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**University of Bath** 

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# The role of AMO HR practices and knowledge sharing in developing a learning organizational culture: Evidence from the United Kingdom

# Abstract

**Purpose:** This study explores how the three types of HR practices, encapsulated in the ability, motivation, and opportunity AMO model, foster a learning organizational culture. In so doing, we evaluate the centrality of knowledge sharing in mediating this relationship.

**Design/methodology/approach:** A quantitative survey is undertaken to collect data from managers working in organizations operating in the United Kingdom. We use several statistical techniques to assess the psychometric properties of the measures and test the hypotheses using multiple regression executed with Preacher & Hayes' *Process* macro.

**Findings:** The findings show that the AMO HR practices significantly facilitate the development of a learning organizational culture in the workplace, and knowledge sharing among organizational members amplifies the effects of these HR practices in the process.

**Originality:** A learning organizational culture functions as an important source of organizational performance and effectiveness. It enhances the absorptive capacity of the organisation to capture, share and transfer knowledge to optimize work. Hence, developing a culture that nurtures organizational learning could be a priority for managing HR. This study, therefore, extends the understanding of the role of AMO HR practices in fostering a learning culture – thus, providing managers with the essential knowledge to improve performance. The study also enriches the literature on HR practices, knowledge sharing, and learning organizational culture by integrating these three variables into a unifying framework.

**Keywords:** HR practices, AMO HR practices, organizational culture, learning culture, knowledge transfer, human resources, knowledge sharing, learning organizational culture.

#### 1. Introduction

Facing intense competition and changing environments, present-day organizations rely on a variety of human resource (HR) practices to find innovative ways to optimize their work and business operations (Murthy & Kumar, 2021). While effective HR practices are critical for gaining a competitive advantage (Albrecht et al., 2015), organizations must ensure that the knowledge relevant to organizational effectiveness is appropriately shared and managed. Extant literature signifies the role of knowledge management in shaping the relationship between HR practices and workforce optimization (Archer-Brown & Kietzmann, 2018; Huang & Li, 2008; Jyoti & Rani, 2017). Similarly, North and Kumta (2018) argue that managing knowledge becomes vital once employees see the direct benefits of the knowledge-sharing process. Research in this area suggests that organizations should implement appropriate people and knowledge management practices as they contribute to organizational learning (Jabeen & Al Dari, 2020). For example, employees are likely to share knowledge when exposed to HR practices that influence their task motivation and are provided opportunities to develop their abilities and apply them in the workplace (Andreeva & Sergeeva, 2016; Cabrera & Cabrera, 2005; Reinholt, Pedersen, & Foss, 2011).

To facilitate knowledge sharing effectively, North and Kumta (2018) also stress the need for efficient processes and structures for creating and transmitting knowledge throughout an organization. Cabrera and Bonache (1999) further add that HR practices convey information to employees and shape their behaviour, thus creating certain values and norms which underpin organizational cultures. An organizational culture can be defined as pattern of shared beliefs and assumptions that shape people, practices and processes in organizations (Schein, 2004). The literature, however, is limited on how HR practices, such as those covered under the ability, motivation and opportunity (AMO) model can lead to the

development of a learning organizational culture in a rapidly changing world of work (Andreeva & Sergeeva, 2016; Sterling & Boxall, 2013). Although Lau and Ngo (2004) argue that different groups of HR practices and their contingent effects need to be examined in terms of how organizational cultures are constituted, few studies have explored the impact of knowledge sharing on specific HR practices in developing learning organizational cultures (Gooderham et al., 2022; Iqbal et al., 2020; Lau & Ngo, 2004; Singh, 2010).

Our study is, therefore, stimulated by existing debates in the literature which consider the possibility that when employees share their knowledge, individual learning processes are enriched throughout their workplace (Bhatti et al., 2021; Darwish et al., 2020); (Loermans, 2002; Marsick & Watkins, 2003); (Yang, 2007), which in turn contribute to a culture that centres on learning and development (Edmondson & Moingeon, 1998). Supporting this notion, Nugroho (2018) notes that knowledge sharing at the individual level positively correlates with processes of organizational learning. When employees have the ability and opportunity to share their experiences, new knowledge among members is created, which helps stimulate learning (Yang, 2007). This process, therefore, corresponds to creating a learning organizational culture (Škerlavaj et al., 2007).

Acknowledging that previous research has shown some linkages between HR practices, knowledge sharing, and learning organizational cultures, their associations have often been examined separately, without a unifying theoretical framework such as the AMO model. For example, Iqbal et al. (2020) investigate the impact of HR practices on corporate culture, while Azeem et al. (2021) explore the connection between organizational culture and knowledge sharing. Most studies in the literature fall short of examining the linkages between AMO HR practices and a learning organizational culture with a focus on knowledge sharing. Hence, in this study, we develop an understanding of the role of HR practices in developing

a learning organisational culture by using the ability, motivation, and opportunity (AMO) model (Appelbaum et al., 2000) to predict the relationships of (1) ability (or competency)-enhancing, (2) motivation-enhancing, and (3) opportunity-enhancing. Bulk of the literature drawing on the AMO model often interchangeably uses the notion of 'ability' to that of competencies which shape people's knowledge and skills (e.g., know-how and know-what) (Bhatti et al., 2021; Jyoti & Rani, 2017). We also take the lead from previous literature, and set out to answer the research question underpinning this study i.e., what is the relationship between AMO HR practices and a learning organizational culture, and how is this relationship mediated by knowledge sharing behaviour among employees?

We also acknowledge the central role of knowledge sharing among employees in tapping one's creative potential, knowledge, and learning (North & Kumta, 2018). Thus, examining the role of knowledge sharing in the relationship between AMO HR practices and learning organizational culture is particularly critical for HR managers, academicians, and practitioners to understand the value of knowledge management within contemporary organizations. We, therefore, posit knowledge sharing as a mediator between HR practices and a learning organizational culture in shaping the absorptive and adaptive capacities of the firm. Our rationale for using the AMO model is grounded within the belief that such HR practices help identify the factors that promote, or hinder knowledge sharing and provide a basis for developing effective knowledge management which foster a learning culture (Bhatti et al., 2021; Jyoti & Rani, 2017).

Given that a learning organizational culture functions as an important source for retaining, creating, processing and transmitting knowledge across the organisation, developing a culture that nurtures learning becomes a fundamental goal for achieving positive work outcomes. This study, therefore, extends the understanding of the role of AMO HR

practices in fostering a learning culture – providing managers with the essential knowledge they need to achieve organizational goals. We argue that HR practices that focus on employees' AMO have a positive impact on the development of knowledge, skills and abilities as well as their ability to absorb/apply new information (Bhatti et al., 2021). Our study contributes at the intersection of the literature on HR practices, knowledge sharing, and learning organizational culture by integrating these three perspectives into a unified framework. It also advances understanding of developing learning cultures by demonstrating the notable impact of AMO HR practices and knowledge sharing with implications for managing people in the contemporary workplace. Finally, this study expands the knowledge management literature by demonstrating the mediating role of knowledge sharing between HR practices and learning organizational culture.

# 2. Theoretical background

A review of the literature suggests an intricate relationship between HRM practices and the development of a learning organizational culture. For example, aligning people management practices with those promoting continuous learning can lead to higher performance by giving way to routines and habits which encourage knowledge sharing, adaptation or thinking out of the box (see Bierly and Daly (2002); Salvato and Vassolo (2018); Wang and Noe (2010)). Scholars also note several aspects of this relationship to flourish through better integration of policies and practices that encourage cultivation of new skills, opportunities to share best practices and challenge one's ideas (Coopey, 1995). These are more likely to be accomplished by key HRM functions such as: training and development (i.e. competency building), talent management (i.e. sustaining high calibre employees), organisational development (i.e. providing capabilities and the environment to work through change) and

performance appraisals (i.e. identifying areas of low skill and offering learning opportunities) (see (Oltra & Vivas-López, 2013); (Fiol & Lyles, 1985); (Crossan et al., 1995).

In other words, HRM practices and a learning organization have a mutually supportive relationship which spans across different functions of people management (Coopey, 1995). It is interesting to note that HR practices contributing to a learning organisation hinge upon the strategic utilization of people as resources (Halawi, McCarthy, & Aronson, 2006). What connects HRM practices with the notion of a learning organization to achieve better performance of people in the workplace is the AMO (abilities, motivation and opportunity) model (Malik, Froese, and Sharma (2020). By investing in the AMO model, organizations can facilitate the activation of a learning culture which in turn leads to highly skilled workers who are motivated and able to grasp opportunities to develop and grow (Bhatti et al., 2021; (Cui & Yu, 2021).

# 2.1 HR practices (AMO model)

The Abilities, Motivation and Opportunities (AMO) model is a theoretical framework often used in HRM research and practice to explain how employees within an organization are able to perform their work and achieve desired outcomes (Boxall, 2003; Ehrnrooth & Björkman, 2012). Scholars argue that the AMO model provides a framework for evaluating the factors that influence people's behavior in the workplace and its subsequent impact on employee output and performance (Bhatti et al., 2021; Cui & Yu, 2021). According to Appelbaum et al. (2000), AMO theory stipulates that organisations are likely to perform better when employees have the AMO to execute their daily work routines. Use of AMO HR practices in the workplace is often correlated with higher employee engagement, thus giving employees the motivation to persist with their work and spot opportunities for value-addition (Boxall, 2003; Zhang & Morris, 2014).

We draw on the AMO model to examine the relationship between HR practices and the creation of a learning organizational culture in the backdrop of knowledge sharing as a mediating factor. Our choice of selecting the AMO model is based on the idea that abilities, motivation and opportunities signify three distinct theoretical components that collectively explain the functioning of HRM practices and their contribution to organizational performance (Demortier, Delobbe, & El Akremi, 2014) (Raineri, 2017). By separating and distinguishing each aspect of the AMO model, we can acquire a better understanding of how each factor plays out and contributes to the success of the organisation and perhaps serves as three-step mechanism to diagnose how knowledge sharing promotes the interrelationship between HR practices and organizational learning among employees (Malik et al. 2020). Scholars also argue that separating the AMO model into independent individual variables help analyse problems at different levels to ensure better alignment and coordination of HRM practices (Bhatti et al., 2021). For example, knowing where the organization lacks (e.g. skills/competencies, morale/incentive or opportunities) can help inform HR managers to better design policies and practices which enhance people performance in organisations (e.g. Jyoti & Rani, 2017). Another aspect of investigating AMO separately, pertinent to this study, is perhaps understanding which HRM practices influence employees learning and whether they are mediated by sharing of knowledge (e.g., (Marin-Garcia & Tomas, 2016; Naqshbandi, Meeran, & Wilkinson, 2023). Treating AMO factors independently, therefore, acknowledges that different HRM practices can have varying effects on how people behave in the organisation.

The three HR practices underpinning the AMO model consist of ability/competency, motivation, and opportunities enhancing practices, which are explained below:

a) *Ability or competency-enhancing HR practices* equip employees with essential knowledge, skills, and attitudes through developmental activities as a way to improve employee proficiency in job roles. Elbaz, Agag, and Alkathiri (2018) consider abilities as a package of competencies possessed by an employee which includes 'talent, knowledge, skills, proficiency and experience' needed to fulfil work routines. Other scholars argue that when employee competencies improve, they excel in their work-related tasks, adopting innovative ideas and enhancing their performance (Khoreva & Wechtler, 2018; Ma Prieto & Pilar Pérez-Santana, 2014). Therefore, enriching employee abilities or competencies through upskilling or training initiatives complementary to their position is likely to improve organizational effectiveness and performance (Potnuru & Sahoo, 2016).

b) *Motivation-enhancing HR practices* are concerned with the creation of work conditions which motivate employees to perform their assigned tasks (or the degree of willingness to perform) (Elbaz et al., 2018). These HR practices involve behavioural appraisals, competitive compensation, recognition, direct incentives and rewards, and job enrichment (Marin-Garcia & Tomas, 2016; Mom et al., 2018). Scholars also suggest that organizations assisting employees in increasing their motivation to perform their tasks in turn boost employees' morale and commitment (Ma Prieto & Pilar Pérez-Santana, 2014) while configuring their behaviour towards fulfilling organizational goals (Ujma & Ingram, 2019). Highly motivated employees are desired by any organization as they can accelerate their productivity and influence organizational performance (Pang & Lu, 2018).

c) *Opportunity-enhancing HR practices* help identify and utilize resources (and instances) to add value to the way employees perform work tasks (Jyoti & Rani, 2017). Opportunities often cascade from competency and motivation enhancing practices to exploit opportunities at work by creating employee buy-in, delegating authority, and exposing them

to high-involvement activities, such as a quality circle, flexible job design, job rotation, and teamwork, which enable them to participate in decision-making and information exchange (Ma et al., 2017; Marin-Garcia & Tomas, 2016; Mom et al., 2018). As a result, employees acquire autonomy and are inclined to identify with organizational objectives and optimize their work processes (Ujma & Ingram, 2019). These HR practices also promote innovative work behaviour (Ma Prieto & Pilar Pérez-Santana, 2014) and improve employees' in-role performance (Khoreva & Wechtler, 2018).

#### 2.2 Learning organizational culture

The notions of organizational learning, learning organisation and a learning culture often conceptually overlap with some distinctive yet similar characteristics (Lau et al., 2017). Organizational learning (Steinmetz et al., 2011) involves putting in place structures, processes, and practices which create opportunities for imagination, innovation, and ingenuity (Garvin, 2003; Naqshbandi & Tabche, 2018). OL transforms the organization into a learning enterprise which facilitates the movement of knowledge across the entire organization (Garvin, Edmondson, & Gino, 2008). The literature identifies three building blocks which underpin a learning organisation: cultivating a supportive climate for learning, installing formal and informal learning processes, and reinforcing learning through effective people management practices (Goh, 2003; Yeo & Marquardt, 2010). These building blocks are inherently linked with the culture of an organisation which constitutes 'shared experiences, beliefs, values and assumptions that define employee behaviours and attitudes (Lau et al., 2017, p. 163). When put together, a learning organizational culture encourages dialogue, feedback, and experimentation, cultivating collaboration and team learning (Marsick & Watkins, 2003). It helps employees attain a high level of performance through activities that enrich work engagement and offer continuous learning opportunities

(Ladyshewsky & Taplin, 2018; Wahda, 2017). Here, employees create, share, and acquire knowledge, enhancing their competencies (Potnuru, Sahoo, & Parle, 2021) and focusing on performing job tasks (Ladyshewsky & Taplin, 2018; Lin & Huang, 2021). Such a culture, therefore, clears the path for an organization to grow and achieve workplace efficiency and competitiveness (Azeem et al., 2021; Lin & Huang, 2021).

#### 2.3 Knowledge sharing

Knowledge sharing is central to knowledge management (North & Kumta, 2018). The process of knowledge sharing encompasses the exchange of information, skills, or expertise among employees (Caruso, 2017) amid individuals' willingness to help others and learn from them (Yang, 2007). By exchanging knowledge with others, employees will likely absorb more information, strengthen their knowledge assets and improve performance (Ahmad & Karim, 2019; Del Giudice & Della Peruta, 2016). Our use of knowledge sharing in this study is more holistic in nature as it considers knowledge exchange or sharing as an allencompassing construct which includes the dissemination, transfer or utilization of knowledge through different parts of the organisation (e.g. teams, departments, hierarchies etc.). The reason for using knowledge sharing at a broader level is based on the multifaceted nature of knowledge itself that circulates throughout the organisation, for example from problem-solving to sharing practices, from in-person interaction to online engagements, and from socialization to more focused meetings etc. (Rosen, Furst, & Blackburn, 2007). Fluidity of knowledge, and its degree of explicitness, also suggests its emergence not only from people (or human behaviours) but it is also embedded within organisational processes, practices, archives, and legacy etc. (Cabrera, Collins, & Salgado, 2006); (Holste & Fields, 2010). For this purpose, our study considers both the human as well as organizational factors which portray knowledge as a dynamic construct shaping the workplace environment.

Putting knowledge into effective practice, e.g., transferring it to other members of one's organization and productively utilizing it, enables the development of employees' competencies (Meher et al., 2022). Due to employee knowledge-sharing activities, the learning process perpetually flows throughout the organization (Yang, 2007), benefiting it via enhanced learning, innovation, and business process efficiency (Ahmad & Karim, 2019; Naqshbandi, Kaur, & Ma, 2015). Therefore, learning collectively by means of knowledge sharing contributes to the growth of the organizational intangible/intellectual assets, which can be accessed by every organizational member (Del Giudice & Maggioni, 2014; Irawan, Bastian, & Hanifah, 2019). These activities, therefore, enable employees to exhibit greater self-efficacy, job satisfaction, learning, and creativity (Ahmad & Karim, 2019; Azeem et al., 2021).

#### 3. Hypothesis development

We develop a model depicting the interrelation between AMO HR practices, knowledge sharing and a learning organizational culture to answer our research question: What is the relationship between AMO HR practices and a learning organizational culture, and how is this relationship mediated by knowledge sharing behavior among employees? In so doing, we develop seven hypotheses as part of our model. We depict these hypotheses in the form of a framework in Figure 1.

# Figure 1 here

#### Knowledge sharing and learning organizational culture

Many studies have confirmed the empirical association between knowledge sharing and aspects of a learning organizational culture. Specifically, knowledge sharing fosters successful collaboration (Kotlarsky & Oshri, 2005), team creativity (Ma et al., 2017),

intellectual capital (Oliveira et al., 2020), knowledge creation (Iqbal, Toulson, & Tweed, 2015), and absorptive capacity (Kang & Lee, 2017; Oliveira et al., 2020). Oliveira et al. (2020); Wang, Sharma, and Cao (2016) further assert that knowledge-sharing activities involving stakeholders can enhance organisational learning capabilities. A key way by which knowledge sharing enhances organisational learning capabilities is by promoting collaboration among employees, breaking down silos, creating a culture of continuous improvement, and building trust among employees (Park & Kim, 2018). Nahapiet and Ghoshal (1998) note that knowledge sharing leads to the creation of social capital (or networks/communities), which is essential for exchange of information and learning within an organization. The significance of knowledge sharing is also noted by (Nonaka & Takeuchi, 1995) who argue that circulation of knowledge is essential for creating a learning organization where knowledge becomes a strategic asset for the firm.

Knowledge sharing is likely to upskill employees faster and offer opportunities for new/innovative ideas (Argote, McEvily, & Reagans, 2003). A lack of knowledge sharing opportunities can have negative consequences not only on developing the skills of employees but also on their morale (Lekhawipat, Wei, & Lin, 2018)). Absence of opportunities to share best practices, new insights or legacies can result in poor decision-making, repetition of mistakes, loss of talent, lack of innovation or anxiety among employees (Garvin, 2003; Massingham, 2018). We argue that this is more likely to result in failure to perform and achieve intended organisational goals both in the short and long term (Malhotra & Majchrzak, 2004). Based on these studies, we hypothesize that knowledge sharing positively relates to learning organizational culture:

H1: Knowledge sharing positively relates to building a learning organizational culture.

# Competency-enhancing HR and knowledge sharing

Studies suggest that employees engaged in competency-enhancing activities have greater confidence and self-efficacy, promoting their knowledge-sharing behaviour (Cabrera & Cabrera, 2005). For example, training programs for developing teamwork help stimulate socialization and establish employee relationships, encouraging knowledge sharing (Cabrera & Cabrera, 2005). Literature also suggests that knowledge sharing practices are positively correlated with competency enhancing measures as it enhances the ability of employees to perform their tasks effectively. For example, a study by Bock and Kim (2002) found that employees who participated in training programs were more likely to share their knowledge and expertise with others to allow best practices to circulate within the firm. In another study, Lin and Lee (2012) found that employees who received feedback from their supervisors on their work-related tasks were also more likely to share their knowledge with others – leading to the creation of knowledge repositories or communities of practices through which other employees can benefit.

By enhancing employee competencies or abilities in the form of skills and knowledge as well as providing opportunities for development and growth, they may be more willing to share their knowledge and expertise with others (Bock & Kim, 2002; Lin & Lee, 2012). Thus, we hypothesize the positive influence of competency-enhancing HR practices on knowledge-sharing.

H2: Competency-enhancing HR practices are positively related to knowledge sharing in organizations.

# Motivation-enhancing HR practices and knowledge sharing

Motivation-enhancing HR practices, such as employee recognition, rewards, and incentives, have been found to be effective in promoting knowledge sharing within organizations (Andreeva & Sergeeva, 2016; Jyoti & Rani, 2017). These HR practices include: increasing employees' motivation to execute tasks include direct incentives, behavioural appraisals, rewards, and compensation systems (Marin-Garcia & Tomas, 2016; Mom et al., 2018). They enable employees to exhibit desirable behaviours essential for knowledge sharing (Cabrera & Cabrera, 2005). For example, Lu, Zhou, and Leung (2011) found that employee recognition was positively related to knowledge sharing behaviour among employees. They note that programs which recognize employee contribution can motivate them to vocalize their achievements and share their knowledge and expertise with others in the organization. Similarly, rewards and incentive programs, as also noted by (Lin & Lee, 2012), also lead to employees sharing their accomplishments, and in so doing share knowledge of desirable behaviours and practice, with others. By increasing employees' motivation through direct incentives and rewards based on successful collaboration and best practice sharing, organizations can expect their employees to engage in more knowledge exchanges (Appelbaum et al., 2000; Goh, 2002). Gillani et al. (2018) further add that employees who receive regular reviews and performance feedback gain a sense of responsibility for their job, enhancing their propensity to share knowledge. Prior studies have shown that reward systems, such as a fair compensation (Imran et al., 2016) or performance appraisal system (Gillani et al., 2018) contribute positively to knowledge sharing. Other studies also confirm the positive and significant relationship between motivation-enhancing HR practices and knowledge sharing in the form of autonomizing and empowering employees to take decisions or seeking their participation in key decision making processes as sources of motivation and

sharing of knowledge (Lee, Mazzei, & Kim, 2018). Therefore, we propose that motivationenhancing HR practices relate positively to knowledge sharing:

H3: Motivation-enhancing HR practices positively relate to knowledge sharing among employees in organizations.

# Opportunity-enhancing HR practices and knowledge sharing

Opportunity-enhancing HR practices provide employees with opportunities to develop their skills, knowledge, and abilities through initiatives like training, mentoring, involvement, teamwork and career development programs (Marin-Garcia & Tomas, 2016; Naqshbandi, Meeran, et al., 2023). Such HR practices allow organizational members to address work problems, exchange ideas to derive solutions and make decisions (Appelbaum et al., 2000). Opportunity-enhancing practices promote communication and knowledge sharing, physical interaction and collaboration to meet common goals—i.e., they act as the driving force in knowledge sharing (Iqbal et al., 2015). For example, Cabrera and Cabrera (2005) assert that training and development programs positively impacted knowledge sharing among employees in healthcare settings, whereas Wang and Noe (2010) note that mentoring and career development programs encouraged knowledge sharing among employees in technology firms. Increasing the opportunities for employees to engage with one another facilitates greater knowledge development (North & Kumta, 2018) as they are likely to exchange and combine their knowledge (Andreeva & Sergeeva, 2016; Monks et al., 2016).

Other studies focused on opportunity-enhancing practices and their relevance to knowledge sharing have also shown a significant influence of opportunity on knowledge sharing (Turner & Pennington, 2015). For example, Iqbal et al. (2015) have also demonstrated a positive relationship between collaboration practices and employees'

knowledge-sharing behaviour. Moreover, offering employees opportunities for work-related interaction through HR practices such as task interdependence induces knowledge exchange and collaboration (Monks et al., 2016). Accordingly, we propose that opportunity-enhancing HR practices positively relate to knowledge sharing:

H4: Opportunity-enhancing HR practices positively relate to knowledge sharing among employees in organizations.

Mediating role of knowledge sharing between AMO HR practices and learning organizational culture

Competent-enhancing HR practices can enable employees to share knowledge effectively with others and optimise the use of knowledge resources in an organization. This organization-wide knowledge sharing can help develop shared values and allow knowledge resources to be tapped in optimal combinations. Scholars suggests that competencyenhancing HR practices encouraging knowledge sharing among employees are likely to lead to the development of a learning culture, which, in turn, enhances organizational performance (Andreeva & Kianto, 2012; Zheng, Yang, & McLean, 2010). For example, Chang et al. (2021) found that improving knowledge, skills and abilities promotes knowledge sharing and shows a positive impact on the development of a learning culture (Syed-Ikhsan & Rowland, 2004). Thus, knowledge sharing fostered by competency-enhancing practices can lead to creating a learning organizational culture. Past research has shown that competencyenhancing practices result in greater knowledge sharing (Andreeva & Sergeeva, 2016; Bhatti et al., 2021; Ma et al., 2017) and that this shared information contributes to organizational culture (Iqbal et al., 2020) and organizational learning (Nugroho, 2018; Oliveira et al., 2020). Several studies have suggested that the integration of information from diverse sources, such as training programs or newly hired employees, shapes a culture that stimulates knowledge

exchanges, dialogue, collaboration, and learning (Cabrera & Cabrera, 2005; Gillani et al., 2018; Goh, 2002; Imran et al., 2016). Building on these arguments, we suggest that knowledge sharing will act as an intervening factor between competency-enhancing HR practices and learning organizational culture:

H5: Knowledge sharing mediates the relationship between competency-enhancing HR practices and learning organizational culture.

Organizationally adapted motivation-enhancing HR practices are likely to shape employee social exchanges, resulting in a supportive work environment (Ma Prieto & Pilar Pérez-Santana, 2014). These practices function as motivational tools for employees to perform better, fostering their knowledge acquisition and sharing (Chahal, Jyoti, & Rani, 2016). Such knowledge can be applied in a climate of supportiveness, openness and experimentation and stored within the organization (Chahal et al., 2016; López-Cabrales, Real, & Valle, 2011). The resultant repository of knowledge resources develops the capacity for organizational learning. Organizations can use the relevant motivation-enhancing HR practices (instituted using, for instance, appropriate rewards) to trigger learning and development opportunities to facilitate learning organizational culture (Gil & Mataveli, 2016). Moreover, many studies have shown that motivation-enhancing HR practices help generate a favourable organizational culture. For instance, Singh (2010) indicated that such practices positively affect organizational culture and that providing performance-based compensation also fosters a supportive work environment (Ma Prieto & Pilar Pérez-Santana, 2014) and organizational learning capabilities (López-Cabrales et al., 2011). Ma et al. (2017) reported that knowledge sharing mediates the relationship between motivation-enhancing HR practices and learning organizational culture. The authors specifically found that practices, such as rewards and

recognition, positively influence knowledge sharing behavior among employees, which in turn leads to a learning organizational culture. Therefore, we hypothesize that:

*H6: Knowledge sharing mediates the relationship between motivation-enhancing HR practices and a learning organizational culture.* 

Literature suggests that providing opportunities to use skills at work augments employees' vision and knowledge (Chahal et al., 2016), while providing them flexibility in their job design enables them to engage more resources (Minbaeva, 2013). Past research has also pointed to the role of opportunity-enhancing practices in enabling a supportive culture (Ma Prieto & Pilar Pérez-Santana, 2014) where organizational learning occurs at key points. Employees' participation in decision-making (López, Peón, & Ordás, 2006) and empowerment (Chahal et al., 2016) impacts the organizational learning climate that can be widely disseminated to influence organizational culture. For example, Newman, Thanacoody, and Hui (2011) found that developmental and participative opportunities among employees were positively related to creating a learning culture in Chinese organizations. Similarly, Shoukat, Shah, and Muneeb (2023) found that developmental opportunities were positively associated with collective learning in Pakistani firms. These studies show that HR practices can create opportunities for employees to learn and grow when mediated by knowledge sharing, which can in turn foster a culture of learning.

H7: Knowledge sharing mediates the relationship between opportunity-enhancing HR practices and a learning organizational culture.

# 4. Methods

The data used in this study were collected from two different sources in the UK as part of a large-scale research project: a list of managers working in UK organizations provided by the

University of Bath's School of Management's external relations and marketing team (ERM) and Qualtrics online panels. The list supplied by the ERM was prepared with a more extensive compendium and the contacts for managers of all disciplines/functions/sections usually found in companies. A subset of 400 managers with the HR function was derived. We asked these managers to complete the questionnaire and forward it to relevant colleagues if they could not complete it themselves.

We received 160 responses, but only 51 of them were usable. As the number of responses was inadequate, we used Qualtrics online panels to obtain an additional 151 fully completed responses, comprising a total of 202 responses for analysis. We used the software G\*Power v.3.1.9.7 to estimate the sample size. G\*Power is a statistical power analysis program wellknown for use in social and behavioural research to determine an appropriate sample size (Faul et al., 2007). We used the following parameters to estimate the minimum sample size: 95% of statistical power (1- $\beta$ ), effect size median (f2) of 0.15 and 5% probability of error ( $\alpha$ ). The results show that the minimum sample size required is 40. Since the sample size of our study is well above this threshold at 202 cases, our model is consistent (Ringle, Da Silva, & Bido, 2015), and the multiple linear regression analysis can be considered to have sufficient power.

The sample was broad in terms of the types of positions and firms surveyed. Among the respondents, 25.2% were in an HR department, 25.7% were in a general management department, and 17.3% were in an operations department. Many of the firms were in the IT (15.3%), health care (14.9%), hospitality (7.9%) or engineering industry (5.9%). Nearly half of the respondents were in a top management position (43.6%), and approximately 56.4% occupied a middle management position. The surveyed firms had mostly operated for more than 10 years (76.7%), with a small percentage of them operating for at most 2 years (3.0%).

Most of these firms focused on local markets (47.0%), but the remaining 22.8% and 30.2% focused on regional and global markets, respectively. A total of 56.4% of the respondents belonged to privately owned firms, while 25.7% worked in publicly owned firms. The remaining 17.9% worked in government, foreign, and mixed-ownership firms.

# 4.1 Measures

We used validated measures from past studies to capture our variables. Accordingly, knowledge sharing was measured with 13 items developed by Wang and Wang (2012), e.g., "people in my organisation frequently encouraged knowledge sharing mechanism" and "people in my organisation frequently share knowledge based on their experience". Learning organizational culture was captured using 7 items (Marsick & Watkins, 2003), e.g., "In my organization, people are rewarded for learning" and "My organization makes its lessons learned available to all employees." The three focal HR practices were measured using 31 items developed by Chuang, Jackson, and Jiang (2016); 15 of them measured competencyenhancing HR practices, e.g., "When new employees are being selected in my organization, their teamwork ability is weighted heavily in the decision" and "The company invests considerable time and resources in training for knowledge workers." The second type of HR practice, opportunity-enhancing HR practices, was measured using 6 items, e.g., "The company uses job rotation for knowledge workers to gain experience by moving them across different functional areas or divisions" and "The company sponsors various social events to encourage contacts and relationship building among employees." The third type of HR practice, motivation-enhancing HR practices, was measured using 10 items, e.g., "The company's performance management practices emphasize individual improvement and development" and "Knowledge workers' bonuses or incentive plans are based primarily on the performance of the company." All items were anchored on a 5-point Likert scale ranging

from "Strongly Disagree" (1) to "Strongly Agree" (5). All the measures are provided in Appendix A.

# 5. Data analysis and findings

#### 5.1 Descriptive statistics & correlations

As shown in Table 1, the means of the focal variables—competency-enhancing HR practices (CEHR), motivation-enhancing HR practices (MEHR), opportunity-enhancing HR practices (OEHR), learning organizational culture (LOC) and knowledge sharing (KS)—were 3.644 (SD=0.893), 3.404 (SD=0.947), 3.071 (SD=0.972), 3.609 (SD=0.808), and 3.626 (SD=0.747), respectively. The correlation coefficients of all variables were also significant at p<0.01 (two-tailed).

# Table 1 here

# 5.2 Common method bias

Given that common method bias can be detrimental to a model's reliability and validity and the covariation among constructs (MacKenzie & Podsakoff, 2012), we performed Harman's single factor test to assess potential common method bias. The total variance extracted by a single factor was equivalent to 37.80%, below the threshold for the presence of common method bias (50%). Thus, common method bias was not strong in our data. Given the criticism of Harman's single factor, we also performed a common latent factor test. The results of the common latent factor test, where a confirmatory factor analysis (CFA) was performed with a single latent factor, showed a poor model fit, confirming the absence of common method bias in our data.

#### 5.3 Nonresponse bias

We also evaluated potential non-response bias by assessing the means of the dependent variable between the first 30 responses and the last 30 responses to represent early and late respondents, respectively, in an independent sample t-test (e.g. Sheikh & Mattingly, 1981). No significant difference was found [t(58)=-3.240, p=0.002] between the early respondents (M=3.286, SD=0.439) and the late respondents (M=3.733, SD=0.616), confirming the absence of non-response bias in our data.

# 5.4 Confirmatory factor analysis and model fit

Confirmatory factor analysis (CFA) was also performed. The initial measurement model showed an acceptable fit: CMIN/DF=1.633, RMSEA=0.056, CFI=0.935, and SRMR=0.060. However, the model was modified further to rule out convergent and discriminant validity issues. This led to removing two items from the model, producing a new (final) measurement model with the following fit indices: CMIN/DF=1.629, RMSEA=0.056, CFI=0.942, and SRMR=0.058 (Table 2).

# Table 2 here

#### 5.5 Convergent and discriminant validity

The reliability and validity of the constructs in the final measurement model were also examined. As Table 3 shows, every construct consisted of valid and reliable measurement items; their composite reliability (Crossan et al.) surpassed the recommended threshold of 0.60 and their average variance extracted (AVE) was 0.5 or greater (Fornell & Larcker, 1981). This demonstrates the convergent validity of the variables. In addition, heterotrait– monotrait ratio of correlations (HTMT) analysis was performed to assess the discriminant validity of the model. Table 4 shows that the model satisfied the lower threshold values of 0.850 for strict and 0.900 for liberal discriminant validity (Henseler, 2017). Hence, discriminant validity was also established in the final measurement model.

Table 3 here

# Table 4 here

# 5.6 Control variables in the model

To identify the variables to control for in hypothesis testing, we examined the relevant literature and carried out several one-way analysis of variance (ANOVAs) tests to assess any significant mean score differences in learning organizational culture concerning the demographic variables. The results showed no significant mean differences for learning organizational culture concerning: department (F=1.087, p>0.05), industry (F=1.056, p>0.05), firm age (F=0.255, p>0.05), firm market (F=1.041, p>0.05) and ownership (F=0.080, p>0.05). Moreover, an independent sample t-test was performed for learning organizational culture with regards to the demographic variable 'position', but no significant difference was found (t(200)=0.136, p>0.05). Hence, no control variable was included in this study.

#### 5.7 Hypothesis testing

To test our hypotheses, we performed multiple regression analysis using Hayes's (2022) *Process* macro in SPSS<sup>TM</sup> v.21. The results are shown in Table 5. The results show that knowledge sharing was positively associated with learning organizational culture ( $\beta$ =0.356; p < 0.001) and was significantly predicted by competency-enhancing HR practices ( $\beta$ =0.562; p < 0.001), motivation-enhancing HR practices ( $\beta$ =0.603; p < 0.001), and opportunity-

enhancing HR practices ( $\beta$ =0.650; p < 0.001). The squared multiple correlations (r-squared) for KS and LOC were 0.529 and 0.352, respectively. Hence, H1, H2, H3 and H4 are fully supported.

# Table 5 here

H5, H6 and H7 hypothesized the mediating role of knowledge sharing in the relationship between the three HR practices and learning organizational culture. We used Hayes's (2022) *Process* macro in SPSS<sup>™</sup> v.21 to perform mediation analyses using bootstrapping with bias-corrected confidence intervals with 5,000 resamples and 95% confidence intervals. The results revealed that all the indirect effects of knowledge sharing in the relationship between (1) competency-enhancing HR practices, (2) motivation-enhancing HR practices, and (3) opportunity-enhancing HR practices and learning organizational culture were significant because the lower and upper limits for the confidence intervals excluded zero: [0.122, 0.290], [0.176, 0.518] and [0.107, 0.264], respectively (Table 6). These results confirmed the mediating role of knowledge sharing, supporting H5, H6 and H7.

# Table 6 here

#### 6. Discussion

#### Knowledge sharing and learning organizational culture

Guided by the AMO model, we examined how three types of HR practices can affect learning organizational culture through the mediating mechanism of knowledge sharing. The first finding of this study shows that knowledge-sharing is strongly related to learning organizational culture; thus, if organizations use relevant HR practices to increase employees' knowledge-sharing activities, their organization should benefit from an improved learning organizational culture. This finding implies that intensified knowledge-sharing activities in an organization can lead to a culture conducive to higher organizational learning (Nugroho, 2018). Alshamsi, Ajmal, and Khan (2017) noted that a learning organizational culture results from social interactions and collaboration. Once knowledge sharing begins, it develops and spreads to other groups and teams at various organizational levels, creating opportunities to enhance performance (Malik & Garg, 2017). Notably, employees identify what is essential for organizational success and find opportunities for improvements where possible. When these actions are appreciated, more people contribute additional ideas and productive feedback (Gochhayat, Giri, & Suar, 2017). Organizations with a learning organizational culture consider such knowledge sharing essential for cultivating beneficial knowledge, as it enhances their employees' potential and personal growth (Sorakraikitikul & Siengthai, 2014).

#### HR practices and knowledge sharing

The study's second finding indicates that competency-enhancing HR practices enable knowledge sharing. Employee competency includes job knowledge, skills, and attitudes, and the competencies can enhance knowledge sharing among employees. According to Alsabbah and Ibrahim (2014), training and development are the most common practices for attaining employee competence; these HR practices act as a platform for employees to gather, teach, and share knowledge (Fong et al., 2011). Moreover, during a training session, structural, intellectual and relational social capital usually increase as employees are required to cooperate, building relationships with one another (Oliveira et al., 2020). These relationships, in turn, increase knowledge-sharing behaviour (Cabrera & Cabrera, 2005). The literature supports this notion, i.e., training sessions encourage knowledge sharing by building a common language, creating connections among employees, and increasing interactions (Pervaiz et al., 2016), especially knowledge sharing (Runhaar & Sanders, 2015).

Our third finding showed that motivation-enhancing HR practices also enable knowledge sharing. Reinholt et al. (2011) noted that employees' engagement in knowledge sharing is higher when they are adequately motivated. Such motivation can be driven in multiple ways, e.g., through compensation, in which case employees contribute to the creation and distribution of knowledge sharing due to the pressure of the performance appraisal system (Pervaiz et al., 2016). Here, as promotions and career advancements are at stake, employees are motivated to partake in and facilitate knowledge sharing. When a formal reward system is strongly associated with knowledge sharing, employees become willing to share their knowledge and understanding with their co-workers (Huang, Chiu, & Lu, 2013). This confirms our finding that motivation-enhancing HR practices lift employee motivation, and via a relevant reward, system organizations can facilitate knowledge sharing, improving overall organizational learning (Asrar-ul-Haq & Anwar, 2016).

Our fourth finding shows that opportunity-enhancing HR practices positively affect knowledge sharing in organizations. It emphasizes that organizations must focus on how job design and HR practices that emphasize opportunity enhancement foster and drive employees' knowledge sharing (Foss et al., 2009) and a sense of community (Martin Perez, Martin Cruz, & Estrada, 2012). Past research has shown that opportunity-enhancing HR practices can influence organizational social and structural capital (Sokolov & Zavyalova, 2020). Hence, when employees are provided such opportunities, this builds interpersonal trust, enables collaborative communication, and fosters teamwork with other members. These conditions thus encourage the free flow of ideas, reciprocal learning, problem-solving abilities and, eventually, knowledge sharing (Nguyen, Siri, & Malik, 2021; Rehman et al., 2021).

# Mediating mechanism of knowledge sharing between HR practices and learning organizational culture

This study has confirmed knowledge sharing as a mediating mechanism, transmitting the effect of the three types of AMO HR practices to develop a learning organizational culture. Past research has demonstrated that when organizations use HR practices focused on learning and enhancing employees' abilities, employees' personal knowledge is utilized and shared rather than withheld. This improves employees' overall understanding of their work (Monks et al., 2016), facilitating new knowledge and enhancing the outcomes expected in a learning organizational culture. Furthermore, competency-enhancing HR practices, including extensive employee recruitment, selection, and training and the development of employee competencies, encourage knowledge sharing (Otoo, 2019). How employees acquire and possess knowledge and share it with other members to spread their acquired skills exhibits a learning organizational culture, i.e., this culture helps organizations leverage collective knowledge to drive the organization-wide and continuous creation of new knowledge (Nainggolan et al., 2022).

Our study also examined motivation-enhancing HR practices, one of the critical and effective interventions to influence employees to share their knowledge when they may otherwise be unwilling to do so. For example, if a performance appraisal is designed to assess employees' knowledge-sharing behaviour, providing feedback to reinforce such behaviour and suitable rewards can enhance knowledge-sharing (Gagné, 2009). As Minbaeva (2005) argues, the "formation of performance-based compensation system that rewards employees for the value of their job and their personal contribution to organizational performance is a strong incentive" (p. 140). Pertinently, organizations can design their reward systems in creative ways. For instance, Karim and Majid (2017) reported that when employees are

offered high job security as part of their employer's investment and trust, this instigates them to reciprocate with knowledge-sharing behaviour. With a developmental focus directed at enhancing employees' capability and meeting the organization's changing needs (Prieto, Santana, & Martín-Sierra, 2010), organizations can foster knowledge creation and develop a learning organizational culture.

The last finding of our study confirmed the mediating role of knowledge-sharing between opportunity-enhancing HR practices and a learning organizational culture. Opportunity-enhancing practices promote knowledge sharing by allowing employees to engage in participative decision-making, accept responsibility and improve their relations with colleagues. Such autonomy includes situations where employees are entrusted with a task and provided strong support and relevant information, open communication, egalitarianism, fairness in decision-making processes and opportunities to self-initiate (Gagné, 2009; Karim & Majid, 2018). These activities involving employee collaboration foster streams of ideas, reciprocal learning and problem-solving abilities, which lead to increased structural and human capital (Rehman et al., 2021).

# Implications for theory

Our findings highlight several theoretical implications that affect the way organizations approach knowledge management, HRM, and organizational learning. Firstly, insights from this study offer implications for dissemination of knowledge. For example, it shows how individuals engage in social interactions based on the expectation of receiving benefits. We argue that individuals are more likely to share knowledge if they perceive that HR practices will improve their AMOs (i.e. increase their ability, motivate them and create opportunities). Our model can have an effect on other organizational practices, such as enhancing organizational innovation outcomes, since knowledge sharing and a learning organizational

#### culture are important for innovation (Azeem et al., 2021; Naqshbandi & Kamel, 2017).

Following on from the above, and secondly, knowledge sharing can be viewed as a strategic practice that can help organizations develop and leverage their intellectual capital. AMO HR practices encourage knowledge sharing in the firm that can help organizations build a sustainable competitive advantage by creating a culture of continuous learning and innovation. Thirdly, and relatedly, our findings imply that HR practices, in line with the AMO framework, can influence group practices to enable knowledge sharing by influencing group members' interests and behaviour. Scholars argue that HR systems impact organizational climate that affects employees' attributes, behaviours, and organizational outcomes and directly influences their human capital and performance opportunities (Gardner, Wright, & Moynihan, 2011). Other supporting studies suggest that a well-designed HR system can lessen the knowledge-hoarding desire of some team members while strengthening the necessity for team performance and prompting employees to share knowledge in the overall interests of their team (Chuang, Jackson, & Jiang, 2013). Finally, our findings suggest that HR practices like AMO, encourage knowledge sharing and lead to creating opportunities for employees to interact and learn from each other, which can enhance their performance and help them develop new skills and knowledge (Du Plessis, 2007).

# Implications for practice

This study's findings have implications for practice and can help managers and organizations foster knowledge development among their employees. First, we found that the three key aspects of the AMO model (i.e., abilities, motivation and opportunities) positively contribute to knowledge sharing and should therefore be implemented and maintained concurrently. Such HR practices foster employees' growth and are a potential precondition for their proactive behaviours to develop human capital (Lee et al., 2016). Thus, managers need to

recognize the importance of knowledge sharing and understand that the relevant HR practices can improve their organization's human capital (Son, Ba Phong, & Le, 2021), contributing to its overall learning culture. This is also evident in other studies which suggest that when employees are demotivated concerning their ability, managers may adopt training and development as motivation for knowledge sharing; alternatively when members of an organization are reluctant to share their knowledge, managers can adopt performance appraisals and compensations (Lee et al., 2020; Ma et al., 2017).

Managers may also use opportunity practices, such as providing autonomy to employees that increases their intrinsic motivation for knowledge sharing (Foss et al., 2009; Lee et al., 2016). Furthermore, our findings affirm those in prior studies and highlight the mediating role of knowledge sharing in the relationship between HR practices and knowledge creation (Prieto et al., 2010). Studies have investigated HR practices and systems in relation to team knowledge acquisition and defining them as crucial contributors to greater returns when managed effectively (Chuang et al., 2013; Li et al., 2019). As acquiring knowledge requires attracting and motivating employees to communicate and share their knowledge and expertise with others (Prieto et al., 2010), this underscores the need for knowledge sharing and a learning organizational culture. Among other practical implications, our findings suggest an increase in employee engagement, as knowledge sharing facilitates exchange of information, provides opportunities for sharing positive experiences at work. This is likely to enhance employee morale, participation and create a buy-in attitude when organization makes key decisions in a rapidly changing world of work (Murthy & Kumar, 2021).

# Limitations and future research

The present study has some limitations that can be addressed in future research. First, we have focused on how the mediating role of knowledge sharing helps transmit the effects of

three types of HR practices on a learning organizational culture. In addition to exploring other potential underlying mechanisms, it would be useful for future research to examine the potential boundary conditions that strengthen or weaken the links between our variables. For example, empowering leadership might accentuate the strength of the relationship between HR practices and employees' knowledge sharing because empowering leaders emphasize joint decision-making, information sharing, and coaching (Kim & Beehr, 2021), providing employees more opportunities to share their ideas, task-relevant information, and suggestions with each other. Finally, a key limitation of our study is its cross-sectional nature which inhibits us to assess various (but potentially significant) incidence in relation to certain events, and to make causal inference. However other recent related research studies have used cross-sectional data to test hypotheses in similar contexts (Naqshbandi, Tabche, & Hj Said, 2023). A key benefit of adopting a cross-sectional approach, however, was to provide a snapshot of what was happening at a given interval, thus showing the attitudes and behaviours affecting the sample at that period. Our research approach allowed us to gather data on participants' abilities, motivation and opportunity provisions in a simultaneous manner enabling a comprehensive view of our sample's behaviour in response to the HR practices they experienced. As we examined the AMO factors independently, our approach provided us with a pathway to generate hypotheses corresponding to each variable as we studied the prevalence of AMO HR practices and their impact on creating a learning organisational culture in the firm. Nevertheless, future research may replicate our study with working populations in other geographic contexts, such as Asia or Africa, using longitudinal data to make conclusions more generalizable. This is because our data was collected in a Western context, it provides limited insights as to whether certain AMO HR practices will yield similar results in other non-Western cultures where openness to sharing knowledge might not be a common or strategic practice (Ali et al., 2023).

#### Conclusion

This study integrates the perspectives of HR, knowledge sharing, and organizational learning into a unified framework, demonstrating the notable impact of knowledge sharing in creating a learning organizational culture. Our paper argues that knowledge sharing facilitated by AMO HR practices is crucial in creating a culture of learning in organizations. When employees have ability, motivation and opportunity, they are likely to share their knowledge, thus enriching the learning processes throughout their workplace. This sharing of experiences creates new knowledge among members, which stimulates organizational learning and ultimately leading to a learning organizational culture. Insights from this study have significant implications for theory and practice as they inform managers about the ways in which AMO HR practices foster a learning organizational culture.

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## **FIGURE**

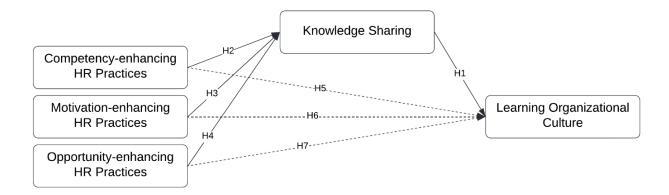


Figure 1. Research framework (Source: Authors)

### **TABLES**

Variables	Mean	SD	1	2	3	4	5
CEHR	3.644	0.893	1 (0.770)				
MEHR	3.404	0.947	.533**	1 (0.755)			
OEHR	3.071	0.972	.566**	.479**	1 (0.817)		
LOC	3.609	0.808	.592**	.487**	.673**	1 (0.826)	
KS	3.626	0.747	.448**	.356**	.530**	.593**	1 (0.924)

**Table 1:** Descriptive statistics and correlation (Source: Authors)

*Note.* \*\*Significant at the 0.01 level (two-tailed). The topmost diagonal values represent Cronbach's alpha reliability estimate (in brackets). Off-diagonal values are the correlation between each pair of variables. SD, standard deviation; CEHR, competency-enhancing HR practices; MEHR, motivation--enhancing HR practices, OEHR, opportunities-enhancing HR practices, LOC, learning organizational culture and KS, knowledge sharing.

**Table 2:** Measurement model fit (Source: Authors)

GOF Measures	CMIN	DF	CMIN/DF	P-value	RMSEA	SRMR	CFI			
Threshold			< 5.0	>0.05	< 0.10	< 0.09	> 0.8			
Initial model	472.004	289	1.633	0.000	0.056	0.060	0.935			
Final model394.3192421.6290.0000.0560.0580.942										
<i>Note</i> . CMIN = chi-s	<i>Note.</i> CMIN = chi-square: DF = degree of freedom: CMIN/DF = ratio of chi-square to degree of freedom: p-									

*Note.* CMIN = chi-square; DF = degree of freedom; CMIN/DF = ratio of chi-square to degree of freedom; p-value = p-value associated with the chi-square value; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; CFI = comparative fit index.

Construct	Item	Factor loading	CR	AVE
Knowledge sharing	KSI1	0.816	0.927	0.564
	KSI2	0.84		
	KSI3	0.766		
	KSI4	0.844		
	KSI5	0.713		
	KSI6	0.807		
	KSI7	0.701		
	KSE1	0.622		
	KSE4	0.737		
	KSE6	0.622		
Learning organizational culture	LOC2	0.715	0.827	0.545
	LOC3	0.755		
	LOC6	0.672		
	LOC7	0.804		
Competency-enhancing HR practices	CEHR8	0.729	0.771	0.529
	CEHR13	0.778		
	CEHR14	0.672		
Opportunity-enhancing HR practices	OEHR1	0.616	0.822	0.539
	OEHR3	0.735		
	OEHR4	0.739		
	OEHR5	0.831		
Motivation-enhancing HR practices	MEHR3	0.481	0.779	0.554
	MEHR4	0.828		
	MEHR5	0.864		
<i>Note</i> . CR = composite reliability; AVE	= average va	riance extracted.		

**Table 3:** Convergent and discriminant validity (Source: Authors)

**Table 4:** HTMT Analysis for discriminant validity (Source: Authors)

	KS	OEHR	CEHR	LOC	MEHR
KS			_		
OEHR	0.604			_	
CEHR	0.567	0.762			
LOC	0.680	0.820	0.776		
MEHR	0.428	0.610	0.614	0.623	

*Note*. KS, knowledge sharing; OEHR, opportunity-enhancing HR practices, CEHR, competency-enhancing HR practices; LOC, learning organizational culture; MEHR, motivation-enhancing HR practices.

Hypothesis	Statement	β	S.E.	t	р	LLCI	ULCI	Indication	
H1	$KS \rightarrow LOC$	0.356	0.035	10.2	***	0.287	0.425	Supported	
H2	$CEHR \rightarrow KS$	0.562	0.057	9.887	***	0.450	0.674	Supported	
H3	$MEHR \rightarrow KS$	0.603	0.098	6.17	***	0.410	0.800	Supported	
H4	$OEHR \rightarrow KS$	0.650	0.056	11.528	***	0.543	0.761	Supported	
H4 OEHR $\rightarrow$ KS 0.650 0.056 11.528 *** 0.543 0.761 Supported Note: β = standardized path estimates; S.E.= Standard Error; t = t-value; p = p-value; *** = p<0.001									

 Table 5: Hypothesis testing for direct effects.
 (Source: Authors)

# **Table 6:** Mediation analysis (Source: Authors)

	Relationship		Direct effect			Indirect effect				
Ketationship		β	t	β	t	S.E.	95% CI	Indication		
H5	$CEHR \rightarrow KS \rightarrow LOC$	0.607	17.732***	0.200	4.651	0.043	[0.122,0.290]	Supported		
H6	$\text{MEHR} \rightarrow \text{KS} \rightarrow \text{LOC}$	0.593	9.447***	0.334	3.884	0.086	[0.176,0.518]	Supported		
H7	$OEHR \rightarrow KS \rightarrow LOC$	0.710	20.564***	0.179	4.475	0.040	[0.107,0.264]	Supported		
	<i>Note</i> . $\beta$ = standardized path estimates; S.E.= Standard Error; C.R. = critical ratio or t-value; 95% CI = Confidence									

interval at 95% significance level. CEHR, competency-enhancing HR practices; MEHR, motivation--enhancing HR practices, OEHR, opportunities-enhancing HR practices, LOC, learning organizational culture and KS, knowledge sharing, \*\*\* = p<0.001.

## **APPENDIX-A**

### Measures

Human resource practices (Chuang et al., 2016)

- The selection of knowledge workers emphasizes their overall fit to the company (personality, values, etc.).
- The selection of knowledge workers focuses on their potential to learn and grow.
- If an employee has good technical skills, his/her interpersonal skills are NOT very important.
- When new employees are being selected for my organization, their teamwork ability is weighted heavily in the decision.
- When new employees are being selected for my organization, their adaptability to the environment and self-adjustment is weighted heavily in the decision.
- When new employees are being selected for my organization, their interpersonal relationships within the company are weighted heavily in the decision.
- When new employees are being selected for my organization, their interpersonal relationships with people outside the company (e.g., suppliers, customers, other professionals) are weighted heavily in the decision.
- The company invests considerable time and resources in training for knowledge workers.
- The company provides an orientation program for new knowledge workers to learn the history, culture, and values of the company.
- The company has a mentoring program (individually or as a group) aimed at employee development.
- The company uses mentoring assignments as a way to encourage employees to learn from each other.
- The company provides training that improves my organization's employees' ability to learn from each other.
- The company provides training to improve the interpersonal skills of employees in my organization.
- The company provides training to help my organization's employees develop and update their technological know-how.
- The employees in my organization have attended training designed to improve their working skills.
- The company's performance management practices emphasize individual improvement and development.
- Performance appraisals are based on input from multiple sources (coworkers, supervisors, clients, etc.).
- Internal candidates take priority over external candidates for knowledge job openings.
- Employees' pay and rewards are closely linked to the organization's overall performance.
- Knowledge workers' bonuses or incentive plans are based primarily on the performance of the company.
- On average the pay level of our knowledge workers is higher than that of our competitors.
- The company offers a variety of incentives (e.g., gain sharing, stock option, etc.) to attract and retain top talent.
- The company provides many benefits for knowledge workers to continually learn new knowledge (e.g., paying tuition
- costs, supporting attendance of conferences or other learning events, etc.).
- The company recognizes and rewards employees who come up with the best new ideas.
- The company rewards employees for sharing new information and knowledge.
- The company uses job rotation for knowledge workers to gain experience by moving them across different functional areas or divisions.
- Members of my organization are evaluated on their interpersonal relationships with other co-workers outside the team.
- My organization often arranges events for knowledge exchange (e.g., seminars, visits by outside experts, etc.).
- The company sponsors various social events to encourage contact and relationship building among employees.
- The company actively encourages knowledge workers to participate in "knowledge communities" (a bunch of people who have similar interests communicate and exchange information by using discussion board, forum, listserv, etc.).
- The company invests considerable time and resources in building and operating communities of practice (e.g., providing technical support, budgets, rewards, etc.).

#### Organizational learning culture (Marsick & Watkins, 2003)

- In my organization, people are rewarded for learning.
- In my organization, people spend time building trust with each other
- In my organization, teams/groups revise their thinking as a result of group discussions or information collected
- My organization makes its lessons learned available to all employees.
- My organization recognizes people for taking initiative.
- My organization works together with the outside community to meet mutual needs.
- In my organization, leaders continually look for opportunities to learn.

#### Knowledge sharing (Wang and Wang, 2012)

• People in my organization frequently share existing reports and official documents with members of my organization.

- People in my organization frequently share reports and official documents that they prepare by themselves with members of my organization.
- People in my organization frequently collect reports and official documents from others in their work.
- People in my organization are frequently encouraged by knowledge sharing mechanisms.
- People in my organization are frequently offered a variety of training and development programs.
- People in my organization are facilitated by IT systems invested for knowledge sharing.
- People in my organization frequently share knowledge based on their experience.
- People in my organization frequently collect knowledge from others based on their experience.
- People in my organization frequently share knowledge of know-where or know-whom with others.
- People in my organization frequently collect knowledge of know-where or know-whom with others.
- People in my organization frequently share knowledge based on their expertise.
- People in my organization frequently collect knowledge from others based on their expertise.
- People in my organization will share lessons from past failures when they feel necessary.