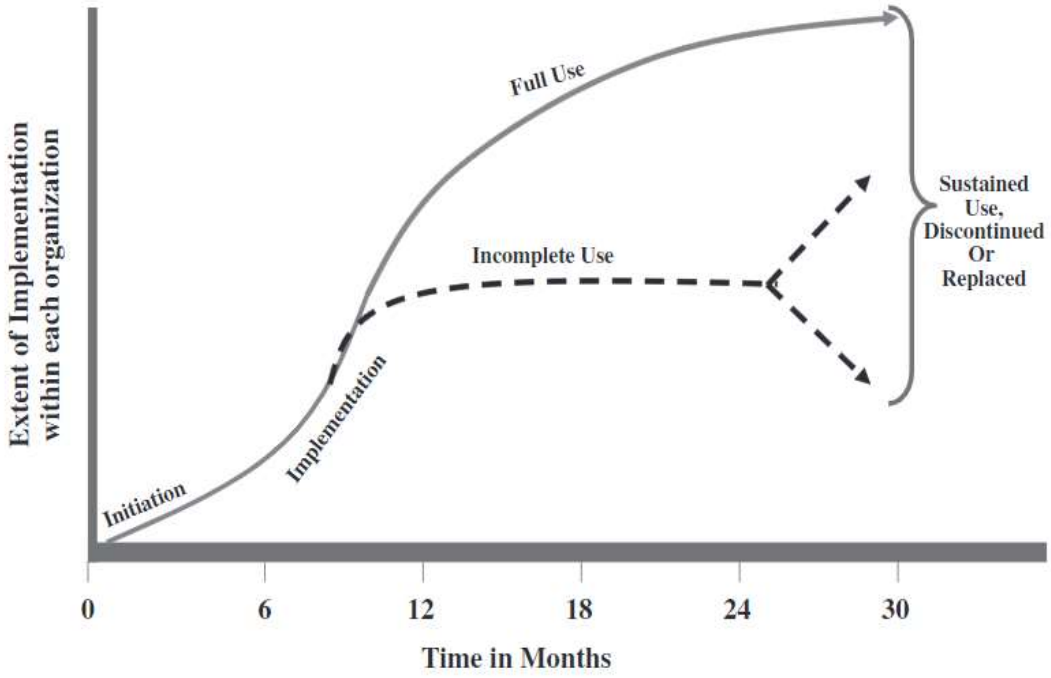

Figure 4

Life Cycle of Training Program. Adapted from Scheirer (2005)

research in the HRD field, leading to a lack of consensus on how to measure, define, and develop sustainability initiatives.

Notably, despite 96% of the top 250 global companies adopting sustainability reporting (KPMG International, 2022), there remains a scarcity of related research in the HRD field. Recent studies identified that organizations often leverage sustainability as a marketing tool

rather than embedding it as a responsible practice in enhancing knowledge and training on sustainability within the organization (Alizadeh et al, 2021).

Moreover, there is a paucity of scholarly works directly linking HRD to the United Nations' Sustainable Development Goals (SDGs), which encompass elements of human rights, equity, and environmental considerations (Zarestky & Collins, 2017). This gap in HRD is noteworthly, as underscored by HRD scholars (Cho & Hyatt, 2023). HRD's integration of sustainable management practices should be closely tied to the United Nations (UN) 2030 sustainable development goals (SDGs) (UN, 2015). Established by the UN General Assembly in 2015, the 17 SDGs target major global initiatives such as eradicating poverty, combating inequality, and addressing climate change. These objectives closely align with the three dimensions of sustainability: economic, social, and environmental. Recently, HRD scholars advocated for achieving SDGs through strategic HRD initiatives (Alfred et al., 2020; Brandi et al., 2022; Zarestky & Collins, 2017). Davies (2021) argued for aligning U.N. SDGs with HRD policies and practices, particularly emphasizing the importance of HRD's sub-disciplines like national and international HRD. Zarestky and Collins (2017) identified how two of the 17 SDGs specifically relate to the HRD sector, such as Goal 8, which promotes sustainable economic growth and quality work for all, and Goal 9, focusing on resilient infrastructure and sustainable industrialization. While the nexus between SDGs and HRD remains relatively unexplored in HRD research (Cho & Hyatt, 2023), there is a noticeable movement towards efforts aimed at advancing the SDGs (Alfred et al., 2020).

Indeed, linking HRD and SDGs has the potential to enhance employee skills, knowledge, and job satisfaction, thereby improving HRD performance and the overall employee experience (Bilderback, 2023). However, sustainability management often overlooks the role of

learning, prioritizing instrumental aspects, and the development of new management concepts (Siebenhüner & Arnold, 2007). Nattrass and Altomare (1999) emphasized the significance of organizational learning in achieving sustainability, considering it a vital prerequisite for successful transition. Additionally, Boud et al. (1999) argued that HRD should promote reflection, creativity, and ongoing learning among individual employees to foster sustainability and a culture of learning throughout the organization. Building upon these insights, Tome (2011) strongly asserted that investing in HRD can effectively address issues such as sustainability, social irresponsibility, and mismanagement, ultimately fostering a workforce that contributes to global sustainability. Therefore, learning initiatives must prioritize long-term sustainability goals over short-term gains. This approach is crucial for organizations to enhance employee productivity and efficiency and to promote ethical, responsible, and sustainable practices (Ardichvili, 2012; Schumacher, 1973). These insights are consistent with the perspective of Bierema and D'Abundo (2004), who advocate for HRD professionals to adopt a more socially conscious approach by emphasizing the following:

> Serving an educative and supportive role to help organizations uphold implied contracts and expectations of the organization, promoting ethical management and leadership, advocating for stakeholders, broadening definitions, and measures of organization performance, challenging, and revising socially 'unconscious' policies and practices, analyzing and negotiating power relations, and promoting the use of organization resources to create social benefit and improve social welfare (p. 443).

Sustainability is increasingly recognized as a pivotal factor in predicting performance, offering decision-makers deeper insights into long-term priorities (Funk, 2003). Extensive literature supports the idea of a positive correlation between sustainability and financial

performance, serving as fundamental drivers of shareholder value (Chen et al., 2017; Verga Matos et al., 2020). Hence, when evaluating organizational effectiveness, sustainability should be considered alongside traditional performance metrics. In conclusion, sustainability emerges as a megatrend (Lubin & Esty, 2010), destined to gain further traction in HRD literature and organizational practices.

Review of Empirical Studies

Numerous researchers conducted empirical studies on the learning organization culture, exploring various variables such as knowledge sharing, performance, and sustainability. The subsequent sections present the empirical findings regarding the interaction of these variables, aligning with the objectives of this study as illustrated in Table 2.

Learning Organization Culture and Knowledge Sharing

Organizational culture profoundly influences how employees perceive their roles and responsibilities within the company, which in turn impacts their engagement in knowledge creation and sharing (De Long & Fahey, 2000). Consequently, nurturing a culture that prioritizes organizational knowledge creation and capacity building can lead to the conversion of learning experiences into valuable assets for the organization (Joo, 2012). Moreover, Prugsamatz (2010) emphasizes the importance of a learning culture, particularly one that promotes continuous learning, as it requires a high level of engagement from employees. These efforts are instrumental in facilitating effective knowledge sharing among individuals and overcoming barriers to collaborative learning within the organization.

Jo and Joo (2011) conducted a study examining the learning organization culture by measuring organizational commitment and organizational citizenship behavior regarding

knowledge sharing intentions. Using a structural equation model, the study involved 452 workers in Korea. The findings indicated that learning about organizational culture has a positive impact on organizational commitment, organizational citizenship behavior, and knowledge-sharing intentions. The quantitative research highlighted that organizational culture promotes the proliferation of knowledge sharing. Therefore, the authors emphasized the importance for HRD professionals to enhance knowledge sharing within organizations and to create an environment conducive to organizational learning.

Jain and Moreno (2015) utilized the DLOQ to investigate the impact of organizational learning on a firm's performance and knowledge management (KM) practices in India. The study concluded that organizational learning positively predicted a firm's performance and KM practices. Further, it highlighted the importance of supporting knowledge management with suitable structures, cultures, and practices to codify and utilize both tacit and explicit knowledge. Particularly, the study demonstrated that team learning, which connects various parts of the organization, facilitates making learning accessible across the organization.

Indeed, learning organization culture is shaped by knowledge processes that hold collective meaning and value (Confessore & Kops, 1998). Consequently, research has indicated a positive correlation between a learning organization and various knowledge-related variables within an organization. These variables encompass knowledge creation (Jaaron & Backhouse, 2017; Song, 2008), knowledge transfer (Hernandez & Watkins, 2003; Hernandez, 2003), and knowledge management (Antunes & Pinheiro, 2020). While numerous studies have endeavored to identify significant factors that facilitate or impede knowledge sharing, the complexity of knowledge sharing cannot be fully explained by a single or a few factors alone. Therefore,

research on knowledge sharing requires a deeper and more comprehensive exploration within an organizational context.

Learning Organization Culture and Performance

The empirical literature on learning organization culture has consistently demonstrated positive relationships with various performance variables, including financial performance, innovative performance, and knowledge performance (Fuentes, 2008; Ju et al., 2021).

Ellinger et al. (2002) examined the correlation among the seven dimensions of the DLOQ instrument and financial performance among 208 managers in manufacturing firms in the United States. The study utilized objective organizational outcome variables such as return on equity (ROE), return on assets (ROA), Tobin's q, and market value added (MVA) to measure a firm's performance. The findings indicated a positive relationship between the concept of a learning organization and a firm's financial performance.

The aim of Kim et al.'s (2017) study was to explore the connections among a learning organization, knowledge, and financial performance using the DLOQ dimension. This research utilized a secondary dataset comprising 416 responses. The findings indicated a positive relationship between a learning organization and financial performance, with knowledge performance serving as a full mediator in this relationship. The authors highlighted the significance of learning and knowledge as fundamental sources contributing to further financial performance. Several scholars have highlighted that organizational knowledge serves as a vital source of intangible performance (DeCarolis & Deeds, 1999; Joo, 2012; Johnson & Kaplan, 1987).

Ponnuswamy and Manohar (2016) advocated for the utilization of the DLOQ in higher educational settings to enhance institutional performance. A survey involving 700 faculty

members revealed a notable and positive correlation among learning organization culture, knowledge performance, and research performance. Specifically, the study demonstrated that knowledge performance serves as a statistically significant predictor of research performance.

In summary, the findings of these empirical studies highlight the utility of the DLOQ instrument in assessing learning organization characteristics to enhance performance. Marsick and Watkins (2003) emphasized the pivotal role of learning organizations in bridging HRD and objective organizational performance. Marsick and Watkins (2003) asserted that learning organizations could play a critical role in linking HRD and objective organizational performance. A distinct aspect in the study of the relationship between learning organization culture and performance is the diverse range of organizational performance factors, including financial and knowledge performance (Alagaraja, 2013; Ellinger et al., 2002; Kim et al., 2017). In this context, Watkins and Marsick (2003, p. 273) emphasized that knowledge serves as the fundamental asset base for predicting future earnings. Similarly, Kim et al. (2017, p. 186) asserted that knowledge performance significantly predicts financial performance. By comparison, Ellinger et al. (2002) study used four measures to obtain a comprehensive view of a firm's financial performance: ROE, ROA, Tobin's q, and MVA. Nevertheless, this ongoing debate remains central to our concerns, as empirical research on the impact of HRD on organizational performance demands a comprehensive, multilevel approach, incorporating a wider range of variables to effectively demonstrate the relationship. The undeniable limitation stems from traditional performance metrics' exclusive focus on short-term achievements, which inhibits our grasp of the complete spectrum of performance. This issue highlights the need for a paradigm shift toward a more comprehensive, long-term perspective when evaluating organizational performance, considering factors beyond immediate outcomes.

Learning Organization Culture and Sustainability

Sustainable development has emerged as a paramount concern among organizations worldwide. To address this, organizations have implemented sustainable policies and practices, necessitating the reporting and measurement of their activities to meet set goals.

Prugsamatz (2010) conducted a study to identify factors influencing organizational learning and sustainability. The study collected data through 133 surveys using quantitative methods from five international non-profit organizations, supplemented by in-depth interviews. The results revealed that individual motivation to learn, team dynamics, and organizational culture practices significantly influence organizational learning sustainability in non-profit organizations. Specifically, the study underscores the importance of learning in enabling individuals to sustain and enhance their performance within the organization. In a related study, Bilan et al. (2020) explored the mediating role of organizational learning in the context of firm capabilities, corporate governance, leadership styles, and sustainability, drawing from the resource-based view (RBV) theory. Their findings revealed that organizational learning significantly mediates organizational capabilities, corporate governance, leadership styles, and firm sustainability. The authors further emphasized the substantial influence of organizational learning on the firm's sustainability.

Indeed, in contemporary times, organizations are increasingly recognizing the importance of sustainability (Molnar & Mulvihill, 2003; Scully-Russ, 2012; Siebenhüner & Arnold, 2007). However, within the discourse on sustainability, there exists a conspicuous gap regarding the practical role of learning (Siebenhüner & Arnold, 2007). Similarly, scant attention is devoted to exploring how organizational leaders can actively foster such learning (Smith, 2012). Further, prevailing approaches predominantly focus on management aspects within

organizational settings. Additionally, it is noteworthy that there is a lack of comprehensive guidance in the HRD context, particularly concerning the most direct and quantifiable outcomes of effective sustainability practices within firms.

Crucially, Senge et al. (1999) underscored the fundamental connection between sustainability and the culture of organizational learning. The study emphasized that sustainable development depends significantly on innovation, which thrives most effectively within a culture of organizational learning. It is essential for sustainability studies to address further aspects and variables within a framework of learning organizations (Prugsamatz, 2010) and to formulate theoretical models to enhance our comprehension of this relationship (Bilan et al., 2020).

Knowledge Sharing and Performance

Enhancing organizational performance through knowledge sharing involves more than just implementing systems or institutions—it is deeply rooted in social interactions among individuals. As Davenport and Prusak (1998) emphasized, knowledge is transferred primarily through human relationships rather than technology. Engaging employees effectively in knowledge-sharing activities is crucial for organizational success (Han et al., 2019; Song et al., 2012). Du et al. (2007) underscored the significance of social interactions in acquiring knowledge, skills, and behaviors, ultimately impacting performance. Moreover, Kogut and Zander (1996) emphasized that knowledge sharing is vital for gaining a competitive edge, requiring intentional actions to foster the exchange of knowledge, skills, and attitudes within an organization. Through such sharing, organizations may establish the groundwork for knowledge creation and innovation, as argued by Han et al. (2016).

Besides, encouraging knowledge sharing and fostering a learning environment is essential for organizations to leverage their intellectual assets and achieve long-term success, as

asserted by Lundberg (1995). Additionally, Lin (2002) suggested that employees with stronger social capital are more inclined to share knowledge, leading to improved organizational performance. However, despite considerable attention on knowledge sharing, there remains minimal focus on understanding its mediating role between organizational learning culture and performance. This gap in the literature calls for further exploration to elucidate the mechanisms through which knowledge sharing influences organizational outcomes within the context of a

Table 2

Empirical Studies of Learning Organization Culture

Author & Year	Purpose	Methodology	Samples	Contexts	Findings
Ellinger et al. (2002)	Assess the relationship between the learning organization concept and firms' financial performance	Quantitative Correlation	208 Manager	Manufacturing firms U.S	A positive association between the learning organization concept and firms' financial performance.
Kim et al. (2017)	Examine the relationships among a learning organization, knowledge, and financial performance using the Dimensions of the Learning Organization Questionnaire and its abbreviated version.	Quantitative SEM Correlation	416 Secondary data	U.S.	A learning organization has a positive effect on knowledge performance; knowledge performance has a positive effect on financial performance; and knowledge performance fully mediates the relationship between a learning organization and financial performance.
Ponnuswamy & Manohar (2016)	Investigate the impact of learning organization culture on the performance of Indian HEIs	Quantitative Correlation	700 Faculty members	Higher education institutions Indian	There exists a significant and positive correlation between the constructs of learning organization culture, knowledge performance, and research performance. Knowledge performance is a statistically significant predictor of research performance
Jain & Moreno (2015)	Investigating the impact of organizational learning on the firm's performance and knowledge management practices in a heavy engineering organization in India	Quantitative Regression	205 Supervisors	Engineering India	All the factors of OL, i.e., collaboration and teamwork, performance management, autonomy and freedom, reward and recognition, and achievement orientation were found to be the positive predictors of different dimensions of the firm's performance and KM practices.

Author & Year	Purpose	Methodology	Samples	Contexts	Findings
Jo & Joo (2011)	Investigated learning organization culture, organizational commitment, and organizational citizenship and antecedents of knowledge sharing intention of employees.	Quantitative SEM	452	Profit organizations Korea	The learning organization culture was significantly associated with organizational commitment, organizational citizenship behavior, and knowledge-sharing intention. Organizational citizenship behavior turned out to fully mediate the relationship between organizational commitment and knowledge-sharing intention.
Prugsamatz (2010)	Broaden previous work on organizational learning and the factors that influence learning in organizational settings	Quantitative & Qualitative (Regression & Interview)	133	Five international non-profit organizations	Individual motivation to earn, team dynamics, and organizational culture practices all have a significant level of influence on organization learning sustainability in non-profit organizations. A positive correlation also existed between organizational cultural practices and organizational learning sustainability.
Bilan et al. (2020)	Examine the mediating role of organizational learning on a firm's capabilities, corporate governance, leadership styles, and the firm's sustainability	Quantitative (PLS-SEM)	382	Manufacturing Company Malaysia	Organizational capabilities and corporate governance significantly enhance both organizational learning and a firm's sustainability. Organizational learning significantly mediates organizational capabilities, corporate governance, leadership styles, and the firm's sustainability. Also, organizational learning also has a significant influence on the firm's sustainability.
Egan et al. (2004)	Examine the relationship of organizational learning culture, job satisfaction, and organizational outcome variables	Quantitative SEM	245	IT department U.S.	Learning organizational culture is associated with IT employee job satisfaction and motivation to transfer learning. Turnover intention was found to be negatively influenced by organizational learning culture and job satisfaction.

learning culture. Such insights could provide valuable guidance for organizations striving to optimize their performance through effective knowledge management strategies.

Gap in Empirical Literature

After comprehensive review of extant research on learning organizations and exploration of potential new directions, certain gaps persist in the current literature. This recognition emphasizes the necessity for further investigation and the establishment of additional research streams.

First, there exists a pressing necessity to establish a more robust connection between the concept of the learning organization and outcome variables that more effectively elucidate outcomes (Mrisha & Kingi, 2017). A pivotal avenue of research should demonstrate conclusively how the learning organization enhances performance and fosters success within firms (Pedler & Burgoyne, 2017). However, the relative scarcity of such research stems from its failure to incentivize leaders, managers, and employees to embrace learning organization practices (Ellinger et al., 2002). Without more pragmatic and well-founded assessment approaches, even an initial exploration of methods to substantiate a business case for a learning organization remains hindered (Smith & Tosey, 1999, p. 70). To persuade business professionals to invest their resources in a learning organization journey, it is imperative to present evidence that directly links learning to diverse outcomes (Boudreau & Ramstad, 1997). In this regard, Wills and Oliver (1996) underscored the importance for educators to actively measure and disseminate the tangible benefits they offer to enterprises.

Second, another significant gap in scholarly inquiry is its tendency to overlook the importance of a sustained, long-term emphasis on the learning organization concept. Alagaraja (2013) argued that the field of HRD and performance has predominantly favored a prescriptive

approach, prioritizing explicit guidance over nurturing a learning environment with a forward-looking perspective. Thus far, traditional performance metrics have predominantly focused on short-term achievements, limiting our understanding of performance across the entire spectrum. This study proposes an expansion to include sustainability as an outcome variable. Most importantly, HRD literature lacks discussion on the link between organizational learning culture, knowledge sharing, and sustainability. By doing so, this approach aims to provide a more comprehensive understanding of the factors that contribute to performance over the long term. This shift acknowledges the need to move beyond short-sighted measures and to embrace a broader perspective that encompasses the enduring impact of organizational learning and development efforts.

Third, while correlations involving the performance measure of the DLOQ have been explored, there is a lack of consensus regarding the performance measurement of learning organization culture. Kim et al. (2017) suggested that further research should assess structural paths using concrete measures for financial performance and knowledge performance. Additionally, the use of the DLOQ necessitates HRD professionals to address common method bias issues. Several studies focused on financial performance using actual business data to measure the performance of learning organization culture (Choi, 2020; Davis & Daley, 2008; Ellinger et al., 2003; Fuentes, 2008; Škerlavaj et al., 2007; Xiaojun & Mingfei, 2008). However, existing studies have identified that financial metrics are no longer as effective due to their immediacy (Kim et al., 2017; Wilcox & Zeithaml, 2003). Additionally, concerns over data inaccuracies and difficulties in access due to company security issues contribute to hesitations in using real financial data (Hung et al., 2010; Jiang et al., 2006). In contrast, intangible knowledge is positively associated with future financial performance (Banker et al., 2000; DeCarolis &

Deeds, 1999; Kim et al., 2017; Wilcox & Zeithaml, 2003). Consequently, further research to explore and unpack this dynamic is greatly warranted (Watkins & Kim, 2018).

Fourth, despite the considerable focus on knowledge sharing, there has been a notable neglect in understanding the mediating function between organizational learning culture and performance. This gap in literature prompts deeper investigation to elucidate the intricate mechanisms through which knowledge sharing shapes organizational outcomes within the framework of a learning culture. By gaining a deeper understanding of these mechanisms, organizations can better comprehend the dynamics at play between knowledge sharing, organizational learning culture, and performance outcomes. This, in turn, can inform the development and implementation of more effective knowledge management strategies tailored to the specific needs and context of the organization.

Finally, numerous scholars consistently argue for the need to implement optimal sampling techniques in organizational learning literature across various areas and integrations (Antunes & Pinheiro, 2020; Jain & Moreno, 2015; Watkins & Marsick, 2003). For instance, Ellinger et al. (2002) suggested that future studies should incorporate larger, more comprehensive sampling strategies in diverse contexts. Kim et al. (2017) highlighted the importance of analyzing samples collected through alternative strategies across a more global sample. Additionally, further studies could utilize different types of variables to examine the concept of the learning organization from a more systematic approach (Ellinger et al., 2002; Song et al., 2013).

Consequently, this study aims to address the identified issues and fill existing gaps in the literature by conducting a detailed analysis of the concept of the learning organization. Through this analysis, the study intends to provide a comprehensive understanding of the variables

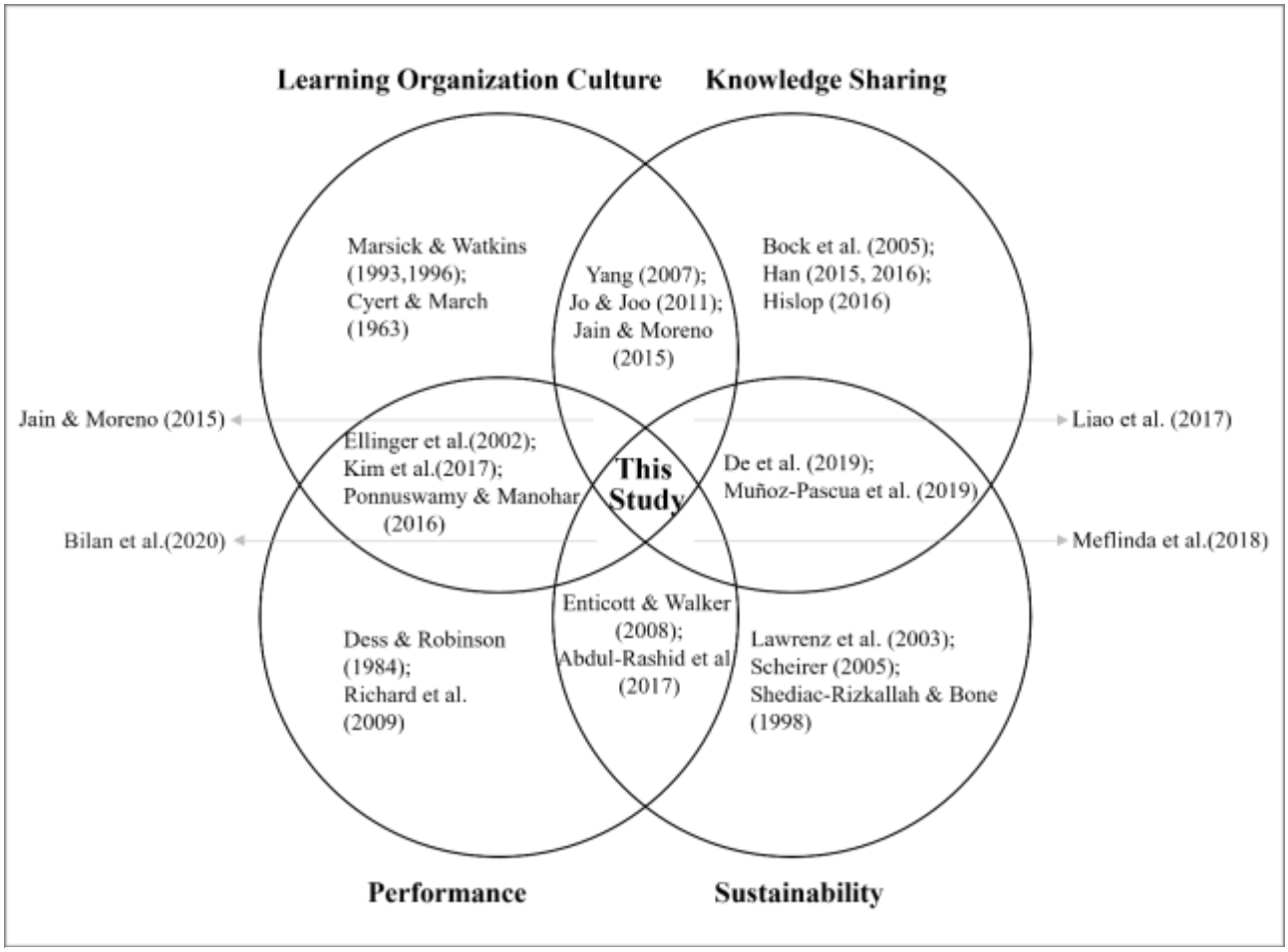

Figure 5

Convergence of This Study

associated with the learning organization culture, which have been addressed sporadically in previous research. By synthesizing the disparate findings from the literature, this study aims to offer a coherent framework that clarifies the relationships and interactions between these variables, as shown Figure 5.

Resource-Based View Theory

The increasing body of research highlighting the connection between HRD, and organizational performance strongly advocates for enhancing the role, status, and influence of HRD within organizations. Given the substantial impact of HRD functions on performance, there

is a clear need for robust theoretical approaches to deepen our understanding and effectively leverage this relationship. In this context, Kamasak (2017) introduced the concepts of tangible resources (TR), intangible resources (IR), and capabilities in contributing to a firm's performance, as illustrated in Figure 6. Specifically, the elements of IRs, TR, and capabilities are as follows:

1. IR: culture, values, beliefs, attitudes, behaviors, contracts and partnerships, company reputation, human resource management policies, and rewards.

2. TR: cash, financial investments, and capital, land, physical structures, and equipment, raw materials (in stock).

3. Capabilities: skills, expertise, creativity, innovativeness, decision-making abilities, knowledge sharing, and management, relationships with external constituents (customers, suppliers, and outsourcing partners, etc.), human capital, networking abilities, business process, social software.

Therefore, Kamasak's research indicated that intangible resources (IRs) and capabilities have a more significant impact on a firm's performance than tangible resources (TR), which is consistent with the resource-based view (RBV) theory. Notably, organizational culture emerges as a particularly important IR, as it is challenging for competitors to imitate. This highlights the importance for management to prioritize creating a work environment and culture that enhances worker productivity and performance. Further, Kamasak's identification of knowledge sharing as a key capability item, including networking capabilities, underscored its substantial benefits for firms, particularly in boosting learning capabilities. Arend et al. (2014) supported this idea by recognizing knowledge as the most strategically important resource for firms. They also found a

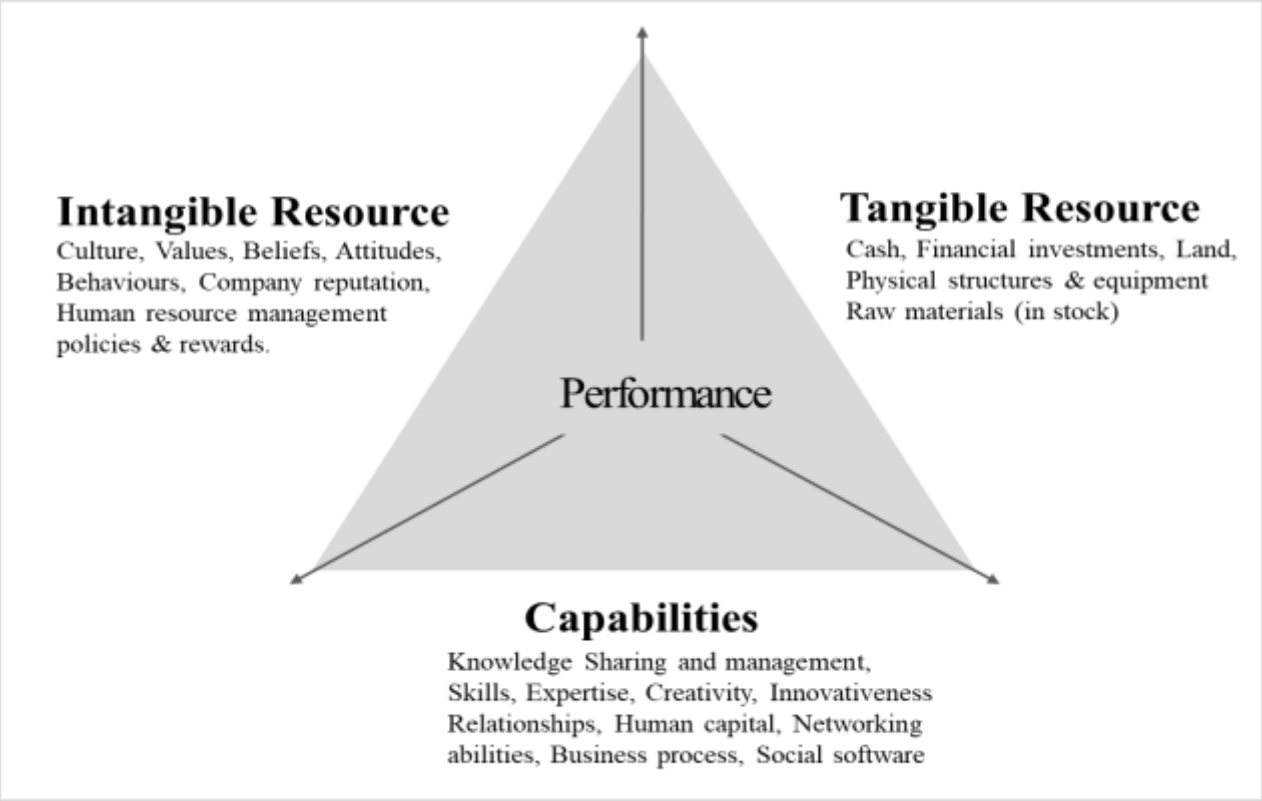

Figure 6

Items for IRs, TR, and Capabilities. Adapted from Kamasak (2017)

significant correlation between internally embedded knowledge and a firm's return on assets (ROA). Consequently, effective knowledge management can lead to the development of new products, trademarks, patents, and copyrights (Monteiro & Birkinshaw, 2017). Ultimately, Kamasak's study serves as a reminder that further research is needed to explore the mechanisms and interactions between resources and capabilities concerning performance. The findings offer valuable insights into the correlation between resources, capabilities, and performance, highlighting the need for more in-depth investigation in the HRD area.

Further, the resource-based view (RBV) of the firm, which emphasizes the central role of resources and capabilities, has emerged as one of the key theoretical perspectives in

understanding firm performance (Barney, 1986, 1991). The RBV brought significant attention and recognition in the field of organization studies. Wernerfelt (1984) first introduced the RBV, which emphasizes the importance of resources defined as "those assets that are tied semi-permanently to the firm" (p. 173). According to this perspective, a firm's performance contributes to its sustainable competitive advantage. Barney (1991) further developed the theory, arguing that RBV serves as the foundation for a firm's sustainable competitive advantage. In essence, the RBV offers a framework for understanding the nature of a firm and can be contrasted with other theories that seek to explain the existence of firms, such as Coase (1937). Generally, a resource is defined as a basic unit (Grant, 1991), stocks of available factors (Amit & Schoemaker, 1993), and any production factor that can be controlled stably by a company (Fernández & Suárez, 1996, cited in Martín-de-Castro et al., 2006). Researchers often classify firm resources according to the following three categories:

1. Organizational capital resources (Martín-de-Castro et al., 2006; Tomer, 1987), such as culture, structure, firm’s formal reporting structure, its planning, controlling, and coordinating systems, and informal relationships.

2. Human capital resources (Becker, 1964; Njuguna, 2009), such as skills, intellectual agility, training, experience, judgment, intelligence, relationships, and insights.

3. Physical capital resources (Williamson, 1975), such as a firm’s plants and equipment.

In comparison to Kamasak's (2017) classification, a series of parallels can be drawn between three resources: intangible resources with organizational capital; capabilities with human capital; and tangible resources with physical capital (Figure 8).

Capabilities are central to a firm's ability to deploy resources (Amit & Schoemaker, 1993) and to execute organizational routines (Winter & Nelson, 1982). Unlike resources,

capabilities are not static but are developed through the combination and coordination of various resources (Grant, 1996). They are information-based and evolve through interactions with resources, involving the development, carrying, and exchange of information within the organization. Fundamentally, resources and capabilities form the foundational basis of any competitive advantage (Rumelt et al., 1991).

Barney (1991) emphasized that not all factors, such as organizational capital, human capital, and organizational structure, are relevant resources for positively impacting a firm's sustained competitive advantage. He argued that resources contribute to competitive advantage only when they meet the VRIN criteria – being valuable (V), rare (R), inimitable (I), and non-substitutable (N). Resources meeting these criteria enable firms to exploit unique opportunities. Moreover, versatile resources allow firms to recombine resources to drive firm growth (Nason & Wiklund, 2018, p. 1). For example, a culture that meets the VRIN criteria is valuable, rare, and not easily replicable by other organizations (Barney, 1986 & 1991; Boyce et al., 2015). This fact underscores the critical role of strategic resource management in achieving and sustaining a competitive advantage in dynamic markets.

Similarly, the knowledge-based view (KBV) emphasizes the generation, integration, and distribution of knowledge within organizations (Narasimha, 2000), contrasting with physical or financial resources. KBV focuses on organizations' capability to enhance new knowledge-based assets (Pemberton & Stonehouse, 2000). However, scholarly opinions are divided between the resource-based view (RBV) and KBV. Advocates for KBV argue that knowledge is a more strategically significant source compared to the RBV approach, which primarily deals with generic knowledge rather than distinctive factors (Theriou et al., 2009). Consistently, Barney (1991) highlighted that effective knowledge management in organizations relies on employees'

abilities to create, acquire, store, share, and deploy knowledge. Accordingly, the two approaches of RBV and KBV have an interactive and complementary relationship with each other toward sustainability (Theriou et al., 2009). Indeed, they have been studying together (Hung, 2010).

Literature on the resource-based view of competitive advantage delves into the underlying economics and consolidates existing perspectives on firm performance (Peteraf, 1993). Montgomery and Collis (1995) defined a firm's competitive advantage as a unique function that strives for inimitability, durability, appropriability, substitutability, and competitive superiority. Barney (1986, 1991) argued that a company can achieve a competitive advantage when it implements strategies that create more value compared to its competitors. Rumelt et al. (1991) posed the question of a resource's value in two ways: 1) a resource should reduce a firm's costs, which can be considered valuable, and 2) a resource should be used to increase a firm's profitability. However, Barney (1991) emphasized that organizations must enhance efficiency and competitive advantage while utilizing valuable resources. This study also strongly emphasized that a resource must not be easily contested or replicated by others.

To date, while the HRD field has received less attention in this regard, the strategic management literature has predominantly focused on understanding and applying the resource-based view model (Coates & McDermott, 2002; Peteraf, 1993). To gain insight into how the resource-based process operates in the HRD field, organizations need investigate the combination of resources and capabilities that facilitate performance and sustain competitive advantage. As asserted by Barney (1986, 1991), a firm's competitive advantage stems from possessing exceptional and unique resources. As a result, there is a growing body of literature and empirical studies that have established the superiority of the resource-based perspective (RBV) theory. Scholars have extensively examined relationships among resources, capabilities,

and performance, considering antecedents, mediators, or moderators as capabilities or intangible resources (e.g., organizational culture, knowledge capability, competencies), while examining outcome variables such as performance, innovation, and organizational effectiveness. For example, Hung et al. (2010) identified a correlation between two key organizational constructs — process alignment and learning organization culture — that affected organizational performance. The results showed that a learning organization culture significantly contributed to organizational dynamic capability and performance. By applying RBV theory, the authors provided evidence supporting the need for process management alignment to improve organizational performance and achieve organizational goals.

According to Ciborra and Andreu (2001), organizational resources and effective knowledge management, through the development of capabilities, should contribute significantly to organizational performance. The organizational learning experience enhances the firm's capabilities, creating value over time. In particular, knowledge capabilities are a valuable resource and serve as a useful benchmark for knowledge management. Further, the authors asserted that the resource-based view provides the perspective that a firm's potential value stems from the sum of its collective capabilities.

Moreover, Sari and Sukmasari (2018) utilized the resource-based theory to demonstrate that organizational learning strongly correlates with organizational performance. They argued that organizations can develop knowledge resources and capabilities through learning, thereby establishing a foundation for competitive advantage.

Liu et al. (2010) examined organizational learning theory, knowledge acquisition, and dissemination. The study highlighted that, from a resource-based perspective, knowledge acquired from partners or coworkers can be either explicit or tacit, leading to the creation of

competitive capabilities (Lyles & Salk, 1996). However, there has been limited comprehensive examination of the key concepts and the resource-based view within the field of HRD. By emphasizing the crucial links among resources, capabilities, and outcomes, this study aims to contribute to a deeper integration among different research domains.

Theories Contributing to the Present Study

The concepts of the resource-based view (RBV) exert a significant influence on a firm's effective strategy. Over several decades, these concepts suggested that variable firm resources provide a competitive advantage. Wernerfelt (1984) revealed that an organization must continuously acquire and develop its resources and capabilities (such as knowledge sharing) for the firm's performance and growth. Valuable resources must meet the VRIN criteria for improving the firm's competitive advantage - valuable (V), rare (R), inimitable (I), and non-substitutable (N). These resources can provide useful insights into sustained competitive advantage and contribute to performance over time. Even within similar industries, performance can vary because companies use different resources and capabilities (Barney, 1986, 1991; Peteraf, 1993). In other words, organizations must identify unique resources that affect performance and manage them. Organizations should learn how these resources work within the organization and determine how to preserve these resources that cannot be imitated by competitors and strategically link them to the company's survival.

However, existing literature lacks a comprehensive exploration of the interplays among resources, capabilities, and firm performance. While the significance of valuable resources in enhancing firm performance is widely acknowledged, the mechanisms underlying this relationship remain inadequately elucidated. Further, the role of sustainability in fostering long-term performance improvement is underexplored in both academic research and practical

applications. To deepen our comprehension of the resource-based view, this study investigates particular resources and capabilities that enhance performance within a learning organization. It centers on two primary independent variables: intangible resources (learning organization culture) and capability (knowledge sharing). Accordingly, the study resonates with and encourages HRD practitioners and scholars to carefully consider how to utilize valuable resources and capabilities to positively impact both performance and sustainability in the organizational setting.

Development of Hypotheses for This Study

This section offers an overview of hypotheses based on the research model. Hypotheses are formulated through a review of prior empirical studies and an analysis of the relationship between variables such as learning organization culture, knowledge sharing, performance, and sustainability.

The effects of learning organization culture on performance and sustainability

Organizational performance is the result of interactions among various organizational components or units (Stainer et al., 1999). Empirical studies have consistently shown a positive relationship between a learning organization culture and performance (Fuentes, 2008; Ju et al., 2021). Specifically, Akhtar et al. (2011) found that two dimensions of a learning organization culture, inquiry and dialogue, and systems connection, lead to higher performance. Additionally, Ellinger et al. (2002) revealed a positive association between the concept of a learning organization and a firm's financial performance. The correlation between the seven dimensions of a learning organization and financial performance is statistically significant ($\rho < .05$).

Further, several studies have investigated the relationship between a learning organization culture and sustainability, underscoring the increasing significance of sustainability.

Prugsamatz (2010) found that individual motivation to learn, team dynamics, and organizational culture practices significantly influence organizational learning sustainability. The study also revealed a strong correlation between individual achievement and organizational sustainability (0.675), as well as a correlation of 0.669 between problem proficiency and organizational sustainability. Further, Bilan et al. (2020) examined the mediating role of organizational learning on corporate competency, corporate governance, leadership style, and sustainability, based on Resource-Based View (RBV) theory. The results indicated that organizational learning significantly mediates organizational capabilities, corporate governance, leadership styles, and firm sustainability. Based on the discussion above, this study posits the following hypotheses:

H1a. Learning organization culture will be positively associated with performance.

H1b. Learning organization culture will be positively associated with sustainability.

The effects of knowledge sharing on performance and sustainability

In today's knowledge-based economy, a firm's long-term performance is determined by its ability to create, transfer, and adopt knowledge rather than allocating efficiency (Prahalad & Hamel, 1990). Knowledge sharing is a critical process in knowledge management. It facilitates the gradual development and improvement of the production system and its components, rendering it essential for achieving long-term performance and enhancing corporate competitiveness (Du et al., 2007). For example, Wu et al. (2013) demonstrated that employees who share knowledge have greater opportunities to exchange ideas, develop new concepts, and contribute to the organization's success and performance. Similarly, Law and Ngai (2008) found that knowledge-sharing and learning practices contribute to improved product and service delivery, as well as to increased innovative effectiveness in improving processes. They also emphasized that organizations should encourage knowledge sharing and management,

considering strategy and implementation of programs that support learning activities within the enterprise for robust performance improvement.

In addition, Jilani et al. (2020) made a valuable contribution to existing literature on knowledge sharing and performance. Their work highlights the importance of knowledge management (KM) in achieving sustainability goals. By effectively managing knowledge practices and processes, firms can fulfill their economic, environmental, and social responsibilities in sustainability efforts (Chopra et al., 2021). Therefore, the aforementioned literature suggests the following hypothesis:

H2a. Knowledge sharing will be positively associated with performance.

H2b. Knowledge sharing will be positively associated with sustainability.

The effects of learning organization culture on knowledge sharing

Learning organization culture serves a crucial role in shaping employees' identities and behaviors, which are vital factors that influence knowledge creation and sharing (De Long & Fahey, 2000). The concept of learning organizations, characterized by a continuous process of creating, acquiring, and sharing knowledge by employees, positions such organizations to adapt more swiftly than their competitors (Garvin et al., 2008). Thus, cultivating a strong organizational culture that encourages knowledge sharing and establishing a learning environment is essential for organizations to capitalize on their intellectual assets, achieve a competitive edge, and ensure long-term success.

In the context of the relationship between organizational learning culture and knowledge sharing, Jo and Joo (2011) concluded that organizational culture fosters the development of knowledge sharing. They used a structural equation model with 452 workers in Korea to support their findings. Similarly, Jain and Moreno (2015) reported that organizational learning positively

predicted a firm's performance and knowledge management practices. They also emphasized the importance of supporting knowledge management with the appropriate structure, culture, and practices to codify knowledge and to utilize both tacit and explicit knowledge. Building on emerging evidence of the significant relationship between organizational learning and knowledge sharing, the following hypothesis was formed:

H3. Learning organization culture will be positively associated with knowledge sharing.

The effects of performance on sustainability

In today's highly competitive and rapidly changing business landscape, growth, stability, success, and continued existence depend on promoting and maintaining sustainability (Bilan et al., 2020). However, the relationship between sustainability performance and sustainability disclosure remains ambiguous, both theoretically and empirically (Hummel & Schlick, 2016). Particularly, despite intense interest in sustainability, it has rarely been explored and made to synthesize the current literature in HRD fields (Linnenluecke & Griffiths, 2010; Smith, 2012). In this regard, Wernerfelt (1984) asserted that organizations strive to obtain and enhance their resources and abilities, including knowledge sharing and culture, to boost their performance and gain a competitive edge. Ultimately, adopting sustainable practices significantly enhances a company's financial performance across various industries. Overall, while there may be initial costs associated with implementing sustainable practices, the long-term benefits can far outweigh these costs, making sustainability a wise investment for companies across various industries. (Siew et al., 2013).

In reviewing the empirical link between performance and sustainability, Alagaraja (2013) emphasized the necessity of a multilevel approach and the inclusion of additional variables to establish the impact of HRD on organizational performance. As such, Funk (2003)

asserted that sustainability is intricately linked to performance, emphasizing its role in consistently improving performance over the long term. Therefore, upon considering both the theory and existing literature, the following hypothesis is proposed:

H4. Performance will be positively associated with sustainability.

The mediating effect of knowledge sharing between learning organization culture, performance, and sustainability.

Knowledge is the cornerstone of organizational sustainable competitive advantage. Scholars like Kogut and Zander (1996) have underscored that knowledge sharing plays a pivotal role in nurturing a range of organizational capabilities. Han et al. (2016) have further stressed that a firm's competitive edge depends on its ability to manage knowledge sharing effectively among individuals, teams, and across the entire organization.

Existing studies suggest a positive correlation between knowledge sharing and long-term company performance and competitiveness (Matzler et al., 2007; Tsai et al., 2010). For instance, Meflinda et al. (2018) identified that sustainability strategies and the performance of small and medium-sized enterprises (SMEs) are positively impacted by both knowledge sharing and sustainability strategies, while social capital has no significant effect on SMEs' performance. Lundberg (1995) asserted that encouraging knowledge sharing and establishing a learning environment is essential for organizations to capitalize on their intellectual assets, achieve a competitive edge, and ensure long-term success. Similarly, the concept of learning organizations, characterized by employees' continuous process of creating, acquiring, and sharing knowledge, positions such organizations to adapt more swiftly than their competitors (Garvin et al., 2008).

In literature on the mediating role of knowledge sharing, Song and Kolb (2013) demonstrated that the process of knowledge creation serves as a mediating factor in predicting

the perceived improvement in organizational financial performance within the context of a learning organization culture. This research emphasizes the crucial role of facilitating knowledge sharing to support a culture of learning and establish an environment conducive to learning. These findings led to the development of the following hypothesis:

H5. knowledge sharing will mediate relationships between learning organization culture and performance and between learning organization culture and sustainability.

Chapter Summary

Watkins and Marsick (1993) described learning as closely intertwined with daily work activities, such that it may not be distinguished from effective individual or organizational practices. The field of HRD has focused on how organizations should promote learning. The importance and influence of learning organization culture on the HRD field are clear, and supported by empirical findings in various contexts. While studies on antecedents and correlates of learning organization culture are abundant, research on its outcomes appears more definitive. A consensus in research indicates that learning organization culture is positively associated with various desirable outcomes. Continued efforts to explore the dynamics associated with interactions between learning organization culture and knowledge sharing are essential for advancing research and practice unique to HRD. Based on a literature review of learning organization culture and knowledge sharing, this study is poised to confirm the notion that efforts directed toward these organizational resources and capabilities enhance corporate performance and yield potential benefits.

In addition, this study employs the resource-based view theory. Ultimately, it provides comprehensive perspectives on how HRD practices utilize a firm's resources and capabilities. Certainly, a firm's resources can reduce costs and increase profitability (Barney, 1991; Rumelt et

al., 1991). Addressing the underlying knowledge capabilities is a prerequisite to expanding the capacity of these resources. Accordingly, this current study investigates exploratory findings on how learning organization culture and knowledge sharing impact performance and sustainability from a comprehensive view based on the resource-based view.

CHAPTER 3

METHODOLOGY

This chapter provides a comprehensive overview of the research design employed in this study, focusing on the rationale behind the utilization of quantitative methods. It includes an examination of the data analysis procedures, research inquiries, target population, sample selection, and data collection methods.

Purpose

The purpose of this study is to investigate the relationship between learning organization culture and knowledge sharing on sustainability and performance among employees in a large company in Korea. The main research question guiding this study is: How do learning organization culture and knowledge sharing impact a firm's performance and sustainability? The research questions and framework for this study are presented below.

Research Questions

The following research questions are proposed:

RQ1: To what extent does learning organization culture predict performance and sustainability?

RQ2: To what extent does knowledge sharing predict performance and sustainability?

RQ3: To what extent does learning organization culture predict knowledge sharing?

RQ4: To what extent does performance predict sustainability?

RQ5: Does knowledge sharing mediate relationships between learning organization culture and performance and between learning organization culture and sustainability?

Research Framework

Figure 7 illustrates the conceptual model for my research question. Within this research framework, learning organization culture and knowledge sharing serve as the independent variables, while performance and sustainability are considered dependent variables. The subsequent hypotheses are analyzed in this study:

H1a. Learning organization culture will be positively associated with performance.

H1b. Learning organization culture will be positively associated with sustainability.

H2a. Knowledge sharing will be positively associated with performance.

H2b. Knowledge sharing will be positively associated with sustainability.

H3. Learning organization culture will be positively associated with knowledge sharing.

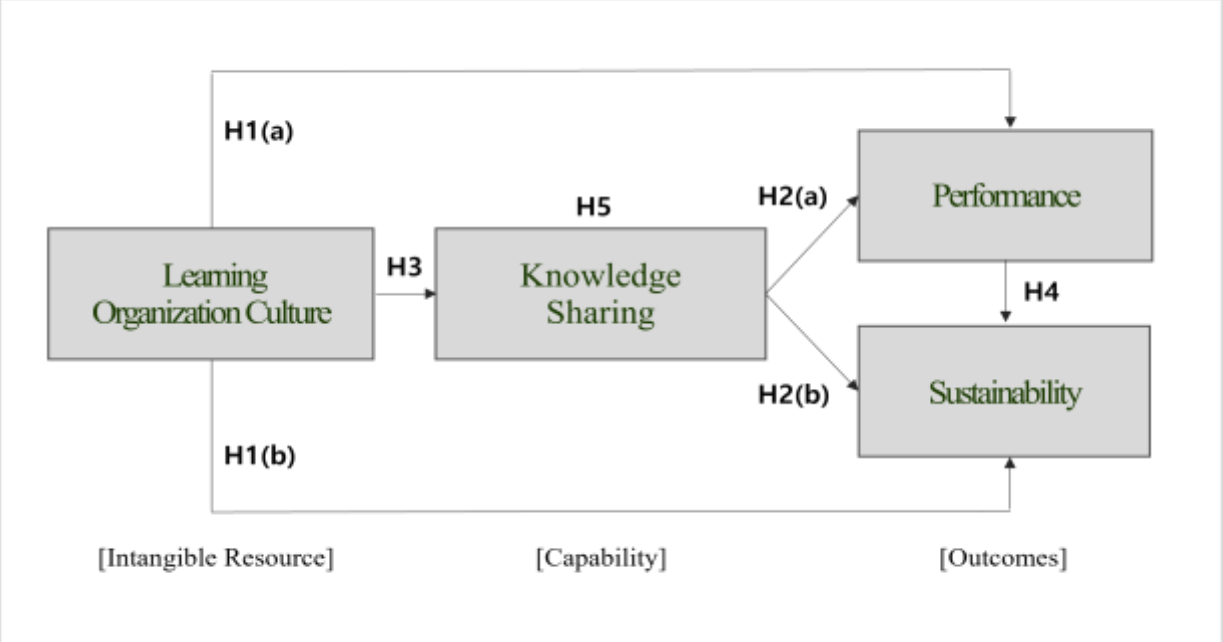

Figure 7

Research Framework with Hypotheses

H4. Performance will be positively associated with sustainability.

H5. Knowledge sharing will mediate relationships between learning organization culture and performance and between learning organization culture and sustainability.

In Chapter 2, several hypotheses were established based on the literature review to address the research questions of this study. Specifically, to address RQ1, "To what extent does learning organization culture predict performance and sustainability?" The following hypotheses were proposed: learning organization culture will be positively associated with performance and sustainability. Regarding RQ2, "To what extent does knowledge sharing predict performance and sustainability?", the following hypotheses were proposed: knowledge sharing will be positively associated with performance and sustainability. Then, RQ3 was "To what extent does learning organization culture predict knowledge sharing?" The following hypotheses were proposed: learning organization culture will be positively associated with knowledge sharing. RQ4 was "To what extent does performance predict sustainability?" The following hypotheses were established: performance will be positively associated with sustainability. Lastly, RQ5 was "Does knowledge sharing mediate relationships between learning organization culture and performance and between learning organization culture and sustainability?" The following hypotheses were proposed: knowledge sharing will mediate relationships between learning organization culture and performance and between learning organization culture and sustainability.

Instrumentation

A self-reporting survey was administered to each participant to investigate the correlation between learning organization culture and knowledge sharing on sustainability and performance. The instruments for this study were prepared in Korean using suitable translation-back-

translation procedures. A survey questionnaire with a 5-point Likert-type scale was utilized in this study, ranging from 1 (strongly disagree) to 5 (strongly agree). The Likert scale is a conventional scale commonly used in survey research due to its economy, simplicity, flexibility, straightforward composition, and ease of response. Scale increments typically range from two to seven and rarely exceed 10 (Alreck & Settle, 1995). However, Russell and Bobko (1992) found that 5-point Likert items were too coarse a method for accurately gathering data on moderator effects. The measurement instrument in this study used a measurement scale with increments of five, matching the increment used in the consistently proven DLOQ (Marsick & Watkins, 2003). For instrument consistency, each scale originally included five items.

Learning organization culture

To measure the learning organization culture, seven dimensions of the DLOQ (Watkins & Marsick, 1993, 1996) were utilized. This measure of Dimensions of the learning organization Questionnaire (DLOQ) was developed in the 1990s based on seven core dimensions including: (1) continuous learning, (2) inquiry and dialogue, (3) team learning, (4) empowerment, (5) system connection, (6) embedded system, and (7) strategic leadership. These measurements have 21 items conducted to measure the learning organization culture and 12 items measuring perceptions of financial and knowledge performance.

Recent studies have extensively examined the validity and reliability of the DLOQ (Ellinger et al., 2002; Song et al., 2009; Yang et al., 2004). Song et al. (2009) provided strong evidence supporting the DLOQ's validity across different cultures, demonstrating satisfactory internal consistency of each item (with coefficient alphas ranging from .71 to .91). This research suggests that the DLOQ is a reliable and valid tool for assessing learning organization culture, even within the context of Korean organizations.

Yang et al. (2004) later introduced two shorter forms of the instrument: one with 21 items and another with 7 items. Through confirmatory factor analysis (CFA), they concluded that the 21-item version is a superior measurement model for organizational studies. This study employed the 21-item DLOQ scale developed by Yang et al. (2004) to measure the factors, with responses rated on a five-point Likert scale. The internal consistency of the indicators, measured by Cronbach's alpha, ranged from 0.71 to 0.83. Respondents were asked to evaluate the extent to which their organization engages in behaviors believed to be characteristic of a learning organization (1 = almost never; 5 = almost always).

Knowledge sharing

Bock et al. (2005) defined knowledge sharing as an individual's willingness to share knowledge with others, either through direct communication or by contributing to knowledge repositories. They suggested that factors such as enjoyment in helping others, top management support, and organizational rewards significantly influence an individual's knowledge-sharing capability. Given the purpose of this study, five items of the knowledge-sharing scale developed by Bock et al. (2005) were used. In particular, their study reflected the unique national cultural characteristics of Korea and demonstrated a high level of reliability (Cronbach's alpha = .92 and .93) for both tacit and explicit knowledge (Han, 2015). Participants were asked to assess their ability to engage in knowledge sharing activities. An example question from the questionnaire is: "How often do you share worker reports and official documents with colleagues in your organization?" Responses were recorded on a five-point Likert scale, where 1 indicates "strongly disagree" and 5 indicates "strongly agree."

Performance

Researchers often use organizational performance as the ultimate dependent variable to investigate organizational phenomena. However, operationalizing organizational performance is challenging due to the complexity of accurate and available measures (Dess & Robinson, 1984). There is little consensus on the most effective measurement for examining organizational performance. Several studies on learning organization culture have focused on financial performance using constructs such as return on equity (ROE), return on assets (ROA), return on investment (ROI), relationship with suppliers, customer complaints, and company reputation (Choi, 2020; Davis & Daley, 2008; Ellinger et al., 2003; Fuentes, 2008; Škerlavaj et al., 2007; Xiaojun & Mingfei, 2008), as shown in Table 3. However, using financial performance with these constructs might avoid common method bias in single-respondent designs. This raises the question of whether financial performance provides immediate measures in the organization (Wilcox & Zeithaml, 2003), inaccuracies in the data (Jiang et al., 2006), and difficulties in providing real financial data due to company security issues (Hung et al., 2010). These traditional performance measures have focused only on short-term achievements that affect the organization's performance.

To date, there has been a shift from addressing only financial performance measures to focusing on non-financial measures (Obeidat & Tarhini, 2016). Johnson and Kaplan (1987) argued that in an organizational environment that changes rapidly, securing intangible performance alongside financial performance is necessary for an organization’s sustainability. In this respect, Marsick and Watkins (2003, p. 139) defined knowledge performance as the creation and enhancement of products and services due to learning and knowledge capacity. Organizational knowledge is a primary source of long-term success. Eventually, intangible

knowledge is associated positively with future financial performance (Banker et al., 2000; DeCarolis & Deeds, 1999; Kim et al., 2017; Wilcox & Zeithaml, 2003).

Performance was measured using a scale adapted from Marsick and Watkins (2003). The scale demonstrated high reliability with a Cronbach's alpha coefficient ranging from 0.91. Participants were asked to rate both financial performance and knowledge performance using a five-point Likert scale ranging from 1 (almost never) to 5 (almost always). An example item is "In my organization, return on investment is greater than last year".

Table 3

Measures of Performance

Author	Variables	Measures
Kim et al. (2017)	Knowledge & Financial performance	DLOQ
Ellinger et al. (2002)	Knowledge & financial performance	DLOQ
Yang (2003)	Knowledge performance Financial performance	DLOQ
Nam & Park (2019)	Employees perceived work performance	Podsakoff & MacKenzie (1989)
Lichtenthaler (2009)	Perceptual performance	Reinartz et al. (2004)
Ellinger et al. (2003)	Employee warehouse performance	Mississippi State University (1999)
Sˇkerlavaj et al. (2007)	Financial performance	Return on assets (ROA) VAEMP (Value added per employee) Relationship with Supplier Customer Complaints Retaining clients, Reputation
Choi (2020)	Organizational performance	Agency performance Overall quality of work done

Xiaojun & Mingfei (2008)	Organizational performance	Market & customers Internal operation Learning & Growth Financial Performance (Li, et al. 2007)
Davis & Daley (2008)	Financial performance	Return on investment (ROI) Earnings per share (EPS) Net income per employee Percentage of sales from new products Return on equity (ROE)
Fuentes (2008)	Organizational performance	Balanced Scorecard results Presence of a learning culture
Ellinger et al. (2003)	Financial performance	Return on equity (ROE) Return on assets (ROA) Market value added (MVA) Tobin's q

Sustainability

Sustainability has emerged as a critical global issue, placing increasing pressure on organizations to adopt broader measures of performance. The pursuit of sustainability stands as one of the most significant challenges for organizations today. Despite this, there has been limited discussion about sustainability within the HRD field. Siebenhüner and Arnold (2007) argued that there is a lack of coherent empirical studies or a concrete understanding of sustainability-related learning.

Sustainability in the HRD field is commonly defined in two ways: program continuation and the triple-bottom-line approach, which includes economic, social, and environmental aspects. Program continuation sustainability focuses on the continued existence of a program and its measured benefits or outcomes, as well as the maintenance of community capacity (Lawrenz et al., 2003; Scheirer, 2005; Shediac-Rizkallah & Bone, 1998). However, there has been limited

empirical study on sustainability related to program continuation, and the validity of measurement is rarely examined.

On the other hand, there is a growing expectation for organizations to prioritize social, environmental, and economic goals over learning sustainability (Sajan et al., 2017; Wiengarten & Longoni, 2015; Yusoff, 2019). To assess sustainability aligned with the triple-bottom-line approach, a nine-item scale developed by Padin et al. (2016) was utilized in this study.

Respondents were tasked with rating sustainability across three main dimensions: economic, social, and environmental, with a total of 9 items. Internal consistency of the indicators measuring (Cronbach's alpha) ranged from 0.95. An example of the question in this measurement is, "Our company focuses on environmental issues."

In summary, the survey consisted of a total of 53 items, encompassing four constructs and demographic variables. Table 4 provides a summary of the instrument used in the study, including the constructs, tools, number of items, and reliability as presented in previous research.

Table 4

Research Instrument Description

Constructs	Tool	Items (N)	Reliability (α)
Learning organization culture	Yang et al. (2004)	21	.71.-.83
Knowledge sharing	Buck et al. (2005)	5	.92-.93
Performance	Marsick and Watkins (2003)	12	.91
Sustainability	Padin et al. (2016)	9	.95
Demographic variables	Gender, Age, Year of Work, position, education level, type of job	6	
Total		53	

Translations of the Instruments

When translating a questionnaire into another language, researchers must ensure that the translation is accurate, clear, and meaningful to the target population. This is particularly important when surveys are given to participants from different language groups. The translated questionnaire should yield responses that are similar to those obtained from the original questionnaire (Del Greco et al., 1987). There are several methods for translating questionnaires, including direct translation, the back-translation technique, parallel translation, and mixed techniques. In this study, the back-translation technique was used in English, as it provides valuable insights and helps ensure accuracy by identifying potential translation errors (Douglas & Craig, 2007).

The researcher translated the questionnaire into Korean and then back into English using two independent translators. The Korean version was then reviewed and revised by a Korean professor and a Korean Ph.D. candidate in the HRD program at a graduate school in the U.S. to enhance validity and improve clarity, accuracy, and cultural appropriateness in the Korean context. Subsequently, the revised Korean version was translated back into English by a Korean professor in the U.S. who is bilingual in both English and Korean. Finally, the back-translated English version was compared to the original English questionnaire to produce the final version in Korean.

Target Population and Sampling

The primary purpose of selecting a sample is twofold: first, it makes the research participants more representative of the targeted population, and second, it helps avoid bias in the selected sample (Kumar, 2014; Schutt, 2017). To effectively utilize a questionnaire, a proper

sample size and sampling technique are required to locate respondents who are qualified to answer the questionnaire. Cavana et al. (2001) argued that locating a suitable sample and using an appropriate sampling technique can generally increase the representativeness and generalizability of the research findings.

The population for this study comprised employees in six large companies located in South Korea. All participating companies in this study represent prominent companies in various industries in South Korea, classified as large or medium-sized companies. To ensure the representativeness and generalizability of the study, a wide range of industries such as vehicle manufacturing, steel production, oil refining, chemical manufacturing, and finance have been included. Korea has achieved high economic growth over several decades through investing in human capital and education. This growth underscores the importance of HRD in transforming organizational culture and introducing the concept of the learning organization (Song et al., 2009). Notably, Korea is one of the leading countries for sustainability management (Kim & Kim, 2018). Moreover, six large organizations were selected since they typically have a more robust and strategic learning support system in place for their employees compared to smaller organizations. Therefore, Korea deemed it suitable to conduct this study and selected the subjects accordingly.

Regarding the survey's target setting, temporary and new employees with less than one year of work experience were excluded because they might have limited exposure to aspects such as learning organization culture and knowledge sharing, which are the focal points of this study. Additionally, in line with the study's objectives, large companies in Korea that practice sustainability management were selected to assess the effectiveness of sustainability. Ultimately, the subjects for this study were chosen as Korean employees who met the following criteria: 1)

are not executives, 2) have worked at the company for more than one year, and 3) agreed to complete the survey.

The fit of the structural equation model (SEM) depends on the sample size (Brown, 2015). MacCallum et al. (1999) argued that model characteristics such as sample size, variables, and degree of factor determinacy affect the accuracy of the model fit statistics. Scholars' opinions have been divided on the appropriate sample size, including suggestions of greater than 100 (Kline, 2011), a minimum sample size of 100 or 200 (Boomsma, 1982), and 5 or 10 observations per estimated parameter (Bentler & Chou, 1987). Hair et al. (2011) described a rule of thumb that the sample size can be obtained by multiplying the total items in a questionnaire by 10. Accordingly, following this approach, the sample size for the current study comprised over 350 questionnaires.

Data Collection

Survey research collects data from individuals about their opinions, phenomena, or behavior, allowing perceptions, attitudes, or opinions to be translated into numbers for analysis (Creswell, 2002). Saunders et al. (2018) highlighted that surveys are widely used because they collect a considerable amount of data by investigating many subjects in a highly efficient manner.

This study utilized an online platform to collect responses through a self-report questionnaire employing a cross-sectional approach. Participants were provided with measures of learning organization culture, knowledge sharing, performance, and sustainability, along with a demographic questionnaire.

Sampling is divided into three categories: probability sampling, non-probability sampling, and mixed sampling (Creswell, 2014; Kumar, 2014). Probability sampling is

employed when the probability of each sample unit being chosen from the population is known and the chance of being selected is equal. This includes simple random sampling, systematic sampling, stratified random sampling, multi-stage sampling, and cluster sampling. Non-probability sampling is applied when the probability of each sample unit being chosen from the population is unknown, making it impossible to answer the research questions, address the research objectives, and analyze the statistical characteristics within the population. This includes convenience sampling, judgmental sampling, and quota sampling.

Therefore, this study employed the convenience sampling method, which is a form of nonprobability sampling commonly used in social sciences. Etikan et al. (2016) asserted that convenience sampling is used when the target population meets certain practical criteria and the purpose of the study. However, it must be noted that its obvious disadvantage of convenience is likely to be biased. Therefore, convenience sampling should not be taken to be representative of the population, and the researcher should explain the subjects who were excluded or overrepresented in the sample. Still, convenience sampling is in the spotlight by researchers because it is easy to gather the survey, and subjects are readily available.

Cross-sectional data refers to observations of many different individuals (subjects, objects) at a given time or a fixed point in time. The cross-sectional data is appropriate for this study because it requires opinions on respondents' current valid opinions on questions in the survey rather than interest in data changing over time.

Subsequently, upon identifying the target organization and establishing specific population criteria, permission was sought from the manager or head of the Human Resources Management (HRM) or HRD team within the organization. Following approval, the survey was

distributed electronically to all eligible employees, considering feasibility and ensuring an adequate variation in the sample to effectively test the hypotheses.

Data Preparation

The purpose of data preparation is to identify errors and/or missing data (Creswell, 2002). Before conducting the main analyses, the original responses were downloaded from Qualtrics™, and a pre-analysis was conducted to examine the data for normality, missing data, multicollinearity, and outliers. Data screening was conducted using SPSS 29 and Microsoft Excel.

Data Screening

Normality

The SEM model is sensitive to multivariate non-normality, and it is necessary to verify that the data meet this assumption. Normality, skewness, and kurtosis were examined to determine the degree of asymmetry in the distribution curve. This test evaluates whether the data are more peaked, or flatter compared to a normal distribution (Hair et al., 2009). Data are considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7 (Kline, 2011).

Multicollinearity

Multicollinearity refers to correlations between latent factors. When SEM takes into account random measurement error, multicollinearity can increase, leading to less stable parameter estimates (Grapentine, 2000). While an appropriate measurement model in SEM can address high correlations between observed variables, multicollinearity among the latent predictor variables may present challenges for parameter estimation in the structural model. Therefore, SPSS Regression was utilized to evaluate multicollinearity.

Missing Data

This study applied a list-wise deletion method to handle missing values. Listwise deletion is a straightforward approach where cases with missing data are removed from the sample, and only complete cases are used in the analysis. The advantage of this method is its ease of implementation using SPSS before linking the data to the AMOS model (Gallagher et al., 2008).

Outliers

Although outliers have the potential to distort statistical tests, only problematic outliers should be removed from the analysis. Univariate outliers were identified using the standardized z-score. Tabachnick and Fidell (2012) suggested that a z-score greater than 3.29 might indicate an outlier.

Data Analysis

This study tested the hypotheses using structural equation modeling (SEM) to address the research questions. This section provides the rationale for using the SEM model and outlines the detailed steps to conduct the data analysis.

Data Analysis Strategy: Structural Equation Modeling (SEM)

This study utilized structural equation modeling (SEM) to test research hypotheses. SEM is a multivariate statistical analysis tool that allows researchers to explore correlations and test both direct and indirect relationships among the constructs of interest (Bollen, 1989). This approach extends the capabilities of multivariate assessment techniques, such as multiple regression analysis, by allowing the use of multiple indicators to measure the model constructs while considering measurement errors when analyzing data (Hair et al., 2019). Structural equation modeling is highly versatile and imposes few limitations on the type of model that can

be used. One of the most significant advantages of SEM is that it enables researchers to model the direct, indirect, and total effects of a system of variables (McCoach, 2003). In this sense, structural equation modeling has garnered significant attention, particularly in behavioral science research, as a more comprehensive and flexible approach to research design and data analysis than any other single statistical model commonly used by social and behavioral scientists (Hoyle, 1995, p. 15).

The SEM model consists of observed variables and latent variables, used to determine the validity of a theoretical conceptual framework. An observed variable is directly measured. In contrast, latent variables are hypothetical constructs of interest in a study and cannot be directly measured. Instead, they are inferred or derived from the relationships among observed variables (McCoach, 2003). SEM allows for the use of two or more observed variables as indicators of an unobserved underlying construct, which is termed a "latent variable." Meanwhile, SEM is used to test hypotheses and determine the causal effects of independent variables (IVs) on dependent variables (DVs).

Further, the SEM approach differs from traditional methods like correlation, regression, and analysis of variance. SEM does not provide a default model and imposes few limitations on the types of relationships that can be specified. It simultaneously solves multiple related equations by incorporating both observed and latent variables. In this regard, SEM is more powerful than traditional models, especially when considering the correlation between dependent variables. Therefore, SEM is a highly comprehensive methodology and a reliable tool for evaluating model fit and addressing multicollinearity problems (Suhr, 2006).

This research aims to examine the interrelationships among the latent variables of organizational learning culture, knowledge sharing, performance, and sustainability. All four

variables in this study are latent variables, which are estimated by observable variables. Therefore, structural equation modeling (SEM) analysis is suitable for this study to test conceptual models and research hypotheses. SEM allows for the modeling of both observed and latent variables and can test several structural relationships simultaneously (Prajogo & McDermott, 2005). Thus, this study established a theoretical model of relationships among the variables to assess the validity of the research hypotheses. The data analysis was conducted in the following steps.

Phase 1: Preliminary Analysis

Step 1: Descriptive Statistic

Descriptive statistics offer an overview of the demographic composition of the study's participants and describe the reliability and validity of the research instruments. The survey included six demographic variables: gender, age, seniority, position, education level, and type of job. The demographic information of participants presents the distribution of the sample by demographic variables, including frequency and percentage. Additionally, descriptive statistics were used to analyze observed variables, including mean, standard deviation, correlations, and reliabilities.

Step 2: Validity Test

Theoretical or hypothesized models can be statistically tested to assess their consistency with data or how well they fit the data (Skaalvik & Skaalvik, 2010). A good fit strengthens the plausibility of the relationships among variables, while a poor fit rejects the tenability of these relationships (Byrne, 2001).

Validity concerns the meaningfulness of research components, indicating how well a measure accurately represents the concept it aims to measure (Punch, 1998). There are three

main types of validity: 1) content validity, 2) criterion validity, and 3) construct validity (Sireci, 1998). Construct validity is particularly important, as it demonstrates relationships between the studied concepts and the relevant constructs or theories, playing a central role in establishing the overall validity of a method.

Factor analysis (FA) is a statistical method used to validate an instrument by explaining the underlying structure that describes a set of variables. Two major types of FAs are commonly used: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) (Kline, 2013; Pedhazur & Schmelkin, 1991). EFA is a more traditional procedure, where the number of latent variables is not determined by the analysis. In contrast, CFA is constructed in advance, with the number of latent variables set by the analyst (Bollen, 1989). CFA is considered suitable for two conditions: 1) testing the accuracy of an existing instrument maintained in Exploratory Factor analysis (EFA), and 2) evaluating a measurement model based on a well-developed underlying theory for hypothesized loading patterns (Brown, 2006; Hinkin, 2005; Yang, 2005). To achieve construct validity, indicators and measurements are carefully developed based on relevant existing knowledge. In particular, CFA requires a detailed and identified initial model (Bollen, 1989). As all the factor indicators in this study are emergent and empirical testing is ongoing, hypothesis testing was conducted using confirmatory factor analysis (CFA).

To assess the goodness-of-fit of the model, this study followed both indicators and criteria, as follows: the comparative fit index (CFI; .95 or above indicating excellent fit, .90–.95 indicating an acceptable fit), root mean square error of approximation (RMSEA; .05 or below indicating excellent fit, .05–.08 indicating an acceptable fit), Normed Fit Index (NFI; .95 or above indicating excellent fit, .90–.95 indicating an acceptable fit), χ^2 significance test as well as the ratio of χ^2 ($p>0.05$) and degree of freedom (a value less than 3), as shown in Table 5.

Table 5

Indices for Goodness-of-Fit

Indices		Fit Criterion	Sources
CFI	Comparative fit index	> 0.95 excellent fit .90-.95 acceptable fit	Bentler (1990)
RMSEA	Root means square error of approximation	<.05: excellent fit .05-.08: acceptable fit	Browne and Cudeck (1993)
NFI	Normed Fit Index	>.95 excellent fit .90-.95 acceptable fit	Bentler and Bonett (1980)
χ^2	Chi-square	p>0.05	Marsh and Hocevar (1985)
d.f.	Degree of freedom	< 3	

A more sophisticated technique for assessing convergent and discriminant validity is the multi-trait multi-method (MTMM) approach developed by Campbell and Fiske (1959). This method involves combining a set of traits with a set of measurement approaches. Confirmatory factor analysis (CFA) is commonly used to analyze the MTMM matrix, which helps evaluate construct validity in terms of discriminant and convergent validity (Kenny & Kashy, 1992).

Step 3: Reliability Test

Reliability measures the consistency of findings obtained through a data collection method, indicating that other researchers would derive similar observations or conclusions, or that there is transparency in how meaning was derived from the raw data (Saunders et al., 2018). Reliability is defined as "a scale that should consistently reflect the construct it is measuring"

(Field, 2005, p. 666). Cronbach's Alpha (α) is the most common measure of scale reliability, ranging from 0.0 to 1.0, and quantifies the degree to which items on an instrument are correlated with one another (Adamson & Prion, 2013). Therefore, in this study, AMOS was used to calculate Cronbach's Alpha for the sample.

SEM can be conceptualized as the analysis of two distinct models: the measurement model and the structural model (Burnette & Williams, 2005). Following the recommendation of Anderson and Gerbing (1988), data analysis in this study comprises two parts: 1) an overall assessment of the measurement model for the variables to examine the construct validity of the scales used, and 2) an examination of the hypothesized structural model. Consequently, this study evaluated the measurement models for four variables – learning organization culture, knowledge sharing, performance, and sustainability. This process confirmed the factor structure of each variable, which subsequently informed the development of structural models.

Phase 2: Hypothesis Testing for the Direct Relationships

To analyze the relationships between variables within the models, this study calculated the direct, indirect, and total effects of the predictor variables using SEM analysis. These hypotheses concerning the direct relationships between variables were tested based on standardized parameter estimates (Jackson et al., 2009). The chi-square difference statistic was utilized to evaluate the statistical significance of the effects of relationships between variables. In the relationship between two variables, a t-value greater than 1.96 or smaller than -1.96 implies statistical significance at the $\rho < 0.05$ level (Kline, 2011).

Phase 3: Hypothesis Testing for the Mediation Model

This study hypothesized that knowledge sharing mediated the relationship between learning organization culture and performance, as well as between learning organization culture

and sustainability. A mediating variable fully or partially explains the relationship between a predictor and an outcome variable (MacKinnon et al., 2007). The SEM evaluated both the direct effects of learning organization culture on performance and the indirect effects, mediated by knowledge sharing, on both performance and sustainability.

Chapter Summary

This section describes the methods of the study, outlining the overall design, including the purpose, research questions, sample, data collection, and analysis. The purpose is to investigate the relationship between learning organization culture and knowledge sharing on sustainability and performance. Quantitative methodology is most appropriate for this study because it aims to examine the numerical relationship between variables. Structural equation modeling (SEM) analysis was employed to test research hypotheses.

The instrument comprised four components: learning organization culture, knowledge sharing, performance, and sustainability. The reliability and validity of all instruments were assessed. Data was collected through a self-report survey, with the study population consisting of employees from six large companies located in Korea.

CHAPTER 4

RESULTS

This chapter encompasses the results of the data analysis, covering four main sections: descriptive statistics and correlations, reliability and validity assessment, the structural model, and hypothesis testing. The main purpose of this study was to examine the effects of a learning organization culture and knowledge sharing on performance and sustainability. To comprehend the dynamics of both learning organization culture and knowledge sharing, this study investigates their impact on enhancing performance and sustainability within large companies in South Korea. The research objective prompted the formulation of the following research questions and hypotheses:

Research Questions

RQ1: To what extent does learning organization culture predict performance and sustainability?

RQ2: To what extent does knowledge sharing predict performance and sustainability?

RQ3: To what extent does learning organization culture predict knowledge sharing?

RQ4: To what extent does performance predict sustainability?

RQ5: Does knowledge sharing mediate relationships between learning organization culture and performance and between learning organization culture and sustainability?

Research Hypotheses

Hypothesis 1a. Learning organization culture will be positively associated with performance.

Hypothesis 1b. Learning organization culture will be positively associated with sustainability.

Hypothesis 2a. Knowledge sharing will be positively associated with performance.

Hypothesis 2b. Knowledge sharing will be positively associated with sustainability.

Hypothesis 3. Learning organization culture will be positively associated with knowledge sharing.

Hypothesis 4. Performance will be positively associated with sustainability.

Hypothesis 5a. Knowledge sharing will mediate relationships between learning organization culture and performance.

Hypothesis 5b Knowledge sharing will mediate relationships between learning organization culture and sustainability.

Participants and Data Collection

The population for this study consisted of employees from six major corporations based in South Korea. These companies, which were selected for their prominence, operate across various industries and are classified as either large or medium-sized enterprises. To enhance the study's representativeness and generalizability, a diverse array of industries, including vehicle manufacturing, steel production, oil refining, chemical manufacturing, and finance, were included. They were required to meet the following conditions: 1) not holding executive

positions within the company, 2) having a tenure of more than one year with the company, and 3) consenting to participate in the survey.

The survey consists of 54 items, including seven demographic information and was distributed to participants via recruitment emails through HR or HRD managers in each company. At the outset, the study reached out to 643 employees, garnering responses from 457 individuals, reflecting a response rate of 71%. Following this, preliminary analyses were performed, encompassing data screening and procedures for handling missing data. Ultimately, out of the 457 surveys received, 373 (81.6%) were deemed usable, accounting for 58% of the initial contacts, after excluding 84 responses with missing data from the analysis.

Descriptive Statistics

Table 6 comprehensively outlines the diverse demographic information involved in the study, including gender, age, education, work experience, position, type of job, and leadership positions. A predominant gender distribution was observed, with 293 male participants (78.6%) and 80 identifying as female (21.4%). These participants were spread across various ages: 27 individuals (7.2%), 96 (25.7%) were in their 30s, 114 (30.6%) were in their 40s, and the majority, 136 (36.5%), were in their 50s. Educational backgrounds showed diversity: 87 (23.3%) completed high school, 79 (21.2%) attended a 2-year college. A large portion, 173 (46.4%), held 4-year college degrees, and 34 (9.1%) possessed graduate degrees. Regarding work experience, the participants spanned various lengths: 54 (14.5%) had less than 5 years, 50 (13.4%) had 6 to 10 years, 90 (24.1%) had 11 to 20 years, 111 (29.8%) had 21 to 30 years, and 68 (18.2%) had accumulated 30 or more years of experience. Occupationally, roles varied widely within their respective organizations. 66 (17.7) were employees, 78 (20.9%) assistant managers, 91 (24.4%) held managerial positions, and 138 138 (37.0%) directors, reflecting hierarchical diversity. Their

roles encompassed a wide range of job sectors: 121 (32.5%) participants were involved in Marketing and Sales, 132 (35.4) in Production and Manufacturing, 30 (8.0%) in Administration and Management, 24 (6.4%) in Education and Training, 55 (14.7%) in Engineering, and 11 (3.0%) in other unspecified sectors. Notably, among participants, 113 (30.3%) held team leadership roles, while 260 (69.7%) were categorized as non-leaders, reflecting a diverse cross-section of leadership and non-leadership roles.

Table 6

Participant Demographics

Variables	Values	Frequency	Percentage
1. Gender	Male	293	78.6
	Female	80	21.4
2. Age	20s	27	7.2
	30s	96	25.7
	40s	114	30.6
	50s	136	36.5
3. Education	High school	87	23.3
	2-year college	79	21.2
	4-year college	173	46.4
	Graduate	34	9.1
4. Work Experience	Less than 5	54	14.5
	6 to 10 years	50	13.4
	11 to 20 years	90	24.1

	21 to 30 years	111	29.8
	30 years or more	68	18.2
5. Position	Employee	66	17.7
	Assistant Manager	78	20.9
	Manager	91	24.4
	Director	138	37.0
6. Type of Job	Marketing/Sales	121	32.5
	Production/Manufacturing	132	35.4
	Administration/Management	30	8.0
	Education/Training	24	6.4
	Engineering	55	14.7
	Others	11	3.0
7. Leadership	Team Leader	113	30.3
Position	Non-Leader	260	69.7

Further, Table 7 serves as a comprehensive snapshot of participating firms across various industries, including vehicle, steel, oil, paper, chemical, and finance. To ensure the confidentiality of the industries participating in this study, pseudonyms have been utilized to reference each organization. These pseudonyms are applied consistently throughout the study to preserve anonymity and confidentiality. It presents pivotal details encompassing employee count, firm age, survey response frequency, and the percentage representation of each company within the surveyed sample. All the participating companies in this study represent prominent firms within various industries in South Korea, categorized as either large or mid-sized corporations.

Employee counts span a wide range, from 5,574 to 54,423. The age of the firms varies significantly, with "D Corp" being the youngest at 9 years old and "A Corp" being the oldest at 80 years old. The survey garnered 85 responses (22.8%) from “A Corp”, 73 (19.6%) from “B Corp”, 70 (18.8%) from “C Corp”, 66 (17.7%) from “D Corp”, 64 (17.2%) from “E Corp”, and 15 (4%) from “F Corp”.

Table 7

Demographic Characteristics of Participating Firms

Industry	Sectors	Number of Employees	Age of Firms	Number of Participants	Percentage
1. A Corp	Vehicle	35,136	80	85	22.8%
2. B Corp	Steel	38,599	56	73	19.6%
3. C Corp	Oil	26,246	55	70	18.8%
4. D Corp	Paper	5,574	9	66	17.7%
5. E Corp	Chemical	54,423	22	64	17.2%
6. F Corp	Finance	15,908	42	15	4.0%

Source (Firm information): Nice Information Service (Dec 18, 2023)

Table 8 outlines the descriptive statistics, correlation coefficients, and reliability measures (α) for the four constructs investigated in this study. Meanwhile, Table 8 specifically

details the descriptive and correlation statistics for the sub-constructs nested within each of the five main constructs examined. Inter-factor correlations were evaluated using Pearson product-moment correlation analysis. The correlation between knowledge sharing and sustainability was the highest (r= .67). Learning organization culture demonstrates a positive correlation of .32** with knowledge sharing and a positive correlation of .25** with performance based on the data.

Table 8

Descriptive Statistics, Correlations, and Reliabilities

Variable	Mean	SD	1	2	3	4
1. Learning Organization Culture	3.42	.85	(.95)			
2. Knowledge sharing	3.84	.81	.32**	(.91)		
3. Performance	3.43	.77	.25**	.60**	(.93)	
4. Sustainability	3.14	.61	.34**	.67**	.57**	(.90)

Notes: n = 373, * p <.05, ** p < .01 coefficient alpha reliability estimates are reported in the main diagonal

Preliminary Analysis

Multicollinearity

Multicollinearity occurs when certain predictor variables duplicate information from others, leading to potential inaccuracies in estimating standard errors and path coefficients (Mason & Perreault, 1991). The study addressed multicollinearity by calculating the variance inflation factor (VIF) for all predictor variables. The variance inflation factor (VIF) score, aiming

for a value below 3 to signify no multicollinearity (Osborne & Waters, 2002), was assessed in SPSS for the predictor variables of learning organization culture and knowledge sharing. Both variables exhibited a VIF score of 1.139, confirming the absence of multicollinearity.

Normality

To test the normality, Skewness and kurtosis were used to assess how much the distribution curve differs from being symmetrical. These statistics aid in determining whether the data adheres to the anticipated bell-shaped curve or deviates from this expected pattern. Data is typically deemed normal when skewness falls within the range of -2 to +2 and kurtosis ranges between -7 to +7 (Kline, 2011). The results showed that skewness ranged between -1.408 and .101. The values of kurtosis ranged between -.395 and 2.584. This suggests that while the data isn't perfectly normal, the deviations from normality are relatively moderate.

Outliers and Influence Factors

An outlier is an observation that deviates significantly from other observations in a dataset and can potentially distort statistical analyses (Osborne & Overbay, 2004). Univariate outliers were identified using the standardized z-score. Tabachnick and Fidell (2012) suggested that a z-score greater than 3.29 might indicate an outlier. Upon examining 373 responses, no z-scores larger than 3.29 were found in the dataset. As a result, no responses were removed due to being outliers. Based on the thorough examination of the dataset, including checks for multicollinearity, normality, and outliers, there are no influential factors that would significantly impact the statistical analyses.

Missing Data

This study used list-wise deletion to address missing values (Allison, 2001), wherein cases are excluded from the analysis if any single value is missing. Listwise deletion is

commonly used for two main reasons: 1) missing values are usually minimal, and 2) missing values are typically non-random. To detect any noticeable patterns within the missing data, an analysis of these 84 responses was conducted using Little's (2012) Missing Completely at Random (MCAR) test with the R software. Little's test ($\chi^{\wedge 2}$ = 101, *df* = 109, ρ = .0000000204) revealed that there is a pattern or non-randomness in the missing values. Most missing data filled out only five questionnaires and left the remaining 49 unanswered. Consequently, listwise deletion was used to remove observations with missing data from the analysis.

Reliability and Validity Analyses

After completing the data screening procedures, all measurement scales in the dataset were analyzed to assess their reliability and validity.

Reliability. Reliability pertains to the degree of consistency exhibited by a variable or a set of variables in accurately measuring what they are intended to measure (Hair et al., 2019). Cronbach's alpha scores were employed to assess internal consistency, following Nunnally's (1978) guideline. He recommends a threshold of .7 as satisfactory for research in the social sciences. Accordingly, the reliability of all instruments in this study was assessed by computing Cronbach's alpha coefficients to measure internal consistency among the items within each section of the instrument. Table 9 provides the information on the reliability of all instruments. All coefficients are higher than a satisfactory level and show reliability relative to internal consistency.

Table 9

Internal Consistency Reliabilities

Scales	Number of items	Cronbach's α	Published Reliability
Learning Organization	21	.95	.71. -.83[a]

Culture			
Knowledge Sharing	5	.91	.92. - 93[b]
Performance	12	.93	.91[c]
Sustainability	9	.90	.95[d]

Note: Yang et al. (2004)[a]; Buck et al. (2005)[b]; Marsick and Watkins (2003)[c]; Padin et al. (2016)[d]

Validity. Validity encompasses how accurately a measurement, or a collection of measurements represents the intended concept under study (Hair et al., 2019). Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) serve different purposes in research. Confirmatory Factor Analysis (CFA) is commonly utilized when researchers possess a theoretical foundation or prior understanding of the structure and relationships between variables. For this reason, Confirmatory factor analysis (CFA) was used to estimate the validity of the constructs in the instrument, including learning organization culture, knowledge sharing, performance, and sustainability.

Ensuring construct validity involves assessing convergent and discriminant validity (Hinkin, 1995). Through CFA, this study evaluated measurement models for four latent variables: learning organization culture (LOC), knowledge sharing (KS), performance (PF), and sustainability (SUS). The construct validity involved examining factor loadings, overall model fit indices, and Cronbach's alpha coefficients for these models, presented in Table 10. The results indicate that all measurements have construct validity.

Table 10

Results of Confirmatory Factor Analysis

Construct	$\chi^{\wedge 2}$	*df*	CFI	NFI	RMSEA
Learning Organization Culture	389.10	165	.95	.92	.01
Knowledge Sharing	6.25	4	.99	.99	.04
Performance	90.07	47	.98	.96	.05
Sustainability	30.91	21	.99	.98	.04

Note. CFI = comparative fit index; NFI=Normed Fit Index; RMSEA = root mean square error of approximation.

The initial measurement model analyzed the connections between measures of learning organization culture, as illustrated in Figure 8. This encompassed seven sub-dimensions: continuous learning, dialogue and inquiry, team learning, embedded systems, empowerment, systems connections, and strategic leadership. Factor loadings ranged from .64 to .85. All the fit indices showed that the measurement model represents learning organization culture provided a good fit to the data ($\chi^{\wedge 2}$ = 389.10. *df* = 165, CFI = .95, NFI = .92, RMSEA = .01).

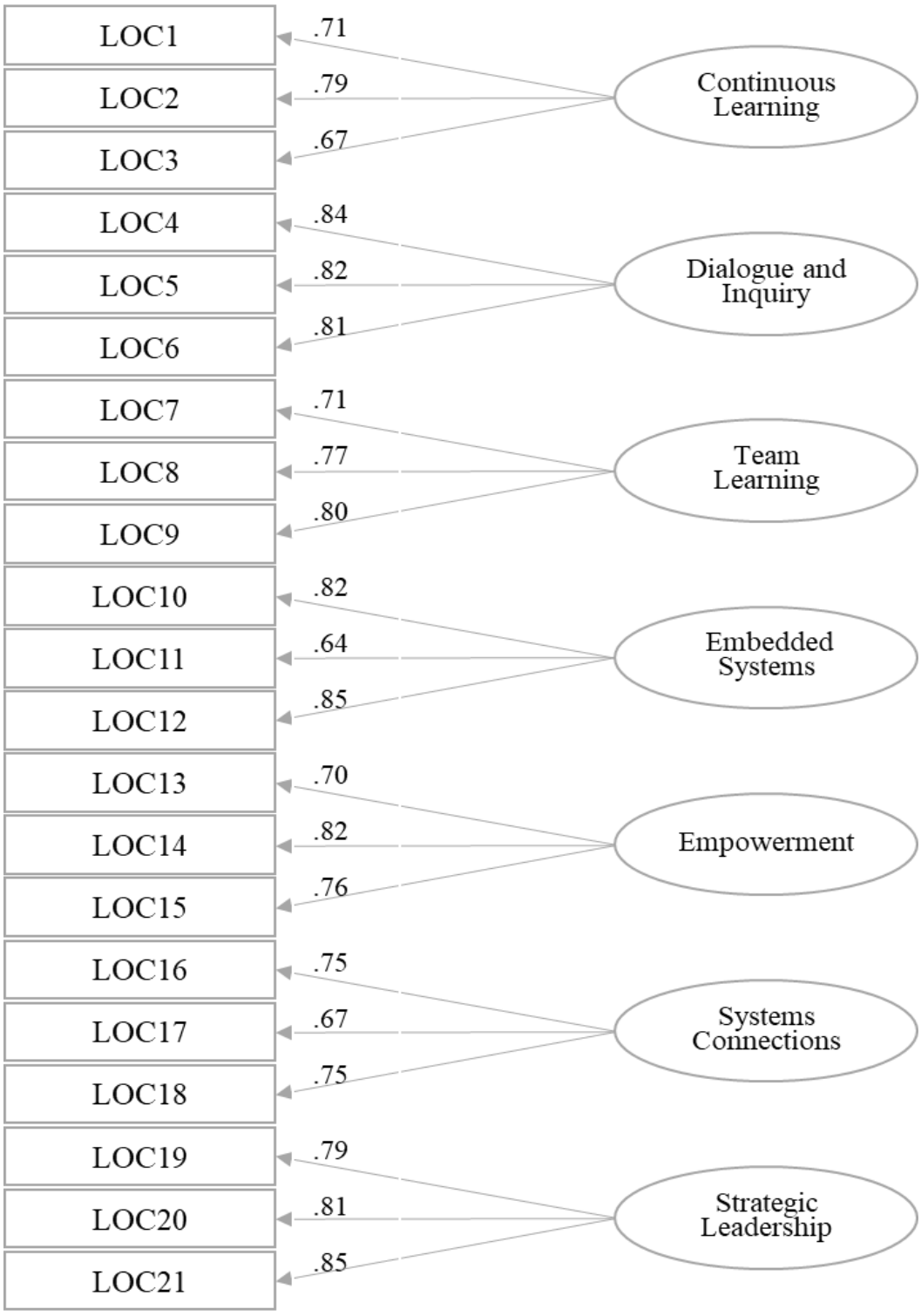

Figure 8

Measurement Model for Learning Organization Culture

The Second measurement model examined the relationships among measures of knowledge sharing and the two hypothesized sub-constructs, as depicted in Figure 9. Knowledge sharing was theorized to consist of two sub-constructs: explicit knowledge sharing and implicit knowledge sharing. The factor loadings convincingly varied between .74 and .93. The CFA demonstrated a good fit to the data in all aspects ($\chi^{\wedge 2}$ = 6.25, *df* = 4, CFI = .99, NFI = .99, RMSEA = .04).

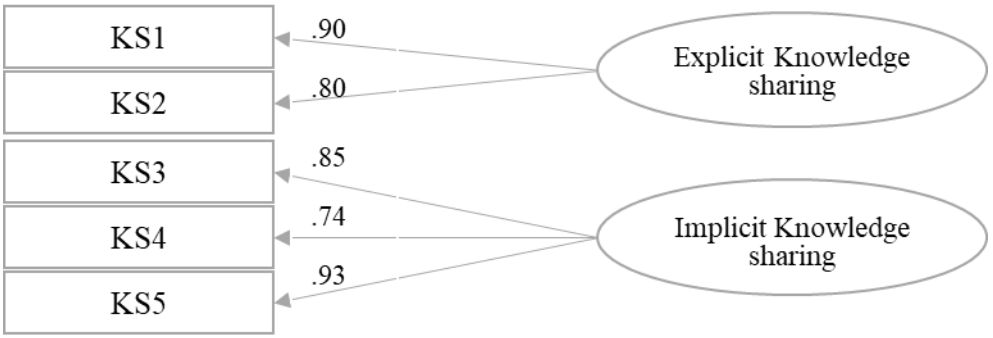

Figure 9

Measurement Model for Knowledge Sharing

The third measurement model specifically focuses on twelve items associated with performance, representing two sub-instruments: financial performance and knowledge performance. In Figure 10, the standardized estimates for this model are displayed, indicating the strength of connection with factor loadings ranging from .67 to .78. Notably, this model demonstrates a robust fit with the data, evident from various statistical indicators: ($\chi^{\wedge 2}$ = 90.07. *df* = 47, CFI = .98, NFI = .96, RMSEA = .05).

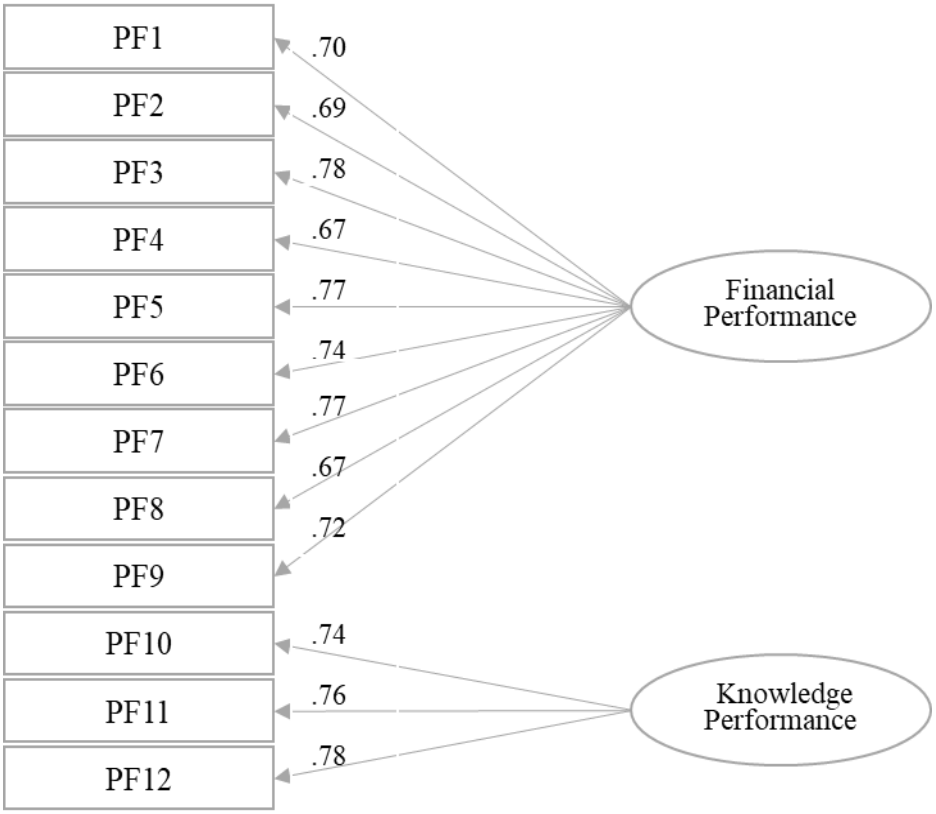

Figure 10

Measurement Model for Performance

The final measurement model thoroughly investigated the relationships between different aspects of sustainability. It intricately analyzed three fundamental dimensions: environmental sustainability, economic sustainability, and social sustainability, aiming to understand their interconnectedness and impacts. Figure 11 showcases the standardized estimates for the sustainability measurement model, encompassing nine measurement items. The overall fit indices for this model displayed a reasonable alignment with the data: ($\chi^{\wedge 2}$ = 30.91. *df* = 21, CFI = .99, NFI = .98, RMSEA = .04). Within the figure, factor loadings between the items and their underlying sub-constructs ranged from .67 to .78. This range suggests that each measurement item adequately represents the latent variable of performance.

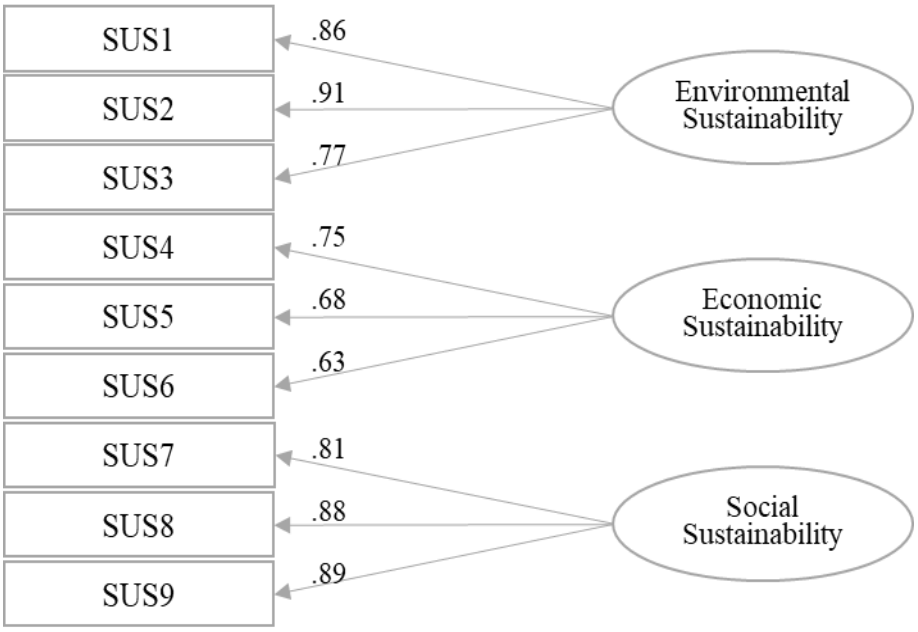

Figure 11

Measurement Model for Sustainability

Table 11 displays the factor loadings resulting from the comprehensive CFA. Comrey (1973) categorized factor loadings as excellent (≥ 0.71), very good (≥ 0.63), good (≥ 0.55), reasonable (≥ 0.45), and poor (≥ 0.32). In this study, all indicators exceeded 0.64 significantly on their latent construct, which made convergent validity evident.

Table 11

Factor Loadings of the Overall CFA

Constructs	Learning Organization Culture	Knowledge Sharing	Performance	Sustainability
LOC1	.71			
LOC2	.79			
LOC3	.67			
LOC4	.84			
LOC5	.82			

LOC6	.81			
LOC7	.71			
LOC8	.77			
LOC9	.80			
LOC10	.82			
LOC11	.64			
LOC12	.85			
LOC13	.70			
LOC14	.82			
LOC15	.76			
LOC16	.75			
LOC17	.67			
LOC18	.75			
LOC19	.79			
LOC20	.81			
LOC21	.85			
KS1		.90		
KS2		.80		
KS3		.85		
KS4		.74		
KS5		.93		
PF1			.70	
PF2			.69	
PF3			.78	
PF4			.67	
PF5			.77	
PF6			.74	
PF7			.77	
PF8			.67	
PF9			.72	
PF10			.74	
PF11			.76	
PF12			.78	
SUS1				.86
SUS2				.91
SUS3				.77

SUS4				.75
SUS5				.68
SUS6				.63
SUS7				.81
SUS8				.88
SUS9				.89

Structural Models

A structural model serves to illustrate the intricate connections between variables (Hair et al., 1998). The primary objective of conducting a structural model analysis is to ascertain the alignment between the proposed theoretical relationships established during the conceptualization phase and the empirical evidence derived from the data (Diamantopoulos & Siguaw, 2000). The following step involves testing the connections between the four main elements: learning organization culture, knowledge sharing, performance (PF), and sustainability. The study first examined the hypothesized model introduced in Chapter 1. Subsequently, several alternative models were explored to identify the one that most accurately aligns with the available data. Assessing the adequacy of the structural model involved comparing its goodness-of-fit against both the initially proposed model and three additional nested models. During this assessment, the analysis involved reviewing the magnitudes of the estimated parameters and the squared multiple correlations (SMC) within the structural equations. Squared multiple correlations (SMC) indicate how much of the variation in an endogenous variable is explained by its predictors or independent variables in a structural equation model (Suhr, 2006)

Hypothesized Model

An initial structural analysis was conducted on the hypothesized structural model. Figure 12 depicts the hypothesized model, showcasing standardized estimates2 obtained from the

AMOS output. These estimates signify the strengths of the relationships among the constructs. The hypothesized model represents an acceptable fit to the data ($\chi^{\wedge 2}$ = 1731.57. *df* = 968, CFI = .94, NFI = .86, RMSEA = .04), as shown Table 12. The exogenous variables of the study, learning organization culture significantly affect knowledge sharing as well as performance and sustainability ($t > 1.96, p < .05$). Regarding the squared multiple correlation (SMC), this model explained 14% of the variance in knowledge sharing, 40.9% of the variance in performance, and 63.9% of the variance in sustainability.

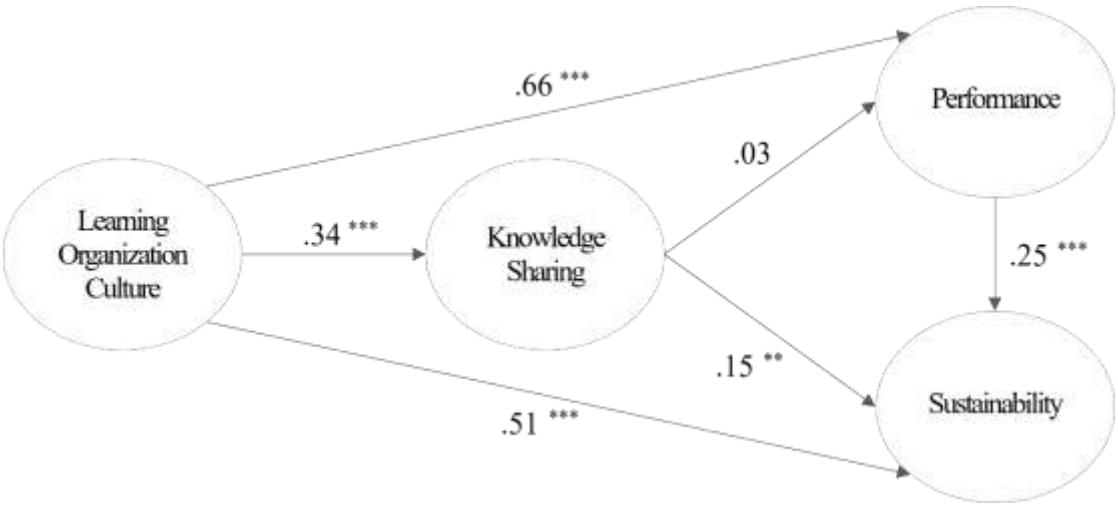

Figure 12

Hypothesized Structural Model

Alternative Models

In addition to the hypothesized model, several alternative structural models were tested. In Figure 13, Alternative Model 1 eliminated the direct path from learning organization culture to performance. This model demonstrates an acceptable fit to the data ($\chi^{\wedge 2}$ = 1870.58. *df* = 969, CFI = .92, NFI = .85, RMSEA = .05). Comparing with the hypothesized model, the reduction in fit was mediocre and not significant ($\Delta\chi^{\wedge 2}$ = 139.01; Δdf = 1). In terms of the squared multiple

correlation (SMC), this model accounted for 14.8% of the variance in knowledge sharing, 8% of the variance in performance, and 58.2% of the variance in sustainability.

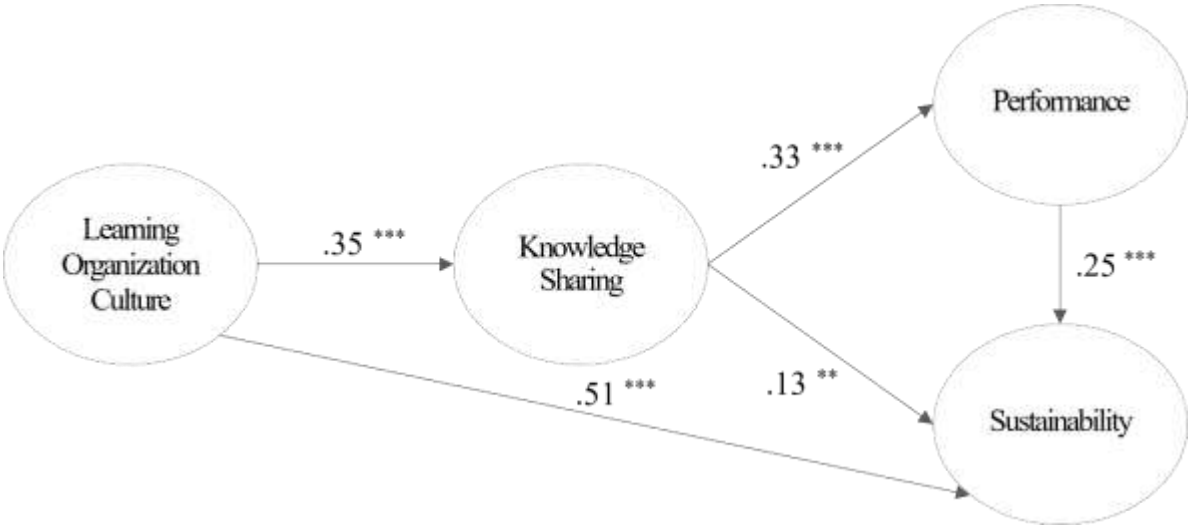

Figure 13

Alternative Model 1

In alternative model 2, both the direct connection from learning organization culture to sustainability and the link from performance to sustainability were additionally removed. Figure 14 illustrates how strongly the different elements are related in this alternative model. Like in alternative model 1, all the connections between elements remained statistically significant (t > 1.96, p < .05). In terms of the SMC, 17.4%, 22.1%, and 9% of the variances in knowledge sharing, performance, and sustainability were accounted for, respectively. This model shows a satisfactory fit to the data. data ($\chi^{\wedge 2}$ = 2083.36. *df* = 971, CFI = .90, NFI = .83, RMSEA = .05). However, compared to the hypothesized model, the decrease in fit indices was more pronounced in alternative model 2 and was significant ($\Delta\chi^{\wedge 2}$ = 212.78; Δdf = 2), indicating a weaker match with our data than our original model. This reduction in fit was notably worse than in alternative model 1.

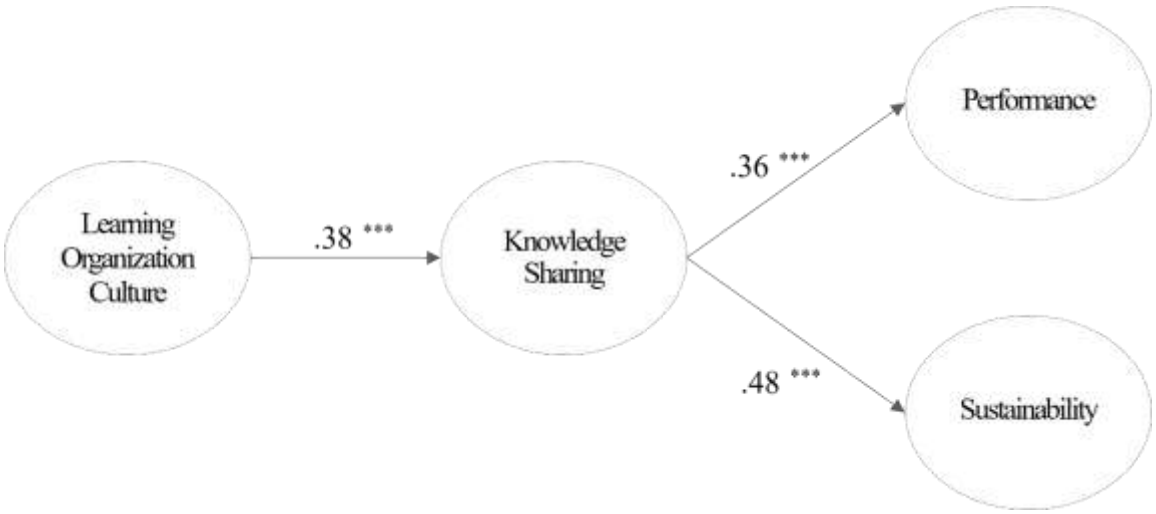

Figure 14

Alternative Model 2

Model Comparison

To decide on the final model, this study compared the expected model with two alternative models using goodness-of-fit measures, such as chi-square ($\chi^{\wedge 2}$), CFI, NFI, and RMSEA. Table 12 outlines these fit measures for all three models.

Table 12

Model Comparisons

Structural Models	$\chi^{\wedge 2}$	*df*	CFI	NFI	RMSEA	$\Delta\chi^2$
Hypothesized model	1731.57**	968	0.94	0.86	0.04	
Alternative 1	1870.58**	969	0.92	0.85	0.05	139.01
Alternative 2	2083.36**	971	0.90	0.83	0.05	212.78

Comparing the chi-square values between models, it's evident that the hypothesized model fits significantly better than alternative model 1 ($\Delta\chi^{\wedge 2} = 139.01;\ \Delta df = 1$), and alternative

model 2 ($\chi^{\wedge 2}$ = 212.78; Δdf = 2). The substantial differences in chi-square values indicate that the hypothesized model provides a significantly better fit to the data compared to the alternatives.

Additionally, an examination of the overall model fit statistics of the hypothesized model reveals favorable values across various indices ($\chi^{\wedge 2}$ = 1731.57. *df* = 968, CFI = .94, NFI = .86, RMSEA = .04). These indices collectively indicate a robust model fit, with high Comparative Fit Index (CFI) and Normed Fit Index (NFI) values, and a low Root Mean Square Error of Approximation (RMSEA), suggesting a minimal discrepancy between the model and observed data. Based on these findings, the hypothesized model emerges as the preferred choice for representing the underlying relationships within the data. Its superior fit and alignment with theoretical expectations make it the most suitable candidate for further analysis and interpretation, ultimately warranting its selection as the final model.

Hypothesis Testing

The SEM analysis provided a comprehensive assessment of the five hypotheses detailed in Chapter 3. Through a meticulous examination of path coefficients and the overall impact of constructs, the study gauged the strength of relationships between variables: learning organization culture, knowledge sharing, performance, and sustainability. A higher gamma (γ) signified more robust associations. For statistical significance ($p < .05$), the t-values needed to exceed the critical threshold of +/-1.96. Table 12 encapsulates the culmination of these analyses, offering a succinct summary of the hypothesis testing results and their implications. The final model that encapsulates the outcomes of the hypotheses is depicted in Figure 15.

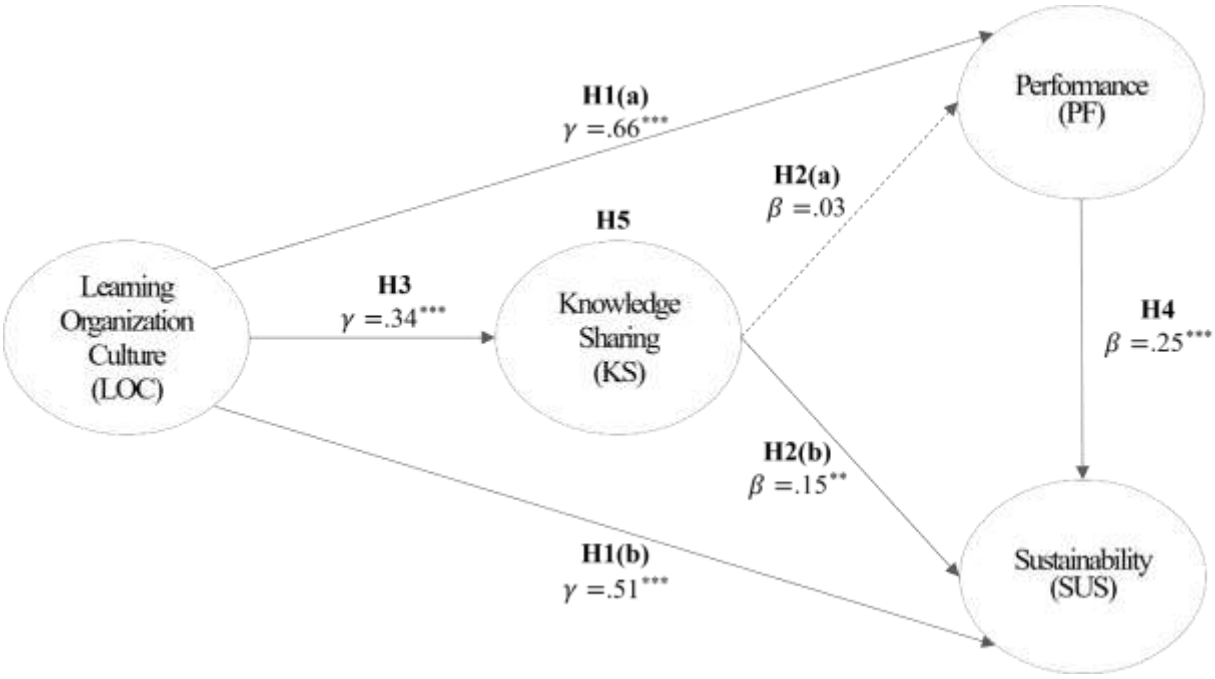

Figure 15

Final Model

Note: ⟶ significant path; ⇢ non-significant path; ρ < .05 (t > 1.96)

Learning organization culture and performance

Hypothesis 1(a) predicted learning organization culture will be positively associated with performance. This hypothesis was supported, as evidenced by a substantial path coefficient (γ=.66; t = 9.69), indicating a significant positive relationship between a learning organization culture and performance. Therefore, the data supports Hypothesis 1 (a).

Learning organization culture and sustainability

Hypothesis 1(b), which anticipated a positive relationship between a robust learning organization culture and heightened sustainability, received empirical support. The findings revealed a substantial and statistically significant impact of learning organization culture on

sustainability ($\gamma = .51,\ t = 8.20$). Consequently, Hypothesis 1(b) is supported by the findings.

Knowledge sharing and performance

Hypothesis 2(a) proposed that an increase in knowledge sharing would positively influence performance. However, the analysis appears to be non-significant in the relationship between them ($\beta = .03,\ t = 0.55$). Contrary to the expected positive impact stated in the hypothesis, the findings revealed an unexpected negative association between knowledge sharing and performance.

Knowledge sharing and sustainability

Supporting Hypothesis 2(b), the analysis convincingly demonstrated a direct positive effect of knowledge sharing on sustainability ($\beta = .15, t = 3.12$). This indicates that organizations that actively engage in knowledge sharing are more likely to enhance their sustainability practices. Therefore, Hypothesis 2(b) is strongly supported.

Learning organization culture and knowledge sharing

Hypothesis 3 postulated that a robust learning organization culture would positively correlate with enhanced knowledge sharing. The empirical analysis decisively supported this hypothesis. The study's findings uncovered a significant impact on knowledge sharing performance ($\gamma = .34,\ t = 6.42$). These findings strongly confirm the assertion.

Performance and sustainability

Hypothesis 4 proposed that a stronger performance would correspond to higher levels of

sustainability. The findings substantiated this hypothesis, revealing a robust path coefficient (β =.25; t = 4.76). This denotes a substantial and statistically significant relationship between performance and sustainability.

The mediating role of knowledge sharing

Regarding Hypothesis 5, this study scrutinized the mediating impact of knowledge sharing by exploring both direct and indirect effects through structural and competing models. The study employed the bootstrapping method in mediation analysis to accurately estimate the significance of indirect effects and their confidence intervals (Preacher & Hayes, 2008). Bootstrapping is a statistical technique that involves resampling the data to create multiple samples. While mediation analyses often use 1,000 to 5,000 bootstrap samples, this particular study opted for 5,000 bootstrap samples to ensure a robust assessment of the indirect effects and their associated uncertainties. By using a larger number of samples, the study aimed to obtain more stable and reliable estimates of the indirect effects.

Hypothesis 5 (a) posited that knowledge sharing mediates the relationships between learning organization culture and performance. The direct effect of learning organization culture on performance was strong (γ =.66), indicating that a robust learning organization culture is linked to better performance. The analysis revealed that while knowledge sharing does play a role in the relationship between a learning organization culture and performance, its impact on performance is relatively small. The indirect effect through knowledge sharing was minimal, with a value of .01. Nonetheless, when considering both the direct and indirect effects, the total effect of learning organization culture on performance was significant at .67. This indicates that learning organization has a substantial overall influence on performance, both directly and

indirectly through knowledge sharing. Therefore, Hypothesis 5(a) is supported by the findings.

Furthermore, hypothesis 5(b) proposed that knowledge sharing mediates relationships between learning organization culture and sustainability. The direct effect of learning organization culture on sustainability was significant (γ = .51), indicating that a strong learning organization culture is associated with higher sustainability. The indirect effect through knowledge sharing was substantial (γ = .22), suggesting that knowledge sharing plays a significant role in explaining the relationship between learning organization culture and sustainability. The total effect of learning organization culture on sustainability, considering both direct and indirect effects, was .73, indicating a strong overall influence of learning organization culture on sustainability, both directly and indirectly through knowledge sharing. These findings strongly confirm hypothesis 5(b). In summary, the findings provide strong support for the mediating role of knowledge sharing between a learning organization culture and both performance and sustainability.

Table 13 presents a summary of the hypotheses and outcomes obtained through the structural equation model analysis. The study highlights that learning organization culture (LOC) significantly impacts performance (PF) and sustainability (SUS). Knowledge Sharing (KS) also directly affects sustainability, yet its direct influence on performance is insignificant. Additionally, KS serves as a mediator between the LOC and both PF and SUS. It implies that the influence of LOC on PF and SUS partially operates through its impact on KS. The subsequent chapter delves deeper into the discussion of these findings.

Table 13

Summary of the Final Hypotheses Testing

Predictor/Dependent	Direct effect	Indirect effect	Total effect	Result
H1(a): LOC → PF	.66***	n/a	.66***	Supported
H1(b): LOC → SUS	.51***	n/a	.51***	Supported
H2(a): KS → PF	.03	n/a	.03	Not Supported
H2(b): KS → SUS	.15**	n/a	.15**	Supported
H3: LOC → KS	.34***	n/a	.34***	Supported
H4: PF → SUS	.25***	n/a	.25***	Supported
H5(a): LOC→ KS → PF	.66	.01	.67**	Supported
H5(b): LOC → KS → SUS	.51	.22	.73**	Supported

Notes: ** ρ <.01, *** ρ <.001

Summary

In this chapter, a series of statistical analyses were conducted to address the research questions, yielding significant findings. Initially, descriptive statistics, including means, standard deviations, and correlations among key constructs, were presented. Notably, a strong correlation of r= .67 between knowledge sharing and sustainability emerged as the highest among the variables analyzed. Following this, confirmatory factor analysis validated strong convergent validity, with all indicators surpassing the 0.64 threshold on their respective latent constructs. Subsequently, the hypothesized structural model and alternative models underwent thorough comparison to identify the best-fitting model based on goodness-of-fit criteria. Eventually, the final model (Hypothesized model) was selected. Ultimately, six out of the seven hypotheses found support. The outcomes validate robust direct effects of learning organization culture on

both performance and sustainability. Although knowledge sharing didn't exhibit a significant direct impact on performance, its mediated pathways through learning organization culture significantly influenced both performance and sustainability. This underscores their interconnected relationship within the model.

CHAPTER 5

CONCLUSIONS

This chapter presents a comprehensive summary of the research, discusses the findings, and addresses theoretical and practical implications. Moreover, it addresses limitations and proposes recommendations to guide future research.

Summary of Findings

Building upon the resource-based view (RBV) theory, this study aimed to determine how intangible resources (e.g., learning organization culture) and capabilities (e.g., knowledge sharing) impact a firm's performance and sustainability. The study sought to identify and implement the most impactful mechanisms that would not only enhance the firm's short-term performance but also significantly contribute to its long-term sustainability. Accordingly, the main purpose of this study was to examine the effects of learning organization culture and knowledge sharing on performance and sustainability.

The research questions for this study were:

RQ1: To what extent does learning organization culture predict performance and sustainability?

RQ2: To what extent does knowledge sharing predict performance and sustainability?

RQ3: To what extent does learning organization culture predict knowledge sharing?

RQ4: To what extent does performance predict sustainability?

RQ5: Does knowledge sharing mediate relationships between learning organization culture and performance and between learning organization culture and sustainability?

A survey was conducted with 373 employees from large companies in South Korea. Subsequently, this study examined the research hypotheses using a structural equation modeling (SEM) model.

The study's findings present compelling evidence: 1) a robust positive association exists between learning organization culture and performance, 2) a notable positive link is observed between a learning organization culture and knowledge sharing, 3) a significant relationship is identified between learning organization culture and sustainability, 4) knowledge sharing demonstrates a tangible impact on sustainability, and 5) a clear correlation is established between performance and sustainability. Despite these findings, the study did not find a significant association between knowledge sharing and performance. Regarding the mediating role of knowledge sharing, it serves as a mediator between learning organization culture and performance, as well as between a learning organization culture and sustainability. These results highlight the critical role of learning organization culture and knowledge sharing in enhancing organizational performance and sustainability.

Findings of this study are thoroughly discussed in detail in the following sections. Further, additional explanations are presented to clarify results that deviate from the initially hypothesized outcomes and are incongruent with previous studies.

Discussion of the Findings

To accomplish the objectives of this study, five research questions were formulated. The research summary is structured around five primary findings also, as each is elucidated with a specific relationship and detailed through statistical analyses corresponding to each question.

Finding 1. The Synergy of Culture and Knowledge: Learning Organization as the driving force of performance.

Learning organization culture and knowledge sharing

Organizational learning theory is a framework that explores how organizations acquire, retain, and apply knowledge to improve their performance over time through learning. The learning organization culture serves as the cornerstone, laying the foundation for an environment that values, encourages, and rewards knowledge sharing (Cabrera & Cabrera, 2002). Within this framework, a collaborative and innovative atmosphere emerges, where employees inherently grasp the significance of knowledge sharing. Specifically, according to Lee and Jin (2023), when employees recognize learning organization culture within their organization, it significantly heightens their motivation to embrace and align with this cultural framework. In this enriching environment, knowledge sharing naturally flourishes through spontaneous, informal interactions, emphasizing the authentic and ingrained nature of collaborative knowledge exchange within this supportive setting.

Based on theory and research, predictions were made regarding how learning organization culture affects knowledge sharing. Hypothesis 3 posited that learning organization culture would be positively associated with knowledge sharing. The study's sample supported hypothesis 3, revealing a significant and positive relationship between the learning organization and knowledge sharing. This study reaffirmed previous findings and added the significant insight that learning organization culture actively motivates employees to share their knowledge. For instance, Ahmad Qadri et al. (2021) asserted that learning organization culture is a vital determinant of knowledge sharing. However, previous studies examining the relationship between learning organization culture and knowledge sharing have not sufficiently increased

generalizability (Park & Kim, 2018; Jo & Joo, 2011; Yang, 2007). For example, Park and Kim (2018) gathered data from only one manufacturing organization in Korea, which limits the generalizability of their findings. It is suggested to extend research to other organizational contexts to provide a more comprehensive understanding of the relationship between learning organization culture and knowledge sharing. To fill this research gap, this study investigated six major organizations in South Korea spanning diverse industries, including vehicle, steel, oil, paper, chemical, and finance. Additionally, it examined various demographic factors such as age, education, position, workplace experience, and type of job. By doing so, this study aims to significantly enhance the field's understanding of the connection between learning organization culture and knowledge sharing in organizational contexts, offering a more holistic and broadly applicable insight.

In sum, Alshammari (2020) uncovered a pivotal insight that organizational learning and knowledge sharing are interrelated, functioning as the dual wheels of a cart that synergistically contribute to overall firm performance. The research underscores that the integration of these two elements is not merely additive but multiplicative in its effects on organizational outcomes. Knowledge sharing facilitates the dissemination of critical information and best practices across the organization, while organizational learning ensures that these insights are absorbed, internalized, and applied effectively.

As a result, organizations that cultivate both knowledge sharing and organizational learning create a dynamic learning environment where continuous improvement and innovation thrive. This synergy enhances adaptability, resilience, and firm performance, leading to superior sustainability. Therefore, this study will serve as a driving force in highlighting the importance of fostering an interconnected culture of learning and knowledge sharing within the organization.

By doing so, it aims to provide a framework for organizations to enhance their strategic capabilities and achieve sustained success.

Learning organization culture and performance

Learning organization culture refers to a set of norms or values that support the learning of individuals, groups, or organizations. The learning process leads to a behavioral change to convert words into action, which results in an impact performance improvement (Škerlavaj et al., 2007; Kim et al., 2017). In the contemporary landscape, organizations recognize a crucial competitive edge in their capacity to learn and adeptly respond to challenges arising from both internal and external business environments. This acknowledgment underscores the significance of learning organization culture as a cornerstone for success and adaptability. As stated in hypothesis 1 (a), learning organization culture will be positively associated with performance. This hypothesis was supported by empirical data from the sample. Learning organization culture had a statistically significant and positive relationship with performance. This result is in accord with the findings of previous studies indicating a positive relationship between learning organization culture and performance (Ahmad Qadri et al., 2021; Hussein et al., 2016; Song, & Kolb, 2013; Wahda, 2017). For instance, Martinez-Costa and Jimenez-Jimenez (2009) compellingly illustrated that organizations actively embracing a learning paradigm possess a heightened ability to sense and respond to events, trends, and market changes, thereby positively affecting performance. Ahmad Qadri et al.'s (2021) study emphasized the role of learning organization culture in enhancing organizational performance. Their findings underscore the crucial role of learning organization culture in facilitating performance improvement. Particularly in the context of the pandemic, the study highlighted that a strong learning organization culture serves as a catalyst, enabling both employees and companies to adapt by

continuously renewing, creating, interpreting, and implementing knowledge. Ultimately, this research suggests that cultivating a robust learning organization culture helps to address immediate challenges and sustains competitiveness during crises.

This study significantly advances our understanding by identifying specific dimensions of learning organization culture that greatly enhance performance. These dimensions, including continuous learning, dialogue and inquiry, team learning, empowerment, embedded systems, system connection, and strategic leadership (Marsick & Watkins, 2003), were found to be pivotal in influencing performance outcomes. Particularly, inquiry and dialogue, coupled with strategic leadership as dimensions of learning organization culture, were identified as closely related to performance. The correlation between dialogue and inquiry and performance stands at $r = .19$, indicating a statistically significant relationship ($p < .05$). Moreover, the correlation between strategic leadership and performance is even stronger at $r = .28$, demonstrating a highly significant association ($p < .001$). Encouraging dialogue and inquiry, which foster questioning, feedback, and experimentation, promotes collective thinking and communication, contributing to performance. Additionally, fostering strategic leadership that actively supports and advocates learning has demonstrably also led to improved performance.

Empirical studies investigating the relationship between learning organization culture and performance have assessed various performances such as financial performance, knowledge performance, and innovative performance (Ellinger et al., 2002; Fuentes, 2008; Ju et al., 2021). For instance, Hung et al. (2010) utilized real financial data such as productivity, profit, total sales, and customer satisfaction. However, the authors argued that these measures may not objectively capture performance. Ellinger et al. (2002) also employed a limited number of secondary financial performance measures, such as ROE, ROA, Tobin's q, and MVA, to assess

the relationship between dimensions of the learning organization and performance. Their study indicated a recognition of the potential limitations of the current approach, suggesting the use of alternative performance metrics beyond financial indicators. In contrast, this study examined the impact of both knowledge performance and financial performance using DLOQ measures, which are known for their high validity and reliability, demonstrating a positive correlation with the learning organization culture. Watkins and Kim (2018) emphasized the necessity of conducting further research to comprehensively investigate and unpack the dynamic of knowledge performance. This study has successfully contributed to fulfilling that need by providing evidence and insights that support their assertion.

In addition, Kim et al. (2017) proposed that future research should expand its scope by employing alternative data collection strategies and including a more diverse global sample to account for various cultural and organizational contexts. This study, however, exceeds this recommendation by specifically incorporating non-Western cultures. Non-Western cultures often have unique values, beliefs, and ways of working that can impact how learning organization culture is perceived and implemented (Song, 2008). By including these cultures, the study can provide a more nuanced understanding of how cultural differences influence the effectiveness of learning organization culture in enhancing performance.

Significantly, Kim et al. (2008) emphasized that the performance-oriented paradigm is predominant in Korean HRD, highlighting the need to demonstrate HRD intervention results through measurable, visible, and controllable outcomes to persuade HRD stakeholders effectively. This study's results are particularly significant as they contribute to a deeper understanding of how learning organization and HRD practices can be utilized to achieve concrete outcomes in the Korean HRD context. The findings offer valuable insights into

designing and implementing HRD interventions that are impactful and compelling to key stakeholders in HRD decision-making processes.

Finding 2: The Paradoxical Dynamics of Knowledge Sharing Impact on Organizational Performance

Knowledge Sharing and Performance

The effectiveness of organizations is significantly influenced by the active participation of employees in both implicit and explicit knowledge-sharing endeavors. The impactful engagement of employees in knowledge-sharing activities plays a pivotal role in shaping and enhancing organizational performance (Han et al., 2019; Wang et al., 2014). Empirical evidence from previous studies identified a significant effect of knowledge sharing on performance, affirming the expectations derived from the social capital theory that emphasizes the role of social interactions in the acquisition of knowledge, skills, and behaviors (Du et al., 2007; Law & Ngai, 2008). Moreover, a multitude of studies explored motivational factors that enhance knowledge sharing and its subsequent impact on performance. For instance, Han (2015) posited that knowledge sharing is correlated with four determinants: social interaction, a sense of duty, trust, and enjoyment. Therefore, this study formulated Hypothesis 2 (a), positing that knowledge sharing will be positively associated with performance. However, the sample in this study did not support Hypothesis 2 (a). Contrary to the study's hypothesis, no correlation was found between knowledge sharing and performance. In this context, Matzler and Mueller (2011) argued that knowledge sharing is a time-consuming process that dcoes not yield immediate success. The impact of shared knowledge may take time to manifest, as individuals must absorb, apply, and integrate new knowledge into their work or decision-making processes. Rather, the value of knowledge sharing may become more apparent in the long term, leading to improved

performance, innovation, and problem-solving within an organization (Lin & Chen, 2008). This aspect will be further explored in the findings regarding the relationship between knowledge sharing and sustainability.

While knowledge sharing is crucial, its impact on performance is influenced by various contextual factors and the extent to which it is integrated into organizational processes and culture (Intezari et al., 2017; Sonmez Cakir & Adiguzel, 2020). Therefore, this study strongly supports previous assertions regarding the need to examine the factors that hinder or facilitate knowledge sharing, as well as the mediating effects of knowledge sharing, to ensure its positive impact on performance (Akram et al., 2020; Han, 2015; Wu & Zhu, 2012).

Finding 3: Knowledge Sharing as the Catalyst: A Mediator of Learning Organization Culture's Impact on Performance and Sustainability.

The mediating role of knowledge sharing between learning organization culture and performance

When knowledge is used efficiently, it leads to learning within the organization. This process enhances the organization's overall knowledge base, contributing to improved performance (Darroch & McNaughton, 2002). Nevertheless, literature on organizational learning consistently emphasizes the overlooked influence of knowledge sharing (Kordab et al., 2020). Addressing this gap by recognizing and studying the impact of knowledge sharing is vital for advancing our understanding of organizational learning and improving organizational performance. Accordingly, the investigation turned its focus to Hypothesis H5 (a), which posits that knowledge sharing will serve as a mediating factor in the dynamics of learning organization culture. The data provided substantial support for this aspect of the hypothesis. It suggests that instead of a direct positive correlation between knowledge sharing and performance, the intricate

interplay between knowledge sharing and the context of learning organization culture plays a significant mediating role in influencing overall outcomes. The outcome of this study was in agreement with the research by Song and Kolb (2013), whereby they illustrated that the process of knowledge creation acts as a mediating factor in forecasting the perceived enhancement in organizational financial performance within the context of learning organization culture. A study conducted in the hospitality industry by Terry Kim et al. (2013) demonstrated a positive correlation between knowledge sharing and organizational performance, particularly through the knowledge sharing behaviors of knowledge collecting and knowledge donating.

Obeidat et al. (2016) suggested the importance of further investigating the impact of contextual factors, such as company size, age, and industry type, on the mediating role of knowledge sharing. Consistent with this recommendation, our study conducted comprehensive data collection across six diverse industries in South Korea, considering these contextual factors. Despite our meticulous approach, the analysis did not reveal any significant findings suggesting a varying mediating role of knowledge sharing based on these contextual factors. This indicates that, within the scope of our study, the influence of knowledge sharing on organizational performance remained consistent across different company sizes, ages, and industry types.

Ultimately, the success of organizations is heavily reliant on knowledge and management (Ma & Wang, 2008). The absence of a direct relationship between knowledge sharing and performance suggests that merely increasing the volume of knowledge sharing may not lead to immediate performance enhancements. Rather, the study indicates that strategic implementation, prioritizing quality over quantity, and alignment with the learning organization culture are critical for achieving positive performance outcomes. This nuanced perspective

enriches our comprehension of how knowledge sharing impacts overall performance within the context of a learning organization framework.

The mediating role of knowledge sharing between learning organization culture and sustainability

In today's fast-paced business environment, organizations must adopt efficient knowledge management and organizational learning practices to adapt quickly and improve sustainability. Particularly, in transforming an information society into a knowledge society, organizational learning is considered an essential factor (Kordab et al., 2020). Therefore, conducting in-depth research on key aspects of knowledge sharing is crucial for gaining insights into effective strategies and practices that drive organizational success and competitiveness (Tubigi & Alshawi, 2015). As stated in hypothesis 5 (b), knowledge sharing will serve as a mediating factor in the relationship between learning organization culture and sustainability. Numerous studies have indicated that knowledge sharing facilitated organizational culture to direct the organization toward sustainable performance. This finding also supported previous research on the mediating role of knowledge sharing in the body of sustainability context. For instance, Hossain et al., (2022) recognized that the mediated role of knowledge management in the link between organizational culture and sustainable performance is also crucial, and the relationship between leadership style and sustainable performance is also vital. However, recent studies on the mediating role of knowledge sharing in sustainability have primarily been conducted in fields other than HRD, such as agriculture (Sapta et al., 2022), business environment (Kordab et al., 2020), manufacturing (Al Koliby et al., 2022), and the textile sector (Hossain et al., 2022). Consequently, this study is the first attempt to explore the mediating role of knowledge sharing on sustainability within the HRD context.

One of the primary challenges in implementing knowledge management in organizational processes is an unsupportive organizational culture. This barrier can significantly impact the success of knowledge management initiatives, leading to inconsistencies in research findings on the influence of organizational culture on knowledge sharing for sustainability practices (Adeinat & Abdulfatah, 2019; Sapta et al., 2022). Sustainability requires organizations to adopt new practices and approaches that may be unfamiliar to employees (Schneider et al., 1996). Without a culture that values learning and experimentation, employees may resist these changes, making it difficult to implement sustainable practices effectively. Accordingly, this study provides compelling evidence that an organizational culture that promotes continuous learning fosters knowledge sharing and enhances sustainability practices. In turn, a supportive culture that values learning, and knowledge sharing is essential for driving innovation and implementing sustainable practices. Organizations that prioritize the development of such a learning organization culture are more likely to excel in their knowledge management and sustainability endeavors, ultimately leading to long-term success and competitiveness.

Finding 4

Cultivating Sustainability through Learning Organization Culture: Unveiling the Dimensions of Resilience

Learning organization culture and sustainability

Learning organization culture was found to have a substantial significance and positive relation to sustainability, as stated in hypothesis 1 (b). A robust learning organization culture stands as a precursor for the sustained success of a firm. The learning organization culture of

continuous learning establishes a solid foundation for adaptability, fostering innovation, and perpetuating a cycle of ongoing improvement. Besides, a culture that prioritizes learning facilitates effective knowledge utilization, promoting sustained growth and resilience over the long term. In essence, a positive learning organization culture is likely to play a crucial role in supporting the sustainability of the firm.

This study significantly deepens our understanding by identifying specific dimensions of learning organization culture that substantially enhance a firm's sustainability. As regards the learning organization culture sub-dimension, the correlation between dialogue and inquiry on sustainability is notably strong at $r = .23$, highlighting a statistically significant relationship ($p < .001$). This suggests that fostering a learning organization culture of open dialogue and inquiry can positively impact a firm's sustainability efforts. Moreover, the correlation between strategic leadership and sustainability is more compelling, standing at a robust $r = .49$, signifying a highly significant association ($p < .001$). This finding suggests that fostering a culture of open dialogue and inquiry can positively impact a firm's sustainability efforts. This parallels the significant relationship observed between learning organization culture, particularly in terms of dialogue and inquiry strategic leadership, and performance. It suggests that organizations with a strong learning culture tend to excel across various metrics, including sustainability.

In addition, the findings of this study align with the results of previous studies that described how learning organization culture influences sustainability (Bilan et al., 2020; Prugsamatz, 2010). Bilan et al. (2020) explored the vital role of organizational learning in enhancing the relationship between organizational capabilities, corporate governance, and a firm's sustainability. Organizational learning is commonly perceived as the “detection and correction of error.” As such, error represents the disparity between organizational aspirations

and actual achievements (Argyris & Schön, 1978). The cultivation of learning organization culture involves actively developing and refining organizational productivity, achieved by transforming lessons learned into operational practices and principles. Moreover, the profound advantage of organizational learning is its capacity-building impact, empowering organizations to engage in innovative processes (Prugsamatz, 2010). This newfound capability enables the proactive exploitation of opportunities, thereby contributing to the building and sustainable growth of the organization. Consequently, this impact extends beyond individuals, enveloping the entire organization and culminating in the advancement of firm sustainability.

Compared to prior studies, this research significantly advances the field by establishing a new connection between sustainability's triple bottom line and a learning organization's culture. The current state of sustainability literature is still nascent, lacking clear definitions, scopes, and measurement tools, which limits the expansion of knowledge in HRD contexts (Lee et al., 2024). This study provides compelling evidence that organizational learning culture is strongly and positively associated with the triple bottom line, encompassing environmental, economic, and social sustainability. Through rigorous examination of the validity and reliability of its instruments, the research strengthens its findings and establishes a solid foundation for further exploration. By establishing this link, the research enhances our understanding of sustainability within HRD contexts and emphasizes the critical role of organizational culture in driving sustainable outcomes.

Moreover, according to the Resource-Based View (RBV) theory, organizational culture becomes distinct as a critical intangible resource that significantly impacts a firm’s performance and long-term sustainability. Particularly, when organizational culture meets the VRIN criteria—being valuable, rare, inimitable, and non-substitutable—it becomes a fundamental driver of

competitive advantage. In this context, the current study provides compelling evidence to support the theoretical framework, demonstrating a strong link between organizational learning culture and sustainability. By thoroughly examining the relationship between organizational learning culture and sustainability, the research validates the theoretical approach and enriches our understanding of this connection.

Knowledge sharing and sustainability

Organizations gain a sustainable advantage based on their ability to create and share their intellectual information. Developing and implementing impactful knowledge-sharing strategies are crucial to consistently achieving success (Ishak et al., 2010). The core of the firm's competitive advantage lies in its adept and strategic management of knowledge sharing dynamics (Han et al., 2016)

Essentially, knowledge sharing cultivates an innovative culture, enabling individuals to exchange ideas, insights, and expertise (Yeşil et al., 2013). This sharing process empowers organizations to adapt to changing environments and promotes more efficient problem-solving, resulting in effective solutions (Carmeli et al., 2013). Encouraging knowledge sharing and establishing a learning environment is essential for organizations to capitalize on their intellectual assets, achieve a competitive edge, and ensure long-term success (Lundberg, 1995). Moreover, knowledge sharing enhances resource utilization; when information is shared efficiently, resources can be allocated more effectively, yielding cost savings and improved sustainability (Titi Amayah, 2013). Accordingly, knowledge sharing establishes a positive and dynamic organizational environment that nurtures innovation, learning, and adaptability—critical elements for an organization's sustained success and thriving in the long term.

Building upon prior empirical research, the study formulated Hypothesis 2 (b), asserting a positive association between knowledge sharing and sustainability. This finding reveals a significant relationship between knowledge sharing and sustainability. Notably, the existing body of literature on the correlation between knowledge sharing and sustainability remains limited.

Martin's (2019) systematic literature review suggested a sectoral analysis of how knowledge management could be implemented across various industry branches. As such, the current study conducted a comprehensive sectoral analysis, examining the practical implementation of knowledge management strategies in different industry sectors. Their findings also highlighted that previous research has investigated the relationship between sustainability and knowledge sharing using various research strategies, including Partial Least Squares Structural Equation Modeling (PLS-SEM), Document Analyses, and Stochastic Ordering Test. However, this study expanded to employ Structural Equation Modeling (SEM) to examine this relationship. This method offers a comprehensive analysis, enabling a more nuanced understanding of the complex interplay between sustainability and knowledge sharing. Further, existing studies in literature examining the relationship between knowledge sharing and sustainability are predominantly published in "sustainability" journals. However, these studies often neglect the field of human resource development (HRD). This indicates a gap in the literature regarding the impact of knowledge sharing practices within HRD contexts on sustainability outcomes. Thus, this study serves as a noteworthy contribution to the understanding of the dynamics inherent in knowledge sharing, particularly in the context of sustainability within the HRD domain.

Finding 5: Sustainability as Strategic Opportunity: Harmonizing Performance with Long-Term Organizational Resilience.

Performance and Sustainability

Over the last three decades, there has been a swift movement towards sustainability, with organizations harnessing it as a strategic advantage over competitors (van Oppen & Brugman, 2009). Wernerfelt (1984) asserted that organizations strive to obtain and enhance their resources and abilities, including knowledge sharing and culture, to boost their performance and gain a competitive edge. The commitment to sustainability by firms plays a crucial role in nurturing and attaining superior organizational performance and productivity in various markets and environments.

By exploring the interplay between performance and sustainability, Funk (2003) emphasized that sustainability is intricately connected to the ability to enhance performance over the long term. Simply put, sustainability encompasses a varied set of practices that, when strategically implemented, prompt sustained and meaningful improvements in overall performance, spanning economic, social, and environmental aspects. Expanding this perspective, Pereira-Moliner et al. (2021) contend that the relationship between performance and sustainability is synergistic, suggesting a mutually reinforcing dynamic.

The study gauged performance utilizing a scale adapted from Marsick and Watkins' (2003) Dimensions of the Learning Organization Questionnaire (DLOQ). This comprehensive scale assessed both financial performance and knowledge performance. Marsick and Watkins (2003, p. 139) described "knowledge performance" as the process of creating and enhancing products and services through the utilization of learning and knowledge capacity. In this context,

the DLOQ emerged as a robust instrument, capturing a broad spectrum of sustainability concepts.

Further, there is a mounting expectation for sustainability in the HRD domain to prioritize learning sustainability and to emphasize social, environmental, and economic goals (Sajan et al., 2017; Wiengarten & Longoni, 2015; Yusoff, 2019). In alignment with this broader perspective on sustainability, this study utilized the comprehensive nine-item scale developed by Padin et al. (2016). This scale, rooted in the triple-bottom-line approach, allows for a nuanced assessment encompassing social, environmental, and economic dimensions, offering a more detailed and holistic measurement of sustainability in organizational contexts.

Aligned with hypothesis 4, the study anticipated a positive correlation between performance and sustainability. The survey results strongly affirm this expectation, providing compelling evidence for a robust and affirmative relationship between performance and sustainability. Notably, this study contributes to the HRD literature by pioneering the measurement of the relationship between performance, as assessed by the DLOQ, and sustainability.

Implications

In this section, the study proposes theoretical and practical applications in the HRD context. The current study yields significant implications, contributing novel insights to HRD research, fortifying existing HRD theories, and providing valuable guidance for HRD practitioners to enhance their organization's performance and sustainability.

Theoretical Implications

The findings of this study extend previous research in four pivotal ways, significantly broadening our understanding and contributing valuable insights to the existing body of knowledge.

Significantly, this research more convincingly extended the measurement of the effectiveness of HRD intervention beyond short-term outcomes to encompass the concepts of long-term output and performance. Indeed, as highlighted by Swanson and Holton (2001), the central goal of HRD practices is to systematically boost performance by harnessing and advancing human knowledge, thereby, there has been extensive discourse among scholars regarding the evaluation and measurement of HRD interventions. This ongoing debate revolves around the challenge of determining how to effectively measure the outcomes and impact of various HRD initiatives. For instance, Alagaraja (2013) contended that the HRD and performance domain has predominantly embraced a prescriptive approach, emphasizing explicit guidance and instruction rather than fostering an environment for experimentation, learning, and adaptation with a long-term perspective responsive to evolving circumstances. Jacobs and Washington (2003) advocated for exploring the connection between employee development programs and organizational performance. In this respect, Watkins and Marsick's (2003) groundbreaking research on the learning organization stands out as one of the most significant contributions in establishing the linkage between HRD and organizational performance, encompassing both knowledge performance and financial performance.

One glaring deficiency is that scholarly inquiry frequently fails to surpass its limitations, callously dismissing a sustained, long-term emphasis on training, learning, and development (Alagaraja, 2013). This short-term orientation in HRD, as highlighted by Yorks (2005),

manifests in the prioritization of immediate objectives within training, performance management, and talent management. The goal is to achieve quick, tangible impacts on organizational outcomes. This inclination arises from stakeholders' preference for rapid growth and development, often sidelining the importance of long-term learning and individual growth (Kim et al., 2008). As a result, the emphasis on immediate progress may inadvertently marginalize the perspectives of learners. This influence on decision-making processes concerning learning programs has the potential to overlook the intricacies of learners' needs and their preferred approaches to learning. In the long run, this dynamic could impact the overall efficacy and sustainability of HRD strategies within the organizational context.

Accordingly, it remains essential for HRD to recognize the importance of long-term output and performance and to understand that sustainable success and growth necessitate a focus on strategic, enduring outcomes. This does not imply ignoring short-term objectives. Rather, balancing both short-term and long-term perspectives is crucial for the development of comprehensive and effective human resource strategies and aligning the business goals of organizations. In this progress, HRD should gradually instill behavioral changes, foster continuous skill enhancement, promote organizational learning and knowledge sharing, and embed a sustainable mindset among employees, ensuring enduring impact and adaptability (Ardichvili, 2012).

This study proposes the long-term learning organization model rooted in the RBV theory, as depicted in Figure 16. This model portrays the organization as a dynamic entity where both intangible resources and capabilities play pivotal roles in shaping competencies and subsequent outcomes. Within this organizational framework, both intangible resources (such as organizational culture, values, beliefs, and attitudes) and capabilities (including knowledge

sharing, human capital, skills, innovativeness, and social capital) converge to form competencies, translating words into tangible actions. These competencies yield competitive advantages, driving short-term performance improvements and ensuring long-term sustainability. Then, there is a reinvestment in the intangible resources and capabilities of the learning organization, which serves to reinforce and coordinate its functions and competencies, ensuring its ability to adapt and thrive in a rapidly changing business environment. This reinvestment enhances the organization's ability to adapt to changing environments, drive innovation, and meet market demands effectively.

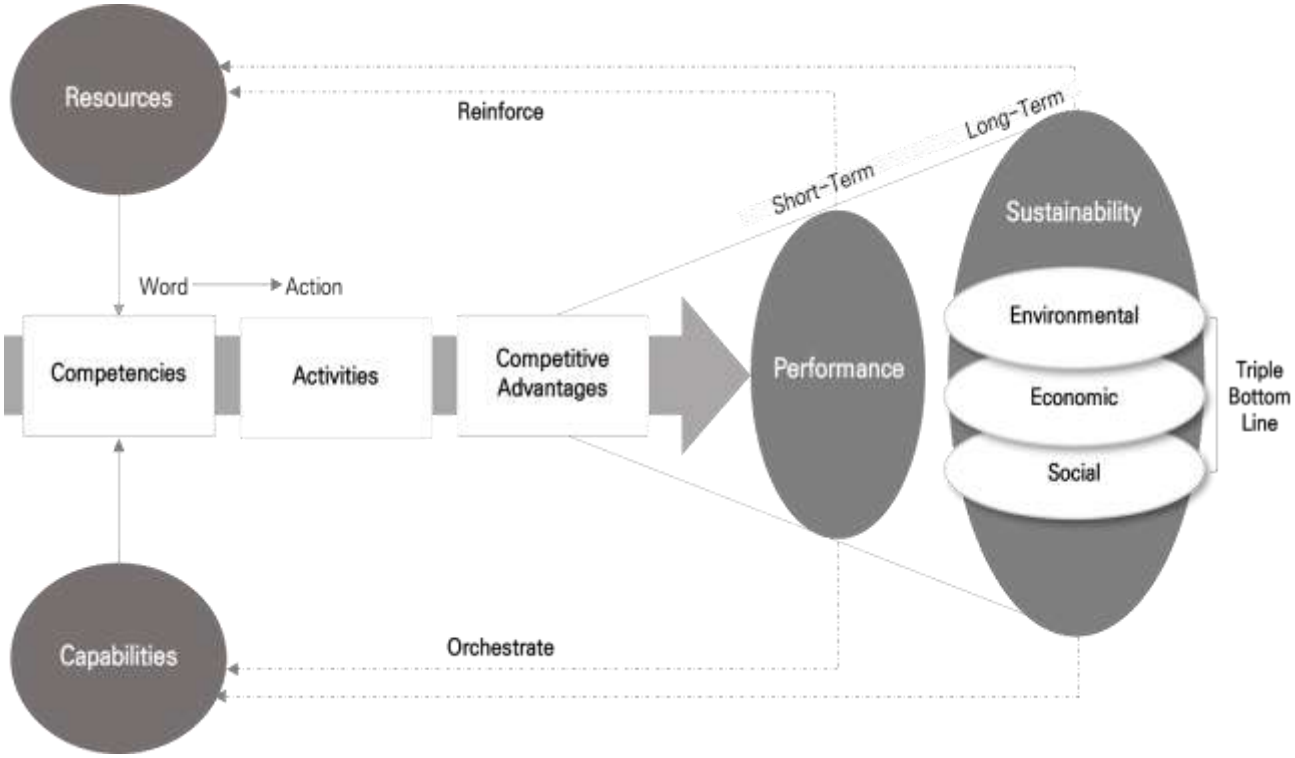

Figure 16

Long-Term Learning Organization Model, Source: Adapted from Sebastian et al. (2017)

Further, this study unequivocally validates the RBV theory, demonstrating that intangible resources, such as learning organization culture, and capabilities, particularly

knowledge sharing, robustly and positively contribute to explaining a firm's performance and long-term sustainability in the HRD context (Barney, 1991). This highlights the argument that effective management necessitates concentrated effort on identifying and strategically utilizing resources and capabilities not only to enhance organizational performance but also to attain sustainable success. Particularly, the RBV framework lacks more convincing evidence to ensure the sustainability of competitive advantage (Zafar et al., 2016). In response, the current study presents substantial evidence to enhance our understanding of RBV theory. This aim is achieved by introducing sustainability variables and incorporating them as dependent variables alongside the performance variable. While early literature on RBV primarily emphasized tangible assets within a firm's control, a substantial body of research has shifted toward evaluating the effectiveness of intangible resources and capabilities (Dierickx & Cool, 1989). Notably, organizational learning culture emerges as a crucial determinant of organizational performance (Barney, 1991). To comprehensively elucidate the processes leading to sustainable competitive advantage, it is imperative to integrate organizational learning culture into the RBV theory (Zafar et al., 2016). In addition, knowledge sharing assumes a pivotal role in cultivating and leveraging intangible resources that significantly contribute to a firm's competitive advantage and long-term sustainability (Arsawan et al., 2020). Recognizing and integrating both the dimensions of intangible resources and capabilities, this study contributes to a more sophisticated understanding of the intricate dynamics governing sustainable competitive advantage within the HRD field.

Moreover, this study leads the way in pioneering sustainability research within HRD literature. Existing sustainability research has predominantly focused on business, market, and management domains (Büyüközkan & Karabulut, 2018; Keeble et al., 2003). HRD experts have passionately expressed their commitment to sustainability but have struggled to translate this

commitment into concrete actions and research responsibilities (Alfred et al., 2020; Randev & Jha, 2022). In the realm of sustainability within HRD literature, terms such as "sustainable HRD," "learning sustainability," and "green HRD" are frequently used (Deshpande & Srivastava, 2023; M. Waite, 2013; Randev & Jha, 2023). However, if these terms are used in the context of HRD without scholarly connections and substantive practical implementation strategies, they are susceptible to being perceived as greenwashing. In other words, greenwashing can occur when organizations only claim to prioritize sustainable practices in their human resource strategies without actually implementing meaningful or effective sustainability initiatives. This oversight can result in a lack of genuine efficacy or meaningful impact on sustainability within the organization. Moreover, as asserted by Lee et al., (2024), sustainability has been predominantly explored conceptually or theoretically, lacking empirical evidence and consensus on crucial aspects like measurements, constructs, and theories. Specifically, existing sustainability instruments often lack clarity or encompass overly broad scopes, hindering precise measurement. To address these challenges, this study provides a comprehensive examination of sustainability in the context of HRD. By employing a robust methodology and a nuanced approach, these empirical findings offer insights that bridge the gap between theory and practice. Moreover, while some studies define learning sustainability as the maintenance of continuous learning, few of these have undergone empirical examination, and evidence of validity is scarce. In this regard, this study adopts an innovative approach by employing the triple-bottom-line framework to measure sustainability, encompassing social, environmental, and economic dimensions. Through deliberate efforts, the study makes a substantial contribution by delivering a comprehensive assessment that acknowledges the multifaceted nature of sustainability across diverse dimensions.

Lastly, this study adds to previous learning organization culture and knowledge-sharing research as it examined data gathered from South Korea. Considering that the majority of studies in empirical research have been conducted in Western countries, there is a need for more research on how cultural differences affect learning organization culture and knowledge sharing in emerging economies that affect a firm's performance and sustainability. Despite the valuable insights offered by prior studies assessing the impact of learning organization culture on performance using the DLOQ framework in the South Korean context (Jo & Joo, 2011; Song, 2008; Song & Kolb, 2013), it is noteworthy that these investigations occurred a decade ago. In light of the ever-evolving nature of organizational dynamics, there is a compelling necessity to revalidate and contemporize these findings. As a result, additional evidence supporting construct validity within a Korean cultural context has been presented. This study reaffirms that the DLOQ consistently generates reliable and valid scores in Korea. Importantly, it suggests that cultural differences between the US and Korea do not appear to impact precision or consistency. The study additionally furnished compelling evidence of Korea's distinct national cultural characteristics in the arena of knowledge sharing, underlined by a formidable level of reliability (Cronbach's alpha values of .92 and .93.). Ultimately, it firmly establishes that the dimensions of knowledge sharing play a statistically influential role in shaping the learning organization culture within Korean organizations. Concerning the sample framework, all participants were employees of six major Korean firms, each employing a minimum of 5,000 individuals, representing diverse sectors including vehicle, steel, oil, paper, chemical, and finance. This comprehensive demographic composition reinforces the robust generalizability of the study results.

Practical Implications

The research findings furnish management and HRD practitioners with crucial insights on the nexus between learning organization culture, knowledge sharing, and their impact on performance and sustainability. From a practical standpoint, this study offers a wealth of applications for management and HRD practices, seamlessly aligning with existing literature.

First, HRD professionals should adopt a comprehensive and strategic approach to cultivate learning organization culture in a long-term view, integrating it into HRD systems and plans. Despite extensive literature emphasizing the importance of cultivating a learning organization culture, practical examples of organizations effectively embodying such a culture remain scarce. Particularly in Korean businesses, there is some support for a learning-oriented culture, but this backing has been incomplete or limited. This may be due to a focus on short-term results and efficiency, which can sometimes conflict with the long-term perspective required for fostering a learning culture. In this regard, Garvin et al. (2008) argued that HRD practices often exhibit a myopic view, focusing primarily on immediate and tangible aspects (the trees) rather than adopting a broader, long-term perspective (the forest). As asserted by Watkins and Marsick (1993, 1996), organizations must establish a learning organization culture and effectively manage knowledge sharing practices at all levels, including individual, team, and organizational levels. These changes must be translated into new practices and routines that enable and support the ability to use learning to improve performance.

Organizations are increasingly focused on building future competitive advantages, which requires them to balance their short-term and long-term needs through temporal ambidexterity. Organizations must incorporate long-term considerations into their business strategies by balancing short-term and long-term perspectives (Kim et al., 2019). Firms that effectively

integrate short and long-term strategies are more likely to comprehend the complexity of change and the necessity for integrated, multi-dimensional solutions. A long-term view entails gradual improvements rather than a dramatic shift, evolving as a process rather than as a discrete moment. In this regard, James (1890) noted the necessity of a mindset shift, comparing it to riding a saddleback rather than balancing on a knife edge. This analogy emphasizes the need for a gradual, balanced approach to change, where progress is steady and sustainable, rather than precarious and abrupt.

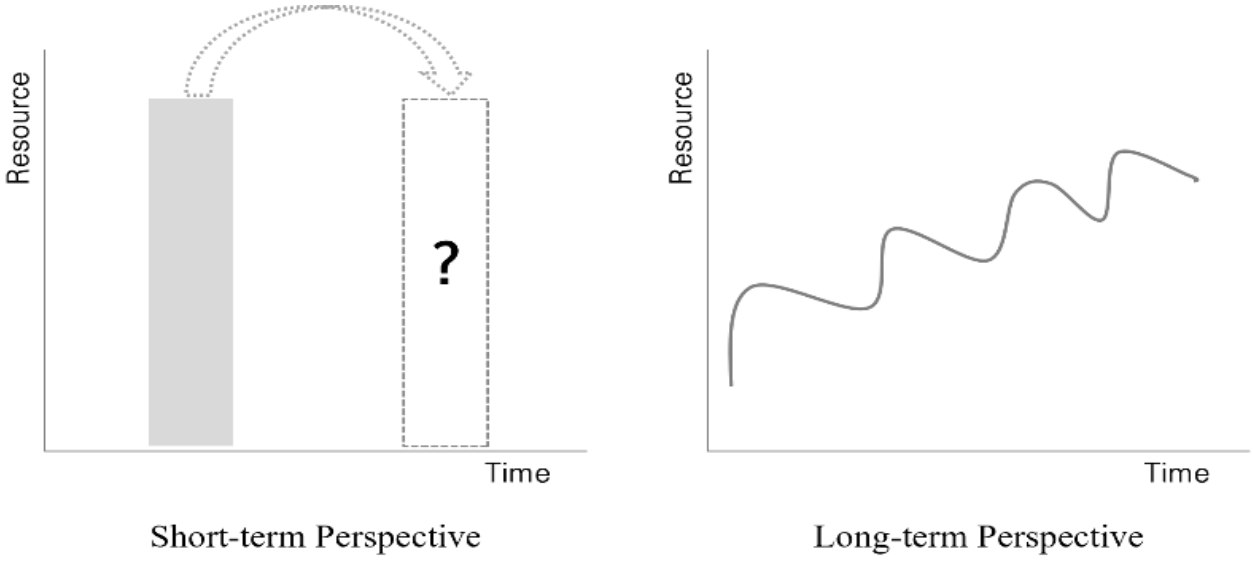

Figure 17

Long-Term Perspective in Learning Organization, Source: Adapted from Kim et al. (2019)

Similarly, learning organization also requires a long-term perspective. A short-term focus on immediate needs and outcomes, without consideration for the future, can lead to unsustainable practices, as illustrated in Figure 17. In a learning organization, a short-term perspective might prioritize quick fixes like short-term training programs or initiatives that address immediate skill gaps or performance issues. While these initiatives can lead to

immediate improvements, they may not necessarily foster long-term learning or organizational development. Conversely, a long-term perspective focuses on creating a culture of continuous learning and improvement, encouraging employees to continually develop their skills and knowledge. This approach can lead to improved performance, and ultimately, long-term success for the organization comprehensively. The cultivation of a learning culture is a gradual process that engenders a dynamic interplay between assimilating novel knowledge and applying pre-existing learning (Crossan et al., 1999).

Organizational learning is often likened to cultivating bean sprouts. Just as the daily watering of bean sprouts may seem to have little effect, over time, the sprouts grow steadily. Of course, this growth does not occur entirely overnight; it requires consistent, long-term investment. Similarly, the impact of organizational learning is not immediately visible. It is through sustained effort and dedication that employees gradually develop, leading to long-term growth and advancement for the organization. This process is not quick or easy, but rather a continuous journey of nurturing and development that lays the foundation for the organization's future. Likewise, the process of knowledge sharing is inherently time-consuming, requiring significant investment in terms of effort and resources from a long-term perspective (Matzler & Mueller, 2011). The immediate outcomes of sharing knowledge may not always be tangible or readily visible. The true value of knowledge sharing often unfolds gradually over time. As such, Widen-Wulff & Suomi (2007) argued that allocating additional time for knowledge sharing is a wise investment.

Focused accordingly, this study suggests that HRD practices should focus on cultivating slack resources, such as a culture of continuous learning and knowledge sharing, to enhance organizational performance and sustainability. Slack resources, defined as surplus resources

beyond immediate operational needs, enable organizations to exploit current capabilities and explore new opportunities for future growth and development (Kim et al., 2019). Notably, organizations lacking surplus resources tend to prioritize immediate concerns and short-term objectives. Watkins and Marsick (2016) expand on this idea by suggesting that HRD programs provide slack resources that encourage alternative viewpoints and approaches, ensuring that the field remains dynamic and adaptable to change. By emphasizing the accumulation of slack resources, learning organizations can enhance their ability to adapt to dynamic environments, foster innovation, and maintain competitiveness over time. This intricate relationship highlights the inherent connection between learning and routine activities within the workplace (Watkins & Marsick & 1993). Therefore, HRD professionals must embody patience and a forward-thinking mindset when endeavoring to shape a learning culture, recognizing the necessity of adapting and transforming practices with a long-term perspective.

Second, HRD professionals need to thoroughly investigate and address barriers that impede the establishment of a robust learning culture to effectively advance the concept of a learning organization. It is imperative for them to proactively navigate through these challenges, employing effective strategies to foster a lasting learning culture within workplace environments. In practice, there is often a tendency to overlook the irrational, unproductive, and recurring mistakes that occur during attempts to enhance the learning organization through various interventions in the field (Argyris & Schön, 1996; Sterling, 2011). For instance, one-time learning, focusing only on formal or individual learning, and learning not related to practical work or organizational strategies should be avoided (Kim et al., 2008). This proactive and deliberate approach is essential for creating an environment where continuous learning takes root and thrives, ensuring sustained organizational growth and adaptability in the long term.

Moreover, leaders are key architects of an organizational learning culture, setting the tone by actively engaging in learning themselves, promoting knowledge sharing, and recognizing and rewarding learning efforts (Winkler & Fyffe, 2016). Leaders create a supportive environment where employees feel encouraged to experiment, learn from failures, and continuously improve. By demonstrating a commitment to learning and development, leaders inspire employees to adopt a similar mindset, promoting a culture of learning that is essential for long-term organizational success.

Third, HRD professionals play a pivotal role in facilitating knowledge sharing through various initiatives and aligning strategies with organizational objectives. This study focuses on how learning organization exemplifies the dynamic process of translating knowledge and theoretical concepts into concrete, actionable outcomes. Consequently, the imperative role of knowledge sharing cannot be overstated in the pursuit of these overarching objectives. Fostering knowledge sharing can be achieved through initiatives such as establishing communities of practice (COP), integrating collaborative platforms, facilitating open feedback channels and mentorship programs, and curating comprehensive learning libraries. These initiatives collectively contribute to an environment where knowledge is actively shared, collaboration is emphasized, and continuous learning becomes ingrained in learning organization culture.

Fourth, the pivotal importance and indispensable nature of such data, especially in assessing the effectiveness of HRD interventions and measuring performance, unequivocally underscores its vital role in both research and practical applications. The primary aim of HRD practice is performance improvement based on human knowledge (Swanson & Holton, 2001). Part of the effort is to recognize the common concern regarding the lack of objective performance measures in studies within HRD and management literature (Song & Kolb, 2013).

However, the utilization of such data enables more informed decision-making, leading to enhanced overall performance and productivity. It provides a solid foundation for assessing the impact of HRD initiatives, guiding strategic planning, and promoting continuous improvement.

As highlighted previously, HRD departments often face the perception of contributing less value compared to other business priorities. To counter this assumption, HRD professionals must assert the department's effectiveness by presenting transparent reports on the outcomes of HRD interventions. In contemporary assessment of a company's performance, it is evident that all stakeholders must be considered, as organizations and stakeholders are accustomed to tangible performance data (Kareem, 2019). Reporting evaluation or performance data becomes crucial to gain support and for persuasively demonstrating to executives the value of HRD initiatives. This effort fosters a greater respect for HRD within the organization (Phillips, 2005).

One crucial aspect not to be overlooked is that the misguided pursuit of profit maximization may compel organizations to allocate insufficient resources, failing to effectively invest in training programs. Training plays a pivotal role in developing skills and knowledge among employees, constituting a long-term investment to demonstrate performance. However, when the primary focus is on immediate financial gains, there may be a tendency to reduce investments in training, compromising their efficiency and effectiveness—qualities that are more critical than ever in today's dynamic landscape. Rather than fixating solely on short-term gains, HRD professionals should pivot and reshape their perspective to center around organizational sustainability with a long-term view. Moreover, this approach should go beyond financial concerns, incorporating a dedicated focus on knowledge performance in line with current insights and findings from the study. In the dynamic business landscape, Wall Street is

progressively acknowledging the crucial significance of measuring and disclosing nonfinancial elements, as emphasized by recent findings (Funk, 2023).

Limitations and Recommendations

Explicitly addressing and documenting specific limitations within this study is crucial for promoting transparency, enabling a nuanced understanding of the research's scope, and laying the groundwork for ongoing improvements in subsequent investigations. Accordingly, there are several limitations and recommendations for further study.

First, this study employs a cross-sectional design, gathering data at a specific point to examine variable relationships. However, cross-sectional studies inherently face limitations, particularly in establishing causality (Mathieu & Taylor, 2006). To address this challenge and to better understand the impact of organizational and knowledge factors on performance and sustainability, it is crucial to conduct longitudinal studies. Longitudinal studies offer the unique ability to track changes and developments over time, providing a more robust understanding of evolving dynamics between learning organization culture and knowledge sharing.

Second, this study could be influenced by common method bias (CMB) since it relied on self-reported data from individual responses. Although mitigating CMB is challenging, particularly in a single-point survey-based study, its presence can diminish the reliability of analysis results by exaggerating or inflating the relationship between variables. Future research efforts should address this issue by implementing varied data collection timings for independent and dependent variables.

Similarly, an important area for improvement in the current study involves its quantitative focus, potentially limiting the depth of insights into the variables of interest. By

relying predominantly on quantitative data, the study might overlook nuanced details and contextual nuances inherent in strategies for enhancing learning organization culture and knowledge sharing. Introducing a qualitative approach, such as participant interviews, would address this limitation, allowing for a more thorough exploration of the intricacies and qualitative aspects that quantitative methods might not fully capture. This holistic approach strengthens the credibility of further studies and ensures a more compelling and in-depth investigation into performance and sustainability dimensions of organizational culture's impact on knowledge sharing.

Fourth, the substantial overrepresentation of data from males (78.6%) compared to females (21.4%) raises concerns about an uneven distribution, potentially introducing significant firm-oriented and male-oriented biases. Such biases can impede researchers from conducting meaningful comparison analyses between groups and limit the generalizability of study results to diverse contexts. To enhance the generalizability of the current study, it is crucial to distribute data sources in a manner that proportionally reflects the characteristics of the target population. It is advisable to include participants with a broader range of demographic backgrounds, diverse geographic locations, varied cultural contexts, and a spectrum of work settings. Therefore, implementing a rigorous sampling strategy is essential for improving generalizability and avoiding reliance on convenient sampling. (Polit & Beck, 2010).

Fifth, this study investigated the impact of intangible resources and capabilities on performance and sustainability, affirming a positive correlation. It is strongly advised to broaden the scope of variables related to both intangible resources and capabilities. Specifically, the items encompassing intangible resources and capabilities include as follows: 1) intangible resources: culture, values, beliefs, attitudes, behaviors, contracts and partnerships, company reputation,

human resource management policies and rewards, 2) capabilities: skills, expertise, creativity, innovativeness, decision-making abilities, knowledge management, relationships with external constituents (customers, suppliers, and outsourcing partners), human capital, networking abilities, business process, social software (Kamasak, 2017). By incorporating these diverse components, the study can achieve a more nuanced and comprehensive analysis, highlighting the intricate interplay among intangible resources, capabilities, and their profound implications for performance and sustainability. It suggests that future research should apply these variables diversely to further investigate their impact.

Sixth, this study collected data from six large companies in South Korea that have established organizational cultures and knowledge-sharing systems. To significantly strengthen the robustness of future investigations, it is strongly recommended to diversify the participant pool by including various types of companies, such as small and medium-sized enterprises (SMEs), private firms, or entrepreneurial ventures. This strategic expansion will contribute to a more comprehensive and representative study, offering insights across a broader spectrum of organizational structures and contexts. Further, considering that this study exclusively draws its results from South Korean companies, it unavoidably encounters cultural and regional limitations. Notably, the historical prioritization of corporate growth over learners' interests in Korea has fostered a prevalent emphasis on formal learning approaches, giving rise to a partially supported learning organization culture (Kim & Cervero, 2007; Bae & Rowley, 2004). This historical and cultural context may potentially impact learning organization culture and knowledge-sharing dynamics investigated in the current study. Exploring how learning organization culture and knowledge sharing vary across different cultural contexts and examining their influence on performance and sustainability could provide valuable insights.

Moreover, considering comparative cultural studies to contrast the Korean context with other countries would contribute to a more comprehensive understanding of these dynamics.

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APPENDIX A
IRB Approval Letter

UNIVERSITY OF GEORGIA

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Human Research Protection Program

EXEMPT DETERMINATION

August 24, 2023

Dear Seung Han:

On 8/24/2023, the Human Subjects Office reviewed the following submission:

Title of Study:	The Effect of Organizational Learning Culture and Knowledge Sharing on Performance and Sustainability
Investigator:	Seung Han
Co-Investigator:	Sumi Lee
IRB ID:	PROJECT00008055
Funding:	None
Review Category:	Exempt 2iii

Materials Reviewed: IRB Submission, Training Records, Informed consent_survey_Aug 17_Edit.docx, Instruments_Korean.pdf, Instruments_English.pdf, Recruit Email.docx

We have determined that the proposed research is Exempt. The research activities may begin 8/24/2023.

Since this study was determined to be exempt, please be aware that not all future modifications will require review by the IRB. For more information please see Appendix C of the Exempt Research Policy (https://research.uga.edu/docs/policies/compliance/hso/IRB-Exempt-Review.pdf). As noted in Section C.2., you can simply notify us of modifications that will not require review via the "Add Public Comment" activity.

This project has received Limited IRB Review. It has been determined that there are adequate provisions to protect the privacy of participants and to maintain the confidentiality of data. Changes to study procedures that affect privacy and confidentiality must be made by submitting a modification.

A progress report will be requested prior to 8/24/2028. Before or within 30 days of the progress report due date, please submit a progress report or study closure request. Submit a progress report by navigating to the active study and selecting Progress Report. The study may be closed by selecting Create Version and choosing Close Study as the submission purpose.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103).

Sincerely,

Aisha Haggard, Compliance Professional I
Human Subjects Office, University of Georgia

APPENDIX B

Consent Form (English)

The Effects of organizational learning culture and knowledge sharing
on performance and sustainability

You are being asked to take part in a research study. The information in this form will help youdecide if you want to be in the study. Please ask the researcher(s) below if there is anything that is not clear or if you need more information.

Principal Investigator:
Dr. Seung-hyun (Caleb) Han
Lifelong Education, Administration, and Policy
calebhan@uga.edu

Co-Investigator:
Sumi Lee
Lifelong Education, Administration, and Policy
sumi0825@uga.edu

The purpose of the study is to identify the effects of an organizational learning culture (intangible resource) and knowledge sharing (capability) on performance and sustainability in the South Korean context. You are being asked to be in the study because you are an employee of a large company that established a corporate education culture and knowledge management system, you are a suitable subject for research. Participation in this research is completely voluntary and you can refuse toparticipate before the study begins or stop taking part at any point.

If you decide to participate in this study, we will ask a series of questions dealing with the following topics: The impacts of organizational learning culture and knowledge sharing on performance and sustainability. We estimate that it will take roughly *10~15* minutes to complete the survey.

We do not expect that filling out this questionnaire will create any risks or discomforts on yourpart. We hope that learning organizations and knowledge management will learn more about corporate performance and sustainability, which will help other organizations through this research.

Any data, including sensitive personal data, that is collected from you will be for the sole purpose of participating in the research study entitled “The impacts of organizational learning culture and knowledge sharing on performance and sustainability” referenced above and is necessary for the completion of the study. This may include processing the data as required to comply with applicable laws.

There are limits to data security and confidentiality since the study involves data collection via online methods.

UGA is committed to ensuring the security of your information. We have put in place physical,technical, and administrative safeguards designed to prevent unauthorized access to your information. Your data will be held under security standards for sensitive devices outlined in the UGA Policy - Minimum Security Standards for Sensitive Devices (https://eits.uga.edu/access_and_security/infosec/pols_regs/policies/minsec_sensitive/).

Data will be handled and processed only by the persons who are responsible for the necessary activities for the purposes above. The information you provide will not be associated with any identifier.

The data will be stored for a period 2 years.

No automated decision making will be performed, including profiling, and the collected Data will not be further processed other than the purpose for which it was collected. Also, the information will not be used or distributed for future research.

If you have any further questions about the research project please contact Dr. Seung-hyun (Caleb) Han at calebhan@uga.edu.; Phone: +1 706 542 2214

Any question(s) or concern(s) about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board; +1 706 542-3199; irb@uga.edu

Consent Form (Korean)

조직 학습 문화와 지식 공유이 성능 및 지속 가능성에 미치는 영향

연구 조사에 참여하라는 요청을 받고 있습니다. 이 양식의 정보는 연구에 참여할지 여부를 결정하는 데 도움이 됩니다. 명확하지 않은 부분이 있거나 더 많은 정보가 필요한 경우 아래 연구원에게 문의하십시오.

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본 연구의 목적은 한국의 맥락에서 조직학습문화(무형자원)와 지식공유(역량)가 성과와 지속가능성에 미치는 영향을 규명하는 것이다. 당신은 기업 교육 문화와 지식 관리 시스템을 구축 한 대기업의 직원이기 때문에 연구에 참여하도록 요청 받고 있으며, 당신은 연구에 적합한 주제입니다. 이 연구에 대한 참여는 전적으로 자발적이며 연구가 시작되기 전에 참여를 거부하거나 언제든지 참여를 중단할 수 있습니다.

이 연구에 참여하기로 결정하면 조직 학습 문화와 지식 공유가 성과와 지속 가능성에 미치는 영향과 같은 주제를 다루는 일련의 질문을 할 것입니다.설문조사 완료까지 약 10~15 분 정도 소요될 것으로 예상됩니다.

이 설문지를 작성하는 것이 귀하의 위험이나 불편을 초래할 것으로 기대하지 않습니다. 학습 조직과 지식 관리가 기업 성과와 지속 가능성에 대해 더 많이 배우고이 연구를 통해 다른 조직에 도움이되기를 바랍니다.

민감한 개인 데이터를 포함하여 귀하로부터 수집되는 모든 데이터는 위에서 언급한 "조직 학습 문화 및 지식 공유가 성과 및 지속 가능성에 미치는 영향"이라는 제목의 연구에 참여하기 위한 목적으로만 사용되며 연구 완료에 필요합니다. 여기에는 관련 법률을 준수하는 데 필요한 데이터 처리가 포함될 수 있습니다.

이 연구는 온라인 방법을 통한 데이터 수집을 포함하기 때문에 데이터 보안 및 기밀 유지에 한계가 있습니다.

UGA 는 귀하의 정보 보안을 보장하기 위해 최선을 다하고 있습니다. 당사는 귀하의 정보에 대한 무단 액세스를 방지하기 위해 설계된 물리적, 기술적, 관리적 보호 장치를 마련했습니다. 귀하의 데이터는 다음에 설명된 민감한 장치에 대한 보안 표준에 따라 보관됩니다.Minimum Security Standards for Sensitive Devices (https://eits.uga.edu/access_and_security/infosec/pols_regs/policies/minsec_sensitive/).

데이터는 위의 목적을 위해 필요한 활동을 담당하는 사람에 의해서만 취급 및 처리됩니다. 귀하가 제공하는 정보는 식별자와 연결되지 않습니다.

데이터는 2 년 동안 저장됩니다.

프로파일링을 포함한 자동화된 의사 결정은 수행되지 않으며 수집된 데이터는 수집 목적 이외의 추가 처리되지 않습니다. 또한, 해당 정보는 향후 연구를 위해 사용 또는 배포되지 않습니다

연구 프로젝트에 대해 더 궁금 한 점이 있으면 calebhan@uga.edu 의 한승현 박사에게 문의하십시오. 전화: +1 706 542 2214

연구 참여자로서의 귀하의 권리에 대한 질문이나 우려 사항은 조지아 대학교 기관 검토위원회 의장에게 문의해야 합니다. +1 706 542-3199; irb@uga.edu.

APPENDIX C

Invitation Letter

Pre-Notification Email (English)

IRB No: PROJECT00008055

<<Name>> Sumi Lee

<<Affiliation>> University of Georgia

<<Date>>

Dear<<name>>,

I hope this message finds you well. As part of my dissertation research at the University of Georgia, I am conducting a study that requires your valuable input. In the next few days, you will receive an email containing a brief questionnaire. Your participation is crucial to the success of this research project.

Please be aware that the email may be classified as spam, so I kindly ask you to check both your inbox and spam folder for the email. Your prompt response is greatly appreciated.

Should you have any questions or encounter any issues, please do not hesitate to contact me.

Thank you in advance for your cooperation and support.

Best regards,

Sumi Lee, Ph.D. Candidate

Learning, Leadership, and Organization Development

University of Georgia

Pre-Notification Email (Korean)

IRB No: PROJECT00008055

<<성함>> 이수미

<<소속>> 조지아 대학

<<날짜>>

<<성함>> 귀하,

저의 메시지가 여러분께 잘 전달되기를 바랍니다. 저는 조지아 대학교에서 박사 학위 논문 연구의 일환으로 여러분의 소중한 의견이 필요한 연구를 진행 중입니다. 다음 몇 일 안에 간단한 설문 조사가 포함된 이메일을 받게 될 것입니다. 여러분의 참여는 이 연구 프로젝트의 성공에 매우 중요합니다.

이 이메일이 스팸으로 분류될 수 있으니, 받은 편지함과 스팸 편지함을 모두 확인해 주시기 바랍니다. 여러분의 신속한 답변을 매우 감사하게 생각합니다.

질문이나 문제가 있을 경우 언제든지 연락 주시기 바랍니다. 여러분의 협조와 지원에 미리 감사드립니다.

좋은 하루 되세요,

조지아대학

이수미 배상

Survey Email (English)

Subject: Survey Request

Dear<<participants>>

I am writing to ask for your help with an important study on the impact of learning organization culture and knowledge sharing on performance and sustainability. This study provides you with an opportunity to have your voice heard. Your participation involves completing a brief 10–15-minute survey.

You were selected for this anonymous online survey along with XXX Corporation. Individual results will NOT be reported to your supervisor or to anyone at any time. The researcher will keep completed surveys in a secure manner for a period of five years.
There are no known risks associated with your participation. You may ask any questions concerning this research and have those questions answered before agreeing to participate or during the research.

You may contact the researchers, Sumi Lee, phone +1-678-848-9056, email sumi0825@uga.edu, or Dr. Seung-hyun (Caleb) Han, phone +1-706-542-2214, email calebhan@uga.edu, at any time. If you have questions concerning your rights as a research participant that have not been answered by the researchers or to report any concerns about the study, you may contact the Human Subjects Office, University of Georgia (UGA), email IRB@uga.edu. You can call the Human Subjects Office, +1-706-542-3199, if the state you are in requires research participants.

Your participation is voluntary, and you can decide not to participate or withdraw at any time without adversely affecting your relationship with the investigator. Your decision will not result in any loss of benefits to which you are otherwise entitled.
If you decide to participate, clicking on the link and completing the survey will indicate your consent. You can print a copy of this email for your records.

Please follow the link below to access the survey:
https://ugeorgia.ca1.qualtrics.com/jfe/form/SV_ewJxjM6Tgj7w07k

Thank you very much for your participation.

Best regards,

Sumi Lee, Ph.D. Candidate
Learning, Leadership, and Organization Development
University of Georgia

Survey Email (Korean)

Subject: 설문 요청

본 연구는 학습문화, 지식공유가 조직성과와 지속가능성에 미치는 영향을 조사하고자 합니다. 귀하의 답변은 익명으로 관리되고, 비밀 유지될 것입니다. 또한 참여해주신 설문 응답은 박사 학위 논문 연구 이외의 목적으로 사용되지 않을 것입니다.

설문은 대략 5~10 분 내외로 소요됩니다. 본인의 경험을 바탕으로 답변해 해주시되, 관련 경험이 없으실 경우, 가장 근접한 답변을 선택해 주시면 됩니다. 또한 설문 과정과 연구결과에 관하여 궁금하신 점이 있으면 언제든지 아래의 연락처로 연락해 주시기 바랍니다.

연구의 유의미한 결과와 신뢰도 높은 분석을 위해, 귀하의 소중한 의견이 반영될 수 있도록 정확하고 & 빠짐없는 설문 응답 부탁드립니다.

설문에 관해 궁금한 사항이 있을시에는 언제든지 연구자(전화 +1-678-848-9056, 이메일 sumi0825@uga.edu)나 지도교수 (전화 +1-706-542-2214, 이메일 calebhan@uga.edu)에게 연락하실 수 있습니다.

설문을 작성하려면 아래 링크를 클릭하십시오:
https://ugeorgia.ca1.qualtrics.com/jfe/form/SV_ewJxjM6Tgj7w07k

참여해 주셔서 대단히 감사합니다.
좋은 하루 되세요

조지아대학

이수미 배상

APPENDIX D
Survey Questionnaire (English)

Please indicate your level of agreement by checking the number that best reflects your perception. (In the web-based survey, I will use five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). In this sheet, only the questions were listed.)

Organizational learning culture
Adopted 24 items from Yang et al. (2004) and Marsick & Watkins (2003)

1. In my organization, people help each other learn
2. In my organization, people are given time to support learning
3. In my organization, people are rewarded for learning
4. In my organization, people give open and honest feedback to each other
5. In my organization, whenever people state their view, they also ask what others thin
6. In my organization, people spend time building trust with each other.
7. In my organization, teams/groups have the freedom to adapt their goals as needs.
8. In my organization, teams/groups revise their thinking as a result of group discussions or information collected.
9. In my organization, teams/groups are confident that the organization will act as their recommendations
10. My organization creates systems to measure gaps between current and expected performance
11. My organization makes its lessons learned available to all employees.
12. My organization measures the results of the time and resources spent on training
13. My organization recognizes people for taking initiatives.
14. My organization gives people control over the resources they need to accomplish their work
15. My organization supports employees who take calculated risks
16. My organization encourages people to think from a global perspective
17. My organization works together with the outside community to meet mutual need
18. My organization encourages people to get answers from across the organization when solving problems
19. In my organization, leaders mentor and coach those they lead
20. In my organization, leaders continually look for opportunities to learn
21. In my organization, leaders ensure that the organization's actions are consistent with its values
22. In my organization, the percentage of skilled workers compared to the total workforce is greater than last year.
23. In my organization, the percentage of total spending devoted to technology and information processing is greater than last year
24. In my organization, the number of individuals learning new skills is greater than last year

Performance
Adopted 12 items from Marsick & Watkins (2003)

1. In my organization, return on investment is greater than last year.
2. In my organization, average productivity per employee is greater than last year.
3. In my organization, time to market for products and services is less than last year
4. In my organization, response time for customer complaints is better than last year.
5. In my organization, market share is greater than last year.
6. In my organization, the cost per business transaction is less than last year.
7. In my organization, customer satisfaction is greater than last year.
8. In my organization, the number of suggestions implemented is greater than last year.

9. In my organization, the number of new products or services is greater than last year.
10. In my organization, the percentage of skilled workers compared to the total workforce is greater than last year.
11. In my organization, the percentage of total spending devoted to technology and information processing is greater than last year
12. In my organization, the number of individuals learning new skills is greater than last year

Knowledge Sharing
Adopted 5 items from Bock et al. (2005)
1. I share my work reports and official documents with members of my organization more frequently
2. I always provide my manuals, methodologies and models for members of my organization
3. I intend to share my experience or know-how from work with other organizational members
4. I always provide my know-where or know-whom at the request of other organizational members.
5. I try to share my expertise from my education or training with other organizational members in a more effective way

Sustainability
Adopted 9 items from Padin et al. (2016)
1. our company focuses on environmental issues
2. our company makes the most efficient use of the resources available in the environment
3. our company is based upon environmental monitoring
4. our company rests on economic considerations
5. our company focuses on survival in the marketplace
6. our company saved money to the company at the beginning of the implementation
7. our company takes current activities in society into account
8. our company considers the well-being of employees and society
9. our company focuses on social aspects.

Demographic Information
1. Gender (Male/Female)
2. Age (Younger than 29 / 30~39 / 40-49 / 50-60
3. Education Level (High school/college/ Bachelor/ Master or Higher
4. Working Experience (1-10 / 11-20/ 21-30 / 31-40)
5. Management Level (Senior/Deputy senior manager, Manager, Assistant Manager, Non-management employee)
6. Type of Job
   (Marketing/Sales, Information Technology/Internet, Production/Manufacturing, Administration/Management (Planning, Finance/Accounting, Human Resource, Law/Auditing, Research and Development, Engineering, Education/Training, Telemarketing, Others (Please fill in:)

Survey Questionnaire (Korean)

본인의 인식이 가장 잘 반영된 수치를 확인하여 동의 수준을 표시해 주시기 바랍니다.(웹 기반 설문조사에서는 리커트 척도를 1 점(강력하게 반대)에서 5 점까지 사용합니다(강력히 동의함). 이 시트에는 질문만 나열되어 있습니다.)

조직학습문화

Yang et al. (2004) 및 Marsick & Watkins (2003)의 24 개 항목 채택

1. 나의 조직에서, 사람들은 서로가 배울 수 있도록 돕습니다
2. 우리 조직에서는 사람들에게 학습을 지원할 시간이 주어집니다
3. 우리 조직에서는 사람들이 학습에 대한 보상을 받습니다
4. 나의 조직에서, 사람들은 서로에게 공개적이고 정직한 피드백을 줍니다
5. 제 조직에서는 사람들이 자신의 견해를 말할 때마다 다른 사람들이 어떤 점에 대해 묻습니다
6. 우리 조직에서는 사람들이 서로 신뢰를 쌓는데 시간을 보냅니다.
7. 우리 조직에서는 팀/그룹이 필요에 따라 목표를 조정할 자유가 있습니다.
8. 우리 조직에서는 팀/그룹이 그룹 토론 또는 수집된 정보의 결과로 사고를 수정합니다.
9. 우리 조직에서 팀/그룹은 조직이 자신들의 권장 사항을 수행할 것이라고 확신합니다
10. 조직에서 현재와 예상되는 성능 간의 차이를 측정하는 시스템을 만듭니다
11. 우리 조직은 모든 직원들이 학습한 수업을 이용할 수 있도록 합니다.
12. 조직은 교육에 소요된 시간과 리소스의 결과를 측정합니다
13. 우리 조직은 사람들이 솔선수범하는 것을 인정합니다.
14. 조직은 직원들에게 업무 수행에 필요한 리소스에 대한 제어권을 제공합니다
15. 우리 조직은 계산된 위험을 감수하는 직원들을 지원합니다
16. 우리 조직은 사람들이 세계적인 관점에서 생각하도록 장려합니다
17. 우리 조직은 외부 커뮤니티와 협력하여 상호 필요를 충족합니다
18. 우리 조직은 문제를 해결할 때 조직 전체에서 답변을 얻도록 권장합니다
19. 우리 조직에서 리더는 그들이 이끄는 사람들을 조언하고 코칭합니다
20. 우리 조직에서 리더들은 계속해서 배울 기회를 찾고 있습니다
21. 우리 조직에서 리더는 조직의 행동이 가치와 일치하는지 확인합니다

성과

Yang et al. (2004) 및 Marsick & Watkins (2003)의 24 개 항목 채택

1. 우리 조직은 지난 해보다 투자 대비 수익이 더 크다.
2. 우리 조직은 지난 해보다 직원 당 평균 생산성이 더 높다.
3. 우리 조직은 제품과 서비스의 출시 시간이 지난 해보다 더 단축되었다.
4. 우리 조직은 고객 불만 처리 시간이 지난 해보다 더 나아졌다.
5. 우리 조직은 시장 점유율이 지난 해보다 더 크다.

6. 우리 조직은 업무 거래당 비용이 지난 해보다 더 적다.
7. 우리 조직은 고객 만족도가 지난 해보다 더 높다.
8. 우리 조직은 제안서 시행 건수가 지난 해보다 더 많다.
9. 우리 조직은 새로운 제품이나 서비스의 개발 수가 지난 해보다 더 많다.
10. 우리 조직은 총 직원 중 숙련된 직원의 비율이 지난 해보다 더 크다.
11. 우리 조직은 기술과 정보 처리에 할당된 총 지출의 비율이 지난 해보다 더 크다.
12. 우리 조직은 새로운 기술 습득자 수가 지난 해보다 더 많다.

지식 공유

Bock et al. (2005)의 5 개 항목 채택

1. 업무 보고서 및 공식 문서를 조직 구성원과 더 자주 공유합니다
2. 조직 구성원을 위해 항상 설명서, 방법론 및 모델을 제공합니다
3. 다른 조직원들과 업무 경험이나 노하우를 공유하고자 합니다
4. 저는 다른 조직 구성원들의 요청에 따라 항상 저의 노하우나 노하우를 제공합니다.
5. 교육 또는 훈련을 통해 얻은 전문 지식을 다른 조직 구성원과 보다 효과적으로 공유하려고 노력합니다

지속가능성

Padin et al. (2016)의 9 개 항목 채택

1. 우리 회사는 환경문제에 중점을 두고 있습니다
2. 우리 회사는 환경에서 이용할 수 있는 자원을 가장 효율적으로 사용합니다
3. 우리 회사는 환경 모니터링을 기반으로 합니다
4. 우리 회사는 경제적인 고려에 의존하고 있습니다
5. 우리 회사는 시장에서의 생존에 초점을 맞추고 있습니다
6. 우리 회사는 시행 초기에 회사에 돈을 절약했습니다
7. 우리 회사는 사회에서의 현재 활동을 고려합니다
8. 우리 회사는 직원들과 사회의 안녕을 고려합니다
9. 우리 회사는 사회적 측면에 중점을 두고 있습니다.

인구통계학적 정보

1. 성별(남/여)
2. 연령(29 세이상/30~39 세/40~49 세/50~60 세이상)
3. 학력(고등학교/대학/학사/석사 이상)
4. 근무경력 (1-10 / 11-20 / 21-30 / 31-40)
5. 직급(부장/차장, 과장, 대리, 기타 직원)
6. 직무 (마케팅/판매/영업, 정보기술/인터넷, 생산/제조, 행정관리, 연구/개발, 엔지니어링, 교육/훈련, 기타 (적어주세요:)