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## Article

The mediating role of employee ambidexterity in the relationship between high-performance work system and employee work performance: An empirical evidence from ethio-telecom

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## MANAGEMENT | RESEARCH ARTICLE

# The mediating role of employee ambidexterity in the relationship between high-performance work system and employee work performance: An empirical evidence from ethio-telecom

Amare Werku Ijigu<sup>1\*</sup>, Abebe Ejigu Alemu<sup>2</sup> and Abdurezak Mohammed Kuhil<sup>3</sup>

**Abstract:** A study on high-performance work systems (HPWS) has shown that there may be a gap in the relationship between HPWS and employee work performance. The reasons that are implied within such a relationship have, however, rarely been studied. Data from target employees are gathered using a census approach. 387 non-supervisory sales representatives from Ethio-Telecom in Ethiopia took part in this study, which used a cross-sectional design. By integrating social exchange theory and the AMO model, we theorized that employee ambidexterity mediates the relationship between HPWS and employee work performance. Using structural equation modeling, the findings of the study revealed that HPWS has a positive and significant effect on employee work performance. Furthermore, employee ambidexterity has a positive and significant effect on employee work performance. Finally, we found that employee ambidexterity partially mediated the positive and significant relationship between a high-performance work system and employee



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### PUBLIC INTEREST STATEMENT

In developing countries like Ethiopia where the resources are limited, balancing and maintaining exploitative and exploration activities are highly recommended. Moreover, the effectiveness of strategic human resource management systems is the main determinant in supporting individual and organizational ambidexterity. Likewise, human resource management practices support ambidexterity in organizations. In fact, public organizations including government-owned enterprises like Ethio telecom contribute a substantial share to Ethiopia's economic growth. Thus, it is important to synthesize and conceptualize the term high-performance work system in developing countries like Ethiopia. Therefore, this study aims to find out the effect of high performance work systems on employee work performance through employee ambidexterity

work performance. In order to open the mystery surrounding the relationship between HPWS and employee work performance, this study includes the mediating role of employee ambidexterity and develops a novel theoretical framework.

**Subjects:** Personnel Selection, Assessment, and Human Resource Management; Human Resource Management; Human Resource Development

**Keywords:** high-performance work system; AMO model; employee work performance; employee ambidexterity; Ethio telecom

## 1. Introduction

Utilizing organizational resources effectively and efficiently is crucial for an organization's success. Human resources have remained the most valued resource in these contemporary firms throughout the last few years (Jiang & Messersmith, 2017). In the global context, pieces of literature on high-performance work systems revealed that human resource practices positively influence individual and organizational performance. However, there are theoretical inconsistencies that still existed concerning the concept of a high-performance work system (Ingvaldsen et al., 2014). There is also a lack of consistent conceptualization of the human resource system (Lepak et al., 2006). For instance, Ingvaldsen et al. (2014) questioned the emergence of a high-performance work system from human resource management and these challenges warrant ongoing research efforts in this area. In fact, according to Jewell et al. (2020), although some progress has been made, further research is needed on conceptualizing a high-performance work system. Thus, it is important to synthesize and conceptualize the term high-performance work system in developing countries like Ethiopia.

One of the more enduring ideas in organization science is that an organization's long-term success depends on its ability to exploit its current capabilities while simultaneously exploring fundamentally new competencies (Raisch et al., 2009). Contextual ambidexterity is the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit (Gibson & Birkinshaw, 2004). As a result, ambidexterity refers to an employee's behavioral orientation to combine exploitation and exploration-related tasks over a set length of time (Caniels et al., 2017).

Employee work performance refers to a multidimensional concept that reflects all of the behaviors or individual acts necessary to achieve an organization's goals. (Koopmans et al., 2013). Many scholars describe employee performance in different ways. For example, Hahn and Kim (2017) conceptualize employee performance as including in-role performance, adaptive performance, and organizational citizenship behavior which measure extra-role performance. Whereas, some authors like Chien et al. (2020) viewed the theory-based overall employee performance without any distinctive dimensions. Thus, there is an overlap and inconsistencies in conceptualizing employee performance (Y. Li & Lu, 2009).

There are high-performance work system issues that have not been studied rigorously and thoroughly in literature from the social exchange theory and AMO model theoretical perspective. Jiang and Messersmith (2017) revealed that substantial research on strategic human resource management has been conducted based on a resource-based view perspective. However, Zhang and Jia (2010) insisted that based on the social exchange theory, high-performance human resource practices affect corporate entrepreneurship. Likewise, Cai (2020) suggested using the social exchange theory which would be essential to examine employees' perceptions of HPWS. Thus, this study views a high-performance work system from a social exchange theoretical lens and adds to the existing body of knowledge or literature. Moreover, unlike previous studies, this

research will give more attention to employee-perceived high-performance work systems at the individual level construct as it is suggested by (Behraves et al., 2019; Werner, 2011). It also noted that prior scholars studied rigorously the linkage between high-performance work systems and performance relationships at the organizational level. That means prior studies are given attention to management-centric HR practices specifically HPWS. However, less attention is given to the perception of employees toward a high-performance work system and its effect on employee performance (Jyoti & Dev, 2016). Likewise, There are also empirical research gaps that are rarely reported in a non-western context, particularly in developing countries (Tensay & Singh, 2020). Moreover, unlike public or state enterprises, privately owned business firms have been the object of various studies in the last two decades (Mostafa, 2015). For instance, a meta-analysis conducted by Combs et al. (2006) evidenced that high-performance work practices are more essential for manufacturing firms. Also, White and Bryson (2019) found that there is no finding that shows whether high-performance work systems positively or negatively affect public sector employees. Therefore, this insists that more investigation is needed for HPWS studies to adopt micro-level frameworks (Edgar et al., 2020). To summarize, this study would show how employee ambidexterity could reveal the connection between a high-performance work system and employee work performance.

## **2. Theoretical framework and hypothesis development**

### **2.1. Social exchange theory**

According to social exchange theory, there is a social form of exchange in the norm of reciprocity where employees view HPWS as benefits received from the business and, as a result, exhibit exceptional performance in exchange (J. Zhang, Bal et al., 2018). Similar work was also carried out by Gong et al. (2010) who claim that social exchange theory provides an appropriate lens for understanding employee responses to the organization. Likewise, a meta-analysis conducted by Diogo and Costa (2019) revealed social exchange theory as one of the most appropriate theoretical lenses that explore the impact of HPWS on employee outcomes. Moreover, researchers in other fields have adopted the same approach too. To sum up, social exchange theory arguably insisted that employees would likely develop a commitment to the organizations once their perceptions are valuable (Garg & Punia, 2017). From a social exchange theory point of view, when implementing HR practices as a matter of exchange, it is essential to understand the subjective perceptions of the employees (Marin-garcia & Tomas, 2016).

### **2.2. AMO theory**

The guiding principles of the AMO model of HRM asserted that every HR system functions through its effects on each employee's knowledge and skill level, their willingness to put out effort, and their opportunities to use their talents in their work (Boxall & MacKy, 2009). Extant research widely used the AMO model in explaining the HRM—performance linkage (Marin-garcia & Tomas, 2016). Unlike other theoretical perspectives, the AMO model emphasizes individual-level employees and insisted that core HR practices directly affect employee work outcomes (Marathe & Pathak, 2013). Similar work done by Edgar et al. (2020) found that individual-level effects of HR-based AMO dimensions have a significant positive correlation with employee performance. Alternatively, Jyoti and Dev (2016), revealed the HPWS-based AMO model significantly predict employee performance and suggested that relevant mediating and moderating variable is needed to check the indirect and interaction effects. In general, the bulk of existing work on high-performance work systems and employee performance is based on social exchange theory and the AMO model that shed some light on the “black box” of HPWS-performance linkage (Diogo & Costa, 2019). Therefore, in order to explain the relationship between perceived HPWS and employee work performance, both the social exchange theory and the AMO model will be used as theoretical foundations in this study.

### **2.3. High-performance work system and employee work performance**

Several studies have explored the effects of HPWS on organizational and individual outcomes. For instance, Huselid (1995) confirmed that systems of high-performance work practices have an economically and statistically significant impact on both intermediate employee outcomes (turnover and productivity) and short- and long-term measures of corporate financial performance. Besides, employee creativity is enhanced by HPWS (Tang et al., 2017). At the organizational level, high-performance human resource practices directly impact firm performance (Van Esch et al., 2018). At the employee level, prior study shows that HPWS positively relates to job satisfaction, physiological job demand and job search behavior (Behraves et al., 2019), employee service performance and organizational citizenship behavior (Nadeem et al., 2019), and job engagement (Arefin et al., 2019).

Most importantly, employee reports of HPWS have a positive relationship with work-to-family enrichment (Carvalho & Chambel, 2015), job resources (Kloutsiniotis & Mihail, 2020), and employees' work well-being (Su et al., 2019). Furthermore, AMO-HR systems are a significant predictor of employee proactive behavior (Al-tit, 2020). In particular, a study conducted in service organizations in New Zealand revealed that both organizational system (HPWS) and individual AMO dimensions have positive associations with employees' performance (Edgar et al., 2020). In addition, according to a study conducted in Pakistan, grounded on the social exchange theory, AMO-based HPWS has a positive relationship with employee performance (C. Li et al., 2019). Furthermore, the AMO model is a great, organized framework that aids in clarifying the connection between HRM and performance (Marin-garcia & Tomas, 2016). Moreover, based on the social exchange theory, with the help of HPWS, the job performance of the employee is enhanced (Zafar et al., 2019). Thus, hypothesis one is stated as follows:

*Hypothesis 1: High-performance work systems have a positive effect on employee work performance.*

### **2.4. High-performance work system and employee ambidexterity**

Prior research has identified that little is known about the antecedents of harmonic or contextual ambidexterity (Reilly & Tushman, 2013). The high-performance work system is viewed as an important determinant of ambidexterity (Fu et al., 2015). The term ambidexterity involves two competing demands; exploitation and exploration (O'Reilly & Tushman, 2013; Raisch & Birkinshaw, 2008). Prior studies widely explored at the organizational level and organizational outcome of ambidexterity were the top research agenda by most scholars (Caniels et al., 2017). In a similar vein, scholars have emphasized the effectiveness of strategic HR systems in supporting individual and organizational ambidexterity (Mom et al., 2018). In particular, High-performance work systems are a significant predictor of organizational ambidexterity (Gürlek, 2020). The study conducted in Spain found that high-involvement HR systems support ambidextrous learning which in turn generates ambidextrous employees (Prieto-Pastor & Martin-Perez, 2015). Also, the simultaneous pursuit of exploration and exploitation is enhanced through the present HRM practices (Swart et al., 2016). Thus, the use of sets of high-involvement HRM practices for exploration of new ideas and efficiency-driven HRM practices for creating contextual ambidexterity in the case organizations (Malik et al., 2017). As a result, HPWS is viewed as a systematic tool for enhancing organizational ambidexterity (Patel et al., 2013). Finally, a study conducted in Taiwan revealed that by applying the AMO framework, the study result indicated that role breadth self-efficacy and intrinsic motivational orientation partially mediated the top-down effects of ability- and motivation-enhancing HR practices on operational manager ambidexterity (Mom et al., 2018). Thus, this stream of discussion leads to the following hypothesis:



*Hypothesis 2: High-performance work systems have a positive effect on employee ambidexterity.*

### **2.5. Employee ambidexterity and employee work performance**

According to Dutta (2013), an empirical study conducted across firms in India suggested that contextual ambidexterity significantly mediates the relationship between dynamism in the environment, organization context, and renewal. Organizational ambidexterity has been established as an important antecedent of organizational innovation and performance (Rosing & Zacher, 2016). In other words, ambidexterity and generative learning are found to be significantly associated with innovative firm performance (Çömez et al., 2011). Also, ambidexterity and its interaction with the market orientation were found to have a positive influence on organizational performance (Peng et al., 2019). These findings are consistent at the individual level. In particular, employee exploration-exploitation significantly influences task performance (J. A. J. A. Zhang et al., 2020). Similarly, the individual balanced pursuit of exploitative and explorative activities positively related to the performance public sector (Kobarg et al., 2015). To sum up, balancing the exploration of new opportunities with the exploitation of existing capabilities, is increasingly viewed as a promising approach to adapting the technological and environmental change (Schnellbacher et al., 2019). Based on the above-mentioned literature and the discussion, the following hypothesis is proposed:

*Hypothesis 3: Employee ambidexterity has a positive effect on Employee Work Performance.*

### **2.6. The mediating role of employee ambidexterity in the relationship between high-performance work system and employee work performance**

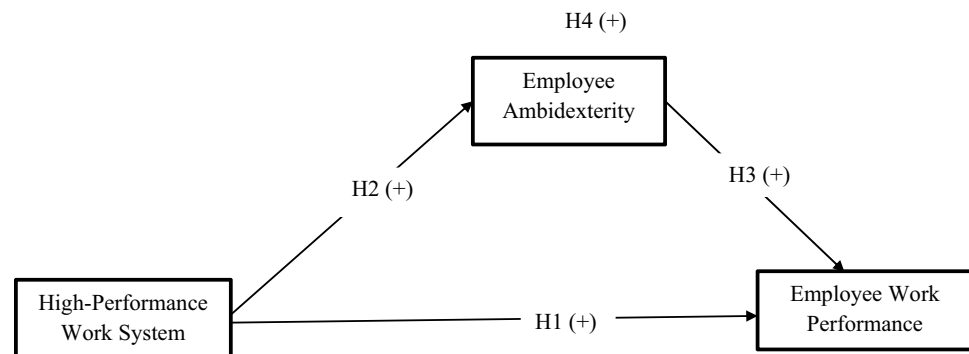
Prior studies insist that various mediators regulate the relationship between high-performance work systems and performance. For instance, Beltran-Martin et al. (2008) insisted that human resource flexibility mediates the association between high-performance work systems and organizational performance. Alternatively, high-performance human resource practices and firm performance are partially mediated by employees' competencies (Van Esch et al., 2018). In particular, high-performance work systems and employee performance is mediated by social exchange and thriving (J. Zhang, Bal et al., 2018). Whereas, psychological capital and resilience play a mediating role in the relationship between a high-performance work system and employee service performance (Nadeem et al., 2019). Besides, in public organizations, service-oriented high-performance work systems, and service-oriented behaviors are regulated by work engagement (Luu, 2018). Moreover, collective human capital serves an intervening role in the influence of high-performance work systems on unit performance and perceived HPWS at the employee level (Aali et al., 2019). Hence,

*Hypothesis 4: Employee ambidexterity mediates the relationship between high-performance work systems and employee work performance.*

## **3. Research model**

The reason for developing a research model is to enable researchers to integrate different ideas from different theories and then integrate them with research questions (Adams et al., 2014). Indeed, the research model is derived from the theoretical framework and relates to specific research problems (Kumar, 2011). Furthermore, the research model clarifies relationships among variables (McGaghie et al., 2001). Thus, based on the theoretical underpinnings that are explained before, this hypothesized research model is developed. Therefore, Figure 1 illustrates the research model of the study.

**Figure 1. Research model.**



## 4. Research methodology

### 4.1. Research setting and sample procedures

The telecom service in Ethiopia was initially begun by Ethiopian Telecommunication Corporation (ETC) which was established in 1996. Consequently, the organization reform was undertaken by the Ethiopian government. Subsequently, ETC is renovated and named Ethio telecom in 2010. Ethio telecom is state-owned and the only telecom operator in Ethiopia. Currently, the company provides various telecom services to customers. Ethio telecom has a large number of telecom subscribers in Addis Ababa city. The company cascaded its operations into six zones that enable it to provide telecom services to customers. As per the data obtained from the human resource division of the company, as of the year 2022, the total number of employees currently working in Ethio telecom in Addis Ababa city is estimated to be more than 20,000. Therefore, this study was focused on non-managerial permanent employees currently working in Ethio telecom in Addis Ababa city. The positivism research paradigm best suits the researcher and enables them to meet the research purpose as the study is the variable-based approach that is intended to investigate the causal relationship between a high-performance work system and employee work performance with the mediating role of employee ambidexterity. In other words, to avoid subjectivism, this study relies on empirical arguments to investigate the causal relationships among study variables (Chirkov & Anderson, 2018).

Rooted in the positivism research paradigm, the deductive approach is appropriate for this study as it is intended to evaluate propositions or hypotheses related to an existing theory. From a methodological perspective, this study was quantitative by nature as there was a single data collection technique, that is, a standardized questionnaire adapted from prior studies. Explanatory research was adopted to examine and investigate how and why HPWS influences employee work performance through employee ambidexterity (Babbie, 2016; Saunders et al., 2016).

According to data obtained from the human resource division stated that, as of the year 2022, the total number of permanent employees working in Addis Ababa city is 9277 across 24 divisions. Out of this number, 517 are sales representatives' employees working in the capital. The study employed a census approach to gather data since it is challenging to control all divisions and incorporate them into the study (Draugalis & Plaza, 2009). Thus, this study was confined to all sales representative employees working in Addis Ababa city. After gaining consent or acceptance from Ethio telecom, a list of employees and other related information were obtained, and then orientation was given about the purpose of the study orally their consent was also requested without coercion. A total of 517 sales representatives are working in Addis Ababa in six zones of Ethio Telecom. Through a series of data collection periods, the researcher only accesses 484 employees.



Thus, a total of 484 questionnaires are distributed to sales representatives. However, 412 questionnaires are properly filled and returned with a response rate of 85.12%. A review conducted by Baruch and Holtom (2008) revealed that for organizational research, the average response rate for data collected from individuals through surveys accounted for 52.7%. Thus, the researcher found that the collected data is sufficient for data presentation and analysis once the returned data meets the threshold.

## **4.2. Scale and measures**

### **4.2.1. High-performance work system (HPWS)**

Items that measure the study variables are adopted from prior studies. Table 1 dictates the latent constructs with their items. Drawing on the AMO model, HPWS was measured by using a seven-point Likert-type scale adapted from Jensen et al. (2013); Jeevan Jyoti and Rani (2017); Jeevan Jyoti and Dev (2016), respectively. Before exploratory factor analysis (EFA), the scale consisted of 15 items. Each item was evaluated by using a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item was “I am provided with sufficient opportunities for training and development.”

### **4.2.2. Employee work performance (EWP)**

To measure employee work performance, a 31-item scale was adapted from Koopmans et al. (2014); Pradhan and Jena (2017) were used. The latent variable EWP has four dimensions, namely task performance, adaptive performance, contextual performance, and counterproductive work behavior. A sample item for task performance was “I use to maintain a high standard of work.” A sample item for adaptive performance was “I use to perform well to mobilize collective intelligence for effective teamwork.” A sample item for contextual performance was “I used to extend help to my co-workers when asked for needed.” A sample item for counterproductive work behavior was “I complain about unimportant matters at work.” Each item was evaluated by using a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

### **4.2.3. Employee ambidexterity (EA)**

To examine the perceived level of employees' ambidexterity, an 11—item scale was adapted from J. A. Zhang et al. (2020). Employee ambidexterity is reflected through both employee exploration and exploitation activities. A sample item for employee exploration activities was “I am capable of engaging in searching for new possibilities concerning products/services, processes, or markets.” A sample item for employee exploitation activities was “I am capable of engaging in activities of which a lot of experience has been accumulated by myself.” Responses were scored on a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

## **4.3. Control variables**

Prior studies confirmed that variables such as gender, age, education level, and tenure affect the constructs of employee performance based on immediate contexts in which employees operate (J. Zhang, Bal et al., 2018). In other words, controlling all these variables was found to be related to employee performance (Kloutsiniotis & Mihail, 2018). Therefore, we controlled for gender, age, educational level, and organizational tenure during the present study.

## **4.4. Test of common method bias (CMB)**

Common method bias is the inflation of true correlation among observable variables in a study (Podsakoff et al., 2003). To mitigate this problem, Harman's one-factor test was performed with confirmatory factor analysis where all indicators are purposely loaded on one factor to determine model fit. Accordingly, the first factor explained 17.1%%, which, as less than 50%, confirmed that

**Table 1. Research instrument**

Variable Name	Label	Items
High-Performance Work System	HPWS1	I am provided with sufficient opportunities for training and development*
	HPWS2	Need-based training is provided to employees*
	HPWS3	The organization keeps me informed about business issues and about how well it's doing*
	HPWS4	There is a clear status difference between management and staff in the organization*
	HPWS5	Team working is strongly encouraged in our organization*
	HPWS6	A rigorous selection process is used to select new recruits*
	HPWS7	Employees are involved in decision making*
	HPWS8	Communication within the department is good
	HPWS9	Communication between departments is good
	HPWS10	I feel my job is secure*
	HPWS11	The rewards I receive are directly related to my performance at work
	HPWS12	Career management is given a high priority in my organization*
	HPWS13	I have the opportunities I want to be promoted
	HPWS14	The appraisal system provides me with an accurate assessment of my strengths and weaknesses
	HPWS15	I am given meaningful feedback regarding my performance at least once a year*

(Continued)

Variable Name	Label	Items
Employee Work Performance	TP1	I use to maintain high standard of work*
	TP2	I am capable of handling my assignments without much supervision*
	TP3	I am very passionate about my work*
	TP4	I know I can handle multiple assignments for achieving organizational goals
	TP5	I use to complete my assignments on time
	TP6	My colleagues believe I am a high performer in my organization*
	AP1	I use to perform well to mobilize collective intelligence for effective teamwork*
	AP2	I could manage change in my job very well whenever the situation demands
	AP3	I can handle effectively my work team in the face of change*
	AP4	I always believe that mutual understanding can lead to a viable solution in the organization
	AP5	I use to lose my temper when faced with criticism from my team members*
	AP6	I am very comfortable with job flexibility*
	AP7	I use to cope well with organizational changes from time to time*
	CP1	I used to extend help to my co-workers when asked or needed*
	CP2	I love to handle extra responsibilities*
	CP3	I extend my sympathy and empathy to my co-workers when they are in trouble*
	CP4	I actively participate in group discussions and work meetings*
	CP5	I use to praise my co-workers for their good work*
	CP6	I derive a lot of satisfaction nurturing others in the organization*
	CP7	I use to share knowledge and ideas among my team members
	CP8	I use to maintain good coordination among fellow workers
	CP9	I use to guide new colleagues beyond my job purview*
	CP10	I communicate effectively with my colleagues for problem-solving and decision making*
	CPWB1	I complain about unimportant matters at work *
	CPWB2	I make problems greater than they were at work
	CPWB3	I focus on the negative aspects of a work situation, instead of on the positive aspects
	CPWB4	I speak with colleagues about the negative aspects of my work.
	CPWB5	I speak with people from outside the organization about the negative aspects of my work
	CPWB6	I do less than was expected of me
	CPWB7	I manage to get off from a work task easily
	CPWB8	I sometimes do nothing, while I should have been working

(Continued)

**Table 1. (Continued)**

Variable Name	Label	Items
Employee Ambidexterity	EXPR1	Searching for new possibilities concerning products/services, processes, or markets
	EXPR2	Focusing on strong renewal of products/services or processes
	EXPR3	Activities of which the associated fields or costs are currently unclear*
	EXPR4	Activities requiring quite some adaptability*
	EXPR5	Activities requiring me to learn new skills or knowledge*
	EXPR6	Activities that have not been specifically stipulated in existing company policy*
	EXPL1	Activities of which a lot of experience has been accumulated by myself
	EXPL2	Activities which you carry out as if it were routine*
	EXPL3	Activities that serve existing (internal) customers with existing services/products
	EXPL4	Activities of which it is clear to me how to conduct them
	EXPL5	Activities primarily focused on achieving short-term goals*

Source: Authors' Compilation. **Note:** \* Items Deleted

there was no issue of bias. This aligns with notions expounded by (Podsakoff et al., 2003) and thus confirmed the data's suitability for subsequent statistical analysis.

## 5. Results

### 5.1. Descriptive analyses

The demographic characteristics of respondents consisted of 238 men (61.50%) and 149 females (38.50%). The most dominant age group was found between 26–35 years (60.72%). More than half of the respondents possessed a bachelor's degree ( $n = 272$ , 70.3%), followed by respondents who possessed master's degree ( $n = 91$ , 23.5%), and diploma holders ( $n = 24$ , 6.2%), respectively. Lastly, the highest percentage of the respondents have been in service for 1 to 3 years in the present organization ( $n = 181$ , 46.8%) whereas respondents whose length of service is of 8 to 10 years are small in number ( $n = 32$ , 8.3%), respectively. Table 2 presents the descriptive statistics and correlations. As seen in Table 2, High-performance work system was positively related to employee work performance ( $r = 0.361$ ,  $p < 0.01$ ) and employee ambidexterity ( $r = 0.255$ ,  $p < 0.01$ ). Furthermore, employee ambidexterity was positively associated with employee work performance ( $r = 0.365$ ,  $p < 0.01$ ).

### 5.2. Measurement model

#### 5.2.1. Exploratory factor analysis

An EFA was performed using principal component analysis and varimax rotation. The minimum factor loading criteria were set to 0.50. The communalities of the scale, which indicates the amount of variance in each dimension were also assessed to ensure an acceptable level of explanation. Also in factor analysis, the Eigenvalue represents the total variance explained by each factor. Factors having Eigenvalues over one (1) are selected for further study (Hair et al., 2014). The result shows The Kaiser—Meyer—Olkin measure of sampling adequacy was 0.896. The nine dimensions explained a total of 64.493 percent of the variance among items in the study. Bartlett's Test of Sphericity proved to be significant and all communalities were over the required

Table 2. Mean, standard deviation, and correlations among the study variables

	Variables	Mean	SD	1	2	3	4	5	6	7
1	High-Performance Work Systems	5.5655	0.88803	1						
2	Employee Work Performance	5.5818	0.59993	0.361**	1					
3	Employee Ambidexterity	5.9243	0.73198	0.255**	0.365**	1				
4	Gender	1.39	0.487	0.155**	0.067	0.059	1			
5	Age	1.99	0.681	-0.133**	-0.184**	-0.065	-0.155**	1		
6	Educational Level	2.17	0.518	-0.107*	-0.012	-0.082	-0.152**	0.026	1	
7	Experience	2.02	1.166	-0.236**	-0.183**	-0.030	-0.135**	0.711**	-0.001	1

\*\*Correlation is significant at the 0.01 level (1-tailed).

\*Correlation is significant at the 0.05 level (1-tailed).

Note: N = 387. Gender (1 = Male, 2 = Female); Age (1 = 18–25, 2 = 26–35, 3 = 36–45, 4 = Above 45); Educational Level (1 = Diploma, 2 = BA/BSc Degree, 3 = MA/MSc Degree, 4 = Ph.D. Degree); Experience (1 = 1–3 years, 2 = 4–7 years, 3 = 8–10 years, 4 = Above 10 years).

values of 0.500. The nine factors identified as part of this EFA aligned with the theoretical proposition in this research.

### 5.2.2. Confirmatory factor analysis (CFA)

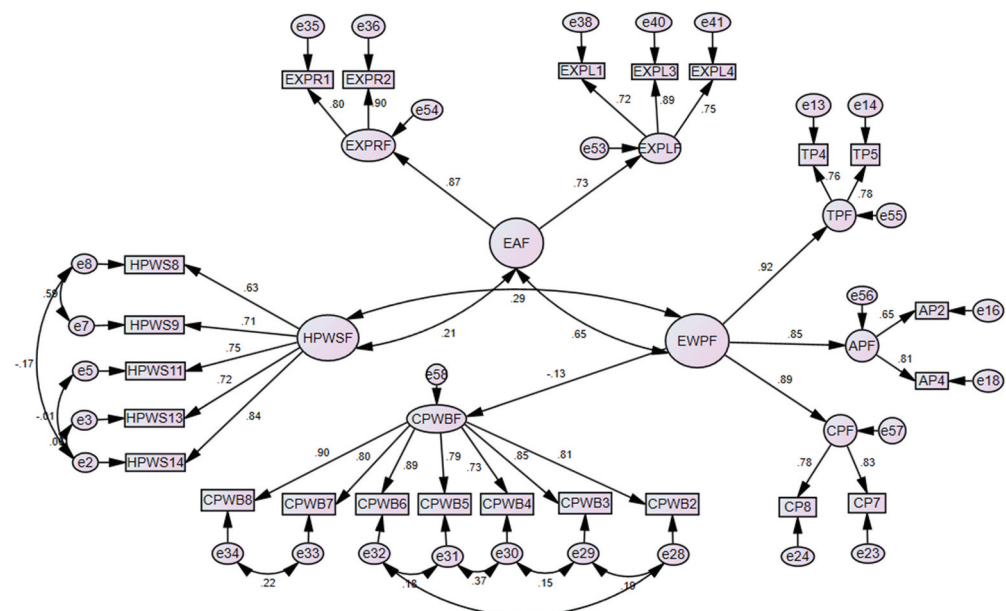
Confirmatory factor analysis (CFA) was computed using AMOS to test the measurement models. Collier (2020) insisted that a second-order CFA is also named a higher-order construct that is measured by latent constructs. That means a second-order CFA is a statistical method employed by the researchers to confirm that the theorized construct in the study load into a certain number of underlying sub-dimensions or constructs. Hence, in this study, except for the high-performance work system; which is a first-order latent construct, employee work performance (task performance, adaptive performance, contextual performance, and counterproductive work behavior), and employee ambidexterity (employee exploration and employee exploitation constructs are classified as the second-order latent variables. According to Hair et al. (2014), factor loadings greater than 0.50 are better to explain unobserved constructs in the study. Therefore, after the variables are validated through EFA, as part of confirmatory factor analysis, factor loadings were assessed for each item. Hence, 24 items were removed due to low factor loadings ( $< 0.50$ ). The model fit measures were used to assess the model's overall goodness of fit; Model Chi-Square Test (CMIN/df), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA) and all values were within their respective common acceptance levels (Bagozzi & Yi, 1988; Bentler, 1990; Hu & Bentler, 1998; Schumacker & Lomax, 2010). The three-factor model (high-performance work system, employee work performance, and employee ambidexterity) yielded good fit for data; CMIN/df = 2.602, CFI = 0.939, TLI = 0.926, SRMR = 0.067, and RMSEA = 0.064. Hence, the assessment of measurement model is depicted in Figure 2.

### 5.3. Instrument validity and reliability

Construct reliability was assessed using Cronbach's alpha and composite reliability. Cronbach's Alpha for each construct in the study was found over the required limit of 0.70 (Hinton et al., 2014). Composite reliability ranged from 0.787 to 0.853, above the 0.70 benchmarks (Hair et al., 2014). Hence, construct reliability was established for each construct in the study (Table 3). Convergent validity of scale items was estimated using Average Variance Extracted (AVE; Fornell & Larcker,

**Figure 2. Measurement model.**

Note: Factor loadings are standardized and significant at  $p < 0.01$ . High-performance work system (HPWSF); Employee ambidexterity (EAF) = Exploration (EXPLRF) and Exploitation (EXPLF); Employee work performance (EWPF) = Task performance (TPF), Adaptive performance (APF), Contextual performance (CPF), and Counterproductive work behavior (CPWBF).





**Table 3. Loadings, reliability, and convergent validity**

Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
High-performance work system		<b>0.860</b>	<b>0.853</b>	<b>0.540</b>
HPWS14	0.842			
HPWS13	0.726			
HPWS11	0.746			
HPWS9	0.712			
HPWS8	0.638			
Employee work performance		<b>0.850</b>	<b>0.801</b>	<b>0.600</b>
TP4	0.763			
TP5	0.776			
AP2	0.652			
AP4	0.815			
CP7	0.831			
CP8	0.782			
CPWB2	0.814			
CPWB3	0.849			
CPWB4	0.728			
CPWB5	0.790			
CPWB6	0.890			
CPWB7	0.797			
CPWB8	0.905			
Employee ambidexterity		<b>0.845</b>	<b>0.787</b>	<b>0.651</b>
EXPR1	0.815			
EXPR2	0.892			
EXPL1	0.726			
EXPL3	0.886			
EXPL4	0.755			

1981). The average variance extracted was above the required threshold value of 0.50 (Fornell & Larcker, 1981). Therefore, the scales used for the present study have required convergent validity (Table 2).

Discriminant validity in the study was assessed using Fornell and Larcker criteria. Accordingly, discriminant validity is established when the square root of AVE for the construct is greater than its correlation with other constructs in the study (Fornell & Larcker, 1981). In the present study, discriminant validity was established. The results of discriminant validity are presented in Table 4.

**Table 4. Discriminant validity of study variables**

	HPWS	EA	EWP
HPWS	<b>0.735</b>		
EA	0.209**	<b>0.807</b>	
EWP	0.288***	0.649***	<b>0.774</b>

Note: HPWS—High-performance work system; EA—Employee ambidexterity; EWP—Employee work performance. Significance of correlations: \*\*P < 0.010 \*\*\*P < 0.001

#### 5.4. Structural model assessment

A structural equation model generated through AMOS was used to test the relationship among study variables. A good fitting model is accepted if the value of the CMIN/df is < 5, the model overall goodness of fit; Tucker Lewis Index (TLI), and Comparative Fit Index (CFI) is > 0.90 (Hair et al., 2014). In addition, an adequate fitting model was accepted as the AMOS computed value of the Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA) are < 0.08 (Hu & Bentler, 1998). According to Collier (2020), common control variables can add value to model fit and can help to retain significant relationships among study constructs. Thus, including control variables can be quite essential in supporting the findings of the analysis. Therefore, the first step in SEM is to verify the effect of controlling variables (Gender, Age, Education Level, and Experience) on employee work performance.

As it is mentioned in Table 5, gender, age, education, and experience do not have a significant relationship with employee work performance. In other words, the control variables for this study have an inconsequential influence on the model. Therefore, the demographic variables for this study are excluded from further analysis.

#### 5.5. Hypothesis testing

The next part of the data analysis was testing the proposed hypotheses. Taking into account the mediation analysis, first, we have tested the direct relationship among study variables. Hence, three hypotheses were proposed by the researchers. Hypothesis 1 suggests that high-performance work systems have a positive effect on employee work performance. To examine the cause-effect relationships, we tested the proposed model by using the AMOS Graphical approach for structural equation modeling (SEM), which is shown in Figure 3. The resulting model provided a good fit for the data: CMIN/df = 2.602, CFI = 0.939; TLI = 0.926; SRMR = 0.067; RMSEA = 0.064. As shown in

**Table 5. Structural model assessment**

Relationships	Estimate	S.E.	C.R.	P
HPWS → EA	.210	.041	5.176	***
HPWS → EWP	.181	.032	5.589	***
EA → EWP	.240	.038	6.330	***
Gender → EWP	−.009	.057	−.151	.880
Age → EWP	−.092	.056	−1.628	.104
Education → EWP	.049	.053	.931	.352
Experience → EWP	−.019	.033	−.582	.561

Note: HPWS—High-performance work system; EWP—Employee work performance; EA—Employee ambidexterity. \*\*\*—p < 0.01

**Figure 3. Full structural equation modelling.**

Note: HPWSF—High-performance work system; EWPf—Employee work performance; EAF—Employee ambidexterity; EXPRF—Exploration activities; EXPLF—Exploitation activities; TPF—Task performance; APF—Adaptive performance; CPF—Contextual performance; CPWBF—Counterproductive work behavior.

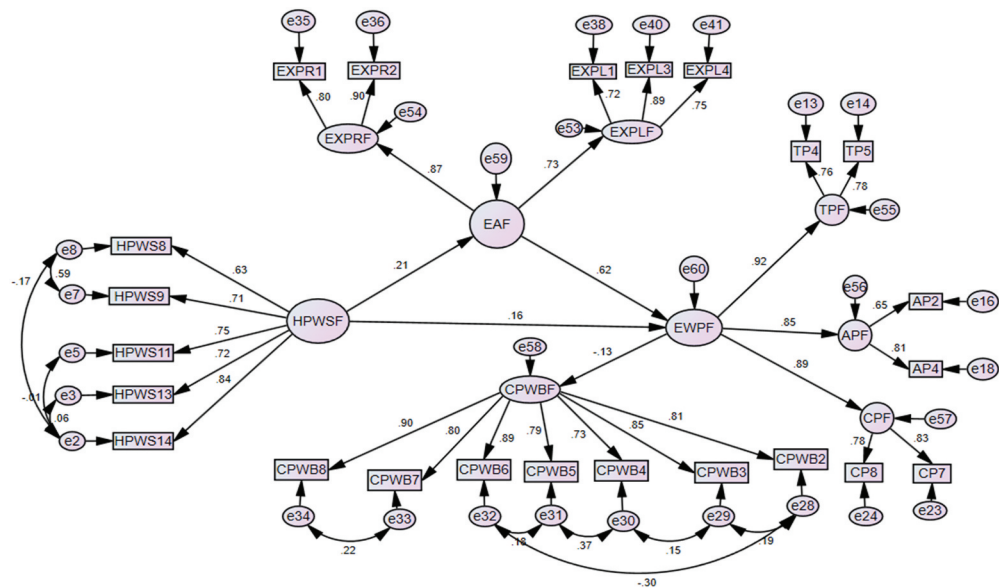


Figure 3, a high-performance work system has a significant positive effect on employee work performance ( $\beta = 0.181$ ,  $p < .001$ ), these results supported *Hypothesis 1*. Likewise, a high-performance work system has a significant positive effect on employee ambidexterity, ( $\beta = 0.210$ ,  $p < .001$ ), thus supporting *Hypothesis 2*. Finally, employee ambidexterity has a significant positive effect on employee work performance ( $\beta = 0.240$ ,  $p < .001$ ), thus supporting *Hypothesis 3* as shown in Table 5.

#### 5.5.1. Mediation analysis

Complementary to Baron and Kenny's (1986) ways of testing mediation, the revised method and accepted approach in mediation testing is to use a bootstrap technique to determine significance. A bootstrap technique treats the data sample like a pseudo-population and then takes a random sample with replacement to determine if the indirect effect falls within a confidence interval (Collier, 2020; Hair et al., 2014). The study assessed the mediating role of employee ambidexterity on the relationship between a high-performance work system and employee work performance. The mediation analysis summary is presented in Table 6.

The results revealed the indirect effect of a high-performance work system on employee work performance through employee ambidexterity ( $\beta = 0.092$ ,  $p = 0.000$ ), supporting *Hypothesis 4*. Furthermore, the direct effect of a high-performance work system on employee work performance

**Table 6. Indirect effect of employee ambidexterity**

Relationship	Direct Effect	Indirect Effect	Confidence Interval		P-Value	Conclusion
			Lower Bound	Upper Bound		
HPWS→EA → EWP	0.181	0.092	0.044	0.166	0.000	Partial Mediation

Note: HPWS—High-performance work system; EA—Employee ambidexterity; EWP—Employee work performance.

in presence of employee ambidexterity was also found significant ( $\beta = 0.181$ ,  $p = 0.000$ ). Hence, employee ambidexterity partially mediated the relationship between a high-performance work system and employee work performance.

## 6. Discussion

The purpose of this study was to investigate the mediating effect of employee ambidexterity in the relationship between high-performance work systems and employee work performance. Hence, The findings of the study revealed that a high-performance work system positively and significantly affects employee work performance (J. Zhang et al., 2018). In addition, employee ambidexterity positively and significantly affects employee work performance (J. A. J. A. Zhang et al., 2020). Furthermore, the results confirmed that employee ambidexterity mediates the positive relationship between a high-performance work system and employee work performance. In particular, employee ambidexterity partially mediated the relationship between a high-performance work system and employee work performance. These study findings were in line with prior studies (Muhammad et al., 2021; Pertusa-Ortega et al., 2021). In particular, this study is compatible with a study conducted on public organizations in New Zealand that disclosed that organizational ambidexterity mediated the effect of a high involvement work system on organizational performance (Plimmer et al., 2017). Likewise, the positive relationships between HPWS variables and commitment were partially mediated by predictability (Harley et al., 2010). In addition, the association between HPWS perception and job control on turnover intentions was partially mediated by anxiety and overload (Jensen et al., 2013). Moreover, the effect of HPWS on collective organizational citizenship behavior was partially mediated by collective affective commitment (Gong et al., 2010). Finally, similar study findings revealed that psychological capital partially mediates the relationship between HPWS and organizational citizenship behavior (Nadeem et al., 2019). Therefore, the distinct position of employee ambidexterity must be taken into account to wholly understand the technique to unlock the black box between a high-performance work system and employee work performance.

## 7. Theoretical and practical implications

### 7.1. Theoretical implications

This study makes theoretical contributions in various ways. First, this study was done in a state-owned enterprise that fills the research gap that existed in public organizations (White & Bryson, 2019). Second, the finding of the study extended our understanding of how AMO-based high-performance work systems influence employee work performance. In particular, the study conceptualized HPWS from employee perspectives based on social exchange and AMO Model theoretical underpinning. So, we believe our research enriches and promotes the research on the formation mechanism of AMO-based HPWS in the field of strategic human resource management (Huselid, 1995; Jyoti & Dev, 2016; J. Zhang et al., 2018). Third, we found that employee ambidexterity is essential to unlocking the black box in the relationship between human resource practices—performance relationships (Diogo & Costa, 2019). Finally, the results of this study were congruent and consistent with prior research done in western countries as this study was done in the Ethiopian context (Tensay & Singh, 2020). Finally,

### 7.2. Practical implications

This study has important management implications for Ethio Telecom. First, this study serves as an input for Ethio-Telecom to devise policies to compete with incoming firms and capture the highest market share. Second, the results of the study revealed that employee exploitation and exploration activities play an essential role in regulating the interaction between HPWS and employee work performance. Finally, equal attention should be given to a high-performance work system and employee ambidexterity that also contributes to employee work performance.

## 8. Limitations and future research directions

This study has several limitations that should be explored by future research. First, we obtained data from employees working in Addis Ababa city, which may also affect the accuracy of the universal judgment for Ethio-Telecom employees at the national level. In addition, only employees are viewed as the participants of the study which may affect the generalizability of the findings. Second, this study was purely quantitative by nature which may threaten the findings of the study. Fourth, the study was cross-sectional where data was collected once from sales representatives that may affect the research output. Therefore, considering these limitations into account, we call future researchers to undertake study in one of the following future research directions. First, explore the effect of HPWS on employee work performance at the various level of analysis such as a team and/or organizational level by taking into account the resource-based view (RBV) theory to further confirm the findings of the study. In particular, several scholars argue that HR systems (as opposed to individual practices) can meet the four criteria of RBV, valuability, rarity, inimitability, and non-substitutability to be classified as a source of sustained competitive advantage. Hence, future scholars can take RBV theoretical view and conduct a study on whether the bundle of human resource management practices affects employee outcomes. Second, a longitudinal research design is better to figure out employee work performance by collecting data over time. Third, future research should incorporate qualitative data that allow triangulating with quantitative information. Forth, take non-public firms as a case organization to enable the study greater representative. Finally, a potential researcher may find some other relevant mediator and moderating variable to better understand the indirect and interaction effect in the relationship between HPWS and employee work performance.

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### Data availability statement

The data that support the findings of this study are available from the corresponding author, [Ijigu, A. W.], upon reasonable request.

### Disclosure statement

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