

UNLOCKING ORGANIZATIONAL POTENTIAL: AMO THEORY PERSPECTIVES ON HIGH-PERFORMANCE WORK SYSTEMS, FUNCTIONAL FLEXIBILITY, AND WORK ENGAGEMENT IN FOSTERING AMBIDEXTERITY

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ABSTRACT

This study aims to determine the relationship between organizational ambidexterity and High-Performance Work Systems (HPWS) in Pakistan's industrial sector. It also measures the mediating role that functional flexibility plays in work engagement. This research is based on AMO theory, which has been extended by adding workforce agility and technology adoption. This study is quantitative and causal-research in nature, data has been collected from the all-level managers of the textile companies working in Pakistan. The online and physical data collection has been conducted from the 416 managers of the different textile companies with use of stratified sampling technique. The results shown that workforce agility, technology adoption, and ability has direct significant effect on organizational ambidexterity while motivation and opportunity does not affect the OA. Moreover, employee functional flexibility partially mediates the effect of workforce agility, technology adoption, and ability on OA while does not mediate relationship between motivational, opportunity, and organizational ambidexterity. The finding shown that H_{1a}, H_{1b}, and H_{1c} has accepted while remaining hypotheses have been rejected. Furthermore, this research also measured that work engagement does not have mediating role between all the elements of HPWS and organizational ambidexterity. In future researcher can access the mediating and moderating role of organizational culture, leadership philosophies, and environmental unpredictability. By examining these variables, ambidexterity-fostering processes may become more fully understood.

Keywords: HPWS, Functional flexibility, work engagement, organizational ambidexterity

INTRODUCTION

1.1. Background of the Study

In this competitive period of inflation, organizations must contend with uncertain external conditions. Therefore, in an effort to overcome these uncertainties, firms are attempting to apply creative strategies and effectively accomplish their objectives. In today's highly competitive and globalized world, innovation has a strategic role for firms (Omri, 2015). Manufacturing managers work to give their companies a competitive edge and handle individual-level innovation in an efficient manner. The process of generating ideas and putting them into practice is what drives superior innovation performance in the workplace (Ma Prieto and Pilar Perez-Santana, 2014).

Therefore, manufacturing companies are encouraged to improve the knowledge, skills, and capacities of their front-line employees to carry out many and

different activities in order to reach a better level of innovation (Shin et al., 2016). According to Shin et al. (2016), managerial staff is not the only ones accountable for innovation in manufacturing organizations. Since innovation is the result of employees' combined efforts within a company, this research discusses innovation at the organizational level. Accordingly, it has been demonstrated that organizational ambidexterity, or the capacity to pursue both exploratory and exploitative innovations (Brix, 2019), is crucial for the survival and prosperity of the organization (Junni et al., 2013). Because it improves an organization's performance both immediately and over time, organizational ambidexterity is seen as a critical precondition for success (Laureiro-Martinez, 2014). Most notably, according to Fu et al. (2016) and Zhang et al. (2023), ambidexterity appears to be positively and

significantly correlated with HPWS. The highest firm performance results are achieved when organizational actors handle exploratory and exploitative actions more efficiently (Hirst et al., 2018). All organizational levels as well as all hierarchical levels within an organization are susceptible to organizational ambidexterity. Therefore, the firm's success may be impacted by unit ambidexterity, which is the ability to do two different things equally well, such as efficiency and flexibility, adaptation and alignment, integration and responsiveness, and exploration and exploitation (Birkinshaw and Gupta, 2013). While senior management teams have always been the focus of research, operational managers have recently come to be acknowledged as active contributors to organizational ambidexterity (Zimmermann, Raisch, & Cardinal, 2017). Numerous studies have revealed that HR procedures improve organizational ambidexterity (Patel et al., 2013; Gürlek, 2020). Research on the topic of organizational ambidexterity indicates that ambidexterity can be fostered through high-performance work systems (HPWS) (Gürlek, 2020; Al-Agry, 2021). This study investigates the direct relationship between organizational ambidexterity at the organizational level and the experience of HPWS as actual working systems, in line with previous research (Gürlek, 2020; Al-Agry, 2021; Abotaleb & Elnagar, 2022). Additionally, research on HPWS has looked into the ways that firm-level HPWS influence worker skills, attitudes, and behaviors at the individual level (Ijigu et al., 2023). For a number of reasons, HPWS influences organizational ambidexterity at all levels. Research on HRM has examined how HRM practices like HPWS contribute to the development of an environment that supports ambidexterity (Park et al., 2023). The literature on HPWS has continuously maintained that the system's developed human resources are what lead to higher performance rather than the practices themselves producing a competitive advantage (Wright et al., 2021). Stated differently, companies can attain ambidexterity by flexible time management and by allocating their human resources primarily to exploration and exploitation (Abotaleb & Elnagar, 2022). Rather than considering the workforce as a single unit, a company may find that in order to promote unit organizational ambidexterity, they need to adopt a set of tried-and-true HR practices based on the

differences in ambidexterity among the members of the manufacturing organization.

According to Vazquez-Bustelo and Avella (2019), HPWS practices are HR procedures used by businesses that see their human resources as a strategic asset and that have a significant impact on reshaping their behavior and skill set to improve performance at work. The development of employees' skills and motivation to carry out a variety of jobs is facilitated by HPWS procedures. Functional flexibility is the phrase used to describe the main strategy used by management practitioners to increase their workforce's ability to do various and different jobs in a dynamic environment (Jiron & Imilan, 2015). However, there hasn't been any research done on how HPWS affects OA through functional flexibility (FF) and work engagement. In the current decade, the manufacturing industries have mostly focused on finding ways to improve their employees' abilities to execute numerous activities (Shin et al., 2016). These personnel require expertise and adaptability in their operational activities in order to handle several jobs at once (Jiron and Imilan, 2015). FF stands for employees' ability to develop and apply creative solutions ideas for improved outcomes (Preenen et al., 2017).

Numerous investigations have been carried out to determine the connection between organizational ambidexterity and HPWS. While identifying the relationship between HPWS and organizational ambidexterity, it is discovered that technology adoption and workforce agility have not yet been studied (Al-Agry, 2021). This is in addition to taking into account several HPWS practices, such as ability, motivation, and opportunity. A prior study (Kaushik & Mukherjee, 2022) suggested that another attribute of HPWS should be the system's agility. This is a novel trait that has not been the subject of earlier research. In the past, other studies have examined the relationship between HPWS and innovation and knowledge exchange (Bhatti et al., 2021), also with employee perceptions (Park et al., 2023), employee work performance (Ijigu, Alemu, & Kuhil, 2023; Park, Ok, & Ryu, 2023), ambidextrous leadership and employee ambidexterity (Ijigu et al., 2023). Moreover, HPWS was also studied with OA, intellectual capital, and knowledge absorption capacity (Gürlek, 2020) and he suggested to assess the HR work flexibility with these variables. Previously, the relationship of HPWS and OA has been assessed in the presence of social capital as a

mediator(Kaka Khel & Khalil, 2022). Previous studies have been conducted on different sectors like hospitality industry (Gürlek, 2020; Kloutsiniotis & Mihail, 2020; Abotaleb & Elnagar, 2022), project based organizations (Bhatti et al., 2021), health-care organizations (Al-Agry, 2021), banking sector (Kaka Khel & Khalil, 2022) while no research has been found on manufacturing sector of Pakistan. Based on the aforementioned research gaps this study identify the effect of HPWSs and OA in the presence of mediator that is employee functional flexibility. Moreover, HPWS and OA relationships have been studied for other sectors like banking, hospitality, health, SMEs and Services sectors but less attention has been paid to manufacturing sector in Pakistan. In manufacturing sector of Pakistan specifically in textile industry, lack of innovation at organizational level is a big dilemma and top management feel difficulty in fulfilment of current demand and future uncertainties due to change in environmental conditions. HPWSs are a set of HR practices and functional areas of HR are part of HPWSs. Staffing, Training, Compensation, Performance Appraisal and Empowerment were studied as a part of HPWSs and the effects of these variables were examined on Organizational Ambidexterity. The literature indicated that workforce agility and technology adoption are also HR practices and these should be studied as a part of HPWSs. Adding workforce agility and technology adoption in HPWSs, less study has been conducted yet. Moreover, with the addition of these two HR practices, the effects of HPWSs on OA have not been examined yet for manufacturing sector in Pakistan. This research includes workforce agility and technology adoption in HPWS practices and investigate their effects with the mediating role of EFF and EWE on OA. Moreover, the contributions of manufacturing sector for exports are more than other sectors' exports as per All Pakistan Textile Mills Association (APTMA) and State Bank of Pakistan (SBP) (Rahman, 2011). As per Government of Pakistan 2020-2025 vision (Pakistan 2025 One Nation - One Vision), innovation is a problem for Pakistan. There is dire need to address this problem. Explorative and exploitative are two components of Organizational ambidexterity and these components talk about organizational innovation aspects. Radical innovation and incremental innovation in manufacturing sector of Pakistan will lead to fulfillment of government vision. To enhance

exports and meet international customer needs, there is dire need to address this problem. Research on Organizational Ambidexterity has concentrated on three areas: management creativity (Elnagar and Shoaib, 2021), HR flexibility (Ubeda-Garcia et al., 2018), and hotel innovation (Ubeda-Garcia et al., 2018). Therefore, this study will be conducted keeping in view agility, technology adoption, innovation and exports. Ambidexterity will be contributing to bring balance in existing structure and newly designed systems in manufacturing sector. In this research, we suggest that management methods known as high-performance work systems (HPWS) can improve workers' flexibility and work engagement, which in turn boosts organizational ambidexterity.

This research problem is important to address because the manufacturing sector specifically textile industry of Pakistan has great contribution in the GDP of Pakistan. To achieve the high economic growth of Pakistan there is need to improve the operations of textile industry which can be done through implementing the different innovative techniques specifically through explorative and exploitative innovation in textile companies. In textile companies, this can be done by implementing the high-performance work system practices because HR has a vital role in the gaining touch of innovative technologies as well as skilled workforce.

1.2. Research Objectives

The followings are objectives of the study:

RO1: To examine the effect of HPWSs and OA through EFF. On the basis of this research objective, the specific objectives are:

- RO1a: To identify the effect of Workforce Agility on organizational ambidexterity through EFF.
- RO1b: To identify the effect of Technology Adoption on organizational ambidexterity through EFF.
- RO1c: To identify the effect of Ability on organizational ambidexterity through EFF.
- RO1d: To identify the effect of Motivation on organizational ambidexterity through EFF.
- RO1e: To identify the effect of Opportunity on organizational ambidexterity through EFF.

RO2: To identify the effect of Workforce Agility on organizational ambidexterity through EWE on the

basis of this research objective, the specific objectives are:

- RO2a: To identify the effect of Workforce Agility on organizational ambidexterity through EWE.
- RO2b: To identify the effect of Technology Adoption on organizational ambidexterity through EWE.
- RO2c: To identify the effect of Ability on organizational ambidexterity through EWE.
- RO2d: To identify the effect of Motivation on organizational ambidexterity through EWE.
- RO2e: To identify the effect of Opportunity on organizational ambidexterity through EWE.

1.3. Research Questions

The followings are questions of the study:

RQ1: What is effect of HPWS on OA through EFF?
On the basis of this research question, the specific questions are:

- RQ1a: What is effect of Workforce Agility on Organizational Ambidexterity through EFF?
- RQ1b: What is effect of Technology Adoption on Organizational Ambidexterity through EFF?
- RQ1c: What is effect of Ability on Organizational Ambidexterity through EFF?
- RQ1d: What is effect of Motivation on Organizational Ambidexterity through EFF?
- RQ1e: What is effect of Opportunity on Organizational Ambidexterity through EFF?

RQ2: What is effect of HPWS on OA through EWE?
On the basis of this research question, the specific questions are

- RQ2a: What is effect of Workforce Agility on Organizational Ambidexterity through EWE?
- RQ2b: What is effect of Technology Adoption on Organizational Ambidexterity through EWE?
- RQ2c: What is effect of Ability on Organizational Ambidexterity through EWE?
- RQ2d: What is effect of Motivation on Organizational Ambidexterity through EWE?
- RQ2e: What is effect of Opportunity on Organizational Ambidexterity through EWE?

Heretical Contribution and Hypothesis Development

The HR practices that make up the HPWS construct, according to Jiang et al. (2012), should be divided into a number of sub-dimensions. Therefore, another goal of this study is to break down HPWS into three bundles of practices by utilizing the "Ability-Motivation-Opportunity" (AMO) framework (Appelbaum et al., 2000) developed the AMO theory, which offers a theoretical framework for comprehending the ways in which HPWS affect organizational results. The AMO framework states that the following three essential elements are necessary for HPWS to be effective: opportunity, motivation, and ability. In this study researcher enhance the focus of AMO Theory by adding the workforce agility and technology.

The term "ability" describes the competencies, knowledge, and skills that workers acquire and improve as a result of job enrichment programs, training, and education integrated within HPWS. According to Appelbaum et al. (2000), these improved skills allow workers to complete activities more efficiently and adjust to changing job needs.

Employee motivation refers to their willingness and desire to put in effort and participate in activities that advance organizational objectives. By creating a positive work atmosphere, giving employees the chance to participate in decision-making, and rewarding and recognizing exceptional work, HPWS increase employee engagement (Appelbaum et al., 2000).

Opportunity encompasses the organizational structures, processes, and resources that facilitate the effective utilization of employee abilities and motivation. HPWS create opportunities for employees to apply their skills and knowledge in meaningful ways, promote collaboration and teamwork, and provide access to necessary resources and information (Appelbaum et al., 2000).

This study suggests that Functional Flexibility and Work Engagement act as mediators in the relation among HPWS and Organizational Ambidexterity, depend on the AMO theory. Increased functional flexibility and job engagement result from HPWS's enhancement of employees' skills, opportunities, and motivation. These factors ultimately support the growth of organizational ambidexterity. To summaries, this study's theoretical framework combines the AMO theory with the ideas of organizational ambidexterity, functional flexibility,

high-performance work systems, and work engagement to make clear the ways in which HPWS affect organizational outcomes in Pakistan's manufacturing industry.

H_{2e}: Opportunity has a significant effect on organizational ambidexterity through Employee Work Engagement

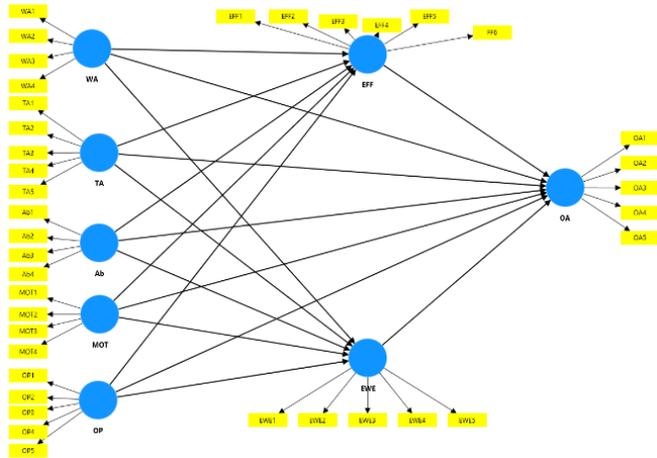


Figure 1: Theoretical Framework

1.5 Hypothesis

- H_{1a}: Workforce Agility has a significant effect on organizational ambidexterity through Employee Functional Flexibility
- H_{1b}: Technology Adoption has a significant direct effect on organizational ambidexterity through Employee Functional Flexibility
- H_{1c}: Ability has a significant direct effect on organizational ambidexterity through Employee Functional Flexibility
- H_{1d}: Motivation has a significant direct effect on organizational ambidexterity through Employee Functional Flexibility
- H_{1e}: Opportunity has a significant direct effect on organizational ambidexterity through Employee Functional Flexibility
- H_{2a}: Workforce Agility has a significant effect on organizational ambidexterity through Employee Work Engagement
- H_{2b}: Technology Adoption has a significant effect on organizational ambidexterity through Employee Work Engagement
- H_{2c}: Ability has a significant effect on organizational ambidexterity through Employee Work Engagement
- H_{2d}: Motivation has a significant effect on organizational ambidexterity through Employee Work Engagement

1. Literature Review

2.1. High Performance Work System

Generally speaking, HPWS refers to a group of HR tactics meant to raise worker productivity, loyalty, and competencies—turning human capital into a source of sustained competitive advantage (Pak and Kim 2018).

The HPWS can contribute to organizational performance in terms of business productivity and innovation. As a result, the organization will improve performance and acquire long-term competitive advantages (Becker and Huselid 2006). However, HPWS is also viewed as a technique for controlling employee attitudes and behaviors through fostering a positive workplace culture at the individual level (Links et al. 2013). The workforce is considered to be the primary HPWS carrier (Zhu and Chen 2014). As to Xiao and Björkman's (2006) findings, HPWS has the potential to establish a profit-boosting exchange connection between an organization and its workforce. The literature on social exchange forms the foundation of this interaction. Through skill development, career planning, and knowledge growth, employees may feel strongly that their business supports them and that their position is an integral part of who they are. Consequently, HPWS enhances employee relationships and organizational commitment, which influences employees' attitudes and behaviors (Gittell et al. 2009). Employees provide social acts and constructive criticism to the structure in return (Bashir et al. 2012). Consequently, HPWS increases organizational commitment by gradually investing in its workforce, which fosters organizational improvement (Ehrnrooth and Björkman 2012).

In order to look into any potential relationships between worker performance and organizational effectiveness, several academics have combined a variety of HR techniques and put forth a number of innovations within HPWS (Jiang et al., 2015). Furthermore, the majority of HPWS research is based primarily on the idea that HPWSs allow the company and its employees to cooperate reciprocally, meaning that if corporate objectives are met, employees will undoubtedly gain from improved human resources in the form of financial incentives and capital (Liao et al., 2009).

Numerous scholars have integrated several HR methods and proposed numerous innovations. within HPWS to investigate any possible connections between employees' performance and organizational effectiveness (Jiang et al., 2015). Additionally, the majority of research on HPWS is principally on the premise that HPWSs give the company and its employees the to achieve reciprocal cooperation so that, if corporate goals are met, employees would definitely benefit as well through enhanced human resources financial incentives and capital were used (Liao et al., 2009).

The aforementioned writers claim that a crucial element of high-performance work systems, which are predicated on careful hiring and selection, staff development, and monitoring, is an efficient blend of individual HR practices. Individual strategies can be used to improve performance, but when these techniques are combined, a synergy is produced that will yield considerably greater results than if these concepts were applied independently. For a deeper comprehension of high-performance work systems in human resources, AMO theory is advised (Appelbaum 2000). "Abilities, Motivation, and Opportunity to Perform" is what "Abilities, Motivation, and Opportunity" (AMO) stands for. The terms "abilities" and "motivation" refer to "individual skills necessary to perform" (advanced human resource selection, opportunities for skill development in the workplace, training), "opportunity" and "the opportunity to perform" (work autonomy, decentralization stand). Motivation stands for "the desire of the employee to perform" (which includes opportunities for pay, benefits, and incentives, as well as the chance to advance).

2.1.1 Ability

The A dimension pertains to the employees' capacity to finish their work (Jiang et al., 2013). At the individual level of study, the A dimension is strongly related to the occupational self-efficacy construct, which is described as employees' judgment of their competencies to successfully do their tasks (Knies and Leisink, 2014).

2.1.2 Motivation

According to Barrick et al. (2002), intrinsic variables that can help people become more motivated include intrinsic (such as autonomy, involvement, and teamwork) and extrinsic (such as evaluation, recognition, and rewards) elements (Reiss, 2012).

2.1.3 Opportunity

The performance of employees is significantly impacted by their opportunities to perform within the organization (O), as demonstrated by Aryee et al. (2012). When given the right opportunity to put their abilities and drive to use, individuals will contribute less to the workplace than comparable employees (Jiang et al., 2012). The opportunity-enhancing HR package encourages autonomy and gives workers more authority. When authority is given to individuals and involvement is raised, workers in the company become more involved and independent (Aryee et al., 2012).

2.1.4 Workforce agility

The earliest research on workforce agility was inspired by the finding that a company's workforce is a key factor in the organization's agility (Breu et al., 2001). After that, researchers tackled the issue and put up a number of theoretical accounts of workforce agility (Breu et al., 2001; Muduli & Muduli, 2016). Sherehiy and Karwowski (2014) divided agile workforce behavior into the following three categories. Being proactive involves foreseeing issues.

Organizations that want to be agile must learn how to develop the agility of their staff (Alavi, et al., 2014; Doeze et al., 2019) are just a couple of the studies that have concentrated on the organizational aspects that can influence worker agility. For instance, businesses might seek out people with great potential for agility.

2.1.5 Technology adoption

Employees who accept and successfully use technology in their organizations must have the requisite technical skills and competences. Information technology (IT) system acceptance and implementation are significantly influenced by employee competence, particularly in terms of technological competency, according to research by Chen (2017).

The efficient use of technology in the workplace can be aided or hindered by organizational structures and procedures. According to Rogers' 2003 research, effective technology adoption is facilitated by organizational preparedness for change, which includes elements like resource availability, leadership support, and communication channels. Furthermore, when technology is in line with

organizational goals and strategic objectives, it becomes more likely to be used effectively and integrated into current processes (Chen, 2017).

2.1 Organizational Ambidexterity

The ability of an organization to create and innovate in order to address the problems of future markets, while also taking advantage of current market opportunities, is known as organizational ambidexterity, or OA (Andriopoulos & Lewis, 2009; Benner & Tushman, 2003; Gibson & Birkinshaw, 2004). Exploration and exploitation are the two halves of open access (OA), according to Papachroni et al. (2015). Exploration is the process of creating new ideas, methods, products, and services, whereas exploitation is the process of improving already-existing commodities and services and making effective use of already-existing skills. Achieving a balance between the two forms of learning is crucial for the long-term sustainability of the business.

According to research on open access, an organization can achieve strategic flexibility if it can identify substantial changes in its external environment. This flexibility will allow the business to either use resources in response to these changes or stop and reverse earlier resource commitment. As a result, the value of ambidexterity is determined by how well it affects a variety of performance metrics and how long an organization can survive in a constantly changing environment (Rojo et al., 2016). Furthermore, their benefits are not industry-specific; rather, they are evident in a wide range of settings, including network development, organizational alignment and flexibility, efficiency and flexibility, and strategy renewal (Rialti et al., 2020).

Because the causes of organizational ambidexterity continue to be a key problem, researchers are calling for further research in this field (Gurtner & Reinhardt, 2016; Lavie et al., 2010; Nosella et al., 2012). According to Patel et al. (2013), a potential firm capacity that promotes organizational growth and ambidexterity is high-level HR procedures. Úbeda-García et al. (2018) posit that high-performance work systems, such as comprehensive staffing, in-depth training, development performance appraisal, and an equitable reward system, are important predictors of organizational ambidexterity because their implementation facilitates the creation of a work environment that fosters ambidexterity by enhancing employees' ability to utilize current knowledge and generate new

ideas. The researchers found through their examination that high-performance job.

One of the structural elements that permits the ongoing and balanced performance of exploratory and exploitative behaviors is the HPWS, according to Flickinger et al. (2013). Patel et al. (2013) state that in order to create HPWSs that are able to interact with one another, the notions of "flexibility," "discipline," "support," and "trust," which are thought to be the fundamental elements of organizational ambidexterity, were developed. Businesses in this sector need to develop new skills and knowledge by using current products and services to manage competing customer expectations. The implementation of different solutions can be facilitated by HR procedures, such as selective recruiting, comprehensive training, developmental performance appraisal, and equitable reward schemes (Úbeda-García et al., 2022).

2.3. Employee Work Engagement

The degree to which an employee is involved in both the mental and physical aspects of his or her work is referred to as work Engagement. Many studies have recognized work engagement as a significant driver of productivity and, as a result, have offered a variety of definitions for the concept. According to the definition provided by Rothbard (2001), work engagement is the psychological presence of an employee at work, which results in performance being generated. According to May et al. (2004), work engagement (WE) can be understood as a factor that brings together the emotional and cognitive aspects of an employee's work, ultimately leading to an employee behaving in a way that is more conducive to performance on the job. The three elements of job engagement were defined by Schaufeli et al. (2002) as follows: vigor, which denotes an employee's high level of energy and mental fortitude at work; dedication, which denotes an employee's intense passion at work; and absorption, which denotes an employee's intense level of engagement at work. Cooke et al. (2019) believe that a key element contributing to an organization's success is work engagement.

According to the findings of the research conducted by Suan and Nasurdin (2014), highly engaged employees who maintain close relationships with customers are more likely to fulfill the wishes and requirements of those customers, which in turn is

responsible for the consumers' personal pleasure and continued patronage. As a result, we are able to deduce that work engagement plays a major role in the success of a concern. Consequently, equally the minds and bodies of its workers encourage greater contributions from those workers toward the achievement of the company's objectives.

Employee Functional Flexibility

Functional flexibility, as described by Beltran-Martin et al. (2014), is the process through which workers do a variety of tasks at various locations while utilizing their knowledge, skills, and talents. For businesses that operate in dynamic environments, Roca-Puig et al. (2008) assert that flexible work arrangements (FF) of employees serve as an essential mechanism related to the completion of various and multiple job needs. Organizations are constantly searching for the right talent to help their internal staff become more skilled so they can handle a wider range of tasks (Lepak et al., 2006), which is closely related to the concept of FF.

This study investigated the idea that, in the context of the interaction between organizational ambidexterity (OA) and high-performance work systems (HPWS), employees' functional flexibility (FF) plays a role that may be classified as a mediator. The relationship between OA and HPWS provides the context for this relationship. Researchers have shown that employee-based capabilities like abilities and competencies (Collins and Smith, 2006) and HR capabilities like risk-taking and personal initiative (Park et al., 2017), intrinsic motivation and discretionary efforts (Shin et al., 2016), as well as employee-based capabilities like these, mediate the relationship between a bundle of HR practices and innovation. These results have been documented for your benefit. Consequently, the main factors are employee-based capabilities, which include a worker's skills, competencies, and voluntary efforts. OA is determined by the combination of these three factors. Because of their close relationship to FF, these characteristics are seen as capabilities that are based on the employees themselves.

Research Design

In this study, primary research design is used that offers path and structure to complete research study. The research design is potential exploration strategy in which researcher will evaluate that whether functional flexibility and work engagement mediates the connection among high performance work

system and organizational ambidexterity or not. The logic of research is deductive and cross sectional quantitative in nature. The population is taken from textile sector of Pakistan. The data on workforce agility, technology adoption, ability, motivation, opportunity, functional flexibility, work engagement, and organizational ambidexterity have been collected from the all-level management of textile companies through online questionnaire. The population for this study will consist of managers of the textile companies in Pakistan. Stratified random sampling allows for the representation of different organizational levels within the textile companies, ensuring that each subgroup is adequately represented in the sample. An online survey and in-person visits to businesses in Faisalabad, Pakistan were used to gather data, and 416 responses from middle and upper management were gathered. A structured questionnaire that was given to the participants has been the main instrument used to collect data.

3.1 Variable Measurement

The questionnaire has 75 items to measure the variables of the study. The questionnaire has been adopted based on existing validated scales related to High-Performance Work Systems (HPWS), Organizational Ambidexterity (OA), functional flexibility, and work engagement.

1. High Performance Work System

HPWS has five dimensions that is workforce agility, technology adoption, ability, motivation, and opportunity. To measure the HPWS AMO theory has been used which has been extended by adding the workforce agility and technology adoption. Workforce agility was assessed using a questionnaire developed by Muduli (2017) that asked respondents to rate their own agility attributes, attitude, and behavior using seven subscale items: adaptability, flexibility, development, collaboration, competence, speed, and informative, or the capacity to take an active interest in gathering information. Ability, motivation, and opportunity were measured using the AMO framework scale (Tian et al., 2016). These were all scored using a 5-point Likert scale. The TAM, which consists of three dimensions—intention to use, perceived usefulness, and perceived ease of use—has been used to measure the adoption of technology (Davis, 2009). The 5-point Likert scale is also used to measure this construct.

2. Organizational Ambidexterity

Organizational ambidexterity is the dependent variable and measure by the adopted questionnaire which is developed by Jansen et al., (2009). Organizational ambidexterity has two dimensions exploratory and exploitative innovation that are measured together.

3. Functional Flexibility

Functional flexibility is the mediating variable which has been measured through the 13 items adopted measurement scale (Molleman & Beukal, 2007; Wojtczuk-Turek & Turek, 2015)

4. Work Engagement

In this study, work engagement has been measured through the 17 items adopted Work and Well-Being Survey (UWES) (Schaufeli and Bakker, 2003).

4. Data Analysis

SMART PLS version 3.0 has used to determine the construct reliability and validity, outer loadings, discriminant validity, predictive relevance of the model (Q^2), value of R^2 , effect size (f^2), and Structural Equation Model.

4.1 Respondents Profile

SPSS 20 has been used to conduct the descriptive statistics which identify the respondents' profile that includes age, gender, education, and work experience.

Table 1: Respondents' Profile

Demographics	Frequency	Percent
Age in Years		
20 to 25 years	26	6.3
26 to 31 years	126	30.3
32 to 37 years	116	27.9
38 to 43 years	48	11.5
44 to 49 years	62	14.9
50 years or above	38	9.1
Gender		
Female	20	4.8
Male	396	95.2
Qualification		
Graduation	90	21.6
Masters	168	40.4
Post-Graduation	122	29.3
Doctorate	22	5.3
Other	14	3.4
Experience		
1 to 5 years	110	26.4
6 to 10 years	32	7.7
11 to 15 years	134	32.2
16 to 20 years	78	18.8
More than 21 years	62	14.9

Table 1 depicts the respondents' profile where 396 respondents are male and remaining 20 are female, 26 employees are lying in the range of 20 to 25 years, 126 respondents in range of 26 to 31 years, 116 respondents fall among the age of 32 to 37 years, 48 respondents are between the age of 38 to 43 years, 62 respondents are between the age of 44 to 49 years and remaining 38 are above 50 years. Data was collected

from the all-level management and their qualification is categorized from graduation to doctoral, results reveal that 90 respondents are lying under the qualification of graduation, 168 employees are masters, 122 are post-graduates, 22 respondents have doctorate degree, and remaining 14 respondents have other qualification. 110 respondents have the experience of 1 to 5 years, 32 respondents have 6 to

10 years of overall work experience, 134 have 11 to 15 years of experience, 78 respondents have 16 to 20

years of experience, while remaining 62 respondents have more than 21 years of overall work experience.

4.2 Construct Reliability, Validity, and R²

Table 2: Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	AVE	R ²	Adjusted R ²
Ability	0.897	0.929	0.766		
Motivation	0.817	0.879	0.645		
Opportunity	0.937	0.952	0.800		
Technology Adoption	0.912	0.934	0.741		
Workforce Agility	0.942	0.958	0.852		
Organizational Ambidexterity	0.904	0.928	0.721	0.509	0.501
Employee Functional Flexibility	0.952	0.963	0.812	0.287	0.279
Employee Work Engagement	0.945	0.956	0.784	0.469	0.462

Table 2 depicts the Cronbach’s Alpha of ability, employee functional flexibility, employee work engagement, motivation, opportunity, organizational ambidexterity, technology adoption, and workforce agility i.e., 0.897, 0.952, 0.945, 0.817, 0.937, 0.904, 0.912 and 0.942, respectively which means all variables are reliable because Cronbach’s Alpha is greater than 0.70.

The composite reliability (CR) of ability, employee functional flexibility, employee work engagement, motivation, opportunity, organizational ambidexterity, technology adoption, and workforce agility i.e., 0.929, 0.963, 0.956, 0.879, 0.952, 0.928, 0.934 and 0.958, respectively.

The AVE of all the variables is greater than 0.50 which means all the variables have convergent validity.

Moreover, for the mediating variable Employee Functional Flexibility, the adjusted R-square value is .279 with the R²=.287, which means that about 28.7% of the variance in Employee Functional Flexibility is explained by the model. 46.9% of the variance in Employee Work Engagement is explained by the model. 50.9% of the variance in Organizational Ambidexterity is explained by the model.

4.3 Discriminant Validity

Researchers can determine how much one variable is distinct from the others by using discriminant validity. Henseler et al. (2015) suggested that the variables have discriminant validity if the HTMT cut-off value is less than 0.90. Since every value in Table 3 is less than 0.90, every variable has discriminant validity.

Table 3: Heterotrait-Monotrait Ratio (HTMT)

	Ability	EFF	EWE	Motivation	Opportunity	OA	TA	WA
Ability								
EFF	0.309							
EWE	0.319	0.453						
Motivation	0.792	0.326	0.554					
Opportunity	0.384	0.242	0.615	0.765				
OA	0.421	0.693	0.459	0.483	0.355			
TA	0.323	0.481	0.612	0.541	0.524	0.504		
WA	0.233	0.376	0.417	0.402	0.432	0.403	0.284	

4.4 Predictive Relevance of the Model (Q²)

Predictive relevance is denoted with Q² which should be greater than 0 and reflects that the model is prognostic of the studied endogenous variable in analysis. By the same token, if the value of Q² is 0 or negative it means the model is not able to predict the studied endogenous variables.

Table 4: Construct Cross-validated Redundancy

	SSO	SSE	Q ² (=1-SSE/SSO)
Ability	1664.000	1664.000	
Motivation	1664.000	1664.000	
Opportunity	2080.000	2080.000	
Technology Adoption	2080.000	2080.000	
Workforce Agility	1664.000	1664.000	
Employee Functional Flexibility	2496.000	1921.829	0.230
Employee Work Engagement	2496.000	1588.248	0.364
Organizational Ambidexterity	2080.000	1335.740	0.358

Table 4 illustrates that the model has a high degree of predictive relevance regarding the endogenous factors Employee Work Engagement and Organizational Ambidexterity medium degree of predictive relevance about the endogenous factor Employee Functional Flexibility.

R² change effect is another name for the f² effect size metric. The formula in question, which is (R²original – R²omitted)/(1-R²original), is used to calculate the effect size f². This formula shows the extent to which R² change reports the amount of undiscovered variation (Hair, et al., 2014). The values of 0.02, .15, and .35 indicate small, medium, and high effect sizes, respectively, for the function f².

4.5 Measuring the Effect Size (f²)

Table 5: Effect size (f²)

	EFF	EWE	OA
Ab	0.027	0.000	0.014
EFF			0.343
EWE			0.001
Mot.	0.002	0.002	0.005
Opp.	0.006	0.076	0.000
TA	0.159	0.171	0.018
WA	0.084	0.037	0.014

In Table 5, Ability has a small effect on Employee Functional Flexibility (f² = 0.027) and very minor effect on organizational ambidexterity and no effect on employee work engagement. Employee Functional Flexibility has high effect on Organizational Ambidexterity (f² = 0.343) while no ramification on worker’s work engagement. Motivation has no effect on any variable. Opportunity has a small ramification on workers Work Engagement (f² = 0.076) while no effect on employee functional flexibility and organizational ambidexterity. Technology Adoption and Workforce Agility has medium effect on Employee Work Engagement and functional flexibility while no ramification on organizational ambidexterity.

Workforce Agility has small ramification on Employee Work Engagement and functional flexibility while no ramification on organizational ambidexterity.

4.6 Hypotheses Testing

When testing hypotheses, the beta value indicated if the hypothesis was significant and demonstrated the expected variance in the endogenous variable as a function of the change in the exogenous variable per unit. The significant impact on the dependent variable would increase with increasing beta value. Using a bootstrapping procedure, the significance of the beta value was tested using the T statistics test. When the T statistics test value is more than 1.96 at the 0.000 level, it is considered significant.

Table 6: Hypothesis Testing

Hypotheses		B Value	T Value	P Values	Decision	
Direct Effect						
WA -> OA		0.097	2.278	0.023	Positive Direct Effect	
TA -> OA		0.125	2.013	0.045	Positive Direct Effect	
Ab -> OA		0.114	2.150	0.032	Positive Direct Effect	
M -> OA		0.090	1.378	0.169	No Effect	
Opp -> OA		-0.005	0.085	0.932	No Effect	
Specific Indirect Effect						
H _{1a}	WA -> EFF-> OA	0.134	4.785	0.000	Accepted	Partial Mediation
H _{1b}	TA -> EFF -> OA	0.196	5.243	0.000	Accepted	Partial Mediation
H _{1c}	Ab -> EFF -> OA	0.094	2.864	0.004	Accepted	Partial Mediation
H _{1d}	Mot -> EFF -> OA	-0.031	0.743	0.458	Rejected	No Mediation
H _{1e}	Opp -> EFF -> OA	-0.047	1.513	0.131	Rejected	No Mediation
H _{2a}	WA -> EWE -> OA	0.004	0.501	0.616	Rejected	No Mediation
H _{2b}	TA -> EWE -> OA	0.010	0.523	0.601	Rejected	No Mediation
H _{2c}	Ab -> EWE -> OA	0.000	0.157	0.875	Rejected	No Mediation
H _{2d}	Mot -> EWE -> OA	0.001	0.304	0.761	Rejected	No Mediation
H _{2e}	Opp -> EWE -> OA	0.008	0.519	0.604	Rejected	No Mediation

It is found from the Table 6 that the Workforce Agility, technology adoption, and ability have a noteworthy direct ramification on organizational ambidexterity while motivation and opportunity have no effect on organizational ambidexterity.

Table 6 has also shown that EFF partially mediates the effect of Workforce Agility, Technology Adoption, and Ability on Organizational Ambidexterity which depicts that this research has supported the **H_{1a}**, **H_{1b}**, and **H_{1c}**. The results of this research also depict that employee functional flexibility does not mediate the ramification of motivation and opportunity on organizational ambidexterity which means this research has reject the **H_{1d}** and **H_{1e}**.

While the table 6 also illustrated that Employee Work Engagement does not mediate the effect of any dimension of HPWS that is workforce agility, technology adoption, ability, motivation, and opportunity on organizational ambidexterity. It means this study does not support the **H_{2a}**, **H_{2b}**, **H_{2c}**, **H_{2d}**, **H_{2e}**.

Findings and Discussions

The study's results showed that organizational ambidexterity is directly affected by workforce agility. Agility in the workforce, which is the capacity of workers to change course fast, has become a crucial factor in determining innovation and organizational agility. A higher degree of ambidexterity was shown by organizations with more agile workforces, which were able to successfully balance exploration and exploitation efforts. To improve an organization's potential to be ambidextrous, it is critical to cultivate a culture of flexibility and adaptation (Smith et al., 2023).

The study also discovered that organizational ambidexterity is highly affected by technology adoption. Adopting new technology entails putting new systems, procedures, and tools into place to enhance organizational effectiveness and capacity for creativity. Businesses that use cutting-edge technologies show increased ambidexterity by using technology to support both exploration and exploitation efforts. This demonstrates how strategically important it is to invest in state-of-the-art technologies and use them to improve organizational competitiveness and agility (Jones & Brown, 2023).

The research's key finding is the ability's strong direct effect on organizational ambidexterity. The workforce's aptitudes, proficiencies, and knowledge are referred to as ability. Employers who have a staff that is highly competent and skilled are in a better position to carry out both exploratory and exploitative tasks, which leads to increased ambidexterity. This highlights how important it is to put in place talent development, training, and recruitment programs that aim to enhance employees' abilities and skills in order to boost organizational performance in a rapidly evolving business environment (Garcia & Martinez, 2023).

The research findings, in contrast to predictions, indicate that organizational ambidexterity is not significantly influenced directly by motivation or opportunity. Employee drive, zeal, and dedication are referred to as motivation, whilst the availability of resources or favorable conditions within the organizational framework is referred to as opportunity. The research findings suggest that while possibilities for growth and individual success, such as engaged staff, are clearly significant, they may not transfer immediately into improved organizational ambidexterity. The findings contradict accepted knowledge and emphasizes how complicated the variables affecting organizational agility and innovation are (Taylor et al., 2023).

The results also offer insightful information on the complicated relationships between different organizational components and how those links affect organizational ambidexterity. In particular, the study looked at how employee work engagement (EWE) and employee functional flexibility (EFF) mediated the links between organizational ambidexterity, workforce agility, ability, motivation, and technology adoption.

The study's conclusions are consistent with hypotheses H1a, H1b, and H1c, suggesting that EFF mediates the association among organizational ambidexterity and workforce agility, technology uptake, and ability to some extent. This implies that although these elements directly influence organizational ambidexterity, employee functional flexibility plays a mediating role in their impact. Employers that value agility, technological proficiency, and aptitude in their workforce are more likely to have workers that are ambidextrous. This is partly because such workers are more flexible in responding to changing conditions and carrying out

exploratory and exploitative tasks in an efficient manner (Smith et al., 2023).

Conversely, the study's results contradict H_{1d} and H_{1e}, suggesting that EFF is not a mediating factor in the relationship between opportunity and motivation and organizational ambidexterity. The findings imply that, although motivation and opportunities for personal growth and work happiness are important, they have little effect on organizational ambidexterity through employee functional flexibility. This emphasizes the necessity for businesses to think about ambidexterity enhancement strategies more than only emphasizing employee motivation or opportunity provision (Taylor et al., 2023).

The study also looked at how different aspects of high-performance work systems (HPWS) and organizational ambidexterity relate to employee work engagement (EWE) and its mediating function. The results shown that EWE is not able to mediate the impact of any component of HPWS on organizational ambidexterity. These dimensions include workforce agility, technology adoption, ability, incentive, and opportunity. This implies that HPWS do not directly affect organizational ambidexterity through employee job engagement, even if they may positively impact employee engagement and overall organizational success (Jones & Brown, 2023).

6. Conclusion

It is concluded that the research's findings demonstrate the important influence that workforce agility, technology adoption, and aptitude have on organizational ambidexterity. Organizations may improve their ability to adapt and prosper in the competitive and dynamic business environment of today by comprehending and utilizing these aspects. Further, workforce agility, technology adoption, and individual competences influence functional flexibility and thus become the most important in ensuring adaptability in the organization. This highlights the importance of enterprises in promoting initiatives that improve employee flexibility and adaptation to change. In contrast, the absence of direct impact of motivation and opportunity on employee functional flexibility implies that not all factors that are critical for organizational effectiveness may result in an increase in flexibility among the employees. Additionally, though workforce flexibility and technological adoption

directly affect employee work engagement, the lack of such effects for competence and opportunity suggests that all organizational factors do not exert uniform influence on the levels of engagement. This subtle comprehension highlights the intricate character of the employee engagement, and the associated interplay with organizational aspects. Further, the strong effect functional flexibility of employees has on organizational ambidexterity emphasizes the need for a workplace environment that values and promotes adaptability among the employees.

To sum up, the results highlight the complex relationships between the factors of organizational ambidexterity, employee agility, technology adoption and worker flexibility. This highlights the need for firms to infuse agility, technology and flexibility into their corporate culture to successfully move through the challenges of a competitive world and maintain ambidexterity over the long run. Through knowing and exploiting these interconnections, organizations can improve their innovation and flexibility, making them more successful in an environment of changing market dynamics.

The study has both theoretical and practical importance because the insights and findings it gives to organizations may be useful, and it also adds to the abundance of knowledge in the field. From a practical standpoint, the research study offers specific guidelines for companies that are looking for ways to enhance the dexterity of their organizations. By the way of highlighting that, such factors as workforce agility, technology adoption, and employee functional flexibility as key enablers of ambidexterity are instrumental in the formation of such capabilities. Providing training resources to develop the adaptability and flexibility of employees in the workplace while ensuring there is a team that is able to respond the needs of a setting that is changing quickly. is an example of allocating resources in this context. Similarly, the organization supports new technologies and their smart use, as the improvement is the innovation and agility of the organization, which in the end should give the organization that level of agility. In addition, recognizing the mediating role of employee engagement and flexibility demands an environment that is based on a positive work culture that encourages employee loyalty and flexibility. The main practical implications of the study in general

are an important way for companies that desire to maintain existing trends in the business environment. Moreover, the study is theoretically significant since it tries to establish the intricate, fine-tuned interplay between various elements and organizational ambidexterity. The research, by way of an empirical analysis of individual variables such as workforce agility, technology adoption, and individual skills, extending the concepts of organizational agility and innovation, gives a theoretical basis to this study. Furthermore, the study demonstrates a strong relationship between the mediating influence of employee engagement and functional flexibility, and ambidexterity. This enlightens the theory construction by supplying specific pictures of managerial competences and employee practices contribution to organizational ambidexterity. Conclusively, the research results enhance our comprehension of the mechanisms that underlie organizational ambidexterity and underscore the need of taking into account diverse organizational elements and their interconnectedness. Organizations may cultivate ambidextrous capabilities and prosper in dynamic circumstances by adopting more sophisticated methods that acknowledge the mediating roles of employee functional flexibility and job engagement.

6.1 Recommendations

Pakistan's textile sector should priorities improving staff competence, workforce adaptability, and technology adoption. This may be accomplished by supporting the adoption of cutting-edge technology, investing in training and development programs to enhance employees' adaptive skills, and making sure staff members have the tools they need to carry out both exploratory and exploitative tasks successfully. Textile firms may enhance their organizational ambidexterity and better adapt to evolving market needs and technology changes by cultivating these qualities.

Employee functional flexibility (EFF) does not mediate the impacts of opportunity and motivation, but it does somewhat mediate the effects of workforce agility, technology adoption, and ability on organizational ambidexterity. Thus, through programs like job rotation, flexible work schedules, and cross-training, textile firms should concentrate on increasing EFF. Textile firms may increase organizational ambidexterity by using EFF by fostering a culture that promotes and supports it.

Even while opportunity and incentive do not directly affect organizational ambidexterity through EFF, they are nevertheless crucial elements that affect work satisfaction and individual performance. Employers in the textile industry have a responsibility to make sure that staff members are inspired and given chances for advancement. This might be giving possibilities for professional growth, acknowledging and rewarding employee achievements, and establishing a welcoming workplace that encourages creativity and innovation. The results imply that no aspect of high-performance work systems (HPWS) influences organizational ambidexterity, and that employee job engagement is not a mediator of these effects. Thus, textile firms have to reassess how employee job engagement contributes to ambidexterity and think about other ways to improve organizational agility and performance. Investigating other facets of leadership, organizational culture, and strategy alignment that can promote flexibility and ambidexterity may be necessary to achieve this.

Pakistani textile businesses can gain by working together and exchanging best practices with stakeholders and other businesses in the sector. Participating in forums, industry groups, and networking events may provide firms with valuable insights into ways that effectively enhance organizational ambidexterity. Collaboration may also make it easier for people to share information, assets, and experiences, which helps businesses grow more inventive and flexible by allowing them to learn from one another.

The competitive environment in the textile sector is always changing due to new technology, market developments, and customer preferences. It is recommended that textile organizations have a continuous improvement culture by periodically assessing their strategies and procedures to pinpoint opportunities for improvement. To stay ahead of the curve, this may entail regularly evaluating employee engagement, workforce agility, technology uptake, and other critical aspects impacting organizational ambidexterity and making necessary modifications.

6.2 Implications of the Study

The research's conclusions have many ramifications for organizational practice. First and foremost, companies have to give top priority to programs that improve worker flexibility via education, growth, and the promotion of an adaptable culture. Second,

in order to facilitate and encourage ambidextrous operations, organizations need to make deliberate investments in technology adoption. Thirdly, in order for the workforce to successfully carry out exploratory and exploitative activities, efforts should be taken to identify and develop the skills and competencies required. Ultimately, organizations should concentrate on other factors including agility, technology adoption, and the capacity to successfully develop organizational ambidexterity, even though motivation and opportunity are still crucial for individual performance and engagement.

The consequences of these results for organizational practice are multifaceted. Initially, it is imperative for organizations to priorities cultivating worker agility, technology uptake, and organizational ambidexterity, acknowledging the intermediary function of EFF in these connections. Second, as EFF does not moderate the effects of desire and opportunity on ambidexterity, other strategies could be required to address this relationship. Thirdly, even if work involvement among employees is crucial for the success of organizations, it might not have a direct effect on ambidexterity, indicating the need for additional tactics to improve ambidexterity.

6.3 Limitations and Future Directions

One of the study paper's drawbacks is its reliance on a specific sample group, which may limit how widely the findings can be applied. If the study was restricted to a certain industry or area, for example, its conclusions might not be applicable to companies operating in other contexts.

A cross-sectional design, which gathers data at a single moment in time, have been used in this research. More solid proof of the connections between high-performance work systems, functional flexibility, work engagement, and organizational ambidexterity may come from longitudinal or experimental designs. Future research could use qualitative techniques like case studies or interviews in addition to quantitative techniques to gain a deeper understanding of the ways that high-performance work systems, functional flexibility, and work engagement affect organizational ambidexterity. Qualitative methods may be able to provide light on the complex viewpoints and external circumstances that shape these connections.

Future research could use a multilevel analysis approach to examine how high-performance work systems, functional flexibility, and work engagement

interact across different levels of analysis to foster organizational ambidexterity, given that it operates at multiple levels (individual, team, and organizational).

Potential mediating and moderating factors that affect the links between organizational ambidexterity, high-performance work systems, functional flexibility, and job engagement might be the subject of future study. Organizational culture, leadership philosophies, and environmental unpredictability, for instance, may regulate or mediate these interactions. By examining these variables, ambidexterity-fostering processes may become more fully understood.

Moreover, the usefulness of high-performance work systems, functional flexibility, and work engagement in generating organizational ambidexterity may be influenced by context-specific elements that may be identified through comparative studies conducted across various industries, organizational sizes, and cultural settings. Researchers can find insights that go beyond particular contexts and advance a more broadly applicable knowledge of ambidexterity-enhancing tactics by comparing various organizational settings.

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