

DESIGN THINKING (DT) APPROACH TO HIGH-PERFORMANCE WORK SYSTEM (HPWS) WITHIN INTELLIGENT OFFICE PARADIGM: A PATH FOR FUTURE RESEARCH

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Abstract

Background: A high-performance work system (HPWS) is critical to improving employees' effectiveness, and the performance of an organization creates value for employees. However, human resource (HR) practice reveals that employees resist work. They view that the resulting changes will not benefit them because HR practice still focuses on traditional work processes rather than employees' proactive behavior. These are issues discussed in the previous research that cause failure to the current organization's work system.

Methods: In this research, a conceptual framework is established for HPWS-DT implementation for Intelligent Office paradigm thru the lense of Transfield's five stages systematic literature review. Articles were collected from Emerald, Taylor & Francis, SAGE and Elsevier databases between 15 May 2021 and 15 March 2022. Articles were analyzed based on research criteria on HPWS ,DT and Intelligent office . The outcome of the research article were tabulated using Microsoft Excel.

Results: Six papers related to HPWS integrating design thinking implementation, innovative work processes, employees' behaviours and organizational performance. We found articles on HPWS-DT implementations in IO/virtual/hybrid work environments.

Conclusion: The outcome of this research indicatess a lack of studies DT approached HPWS, those issues revolved particularly around intelligent office paradigm. This study attempted to broaden the understanding of the HPWS and DT effectiveness, particularly in enhancing organizational performance.

Keywords: Employees' behaviour, organizational performance, HR Practices, High Performance Work System (HPWS), Design thinking (DT), Intelligent office paradigm, Systematic literature review.

1.0 Introduction

COVID-19 pandemic has pushed many employees and stakeholders to move from the physical work environment into the intelligent office paradigm (IO), creating a broader workplace transformation to remain engaged and be in a creative collaboration(Lee, 2021). The emergence of intelligent office is an open space helping employees balance work and life, which provides psychological and physical comfort to employees to boost creativity and collaboration (Ximenes *et al.*, 2019). The COVID-19 pandemic caused many workers to move from brick and mortar buildings to virtual/remote environments. The rapid and pervasive digitalization is changing the nature and structure of work processes (Nambisan *et al.* 2017) and challenging organizations to cope with dynamic business landscapes as they apply digital technologies to improve their

competitive positions (Kohli and Melville 2019).

Miller and Morris (2016) affirmed, “from a social learning perspective, virtual peers should influence individual behavior for those who communicate in an online-only capacity in a manner that is generally similar to traditional peers’ effects” ; however this phenomenon has not been studied in depth. In the IO paradigm , employees are data generators, enhancing employees' overall sense of work-related belongingness. In response to this formidable challenge, experts predict that 70% of organizations will attempt to go digital, but only 30% of those will succeed (Bort 2015); and, that 40% of organizations will not survive this transformation (Bort 2015). Thus, the evolution of high-performance work systems (HPWSs) is essential to enhance organizational performance in the future research agenda. HPWS in human resource management plays a vital role in the digital space to improve employees' productivity in job engagement, employee creativity and employee proactive behaviour (Al-Ajlouni, 2021a). Thus, the accentuation must be given on the practices across capacities, aiming to sustain and foster employees toward performance.

The rise of the IO created a collaboration in work practices, which human resource practice needs to revolutionize. These transformations should reflect on proactive work practices, visualization of ideas and employee-centric activities in the organization. However, challenges such as employees' inability to articulate and meet expectations in digital transformation that lead to low performance have been extensively discussed in the literature (Mahdi *et al.*, 2014; Nolan and Garavan, 2016). Thus, integrating design thinking (DT) in HPWS is a foundation for securing a sustainable competitive advantage in organizations, particularly for the IO (Martin, 2009). HPWS and DT share mutual characteristics of engaging employees collaboratively, encouraging learning, and inducing creative problem-solving or ideology (Bailey *et al.*, n.d.).

DT can be well defined as a human-centred and innovative process that emphasizes employees' cognitive abilities, visualization of ideas, and concept prototyping. Therefore, the concept of the DT process itself will be useful to study the work culture in intelligent office employees who often become self-empowered (Pruneau and Langis, 2015). DT is explicitly crafted to add a practical approach to addressing complex, ill-defined and networked organizational problems. These issues are on the rise in digital organizations and are essential in shaping the intelligent office as a new paradigm. Thus, after incorporating HPWS in Human Resource Development (HRD) practices, these evaluation elements may be integrated with the DT approach towards innovative problem-solving mechanisms by demonstrating better work practices and human resources (HR) processes. The outcome of this research is to develop a conceptual framework that incorporates the evaluation elements into HPWS and DT implementation phases. Accordingly, this study expects to investigate the elements that contribute to employee performance and provide valuable information to HR personnel that assists the management to improve responsiveness, motivate proactive behaviour and job engagement in the case of intelligent office work practices.

1.1 Challenges of HPWS for intelligent office work practice

Organizations are challenged with a design-driven culture to cultivate new skill sets during and after the COVID-19 pandemic. Thus, to accommodate the current changes, organizations must

strive towards HR evolutions that will support organizational goals, demonstrate proactive behaviour and motivate employees in improving performance.

A dimension of HPWS design focuses on employees' involvement as an aesthetic driver of innovation in HRD practices through self-organized teamwork. HPWS is designed to invest in employees that become the driver towards achieving organizational performance, employee empowerment strategies and active participation that is transferred into performance and productivity. Thus, HPWS should be transformed to match the new norm of work practice, allowing a closer relationship between an organization and its employees. It creates a new path of research that DT in terms of HPWS is essential to be tested the main criterion, including empathy behaviour, creative imagination, creative product and prototype, which potentially lead to innovativeness in the work practices (Rich *et al.*, 2010). This aspect of employee behaviour also refers to perceived employee engagement to satisfaction and performance (Moreland, 2013; Moura *et al.*, 2014; Rich *et al.*, 2010). However, there should be a concern in the existing definition or research outcome that proves employee behaviour and engagement. This study suggests that the future research avenue in HPWS focuses on discussing employee engagement strategies strongly related to the DT process, which involves employees with highly collaborative tasks to be creative in solving ill-defined problems that eventually will shape employee behaviour towards achieving performance organizations. PwC reports that 79% of business CEOs express concern about job availability and workforce transformation that would fit the career scope by 2030. Thus, if no proper capacities and skills are built for the future workforce, the gap will concern the entire human resource domain. This issue will continue to prolong if the HR processes and HPWS dimension focus on traditional approaches, such as forecasting employee skill based on previous challenges, while failing to inform explorations of future probabilities, such as co-generative solutions (Ashiru *et al.*, 2022a). Limited scope and models were developed for IO (Lahti and Nenonen, 2021), which means the lack of HPWS in intelligent or digital transformation work systems hinders creativity, communication, job engagement, and proactive employee behaviour.

Organizations usually have business problems to support and handle the ever-changing situation. Furthermore, since 2019, HRD professionals have faced different types of complex situations to handle the new norm of work transformation and the need to ensure that employees are engaged and empowered. Events such as the COVID-19 pandemic have changed how HRD professionals prepare individuals. Thus, an intelligent office in Malaysia is selected for this study.

Following the implementation of HPWS, problem-solving efforts are essential within organizations, especially during the post-pandemic period. Thus, handling a problem using design-led approaches may serve as a vehicle for HRD professionals to engage employees in exploring future possibilities and problem-solving strategies that will add value-added activities. In this research, DT empowers the advancement of issues with the solutions, thus serving as a mainstream of idea formulation (Liedtka and Kaplan, 2019). Previous research explored the DT approach in the context of innovation and entrepreneurship domain (Elsbach and Stigliani, 2018) Research on the application of HPWS with the design thinking approach are still in its infant stage. Thus, this study offers a pathway for future explorations to generate HPWS insights further and benefit HR practitioners.

2.0 Background of the HPWS

The basic line of argument or theory that underlies most of the HRM studies within the management literature proposes that the development of the most valuable asset of an organisation, i.e. its people, can ensure the achievement and sustainability of its organisational performance (Becker and Huselid, 2006; Souchi and Liao, 2015). The studies have categorised a notion of ‘best practices’ otherwise known as high performance work system (HPWS) leads to enhanced organizational performance. (Appelbaum et al., 2000). HPWS is a bundle of HR practices which is designed to boost employee performance, employee attitude and work structure designed to enhance organisational performance (Appelbaum et al., 2000; Boxall, 2012; El-Ghalayini, 2016). The main idea behind HPWS is to create a synergy with the combination of these practices that can have a positive impact on organisational performance through a flexible work environment. This then induces participative behavior in employees and builds a free flow of communication between the managers and the employees (Appelbaum et al., 2000). Consequently, this bundle of HRM practices positively impacts the employee selection, development, retention and motivation of the employees so that their enhanced work activities may lead to a synergistic and systematic effect on the organisational performance (Boxall, 2012).

The pioneering work by Huselid (1995), on ‘The Impact of Human Resource Management Practices on Turnover Productivity, and Corporate Financial Performance,’ traces the origin of such concepts of the management’s focus on human resources through HPWS. During this work, the HR management from 968 publicly held organisations of the United States were surveyed by (Huselid, 1995). A positive linkage was found between individual employee performance and the implementation of HPWS through his findings. The findings soon became so popular that a number of other researchers such as Huselid (1995), attempted to find similar results on the relationship between the implementation of HPWS and its impacts on organisational performance. According to Paauwe (2009), this relationship between HPWS and organisational performance has been scrutinized from the points of view of sociology, industrial relations, economics, organisational behavior and organisational psychology by putting a significant amount of focus on employee skills, behaviors and attitude. The most comprehensive of the initial research studies on HPWS was conducted by MacDuffie (1995). He put forward the argument that the practices of HRM do not function by themselves, but rather, the perfect combination of interrelated, consistent practices that has the ability to transform the relationship between managers and employees (MacDuffie, 1995). Appelbaum (2000) conducted a similar study with her colleagues by investigating steel, apparel and imaging industries of the US regarding the impacts of HPWS. The study found that HPWS has positive influences on employee attitudinal outcomes such as organisational commitment, trust, job satisfaction and lower job burnout.

Organisations that use a high performance work system (HPWS) practice a distinctive managerial approach that enables high performance through people. Instead of exercising employee control, the idea behind HPWS organisation is to create an organisation based on employee involvement and empowerment (Tomer, 2001; Jiang and Liu, 2015). As Lawler (1992:3) stated, in HPWS organisation, employees ‘feel responsible for and involved in its success.’ Research indicates that a particular set of managerial practices is varied across organisations. For this reason, different HRM research has highlighted features and management practices that also are different in describing HPWS practices.

The literature that explores the link between an organisation’s performance and the implementation of HPWS is continuously growing in the worldwide (Posthuma et al., 2013; Shin and Konrad, 2017; Rasool and Shah, 2015; Obeidat et al., 2016). Researchers such as Rasool and Shah (2015) search for the core mechanisms between organisational performance and HPWS by using a total strategic resource approach model that examines the various mediating and moderating variables as related to the HPWS – organisational performance relationship. The results indicated that the HPWS has a significant positive effect on firm performance. Furthermore, Shin and Konrad (2017) investigated the underlying relations between HPWS and performance using a large longitudinal data set with three time points. Results showed that past HPWS positively contributes to later productivity of organisational performance. Intriguingly, a recent study conducted by Obeidat et al., (2016) tested HPWS and organisational performance through a model of multiple dimensions in the financial and manufacturing sectors in the middle-eastern context. The results are supportive of the link between HPWS and organisational performance; they also confirm the utility of the AMO theory for theorizing HPWS and its effects on organisational performance. Therefore, the connection between HPWS and organisational performance is evident, both theoretically and empirically in SHRM literature. Due to increasing acceptance of HPWS and its positive impact on employees’ and organisational performance has given rise to a variety of terms and definitions. Accordingly, the following sections discuss the origin of the concept, performance, and the relationship between HPWS and performance.

2.1 Terms of high performance work system (HPWS)

The term high performance work systems (HPWS) is used interchangeably as ‘high performance work practices’ (Combs et al., 2006; Sung and Ashton, 2005; Karatepe, 2013). In other instances, the term has also been known as ‘high-commitment work practices’ (Iverson and Zatzick, 2007) or ‘high-involvement management’ (Lawler, 1986). Others have considered the term as ‘high performance organisations’ (Lawler et al., 1998; Ashton and Sung, 2002) or ‘high involvement work practices’ (Wood et al., 2001). A meta-analysis of 92 studies linking HPWS with organisational performance indicates a stronger correlation when HPWS is viewed as a system rather than individual practices (Combs et al., 2006). However, these terms refer to the same general phenomenon, making it difficult to define HPWS universally. In addition, researchers found that even though different naming preferences are used interchangeably, the phenomena of interest remain the same; this reflects the entirety of the HR system and not the HR practices only (Evans and Davis, 2005, Guthrie et al., 2009). There is substantial overlap between these terms and thus this study adheres to the general term of high performance work system (HPWS) when referring to a consistent HR practice of an organisation to achieve employee performance.

Table 1 HPWS terms used by various researchers

Terms	Author (s)
High-Commitment Management	Arthur, (1994)
HR Practice Configurations	Choi, (2014) Delery, (1996)

High-Performance HR Practices	Sun et al., (2007) Kehoe and Wright, (2013)
High-Commitment Human Resources Management Practices (HCHRM)	Macky and Boxall, (2007) Rubel et al., (2018)
Innovative HRM Practices	Agarwala; (2003)
HRM Best Practices	Coaker; (2011)
High-Performance Work Organisation	Wood and De Menezes, (2011) Felstead and Gallie, (2004)
High-Commitment Management	Wood, (1999) Baird, (2002)
High-Performance Work practices	Tregaskis et al., (2013)
High-involvement management	Lawler, 1986
High-performance work system	Ananthram et al., (2018)

2.2 Definitions of high performance work system (HPWS)

The problem of defining HPWS has been widely recognised by researchers (Lawler et al., 2011). Lepak et al. (2006) view HPWS as the combination of HR practices that enhances employee motivation, abilities and involvement. In short, they view these practices as complementary features leading to a greater organisational performance. The use of HPWS in organisations demands a substantial investment in their human capital in order to make the employees well trained and empowered to perform better in their jobs (Becker and Huselid, 1998). HPWS is not a new phenomenon given its application in different organisations. Nevertheless, according to Barnes (2001), the concept of HPWS has existed for quite some time and stems from the 20th century US manufacturing. During this time, the American manufacturing industry became aware of the global competition and needed to rethink how to cope in this new situation. The concepts that were born in these times have eventually become key features of HPWS. However, the definition of HPWS developed in the USA has been modified at a later stage for application in other studies. As Parks (1995) stated, the definition of HPWS varies between companies, writers, academic disciplines, production plants and between countries.

High performance work system (HPWS) as HR systems embody crucial idea for the work place and its environment (Boxall and Macky, 2009; Evans and Davis, 2005). High performance work system (HPWS) and high performance working can be explained in many ways. As regards to the origins and implementation, a variety of explanations are given by researchers (Takeuchi et al., 2007; Datta et al., 2005; Guthrie et al., 2009). Takeuchi et. al. (2007) for example presents a

definition that HPWS is as ‘a group of separate but interconnected human resources (HR) practices designed to enhance employees’ skills and effort.’ Another widely popular explanation defines the system of HR practices as ‘designed to enhance employee’s skills, commitment and productivity in such a way that employees become a source of competitive advantage’ (Datta et al., 2005:135). Another researcher Tomer (2001:64) claims that to achieve ‘high performance through people’ is the main intention of HPWS. Sun et al. (2007) further argue that HPWS chooses single HR practices and integrates them into a stronger combination that impacts organisational performance jointly.

3.0 Theoretical Underpinning for HPWS and Performance

The research on the performance in the SHRM and HR practices shows that a variety of theoretical perspectives support the mechanism underlying it (Boselie et al., 2005; Armstrong, 2011; Messersmith et al., 2011; Fu et al., 2015). Researchers have deemed the key mediating factors as incomprehensive and unclear, even though empirical research has already been conducted to find the connection between HPWS and the overall organisational performance. The explanation of why and how HPWS is linked with firm performance relies on theories of strategic human resource management (SHRM) (Messersmith et. al., 2011; Fu et al., 2015; Rasool and Nouman, 2013; Martin-Tapia et al., 2009; Ozcelik et al., 2016). Therefore, there is a need to develop theoretical assumptions regarding the process through which HPWS influences employee performance.

There are two theories that traditionally influence the connection between HR practices and organisational performance more than the empirical evidence found. As stated by Jiang et al. (2012), the two theories are the resource-based view (RBV) and the behavioural perspective. According to the RBV theory, HR has the power to create competitive advantage for organisations as a value-adding component (Barney, 1991). The view justifies the investment of HPWS as a benefit to the people of the specific organisation by controlling the overall performance of the organisation (Wright et al, 2001). The behavioural perspective, on the other hand, emphasizes the encouragement and motivation that is generated through HR practices engaging the human capital in more productive output. Under this view, employee ability-motivation-opportunity (AMO) can be seen as the connecting mechanism that generates high performance (Appelbaum et al, 2000; Lepak et al, 2006; Armstrong et al, 2011).

3.1 Design Thinking and HPWS

Design thinking (DT) has emerged as a significant concept in innovation but less emphasis on people side of management through HPWS where its application remains embryonic. However, there is insignificant number of researches that evaluates HPWS and DT, additionally, much of the literature in regards to organizational identification, job engagement, employee voice, employee creativity, and employee proactive behavior does not evaluate how these different aspects interact with each other, or are able to complete models and designs, such as job satisfaction is embedded into models to demonstrate the likelihood that an HR model will be successful. HPWS has limited research due to the design and newness of the system, which directly competes with traditional HR approaches that rely on the contingency or resource-based

designs. Traditional HR approaches focus on cost reductions and strategic alignment of the processes in HR departments, while as stated earlier HPWS focuses on the relationships and involvements of employees to create value that will translate into higher employee performance and add value to the organization.

This spectrum of motivational quality provides a different lens for assessing employee engagement. Higher motivational quality has been associated with greater learning (Vansteenkiste *et al.*, 2009), persistence, creativity (Amabile *et al.*, 1986), and performance (Barnes, 2018), among other positive outcomes. Benefits of empowering workers through more meaningful and satisfying work have been discussed for more than half a century (McKelvey and Sekaran, 1977).

Previous research stated that evidence-based approaches, therefore, are those that deploy well-validated metrics of the motivational and emotional components that are proven to drive engagement, versus simply measuring the positive outcomes of engagement which lead to high performance. Employee engagement has been variously defined as loyalty, work passion, organizational commitment, job involvement, and willingness to invest discretionary effort (Baradihi, 2012). However, these antecedents primarily don't capture the continuous journey in work management or HRD. Therefore, the existing measurement are often seen as "lagging indicator" of good cultures that succeed in spotting engagement with positive outcomes. Yet in current pandemic situation, the modern Human Resource development (HRD) had created new set of dynamics to build employee engagement, new approaches to performance to maximize productivity. Therefore it is essential to measuring the core experiences that build or detract from engagement and optimal performance, and then using an effective framework to act is suggested.

In this research, HPWS require that the employees are able to increase job engagement and organizational culture, measurement of employee motivation towards job accomplishment; however, measurement of these factors is often limited in research, and rarely combined in the current work practices especially in this post covid work environment. Previous research focused on the implementation of HPWS which has played a key role in increasing the creativity and work effectiveness of employees (Al-Ajlouni, 2021b). According to Chen, Lin, and Wu (2016) HPWS as a means to motivate employees to perform better. Some research results prove that HPWS has a significant positive effect on employee creativity (Baradihi, 2012; Riana *et al.*, 2020). However, there is a significant knowledge gap that can be improved specially to accommodate post covid situation and focusing on implementation of HPWS.

Needless to mention that there are many research direction stated that future HR practice or HRM need to look in stimulating employee creativity which influences better performance. Employee Creativity has a significant positive effect on employee performance (Imran *et al.*, 2018; Ismail *et al.*, 2019; Laksana and Riana, 2020). Therefore, the current research is conducted to close the gap by improving employee work involvement with the integration of Design Thinking process. Current research attempts to extend the Self-Determination Theory in Human Resource (SDT) which will benefit the HPWS research arena and provide organizations with models that can directly influence how their organization will develop HR systems in the future. In addition, a study to evaluate these aspects can provide the field with increased knowledge of important HR factors, such as autonomy, relatedness, competence which leads to high job engagement and eventually lead to better organizational performance.

Autonomous employees greatly value doing work well. Therefore, job designs would be efficient and supported with the integration of design thinking process which is an essential need for autonomy where daily tasks feel meaningful and important. Each of the employees must feel independent or have relatedness feeling that they are connected. Integrating design thinking process in HPWS allow employees to engage in create interaction among employees and with their superiors and other colleagues and also be in self space and explore divergent ideas (Rouse, 2020). The empathy process is a design thinking support deep, diverse understanding of employee’s needs, values and desires are established, autonomous in employees work process. Employees’ competency level can be enhanced via training and development HR practices where employee’s Knowledge skills and abilities get enhance and thereby they are more confident, efficient at work, and have opportunities to grow in the organization. Integrating DT process or steps in improving competency can be ideation which involves generating solutions by combining empathy and observation; this usually requires a multidisciplinary team to address a complex issue. The prototype phase involves generating and testing multiple alternative solutions before finally selecting the best solution through an iterative process. testing involves obtaining feedback about the prototypes from the user group, transferring empathy, as well as refining the solutions (McLaughlin *et al.*, 2019; Roberts *et al.*, 2016; Valentine *et al.*, 2017). Hence, integrating DT processes in Self-Determination Theory in Human Resource (SDT) is a future-facing and strength-based approach (Chiu, 2021). Extending SDT theory supports human-centered process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping, and concurrent business analysis which ultimately influences innovation and overall performance (Celaya, 2015; Girisha, 2020; Liem and Brangier, 2012).

In summary SDT theory and the design thinking process in HPWS certainly directly predicts engaging behavior in employees, foster learning, innovate problem solving and create a constant feedback loops (Zhao *et al.*, 2022). Thus these direct benefits may further increase organizational commitment and employee loyalty (Doshi & McGregor, 2015) and overall performance in intelligent office paradigm. To best of our knowledge, linking HPWS to DT is a completely unexplored area of focus in the research domain. Therefore, the study makes a groundbreaking contribution to development of future research direction through extensive literature review pertaining HPWS and its relatedness to DT to enhance higher organizational performance.

The table below summarises other theories that are closely related to employee creativity, innovation, employee collaborative behaviour that can relate to design thinking process to improve organizational performance, innovative work system and so on. Several theories give insight into the current challenges in the intelligent office context, as shown in Table 2. These theories were obtained from preliminary reading before the systematic review.

Table 2. Relevant theories: HPWS and DT

Type of Theories	Description of the theories	Why it is suitable for this research
Social Exchange Theory (SET)	This theory emphasizes employee creativity behaviour engagement in best practices, which subsequently	Although SET theory focuses on employee engagement and shaping innovative

	shape employees' collaborative behaviours.	behavior, the traditional method of HRD processes in organizations creates a gap in HR-related research. Integrating the DT approach will shed some light on closing the current gap (Al-Ajlouni, 2021a).
Theory of HR Co-Creation	A substantial impact is created to serve multiple stakeholders, thereby maximizing value to the organizational practices and enabling the path to better HR practices for a new norm of work processes (Hewett and Shantz, 2021).	This theory opens up new avenues for HR design and practice, such as information flows through a value chain path; employee engagement, collaboration and feedback will be involved in a cyclic structure that focuses on performance. (Sharma and Bansal, 2020)
Self-Determination Theory in Human Resource (SDT)	SDT theory focuses on HRD that effectively fosters motivation within employees. This theory encourages autonomy and competency in enhancing performance in the workplace.	This theory will be related to this study because the motivation factor within employees is essential during the post-COVID-19 pandemic and may lead to future workforce transformation. Thus, the relatedness will improve talent retention and build highly engaged and motivated cultures that improve performance (Rigby and Ryan, 2018)

This study has the following objectives:

- a) To examine the research gaps on high-performance work systems in the intelligent office domain
- b) To propose an HPWS-integrated DT conceptual framework towards a high-performance work system for the intelligent office.

4.0 Methodology

This study aimed to examine the systematic literature review papers that highlight issues and challenges in the design of a high-performance work system in the intelligent office domain. Thus, this study presents a preliminary conceptual framework wherein knowledge in the field of HPWS and DT core elements can be adopted in the intelligent office domain. Tranfield's five-stage methodology is applied to bridge the research gap in this study. For systematic literature reviews, Tranfield's technique is well-known and often referenced. The following are the five steps of Tranfield's approach that were employed in this study:

- a) Planning the review proposal
- b) Conducting the review
- c) Extracting and synthesizing the research data
- d) Reporting and disseminating the conclusions
- e) Using the results in practice

Stage 1: Planning the review proposal

Stage 1's primary goal is to develop a bridge and establish the overview and extent of the study completed on the selected IO's DT-HPWS design implementation and, as a result, to improve organizational performance. This study aims to give researchers a complete assessment of DT-HPWS implementation, focusing on staff performance for their future research setup. The primary goal of this stage is to tell the research community about prospective study paths in the area and to offer information on the hidden reasons for relevant skillset transformation in this new norm of work practises.

Stage 2: Conducting the review

During this stage, the solutions are identified to enable HR personnel to provide the HR practices in the new norm of work infrastructure and employee engagement initiatives in a workforce. The approaches are frequently put forward to foster greater engagement (Sharma and Bansal, 2020). The findings of this study might have far-reaching repercussions for HR professionals and workers, promoting a human-centred perspective and focusing on generative thinking and creativity thru the DT and HPWS approach.

This study aims to examine the organizational benefits of the DT and HPWS approach and their effect on the IO's organizational efficacy and operational implementation. This study's objectives include determining DT and HPWS implementation benefits and effective practice in intelligent offices. The scholars believe that all the shortfalls are critical to fully comprehend the consequences of the DT approach in HPWS practice in the IO. Furthermore, this study aims to develop a DT-HPWS framework for future use in intelligent offices, offering a quick way of promoting innovative possibilities in the workspace and improving performance.

Inclusion and exclusion criteria

Articles were gathered from the start of the database through March 14, 2022. The inclusion and

exclusion criteria for the articles are listed in Table 3. The hunt took place between May 15, 2021, and March 14, 2022.

Table 3. Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Literature	Indexed journal (research articles)	Non-indexed journals, systematic review articles, book chapters and conference proceedings
Language	English	No other language
Indexes	Scopus, Social Science Citation Index and Australian Business Deans Council	Non-indexed journals

Stage 3: Extracting and synthase the research data

The author collected the papers and the information related to the results and their perspective.

Stages 4 and 5: Reporting and disseminating of findings and using findings in practice

The number of papers included in this review based on the exclusion and inclusion criteria is presented in Table 4.

Table 4. Search results

	Keyword combination used			
	High Performance Work System (HPWS)	High Performance Work System (HPWS)	High Performance Work System (HPWS)	High Performance Work System (HPWS)
		AND	AND	AND
		DT	DT	DT
			AND	AND
			Performance	Intelligent Office
				AND
				Performance

Online Journal Database				
Emerald	814	15	4	0
Taylor & Francis	19225	100	2	0
SAGE Journal	6387	60	1	0
Elsivier	5016	68	1	0
Total	31442	164	8	0

5.0 Study Criterion

Table 3 above presents the articles found with the figures presented. Most HPWS papers were found in the Taylor & Francis database. When multiple keywords were combined in a search, Science Direct returned more relevant publications than the other online databases. Eight (8) papers were identified with HPWS direction, DT and performance as the dependent variable. We further analyzed papers to gain some perceptions. HPWS and innovative work among employees in the IO/virtual/hybrid office domain were discussed; however, the integration of the DT process is lacking in the existing research. Table 5 lists the HPWS that support innovative organizational culture.

Table 5. Synthesis of literature on HPWS and the critical success factor

No	Authors (year)	Title of Article	Findings/Themes
1	Mateus Ximenes, Wayan Gede Supartha, Gusti Ayu Manuati Dewi & Desak Ketut Sintaasih(2019)	Entrepreneurial leadership moderating high performance work system and employee creativity on employee performance	The study establishes the existence of correlations between high-performance work systems, employee creativity that effect on employee performance. It concludes t entrepreneurial leadership plays a role as a moderator of the relationship of high-performance work systems and employee

			creativity to employee performance.
2	Suna Løwe Nielsen Poul Rind Christensen Pia Storvang(2021)	Does Design Thinking Benefit Ambidextrous Dynamics between SME Managers' Entrepreneurial and Administrative Mindsets?	The aim of this study is to explore the potential of Design Thinking to bring value to small firms through ambidexterity, which is essential to firms' performance and survival. The study reveals that Design Thinking does put into motion the managers' ambidextrous thinking. Some Design Thinking principles reinforce entrepreneurial thinking, some administrative management thinking, while others, again reinforce flexible ambidextrous management thinking
3	Evrin Gemici Cemal Zehir(2021)	High-performance work systems, learning orientation and innovativeness: the antecedent role of environmental turbulence	this paper establishes empirical examination whether environmental turbulence leads to the adoption of high-performance work systems (HPWS) and learning orientation (LO) in organizations and contributes to innovativeness. It is intending to increase their innovativeness by stimulating a learning culture and focusing on human capital through HPWS.

4	Rebecca Hewett and Amanda Shantz (2021)	A theory of HR co-creation elsevier	HR co-creation provides considerable insight into HR value creation. It reframes the design and use of HR practices as a continuous process that derives from the collaborative efforts of HR and users to innovate HR practices that meet multiple user needs. The conceptualization also offers a way to balance the interests of multiple stakeholders by focusing on value as a sum of various stakeholder interests.
5	Shana Yarberry and Cynthia Sims (2021)	The Impact of COVID-19-Prompted Virtual/Remote Work Environments on Employees' Career Development: Social Learning Theory, Belongingness, and Self-Empowerment	More intentional activities that engage employees in dialogue, including learning communities, employee resource groups and communities of practice, could be created and administered remotely. HRD professionals, managers, supervisors, and others involved in ensuring that workers are engaged, supported, and continuously building skills while working virtually
6	Ilhaamie Abdul Ghani Azmi, Junaidah Hashim (2022)	Do HRM practices facilitate innovation? A qualitative study in a developing country	The purpose of this study is to examine the implementation of human resource management (HRM) practices that facilitate innovation in the public

			sector in a developing country. Future research indicated that; would be interesting to know different approaches in HRM implemented in the private organizations as well as to examine their influences on performance and other organizational factors.
7	Jola Ade Ashiru Galip Erzat Erdil Dokun Oluwajana(2022)	The linkage between high performance work systems on organizational performance, employee voice and employee innovation	The purpose of this research is to examine HPWS impact on employee innovation and organization performance.Future research should employ other theories of strategic human resource management (SHRM) to further explore more factors that influence the HPWS on employee innovation, employee voice and organization performance.
8	Mohammed Iqbal Al-Ajlouni (2021)	Can high-performance work systems (HPWS) promote organizational innovation? Employee perspective-taking, engagement and creativity in a moderated mediation model emerald	Low levels of HPWS indicate that employees believe that their organizations are still not fully efficient in providing the best possible HPWS from the employees' perspective. Therefore, organizations should investigate these practices from their employees' point of view. HPWS by itself cannot achieve better outcomes in shaping

			employees' behaviours and attitudes.
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6.0 Research gaps specific to this study

The main gaps identified in this study are the importance of soft skills development and the value of the DT approach. There are limited studies conducted in the area of HPWS integrated with DT success in the context of the IO. Intelligent offices focus on autonomy and self-empowerment, who rely on their cognitive ability and are driven to succeed (Yarberry and Sims, 2021). During uncertainty and unexpected circumstances, HRD professionals should be aware that they are in the best position to have the most effect and organizational contribution to employee development (Bailey *et al.*, n.d.). As a result, HRD experts may act as change agents and spearhead initiatives to assist, maintain, and enhance the career development of today's IO or virtual workforce.

The lack of data and research on intelligent offices exemplifies this issue, intending to learn more about the elements that drive HPWS on employee innovation, employee voice and organization performance. IO must understand and adopt any possible recommendations. Previous studies exhibited HPWS and categorized it into standard HR-related practices, usually seen as co-dependent. Thus, the implications of this study help IOs decide whether or not to invest in HPWS and DT to reap the advantages fully.

The number of keywords chosen is a drawback of this study. The selection of keywords is based on the research focus. However, if the keywords are broadened to include a non-specific field of study, such as intelligent office, more publications would be found, potentially leading to publishing biases.

Gap 1: The results show a substantial research gap in HPWS design in the perspective of IOs that focuses on organizational performance and integrates the DT method.

Gap 2: Designing design thinking for HRD certainly offers a means to add to the HRD practitioner toolkit and advance HRD practice.

Gap 3: In the framework of the IO that emphasizes employee innovation behaviour, there is a research gap in HPWS success to prevent resistance to engagement towards achieving competitiveness.

Gap 4: A research gap in HPWS theories that focus on HR traditional approaches in the context of IO addresses the mechanism considering employees' level of assessment of their behaviour.

6.1 Concept Framing

Figure 1 offers a conceptual framework for research to enhance HPWS design by concentrating on the DT method and employing the three fundamental theories to comprehend the three different dimensions which positively influences behavioural outcome, such as performance as a whole: (a) transformational leadership, job design and interpersonal relationship: SDT, (b) self-learning and engagement: social exchange theory, (c) innovative problem solving: DT.

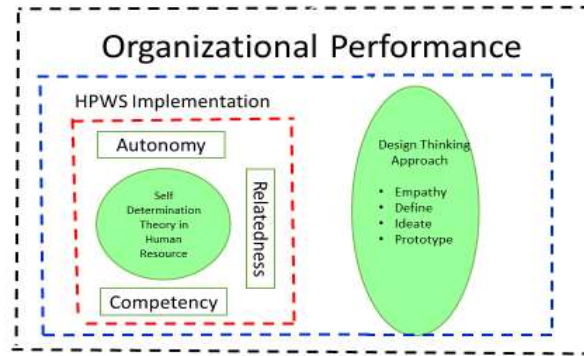


Figure 1 : HPWS- Design Thinking Conceptual Framework

Fig. 1 HPWS- Design Thinking Conceptual Framework.

6.2 Future research recommendation

Researchers examining the relationship between HPWS and DT might use the significant findings of the current study in intelligent office success to investigate ideas for future work. The following are two significant study themes to examine in the future:

- Theme 1: HPWS implementation that takes effect more strictly in the intelligent office domain using the DT approach to evaluate organizational performance
- Theme 2: Fostering employee behaviour towards the innovative problem-solving mechanism
- Theme 3 : Investigate other theories such as theory of co-creating and social exchange theory, AMO and RBV theory in relation to design thinking to evaluate organizational performance.

7.0 Managerial Implication

This study has tried to enhance the understanding of the HPWS and DT effectiveness, particularly in enhancing organizational performance. Designing design thinking in HPWS within the organisation can systematically contribute to HR practitioners as a toolkit and advance HR practices which can lead to greater organizational performance. It was discussed throughout the paper that design thinking is future oriented approach and managers in this globalised environment are constantly challenged by uncertainties. Therefore, it will be a win win situation for HR practitioner to adopt to a new techniques to enhance employees knowledge skills and abilities (KSA) to evolve and emerge.

8.0 Concluding remarks

Principles of HPWS by Nadler (1997) stated that HPWS design should start outward, focusing on customer requirements and then working backwards on the solution and work processes. However, this study focuses on the opposite direction, stressing the internal work process and crafting the processes innovatively and collaboratively using DT stages. The problems that arise

in today's corporate world is quite complex, and many new norms of the work process have been in line in the last three years of pandemic and post-pandemic. Thus, identifying the internal work processes and redefining them would enrich and increase employees' motivations, eventually enhancing flexibility in assigned tasks in the complex problem-solving mechanism. Focusing on customer requirements and then working backwards would temper the work processes and delay the solution. Furthermore, employees will only work on predefined issues rather than many actual problems that may arise in an organization. Therefore, the DT approach in HPWS crafts and cultivates the new skills of involvement into action, mapping problems together and thus solving them efficiently.

Grant information

The author(s) declared that no grants were involved in supporting this work.

Conflicts of interest

No potential conflicts of interest relevant to this article were reported.

Acknowledgements

I thank the Prince Mohammad Bin Fahd University , Saudi Arabia for the support and opportunity to publish this paper.

References

- Agarwala, T. 2003. Innovative human resource practices and organizational commitment: an empirical investigation. *International Journal of Human Resource Management*, 14(2), pp. 175-197.
- Al-Ajlouni, M.I. (2021a), "Can high-performance work systems (HPWS) promote organisational innovation? Employee perspective-taking, engagement and creativity in a moderated mediation model", *Employee Relations*, Vol. 43 No. 2, available at:<https://doi.org/10.1108/ER-09-2019-0369>.
- Al-Ajlouni, M.I. (2021b), "Can high-performance work systems (HPWS) promote organisational innovation? Employee perspective-taking, engagement and creativity in a moderated mediation model", *Employee Relations*, Emerald Group Holdings Ltd., Vol. 43 No. 2, pp. 373–397.
- Amabile, T.M., Hennessey, B.A. and Grossman, B.S. (1986), "Social Influences on Creativity. The Effects of Contracted-for Reward", *Journal of Personality and Social Psychology*, Vol. 50 No. 1, available at:<https://doi.org/10.1037/0022-3514.50.1.14>.
- Ananthram, S., Xerri, M.J., Teo, S.T. and Connell, J., 2018. High-performance work systems and employee outcomes in Indian call centres: a mediation approach. *Personnel Review*, 47(4), pp. 931-950.
- Appelbaum, E., Bailey, T., Berg, P., and Kalleberg, A., 2000. Do high performance work systems pay off? *Research in Sociology of work*. Emerald group publishing Limited. pp. 85-108.

- Arthur, J. B. 1994. Effects of human resource systems on manufacturing performance and productivity. *Academy of Management Journal*, 37(3), pp. 670–687.
- Armstrong, M, 2011. *Armstrong's handbook of Strategic Human Resource Management*. 5th Ed. London. Kogan page.
- Asgarsani, H., Duostdar, O. and Rostami, A. (2013), “Empowerment and its impact on the organization productivity performance-based”, *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 4 No. 11, pp. 738–745.
- Ashiru, J.A., Erdil, G.E. and Oluwajana, D. (2022a), “The linkage between high performance work systems on organizational performance, employee voice and employee innovation”, *Journal of Organizational Change Management*, Emerald Group Holdings Ltd., Vol. 35 No. 1, pp. 1–17.
- Ashiru, J.-A., Erdil, G.E. and Oluwajana, D. (2022b), “The linkage between high performance work systems on organizational performance, employee voice and employee innovation”, *Journal of Organizational Change Management*, Vol. 35 No. 1, pp. 1–17.
- Ayalew Melsse, S. (2017), “The effect of high performance work systems utilization on firm performance: does human resource attribution of employees matter?”, *Journal of HRM*, Vol. XIX No. 2, pp. 63–74.
- Baird, M., 2002. Changes, dangers, choice and voice: Understanding what high commitment management means for employees and unions. *Journal of Industrial Relations*, 44(3), pp. 359-375.
- Bailey, M., Harney, B. and Pearce, A. (n.d.). “Designing a Design Thinking Approach to HRD”, available at:<https://doi.org/10.22324/ijhrdppr.4.202>.
- Bailey, M., Harney, B. and Pearce, A. (n.d.). “Designing a Design Thinking Approach to HRD”, available at:<https://doi.org/10.22324/ijhrdppr.4.202>.
- Barney, J., 1991. Firm resources and sustained competitive advantage. *Journal of management*, 17(1), pp. 99-120.
- Baradihi, F. (2012), *An Exploratory Case Study on the Influence of Sustainability on Employee Engagement*, *ProQuest Dissertations and Theses*.
- Barnes, D.E. (2018), “Modern Project Teams: Effects of Workplace Isolation on Cognitive Engagement, Creativity, and Loneliness”, *ProQuest Dissertations and Theses*, No. April.
- Becker, B. E., and Huselid, M. A., 2006. Strategic human resources management: where do we go from here? *Journal of Management*, 32(6), pp. 898-925.
- Boselie, P., Dietz, G. and Boon, C., 2005. Commonalities and contradictions in HRM and performance research. *Human resource management journal*, 15(3), pp. 67-94.
- Boxall, P. 2012. High-performance work systems: What, why, how and for whom? *Asia Pacific Journal of Human Resources*, 50(2), pp. 169-186.
- Celaya, T.A. (2015), *Cloud-Based Computing and Human Resource Management*

Performance: A Delphi Study, ProQuest Dissertations and Theses.

- Chiu, T.K.F. (2021), “Digital support for student engagement in blended learning based on self-determination theory”, *Computers in Human Behavior*, Vol. 124, available at:<https://doi.org/10.1016/j.chb.2021.106909>.
- Choi, J. H. 2014. Who should be the respondent? Comparing predictive powers between managers' and employees' responses in measuring high-performance work systems practices. *The International Journal of Human Resource Management*, 25(19), pp. 2667-2680.
- Coaker, S., 2011. *Exploring the value and application of HRM best practice theory within a third sector micro-organisation*. University of Herfordshire , UK
- Combs, J., Liu, Y., Hall, A. and Ketchen, D., 2006. How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel psychology*, 59(3), pp. 501-528.
- Costantini, A., Sartori, R. and Ceschi, A. (2017), “Framing Workplace Innovation Through an Organisational Psychology Perspective: A Review of Current WPI Studies”, pp. 131–147.
- Datta, D.K., Guthrie, J.P. and Wright, P.M., 2005. Human resource management and labor productivity: does industry matter?. *Academy of management Journal*, 48(1), pp. 135-145.
- Delery, J.E. and Doty, D.H., 1996. Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of management Journal*, 39(4), pp. 802-835.
- El-Ghalayini, Y., 2016. The effects of high performance work system on employee attitudes: A study of international organization. *Journal of Administrative and Business Studies*, 2(5), pp. 248-263.
- Elsbach, K.D. and Stigliani, I. (2018), “Design Thinking and Organizational Culture: A Review and Framework for Future Research”, *Journal of Management*, Vol. 44 No. 6, available at:<https://doi.org/10.1177/0149206317744252>.
- Evans, W.R. and Davis, W.D., 2005. High-performance work systems and organizational performance: The mediating role of internal social structure. *Journal of management*, 31(5), pp. 758-775.
- Felstead, A. and Gallie, D., 2004. For better or worse? Non-standard jobs and high involvement work systems. *The International Journal of Human Resource Management*, 15(7), pp. 1293-1316.
- Flinchbaugh, C., Li, P., Luth, M.T. and Chadwick, C. (2016), “Team-level high involvement work practices: investigating the role of knowledge sharing and perspective taking”, *Human Resource Management Journal*, Vol. 26 No. 2, pp. 134–150.
- Fu, N., Flood, P.C., Bosak, J., Morris, T. and O'Regan, P., 2015. Exploring the performance effect of HPWS on professional service supply chain management. *Supply*

Chain Management: An International Journal, 18(3), pp. 292-307.

- Girisha, M.C. (2020), “E-Human Resource Management (E-Hrm) Practices in Automotive Industry in Karnataka”, *Mukt Shabd Journal*, Vol. IX No. Iv.
- Guthrie, J.P., Flood, P.C., Liu, W. and MacCurtain, S., 2009. High performance work systems in Ireland: human resource and organizational outcomes. *The International Journal of Human Resource Management*, 20(1), pp. 112-125.
- Heffernan, M. and Dundon, T. (2016), “Cross-level effects of high-performance work systems (HPWS) and employee well-being: the mediating effect of organisational justice”, *Human Resource Management Journal*, Vol. 26 No. 2, pp. 211–231.
- Hewett, R. and Shantz, A. (2021), “A theory of HR co-creation”, *Human Resource Management Review*, Elsevier Ltd, Vol. 31 No. 4, available at:<https://doi.org/10.1016/j.hrmr.2021.100823>.
- Huang, L.-C., Ahlstrom, D., Lee, A.Y.-P., Chen, S.-Y. and Hsieh, M.-J. (2016), “High performance work systems, employee well-being, and job involvement: an empirical study”, *Personnel Review*, Vol. 45 No. 2, pp. 296–314.
- Huselid, M.A., 1995. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of management journal*, 38(3), pp. 635-672.
- Imran, M.K., Ilyas, M., Aslam, U. and Fatima, T. (2018), “Knowledge processes and firm performance: the mediating effect of employee creativity”, *Journal of Organizational Change Management*, Vol. 31 No. 3, available at:<https://doi.org/10.1108/JOCM-10-2016-0202>.
- Ismail, H.N., Iqbal, A. and Nasr, L. (2019), “Employee engagement and job performance in Lebanon: the mediating role of creativity”, *International Journal of Productivity and Performance Management*, Vol. 68 No. 3, available at:<https://doi.org/10.1108/IJPPM-02-2018-0052>.
- Iverson, R.D. and Zatzick, C.D., 2007. High-commitment work practices and downsizing harshness in Australian workplaces. *Industrial Relations: A Journal of Economy and Society*, 46(3), pp. 456-480.
- Jiang, J.Y. and Liu, C.W., 2015. High performance work systems and organizational effectiveness: The mediating role of social capital. *Human Resource Management Review*, 25(1), pp. 126-137.
- Jiang, K., Lepak, D.P., Han, K., Hong, Y., Kim, A., and Winkler, A. L., 2012. Clarifying the construct of human resource systems: Relating human resource management to employee performance. *Human Resource Management Review*, 22(2) pp. 73-85.
- Jyoti, J. and Rani, A. (2017), “High performance work system and organisational performance: role of knowledge management”, *Personnel Review*, Vol. 46 No. 8, pp. 1770–1795.
- Karatepe, O.M., 2013. High-performance work practices and hotel employee

performance: The mediation of work engagement. *International Journal of Hospitality Management*, 32, pp. 132-140.

- Kehoe, R.R. and Wright, P.M., 2013. The impact of high-performance human resource practices on employees' attitudes and behaviors. *Journal of management*, 39(2), pp. 366-391.
- Korff, J., Biemann, T. and Voelpel, S.C. (2017), "Human resource management systems and work attitudes: The mediating role of future time perspective", *Journal of Organizational Behavior*, Vol. 38 No. 1, pp. 45–67.
- Lahti, M. and Nenonen, S. (2021), "Design science and co-designing of hybrid workplaces", *Buildings*, Vol. 11 No. 3, available at:<https://doi.org/10.3390/buildings11030129>.
- Laksmana, G.B. and Riana, G. (2020), "Intrinsic Motivation Mediates The Influence Of Transformational Leadership On The Employee Performance", *American Journal of Humanities and Social Sciences Research*, No. Xx.
- Lawler, E.E., 1986. *High-Involvement Management. Participative Strategies for Improving Organizational Performance*. Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104.
- Lawler, J. J. Chen, S, Wu, P, Bae, J and Bai, B., 2011. High-performance work systems in foreign subsidiaries of American multinationals: An institutional model. *Journal of international business studies: JIBS; the journal of the Academy of International Business*, 42(2) pp. 202-220.
- Lee, S.H. (2021), *Big Data, Social Media and HPWS for the Intelligent Office*.
- Lepak, D. P., Liao, H., Chung, Y., and Harden, E. E., 2006. A conceptual review of human resource management systems in strategic human resource management research. *Research in personnel and human resources management*. 25(1), pp. 217-271.
- Liedtka, J. and Kaplan, S. (2019), "How design thinking opens new frontiers for strategy development", *Strategy and Leadership*, Vol. 47 No. 2, available at:<https://doi.org/10.1108/SL-01-2019-0007>.
- Liem, A. and Brangier, E. (2012), "Innovation and design approaches within prospective ergonomics", *Work*, Vol. 41, available at:<https://doi.org/10.3233/WOR-2012-0013-5243>.
- MacDuffie, J.P., 1995. Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48(2), pp. 197-221.
- Martin-Tapia, I., Aragon-Correa, J.A. and Guthrie, J.P., 2009. High Performance work Systems and Export Performance. *The International Journal of Human Resource Management*, 20(3), pp. 633-653.
- Mahdi, S.M., Liao, J., Muhammad, S. and Nader, H.M. (2014), *The Impact of High Performance Work System (HPWS) on Employee Productivity as Related to Organizational Identity and Job Engagement*, *European Journal of Business and*

Management Wwww.Iiste.Org ISSN, Vol. 6, Online, available at: www.iiste.org.

- McKelvey, B. and Sekaran, U. (1977), “Toward a Career-Based Theory of Job Involvement: A Study of Scientists and Engineers”, *Administrative Science Quarterly*, Vol. 22 No. 2, available at:<https://doi.org/10.2307/2391961>.
- McLaughlin, J.E., Wolcott, M.D., Hubbard, D., Umstead, K. and Rider, T.R. (2019), “A qualitative review of the design thinking framework in health professions education”, *BMC Medical Education*, Vol. 19 No. 1, available at:<https://doi.org/10.1186/s12909-019-1528-8>.
- Messersmith, J.G., Patel, P.C., Lepak, D.P. and Gould-Williams, J.S., 2011. Unlocking the black box: exploring the link between high-performance work systems and performance. *Journal of Applied Psychology*, 96(6), pp. 1105.
- Moreland, J. (2013), “Improving Job Fit Can Improve Employee Engagement and Productivity”, *Employment Relations Today*, Vol. 40 No. 1, available at:<https://doi.org/10.1002/ert.21400>.
- Moura, D., Orgambidez-Ramos, A. and Gonçalves, G. (2014), “Role stress and work engagement as antecedents of job satisfaction: Results from Portugal”, *Europe's Journal of Psychology*, Vol. 10 No. 2, available at:<https://doi.org/10.5964/ejop.v10i2.714>.
- Nolan, C.T. and Garavan, T.N. (2016), “Human Resource Development in SMEs: A Systematic Review of the Literature”, *International Journal of Management Reviews*, Blackwell Publishing Ltd, Vol. 18 No. 1, pp. 85–107.
- Obeidat, S.M., Mitchell, R. and Bray, M., 2016. The link between high performance work practices and organizational performance: Empirically validating the conceptualization of HPWP according to the AMO model. *Employee Relations*, 38(4), pp. 578-595.
- Özçelik, G., Aybas, M. and Uyargil, C., 2016. High performance work systems and organizational values: Resource-based view considerations. *Procedia-Social and Behavioral Sciences*, 235, pp.332-341.
- Paauwe, J., 2009. HRM and performance: Achievements, methodological issues and prospects. *Journal of Management studies*, 46(1), pp. 129-142.
- Pak, J. and Kim, S. (2018), “Team Manager’s Implementation, High Performance Work Systems Intensity, and Performance: A Multilevel Investigation”, *Journal of Management*, Vol. 44 No. 7, pp. 2690–2715.
- Parks, S., 1995. Improving workplace performance: Historical and theoretical contexts. *Monthly Labor Review*, 118(5), pp. 18-28.
- Panigrahi, S., Mohanty, S. and Mishra, P.C. (2019), “High performance work system, firm performance and employee outcomes: A review”, *Espacios*, Vol. 40 No. 42.
- Posthuma, R.A., Campion, M.C., Masimova, M. and Campion, M.A., 2013. A high performance work practices taxonomy: Integrating the literature and directing future research. *Journal of Management*, 39(5), pp. 1184-1220.

- Pruneau, D. and Langis, J. (2015), “Design thinking and ICT to create sustainable development actions: Design thinking, ICT and sustainable development”, *CSEDU 2015 - 7th International Conference on Computer Supported Education, Proceedings*, Vol. 1, SciTePress, pp. 442–446.
- Rasool, B.N. and Shah, A., 2015. *Evaluating the impact of human resources on firm performance: a literature review*.
- Riana, I.G., Aristana, I.N., Rihayana, I.G., Wiagustini, N.L.P. and Abbas, E.W. (2020), “High-performance work system in moderating entrepreneurial leadership, employee creativity and knowledge sharing”, *Polish Journal of Management Studies*, Vol. 21 No. 1, available at:<https://doi.org/10.17512/pjms.2020.21.1.24>.
- Rich, B.L., Lepine, J.A. and Crawford, E.R. (2010), “Job engagement: Antecedents and effects on job performance”, *Academy of Management Journal*, Vol. 53 No. 3, available at:<https://doi.org/10.5465/amj.2010.51468988>.
- Rigby, C.S. and Ryan, R.M. (2018), “Self-Determination Theory in Human Resource Development: New Directions and Practical Considerations”, *Advances in Developing Human Resources*, SAGE Publications Inc., Vol. 20 No. 2, pp. 133–147.
- Roberts, J.P., Fisher, T.R., Trowbridge, M.J. and Bent, C. (2016), “A design thinking framework for healthcare management and innovation”, *Healthcare*, Vol. 4 No. 1, available at:<https://doi.org/10.1016/j.hjdsi.2015.12.002>.
- Rouse, E.D. (2020), “Where you end and i begin: Understanding intimate co-creation”, *Academy of Management Review*, Vol. 45, available at:<https://doi.org/10.5465/amr.2016.0388>.
- Rubel, M.R.B., Rimi, N.N., Yusoff, Y.M. and Kee, D.M.H., 2018. High Commitment Human Resource Management Practices and Employee Service Behavior: Trust in Management as Mediator. *IIMB Management Review*. 000. pp. 1-14
- Sanders, K., Shipton, H. and Gomes, J.F.S. (2014), “Guest Editors’ Introduction: Is the HRM Process Important? Past, Current, and Future Challenges”, *Human Resource Management*, Vol. 53 No. 4, pp. 489–503.
- Sharma, G. and Bansal, P. (2020), “Cocreating rigorous and relevant knowledge”, *Academy of Management Journal*, Vol. 63 No. 2, available at:<https://doi.org/10.5465/amj.2016.0487>.
- Shin, D. and Konrad, A.M. (2017), “Causality Between High-Performance Work Systems and Organizational Performance”, *Journal of Management*, Vol. 43 No. 4, pp. 973–997.
- Siddique, M. (2016), “The effects of High-performance work systems on organizational performance”.
- Singh, J.P., Chand, P.K., Mittal, A. and Aggarwal, A. (2020), “High-performance work system and organizational citizenship behaviour at the shop floor”, *Benchmarking: An International Journal*, Vol. 27 No. 4, pp. 1369–1398.
- Sourchi, S.M., and Liao, J. 2015. The positive impact of high performance work systems

(HPWS) on employee commitment and self-sufficiency in strategic human resource management (SHRM) in Kurdistan. *European Journal of Business & Management*, 7(3), pp. 80-109.

- Sun, L., Aryee, S. and Law, K.S., 2007. High-Performance Human Resource Practices, Citizenship Behavior, and Organizational Performance: A Relational Perspective. *Academy of Management Journal*, 50(3), pp. 558–577.
- Sung, J and Ashton, D., 2005. *High performance work practices: Linking strategy and skills to performance outcomes*, DTI in association with CIPD.
- Úbeda-García, M., Claver-Cortés, E., Marco-Lajara, B., Zaragoza-Sáez, P. and García-Lillo, F. (2018), “High performance work system and performance: Opening the black box through the organizational ambidexterity and human resource flexibility”, *Journal of Business Research*, Vol. 88, pp. 397–406.
- Tregaskis, O., Daniels, K., Glover, L., Butler, P., and Meyer, M. 2013. High performance work practices and firm performance: A longitudinal case study. *British Journal of Management*, 24, pp. 225-244.
- Tomer, J.F., 2001. Understanding high-performance work systems: the joint contribution of economics and human resource management☆. *The Journal of socio-economics*, 30(1), pp. 63-73.
- Valentine, L., Kroll, T., Bruce, F., Lim, C. and Mountain, R. (2017), “Design Thinking for Social Innovation in Health Care”, *Design Journal*, Vol. 20 No. 6, available at:<https://doi.org/10.1080/14606925.2017.1372926>.
- Vansteenkiste, M., Soenens, B., Verstuyf, J. and Lens, W. (2009), “What is the usefulness of your schoolwork?: The differential effects of intrinsic and extrinsic goal framing on optimal learning”, *Theory and Research in Education*, Vol. 7 No. 2, available at:<https://doi.org/10.1177/1477878509104320>.
- White, M. and Bryson, A. (2019), “Comparison”.
- Wright, P. M., Dunford, B. B., and Snell, S. A. 2001. Human resources and the resource based view of the firm. *Journal of Management*, 27, pp.701-721.
- Wood, S. and de Menezes, L.M., 2011. High involvement management, high-performance work systems and well-being. *The International Journal of Human Resource Management*, 22(07), pp. 1586-1610.
- Wood, S., 1999. Getting the measure of the transformed high-performance organization. *British Journal of Industrial Relations*, 37(3), pp. 391-417.
- Ximenes, M., Supartha, W.G., Manuati Dewi, I.G.A. and Sintaasih, D.K. (2019), “Entrepreneurial leadership moderating high performance work system and employee creativity on employee performance”, *Cogent Business and Management*, Vol. 6 No. 1, available at:<https://doi.org/10.1080/23311975.2019.1697512>.
- Yarberry, S. and Sims, C. (2021), “The Impact of COVID-19-Prompted Virtual/Remote Work Environments on Employees’ Career Development: Social Learning Theory,

Belongingness, and Self-Empowerment”, *Advances in Developing Human Resources*, SAGE Publications Inc., Vol. 23 No. 3, pp. 237–252.

- Zhao, H., Chen, Y. and Liu, W. (2022), “Socially Responsible Human Resource Management and Employee Moral Voice: Based on the Self-determination Theory”, *Journal of Business Ethics*, available at:<https://doi.org/10.1007/s10551-022-05082-5>.