

# Human Resource Development and Organizational Outcomes in Chinese Private Higher Education: The Mediating Role of Ability, Motivation, and Opportunity

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## Abstract

Human resource development (HRD) practices are increasingly vital for improving institutional performance, employee productivity, and talent retention in higher education. Amidst growing competition among private higher learning institutions in China, effective HRD systems have become an essential component from a business perspective. Guided by the Ability-Motivation-Opportunity (AMO) framework, this study examines how HRD practices affect organizational outcomes and whether AMO dimensions mediate this relationship. Data from 393 faculty members in private universities in Jinan, Shandong Province, were analyzed using regression and mediation techniques. Results show that HRD practices significantly enhance organizational outcomes. Consistent with prior research,

AMO variables strongly predict faculty performance and retention. Mediation findings indicate that ability, motivation, and opportunity partially explain the impact of HRD on outcomes. This study extends HRD theory by integrating the AMO framework and offers practical insights for institutional leaders seeking to strengthen HR systems and improve overall effectiveness.

**Keywords:** human resource development, AMO theory, higher education, organizational outcomes, employee performance

## 1. Introduction

The role of HRD acquires new meaning as it emphasizes strategic planning to improve institutional effectiveness in all realms of activity, including higher education (Swanson, 2022; McDonald & Hite, 2023). HRD encompasses organized activities such as professional development training, performance management, and career planning; these activities combine to improve employees' skills (Moustaghfir et al., 2020; Dahiya et al., 2023). In China's PHLIs, the scale of challenges related to HRD becomes significant because of rising competitiveness, resource scarcity, and demands from society related to educational quality (Davies, 2021; Zhao & Li, 2021). Nevertheless, despite these daunting circumstances, the majority of PHLIs across China continue to grapple with HRD issues related to disconnected systems in HR development, talent turnover rates, inconsistent staff development efforts, and divergent results in performance management (Chun & Evans, 2023; Wang, 2024).

The AMO theory framework represents a robust theoretical lens in interpreting how HRD efforts mitigate consequences related to organizations. According to AMO theory principles, workers will work optimally if they have their ability requirements and motivation to put in effort fulfilled, and if they have opportunities to utilize their skills (Bos-Nehles et al., 2023; Mbukanma & Strydom, 2022). Contrary to AMO theory principles related to their three dimensions, HRD interventions must focus on ability-enhancing aspects like training, motivation-enhancing aspects like rewards, and opportunities-enhancing aspects like participative work structures (Potnuru et al., 2021; Zahoor et al., 2024). The empirical verification related to these interlinking propositions already exists because training results in ability (Albtoosh et al., 2022), performance management results in motivation (Agarwal, 2021), and participative workplace structures result in opportunities (Aboramadan et al., 2022).

Nevertheless, despite increasing academic attention to HRD and AMO in literature lately, very few academic investigations have explored AMO's mediation of HRD-performance linkage in Chinese PHLIs empirically. A great majority of related literature concentrates on HRM systems in public universities and other service organizations (Niati et al., 2021; Kurdi & Alshurideh, 2020), but not in the context of private HEIs. More significantly, despite wide recognition of AMO theory in HRM literature (Bos-Nehles et al., 2023; Almutawa et al., 2016), it had not been explored in Chinese PHLIs as far as its mediation in HRD-performance linkage.

In this context, it can be asserted that the present study encompasses three definite research objectives. Firstly, it analyzes the direct effects of HRD practices towards organizational results pertaining to productivity, performance, and talent retention in Chinese PHLIs. Second, it analyzes the effects of AMO dimensions towards these organizational results to provide insights on the behavioral processes underlying faculty performance. Finally, it empirically validates if AMO mediates the effects between HRD and organizational results following the request from scholars of mediation research (Baron & Kenny, 1986; Hayes, 2018) and moreover expands research avenues of HRD from AMO theory.

In aiming to combine understanding from both HRD and AMO viewpoints, this research can seek to clarify not only if HRD activities have generated positive impacts for faculty members and institutions, but also via what processes these have occurred. The results of such expected findings would be of great aid to leaders of PHLI in their efforts to come up with a comprehensive plan to improve human capital and ensure competitiveness of their institutions.

## **2. Literature Review**

### *2.1 Human Resource Development (HRD) Practices*

HR development is generally recognized as a planned and organized effort to enhance knowledge, skills, and competencies of staff members in line with institutional goals and objectives. Training and development, performance management, and career development collectively add value to the capabilities and versatility of organizations. According to Swanson (2022), McDonald & Hite (2023), this professional development in pedagogy mastery, digital knowledge competence, research acumen, and academic/leadership acumen adds to quality teaching and academic productivity in colleges and universities. The earlier research suggests that ongoing training increases job satisfaction and decreases turnover intentions; therefore, it adds to increased productivity.

According to Albtosh et al. (2022), Wang (2024), the other major area of HRD relates to issues of advancing employees' careers via mentoring, promotion, and leadership development. Open promotion systems have long been shown to be motivational and encouraging to employees. The lack of such systematic approaches to staff development can result in reduced morale and increased turnover rates. The latter condition unfortunately pervades private institutions of higher learning.

The performance management systems also play major roles in HRD. The processes involved in these systems include goal orientation, ongoing feedback processes, performance appraisal systems, and competency management. These processes ensure that all individual contributions towards the organizations continue to be aligned to all organizational goals. The systems have yielded positive effects on accountability and performance (Agarwal, 2021; Chowhan et al., 2024). The HPDR processes ensure that institutional performance improves as competencies among the faculty members improve (Niati et al., 2021; Sudirman et al., 2023). In all Chinese PHLI institutions, these processes have assumed greater significance in response to competitive forces (Liang, 2024; Zhao, 2024).

## *2.2 The Ability Motivation Opportunity (AMO) Framework*

The Ability-Motivation-Opportunity framework has remained one of the basic models in human resource management whereby workers' performance can be attributed to three interlocking elements: ability to do the work, motivation to make the effort to do it, and opportunities to make their contribution. Ability defines knowledge skills and competencies developed in workers via education and learning processes. When workers have high competencies, they easily do their jobs effectively and make less errors to improve productivity. Studies conducted in post-secondary institutions show results confirming worker capability development via training and mentoring processes to improve teaching skills.

Motivation represents the emotional forces influencing employees' readiness to utilize their capabilities. The motivational forces can either be intrinsic (i.e., personal satisfaction and intellectual satisfaction) and external (i.e., rewards and promotion). It has been confirmed by research that strategies which improve motivation have major elements to play in performance results and employee commitment (Ali et al., 2022; Damanik et al., 2020). The issue of opportunity represents enabling elements in organizations to allow workers to realize their capabilities and motivation. These opportunities encompass worker participation in decision-making processes and freedom to participate in academic capabilities. So far, as these elements have been created in organizations, workers can be encouraged to act selflessly to improve performance and sustain their worker engagement (Aboramadan et al., 2022; Mahdy & Alhadi, 2021).

The AMO framework has been extensively utilized to study performance in corporate and public organizations, and it has also been recently validated to be relevant to performance in post-secondary educational institutions. For example, it has been utilized to study the effectiveness of innovation (Alkhalaf & Al-Tabbaa, 2024), research productivity (Benítez-Núñez et al., 2024), and employee resilience in digitalized settings (Zahoor et al., 2024). Though it is gaining momentum in application domains, there have been very limited instances of its application to private post-secondary institutions in China.

## *2.3 HRD Practices and Organizational Outcomes*

Organizational outcomes typically encompass productivity, performance, and employee turnover. They represent the ability of organizations to accomplish their goals effectively and efficiently (Kurdi & Alshurideh, 2020). The number of researches conducted to date pertaining to the linkage between HRD practices and organizational outcomes can be defined as very high. In general, workers who have access to perpetual training have shown to be very knowledgeable in their respective duties and also have increased job satisfaction, contributing to increased performance and decreased turnover intentions (Niati et al., 2021; Albtoosh et al., 2022).

In higher education institutions, HRD effects have profound implications because it is academics who have direct control over teaching and learning processes, research quality,

institutional standing, and ultimately student performance. A well-articulated HRD intervention would have the ability to improve academic capabilities and inspire professional dedication. It was confirmed that positive HRD leads to decreased burnout experiences and increased performance in academic organizations (Nor & Abdullah, 2020; Chowhan et al., 2024). Learning and development-friendly contexts would also promote heightened organizational citizenship behavior responses conducive to institutional performance (Rincon-Roldan & Lopez-Cabrales, 2022).

Nevertheless, there appear to be challenges in some Chinese PHLIs in terms of their structure brought about by deficient investment in HRD, inconsistency in implementing training initiatives, and ambiguities related to promotion avenues. These would be aspects even Zhao & Li, (2021), would argue impede efforts aimed at generating positive organizational results by the HRD framework and reinforce appreciation for understanding how results in HRD are generated.

#### *2.4 AMO as a Mediator between HRD and Organizational Outcomes*

Current trends in HRM literature have been concerned with the role of AMO framework mediation in understanding HR practice effects on employee and organizational performance. HRD practice creates ability, motivation, and opportunities and helps to determine behavioral outcomes to sustain institutional performance (Bos-Nehles et al., 2023; Almutawa et al., 2016). Training interventions improve ability by increasing the knowledge domains of workers. Motivation tools such as rewards and recognition systems motivate workers towards full engagement. Structures to improve opportunities such as participation in governance and ease of access to resources provide workers with opportunities to apply their skills (Potnuru et al., 2021).

Empirical research has shown the ability and motivation to be critical mediators between HR practices and performance outcomes for employees. The concept of participation and autonomy adds further to the positive effect of HRD by allowing employees to be a part of decision-making and innovation processes. There remains a research gap as to how AMO theory mediates between HRD and performance outcomes in private colleges in China. A vast majority of past research either considered public universities or HRM management systems but did not explicitly explain this mediation process for HRD.

The role of AMO as a mediator adds theoretical value to understanding how HRD activities translate to behavior change and performance improvement. The AMO role as a mediator also adds practical value to the role of PHLIs who have been entrusted with the task of effectively allocating resources and formulating HRD strategies to entice and retain academic talent. The understanding of this psychological construct and structural element plays critical role in developing HRD strategies.

#### *2.5 Conceptual Framework*

From the literature presented above, this study proposes an integrated framework concept

using the AMO Model to explain how HRD together affects organizational performance in Chinese PHLIs. It would be assumed that HRD together affects organizations to improve their performance because of their focus on improving competencies, creating careers, and effectively managing performance. At the same time, HRD increases employee ability, motivation, and opportunities, which will have positive effects on increased institutional performance.

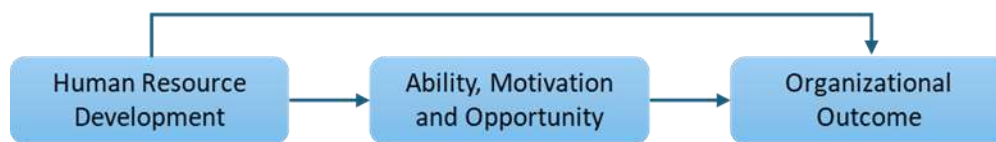


Figure 1. Conceptual Framework of the Study

As illustrated in Figure 1, the framework predicts that AMO partially mediates the influence of HRD on organizational outcomes through its impact on internal mechanisms (behavioral and structural) at which HRD operates. This model is theoretically congruent with AMO theory and the empirical evidence accrued so far, and forms a foundation for the following hypotheses:

Hypothesis 1: Human Resource Development practices have a positive and significant effect on Organizational Outcomes.

Hypothesis 2: The Ability Motivation Opportunity components have a positive and significant effect on Organizational Outcomes.

Hypothesis 3: The Ability Motivation Opportunity components mediate the relationship between Human Resource Development practices and Organizational Outcomes.

Hypothesis 1, grounded in HRD theory, suggests that structured training, developmental appraisal, and career support are positively related to faculty performance, productivity, and retention. Hypothesis 2 reflects AMO theory, which maintains that higher levels of ability, motivation, and opportunity enhance both individual and institutional performance. Hypothesis 3 reflects expectations that HRD affects outcomes not only directly but also indirectly through its effects on employee abilities, motivational states, and access to opportunities for contribution.

### **3. Methodology**

#### *3.1 Research Design*

The current study adopted a quantitative cross-sectional survey design method to explore the effects of HRD practices on organizational outcomes and test the mediating role of the AMO framework. A cross-sectional design is appropriate for the collection of data at one point in time and testing theoretically specified relationships among variables in organizational and behavioral research (Maier et al., 2023).

### *3.2 Population and Sampling*

The target population were academic staff employed in private higher learning institutions in Jinan, Shandong Province. The institutions are targeted in this study because they have been expanding rapidly and, thus, increasingly dependent on HRD systems. In drawing the sample, purposive sampling techniques were used to ensure that only respondents with experience relevant to the institutional practices and policies of HRD participated. A total of 393 usable responses were collected, which is above the minimum sample size of 384 recommended for large populations by Krejcie and Morgan (1970), and which provides sufficient statistical power for both regression and mediation analyses.

### *3.2 Measurement Instruments*

The data collection method utilized in this study entailed the use of the structured questionnaire. All these questions were rated using a Likert scale of five points judging from 1 (Strongly Disagree) to 5 (Strongly Agree). The data collection instrument had three main components, which entailed HRD practices, AMO dimensions, and organizational outcomes. The questions utilized in this study were adapted from other validated models related to HRD and AMO.

Fifteen items related to the effectiveness of training, development of organizations, and development related to careers were used to measure HRD practices. Some examples of the questions are "The training offered by my organization is relevant to my job," "Career development opportunities are available to me in my organization," and "I am evaluated for performance in a fair and consistent way." The questions used represent general HRD measures under Swanson's competency-based HRD framework in 2022.

The AMO elements were assessed using fifteen questions developed from Appelbaum et al.'s (2000) framework of employee ability, motivation, and opportunity. The questions are as follows: "I believe I have the skills to do my job effectively," "I am motivated to do my best in my job," "Recognition and rewards motivate me to do my best," "I am given the chance to use my skills in my job," and "I have autonomy to decide things related to my work." The questions have been derived from the common AMO scale framework developed and employed in other research areas related to HRM and HRD (Bos-Nehles et al., 2023; Benítez-Núñez et al., 2024).

To assess organizational outcomes, fifteen organizational outcome questions were used. These questions covered productivity, performance, and retention dimensions. Examples of these questions were "I consistently meet performance targets set by my organization", "Employee development activities result in success for my organization", and "I am committed to staying in this organization for the long term." Such questions were developed from the organizational effectiveness and retention instruments that are already validated.

### *3.3 Instrument Validation and Reliability*

The scale was then evaluated for content and conceptual relevance by subject matter experts.

The pilot test was conducted among 50 academic staff to assess item clarity and readability. Some linguistic adjustments were done based on feedback. The Cronbach's alpha values for all constructs in both pilot and full study were above 0.90, which indicates the characteristic of excellent reliability (Nunnally & Bernstein, 1994).

### *3.4 Data Collection Procedures*

The data was gathered electronically via Wenjuanxing, which is one of the most popular online survey platforms utilized in China. The respondents participated in this research study voluntarily and were guaranteed anonymity and confidentiality. The questionnaires were reviewed for inconsistencies in responses and internal consistency. The ethical considerations in this research involving human subjects were strictly followed.

### *3.5 Data Analysis*

The data were analyzed via SPSS and aided by Hayes PROCESS Macro Model 4.0. Some basic data analyses were conducted to ensure data quality, such as examining data missingness, reliability coefficients, and data normality checking via kurtosis values. Though p-values for normality were deemed significant, it would be expected in such large samples. Whereas, kurtosis values were within acceptable criteria. Interrelations among variables were first explored via Pearson correlation. Multiple regression tests were employed to determine direct effects of HRD practices and AMO dimensions to each organizational result. The mediation effect of AMO was explored via PROCESS Model 4 as suggested by Hayes in 2018. Since bootstrapping yields reliable confidence intervals around the mediated effect even if it were not normally distributed, it became ideal for research in organizations.

## **4. Findings and Discussions**

The current section reports the results of all empirical analyses conducted in the research study and their interpretations based on the research hypotheses formed in the study. The research study explored direct effects of HRD practices and further attempted to investigate if AMO theory mediates such direct effects in private higher learning institutions in China. The results derived from reliability tests, correlation tests, regression tests, and mediation tests of research models have been combined to interpret theoretical developments related to joint effects of HRD and AMO.

### *4.1 Demographic Analysis*

Table 1 shows the demographic profile of the respondents, the dominant group among respondents was 31-40 years, accounting for 37.91% of the sample. Females constituted the majority at 52.17%, while males comprised 47.83%. With regard to job title, Teaching Assistants represented the largest proportion at 57.76%. In terms of university teaching experience, the highest percentage (38.42%) was observed among those with 4-6 years of experience. Concerning marital status, 71.76% of participants were married. Regarding educational attainment, 75.06% held a bachelor's degree as their highest qualification.

Table 1. Demographic profile of the respondents

Category	Subcategory	Frequency	Percent (%)
Age Group	18-30 years old	79	20.10%
	31-40 years old	149	37.91%
	41-50 years old	87	22.14%
	51-60 years old	57	14.50%
	Over 61 years old	21	5.35%
Gender	Male	188	47.83%
	Female	205	52.17%
Job Title	Associate Professor	16	4.07%
	Professor	55	13.99%
	Lecture	95	24.17%
	Teaching Assistant	227	57.76%
Experience in University	Less than 1 year	49	12.47%
	1–3 years	108	27.48%
	4–6 years	151	38.42%
	7–10 years	59	15.01%
	More than 10 years	26	6.62%
Marital Status	Single	37	9.41%
	Married	282	71.76%
	Divorced	35	8.91%
Highest Education Attained	Widowed	39	9.92%
	Bachelor's degree	295	75.06%
	Master's degree	50	12.72%
	Doctoral degree	31	7.89%
Total	Other	17	4.33%
		393	100.00%

Table 2. Mean and standard deviation of the respondents

Variables	Mean	Std. Deviation
Human Resource Development	3.12	1.03
Ability Motivation Opportunity	3.14	1.07
Organizational Outcomes	3.29	1.05

Table 2 presents the means and standard deviations of the key study variables. The mean scores for HRD, TMP, AMO, and organizational outcomes ranged from 3.11 to 3.29, all falling near the midpoint of the 5-point Likert scale (3.0). Specifically, organizational outcomes recorded the highest mean ( $M = 3.29$ ,  $SD = 1.05$ ), followed by AMO ( $M = 3.14$ ,  $SD = 1.07$ ), and HRD ( $M = 3.12$ ,  $SD = 1.03$ ). The standard deviations across all variables were relatively similar, varying between 1.03 and 1.07, indicating moderate and comparable levels of dispersion in respondents' ratings. Overall, participants held generally neutral-to-slightly-positive perceptions of all measured constructs.

#### 4.2 Reliability and Correlation Analysis

Reliability analysis was conducted to assess the internal consistency and convergent validity of the measurement scales. As shown in Table 3, all constructs demonstrated satisfactory reliability and validity. Specifically, the Cronbach's alpha values for Human Resource Development (HRD), Ability Motivation Opportunity (AMO), and Organizational Outcomes were 0.955, 0.954, and 0.956, respectively, all of which were well above the conventional threshold of 0.70. The composite reliability values ( $\rho_a$ ) for the three constructs were 0.956, 0.955, and 0.957, while the composite reliability ( $\rho_c$ ) values were 0.960, 0.959, and 0.960,

respectively. All composite reliability indices exceeded the recommended value of 0.70. In addition, the average variance extracted (AVE) values were 0.615, 0.611, and 0.619 for HRD, AMO, and organizational outcomes, respectively, all greater than the benchmark of 0.50. Taken together, these results confirm the high internal consistency, reliability, and convergent validity of the measurement model, indicating that the items appropriately reflect their corresponding latent constructs.

Table 3. Cronbach's Alpha Results

<b>Construct</b>	<b><math>\alpha</math></b>	<b>rho_a</b>	<b>rho_c</b>	<b>AVE</b>
Human Resource Development	0.955	0.956	0.960	0.615
Ability Motivation Opportunity	0.954	0.955	0.959	0.611
Organizational Outcomes	0.956	0.957	0.960	0.619

Correlation analysis provided preliminary support for all the hypotheses of this study. According to Table 4, HRD showed a strong positive correlation with AMO ( $r = 0.677$ ) and organizational outcomes ( $r = 0.654$ ). AMO was even more strongly related to organizational outcomes ( $r = 0.703$ ). These results support the view that more systematic HRD practices within an institution are associated with higher levels of employee ability, motivation, and opportunity. Furthermore, both HRD and AMO are meaningfully correlated with improved performance, productivity, and retention. The high level of correlation between AMO and organizational outcomes also implies a possible mediating role of AMO, consistent with the theoretical expectations of Hypothesis 3.

Table 4. Corelation matrix for key variables

<b>Variables</b>	<b>HRD</b>	<b>AMO</b>	<b>OO</b>
<b>HRD</b>	1		
<b>AMO</b>	0.677**	1	
<b>OO</b>	0.654**	0.703**	1

Note. \* $p < 0.01$  (two-tailed). HRD = Human Resource Development; AMO = Ability-Motivation-Opportunity; OO = Organizational Outcomes.

#### *4.3 Direct Effects of HRD and AMO towards Organizational Outcomes*

Regression analysis yielded strong support for Hypothesis 1. The model predicting organizational outcomes from HRD generated an R value of 0.654 and an  $R^2$  of 0.427, indicating that HRD explained about 42.7 percent of the total variance in organizational performance and retention. The regression coefficient for HRD ( $B = 0.663$ ,  $p < 0.001$ ) confirmed that the stronger the HRD practices, the higher the organizational performance and more favorable outcomes that were realized (Table 3). It shows that training, fair assessment, and organized staff development aid workers in ways that improve productivity and lower staff turnover. The finding correlates to past research proving HRD to be significantly influential in shaping institutional effectiveness in postsecondary education (Albtoosh et al., 2022; Niati et al., 2021). To private institutions in China, where staff turnover and skills shortages can sometimes be issues, such research provides strategic insight into HRD systems.

Table 5. Regression results for HRD predicting organizational outcomes

Variable	B	SE	Beta	t	Sig.
<b>Constant</b>	1.214	0.128	-	9.506	< 0.001
<b>HRD</b>	0.663	0.039	0.654	17.082	< 0.001

Hypothesis 2, which is related AMO in organizational outcomes, received strong support from the results. AMO explained 49.4 percent of the variance in organizational outcomes. The regression coefficient for AMO remained significant ( $B=0.691$   $p < 0.001$ ) (Table 6). Thus, the capabilities, motivations, and opportunities of workers play a critical role in ensuring competency in their duties and loyalty to their organizations. The relative intensity of the presence of AMO's effect compared to the direct effect of HRD suggests that AMO provides a viable explanation channel for HRD practice's effect on performance. The results confirmed the AMO's role in informing worker intentions and efforts to deploy their skills constructively (Bos-Nehles et al., 2023; Mbukanma & Strydom, 2022).

Table 6. Regression Results for AMO predicting organizational outcomes

Variable	B	SE	Beta	t	Sig.
<b>Constant</b>	1.113	0.117		9.486	< 0.001
<b>AMO</b>	0.691	0.035	0.703	19.540	< 0.001

#### 4.4 Mediation Effects AMO

The mediation test offered direct evidence to support hypothesis 3. The bootstrapped results confirmed that the 95 percent confidence interval did not contain zero in establishing if there was significance in the mediation effect in which AMO impacted organizational outcomes as an intermediary variable for HRD. The inclusion of AMO in HRD increased the proportion of variance explained from 42.74 percent to 55.24 percent, representing an additional 12.5 percent of explained variance? Clearly, AMO adds value to HRD in identifying interrelations in organizational outcomes.

Table 7. Mediation analysis for AMO

Model	B	SE	t	p	95% CI
AMO → OO	0.4722	0.0452	10.44	< 0.001	0.3833, 0.5612
HRD → OO	0.6633	0.0388	17.08	< 0.001	0.5870, 0.7397
HRD → AMO → OO (Indirect)	0.3302	0.0449	-	< 0.001	0.2441, 0.4240

The large value of the indirect effect ensures that AMO partially mediates the HRD-organizational performance relationship. HRD practices have been shown to positively influence performance not just directly via competence development and structural support but also indirectly via competence development and structural support, which together improve AMO. Training increases workers' ability, performance systems motivate workers, and participative structures provide opportunities that together improve performance. The development of theoretical understanding relies heavily on the role of AMO as the fundamental intervening factor in examining HR-performance (Almutawa et al., 2016; Potnuru et al., 2021).

Notably, the direct relationship from HRD to organizational performance remained significant despite including AMO in the regression equation. This finding suggests the presence of partial mediation instead of complete mediation and points towards other processes involving HRD besides AMO, and these may include processes such as employee attitudes, corporate culture, and so forth. The result reinforces the understanding about HRD being a complex driver of performance and AMO as one but not all such processes.

Taken cumulatively, it is clear that all hypothesis statements have been supported. Hypothesis 1, which probed into the direct positive role of HRD practices and their direct positive effect on organizational performance, had been confirmed via the robust regression test results, which showed that HRD positively contributes to performance improvement and productivity. Hypothesis 2, which had tentatively probed into the idea that all elements in the AMO have positive effects on organizational performance, had been supported since AMO had a very strong and direct predictive role in all performance pointers. Hypothesis 3, which had attempted to probe into AMO's mediation role in contributing to organizational performance in its role as mediator between HRD and organizational performance, had been confirmed via mediation test results since AMO had shown to significantly play its mediation role in contributing to organizational performance from HRD. All three hypothesis statements had thus confirmed to support theoretical explanations related to AMO's role in private HE settings.

In general, these results imply that these efforts have their strongest effect as ability development is done simultaneously with improving motivation and creating opportunities to make contributions. The results have further reiterated the need for Chinese private institutions of higher learning to adopt comprehensive HR development systems focusing on all elements of AMO.

## **5. Conclusion**

Finding out how Human Resource Development affects organizational performance and confirming how the Ability-Motivation-Opportunity framework mediates it in private institutions of higher learning in China were the focal points of this research. The above findings provide compelling confirmation for all three hypotheses since it's asserted that HRD is an influential factor in institutional performance and AMO again plays a pivotal role in defining HRD's role.

The results prove that HRD practices like structured training activities, performance management development techniques, and transparent methods of career development have increased performance and productivity in organizations and have contributed to their ability to retain workers. In regards to PHLIs in China, it can be seen that talent development and talent retention have always been had challenges; nevertheless, HRD stands to be a strategic approach to improve performance.

The findings from this research also confirm that AMO theory significantly contributes to positive results in organizations. Expectations for increased quality of productivity, degree of

commitment, and performance would be anticipated as there is a greater ability and motivational capacity together with greater opportunities to make contributions. The AMO theory provides several behavioural justifications to meet these expectations. The application of AMO theory would be very relevant in Higher Education Institutions like other private institutions which have been expanding rapidly.

One of the major theoretical contributions made in this research work is related to confirming that AMO partially mediates between HRD Practices and their performance-related outcomes. The implication of such mediation would state that HRD efforts do have both direct and indirect effects on performance development efforts by not only focusing on workers' skills development but also boosting their level of motivation and enabling them to make their contributions meaningfully. The concept of partial mediation here would indicate other intervening variables possibly affecting the performance-outcome equation related to HRD efforts in Chinese private HE institutions.

Taken together, these findings make their contributions to theory development by combining HRD and AMO models into one framework. The research shows that HRD efforts will result in their greatest rewards in circumstances where ability development, motivation creation, and participation/autonomy opportunities can be encouraged for faculty members. The present study brings new knowledge to the body of literature about HRM and HRD by delivering empirical data from the environment of higher education in a non-Western context, thus increasing the generalizability of HRD and AMO models.

In practice, what this research emphasizes is the importance of strategic investments in HRD systems of private institutions of higher learning in China. Institutions that stick to their goals of staff development in areas such as ongoing professional development, fair and development-oriented performance management, and conducive staff development paths have all the elements to effectively entice and retain quality academic staff members. The results not only reveal these but also highlight how AMO-informed strategies in human resource development can aid in mitigating fundamental challenges like staff turnover and quality issues associated with teaching performance. The study thus concludes that HRD holds promise to act as a strong catalyst in shaping organizational performance in the private higher learning institutions in China, especially if it encompasses values derived from the Ability-Motivation-Opportunity framework. In understanding interlocking elements of ability, motivation, and opportunity together, leaders in these organizations can form strategies aimed at developing sustainable performance for individual members and organizational capacity.

## **6. Implications**

The research not only adds to the theory of HRD but also shows that it has a strong intervening effect in organizational performance in Chinese PHLIs. The research also helps in confirming the AMO framework as an intervening variable to show how HRD contributes to organizational performance. The research also helps to combine HRD theory and AMO theory to add depth to these two theories. The result of partial mediation from this study also

helps to add other facets in the theoretical construct to be developed in future to reflect additional elements such as organizational culture and its impact in affecting HRD-performance linkage.

In terms of practical application, these results indicate not only the need for Chinese PHLIs to invest in HRD as a strategic means of enhancing institutional effectiveness, but also the importance of directing HRD efforts toward improving employees' abilities, motivation, and opportunities. The latter can be achieved either by focusing on their motivation through recognition and fair rewards as well as encouraging leaders to be supportive or by using autonomy such as involving faculty members in decision-making and granting them access to adequate resources. The policymakers and regulators of the private HEI sector can also make use of these results to come up with additional strategies for HRD to improve faculty members even more and to attain even better performance in their respective HEIs.

## **7. Limitations and Suggestions for Future Research**

There is some considerations to be taken into account in understanding these results. The study has some limitations in terms of understanding causality. The cross-sectional nature of this study restricts the understanding of causality to some extent. While these statistical results provide understanding towards these postulated connections, they would have been very effectively established in case of a longitudinal study or in experiments. The study reported here concentrates on PHLIs in Jinan Shandong. While it's true that Jinan represents one of China's major educational centers, it's difficult to generalize these findings to all of China's other PHLIs. Further research across regions would provide understanding.

Thirdly, data collection methods were according to self-administered questionnaires; hence, it may be vulnerable to common method biases. The study could make use of other data sources such as evaluation by supervisors and organizational performance data to provide convergent validity for verification of results. Fourthly, it would be advisable to conduct other research aimed at examining additional mediators and moderators other than AMO in this particular topic. Some of these variables would be organizational culture, management style, workplace empowerment, workplace satisfaction, as well as perceived organizational support.

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## **Author contributions**

Mr Chong Wang and Dr Irma Yazreen Md Yusof responsible for study design and revising. Mr Chong Wang was responsible for data collection. Mr Chong Wang drafted the manuscript, and Dr Irma Yazreen Md Yusof and Nur Constance Wah revised it. All authors read and approved the final manuscript. In this paragraph, also explain any special agreements concerning authorship, such as if authors contributed equally to the study.

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**Data availability statement**

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

**Data sharing statement**

No additional data are available.

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