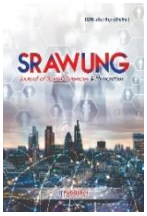

ISSN 2827-8151 (Online)
SRAWUNG: Journal of Social Sciences and Humanities
https://journal.jfpublisher.com/index.php/jssh
Vol. 4, Issue 2, (2025)
doi.org/10.56943/jssh.v4i2.725

Factors Influencing Employee Performance for Improving Organizational Effectiveness at Phnom Penh Water Supply Authority

Menghout Chor[1*], Sothearith Try[2], Sovang Long[3]
[1]menghoutchor@westernuniversity.edu.kh, [2]trysothearith@gmail.com,
[3]longsovang@gmail.com
[1]Phnom Penh Water Supply Authority, [2,3]Western University, Cambodia

[*]Corresponding Author: Menghout Chor
Email: menghoutchor@westernuniversity.edu.kh

ABSTRACT

The purpose of this study was to determine the factors influencing employee performance for improving organizational effectiveness at the Phnom Penh Water Supply Authority (PPWSA). This study used a descriptive method to gather, analyze, interpret, and present the information, applying a quantitative approach. The target population was permanent employees from the PPWSA. The sample size of the study is 500 respondents. The Google Forms tool created the survey for data collection and distributed the link to respondents through Telegram. The study collected data using a closed-ended questionnaire and analyzed it using both descriptive and inferential statistics. Confirmatory factor analysis (CFA) is used to make sure the dimensions are reliable and valid, and structural equation modeling (SEM) is used to test the model and hypotheses. After running a SEM, the research result indicates that training and development and organizational development significantly influence employee performance, while leadership and performance appraisal do not. Moreover, the study found that organizational development significantly influences organizational effectiveness, while training and development do not. Furthermore, employee performance has a positive and significant effect on organizational effectiveness. The study concluded that this finding will be useful to the management of PPWSA and other water supply firms in terms of understanding and learning more about how those variables interact and affect employee performance in order to improve organizational effectiveness in the workplace.

Keywords: *Employee Performance, Human Resource Development, Organizational Effectiveness*

INTRODUCTION

Human capital is a subjective asset that is intangible. It has more and more importance in the age of knowledge-based societies and is the driving force in the global economy based on information technology (Goldin, 2024). The scholar also emphasizes that human capital is a source of information and knowledge that contributes to an organization's competitiveness. In the age of digital technology, an organization expects rapid adaptability from its human capital so that jobs can be done on schedule and employees can learn new skills quickly. Moreover, as definite by Boon et al. (2018), human capital is the degree to which individuals in an organization have the competencies and drive required to accomplish the work effectively.

On August 24, 2023, the Royal Government of Cambodia announced the Pentagon Strategy-Phase I, which aims to promote economic growth, job creation, equity, efficiency, and sustainability over the next 25 years. The strategy has five phases, and the first phase identify five key priorities: people, roads, water, electricity, and technology with the addition of technology in response to the Fourth Industrial Revolution and the digital revolution of the Cambodian economy and society. As well as the need to promote economic productivity, which is the foundation and an important means of achieving Cambodia's 2050 vision of becoming a high-income country.

In addition, in the Pentagon strategy, the first phase identifies people as the first priority; the first pentagon strategy is "human capital development," and roads, water, electricity, and technology are the subsequent priorities. Human capital development is an indispensable condition for promoting diversification and sustainable economic growth. High-quality and healthy human capital is a valuable national asset for boosting economic value, raising cultural values, and generating new values to ensure sustainable, long-term growth and (rapid) prosperity in socio-economic development. This demonstrates that investment in human capital development is important in response to the growing demand for national socio-economic development.

According to Widarni and Bawono (2021), factors that serve as driving forces for development include not only capital, modern machinery, and technology, but also competent human resources with the potential for employment. The reality that human resources are significant for the organization's capability to compete has encouraged human capital investment in the learning process, in training, and in health care for employees in order to raise human capacity levels. The reason is that humans contribute to the value and capacity of organizational competitiveness (Kim et al., 2016). Therefore, human resource development (HRD) has evolved into a critical process that continually drives people in an organization to grow and improve them. At the American Society for Training and Development conference in 1993, the Academy of

Human Resource Development was founded, establishing the concept of "human resource development" and making it a recognized academic field that provided scholarships to support learning and development practices (Yorks et al., 2022). According to Swanson (2022) determined the definition of "HRD" as the experience of learning that occurs over a specific time period. Its objective is to improve and promote employee progress at work.

Prior studies have indicated a positive correlation between high-performing business enterprises and human resource development strategies. Nevertheless, empirical research on the development of human resources in the water supply sector is lacking, especially in Cambodia. Due to the quickly changing environment and worldwide issues, water supply sector organizations must apply human resource development strategies to develop employee competencies in order to overcome environmental turbulence. According to Bolanle and Esther (2023), there is currently a deficiency in empirical research about human resource development; no particular model exists to investigate the potential enhancement of employee performance through HRD activities. Only a few empirical studies have examined the relationship between human resource development practices and employee performance (Hassan & Mohammed, 2016). Particularly in Cambodia, no research or study has precisely examined how human resource development strategies increase employee performance and its relationship to improving organizational effectiveness.

There are numerous factors that can influence employee performance and organizational effectiveness, but this study has identified the critical factors influencing human resource development on employee performance and organizational effectiveness, such as training and development, leadership, performance appraisal, and organizational development, in order to accomplish long-term competitive advantage and improve organizational effectiveness. Specifically, the research aims to:

1. To identify the factors that influence employee performance in order to improve organizational effectiveness.
2. To find out how those factors that interact and contribute to the performance of employees enhance the efficiency of the organization.
3. To determine whether there is a significant relationship between training and development and organizational effectiveness.
4. To determine whether there is a significant relationship between organizational development and organizational effectiveness.
5. To determine whether there is a significant relationship between employee performance and organizational effectiveness.

LITERATURE REVIEW

Human Resource Development

Several scholars and researchers introduced the concept of human resource development at the American Society of Training and Development meeting in Miami (Yorks et al., 2022). Kareem (2019) defines human resource development (HRD) as a series of activities that are designed and developed over time to transform the behavior of organization members. According to Swanson (2022), human resource development is the process of creating and releasing human knowledge through personnel training, organization development, and development with the goal of enhancing performance. Kareem (2019) contend that defining human resource development has been a longstanding challenge, given its inclusion within the human resources discipline. Swanson (2022) asserts that the literature has focused on human resource development definitions for over four decades. Researchers have attempted to define human resource development using a wide variety of approaches.

Furthermore, lean organization, competence, and workforce adaptability at the appropriate moment are highlighted by successful HRD practices (Kareem & Hussein, 2019). Today, both the public and private sectors apply the principles of strategic management for organization management to survive, gain competitive advantages, and increase efficiency in action. Various organizations aim to utilize their human resources as intellectual capital, a term that encompasses their overall knowledge, expertise, and dedication. Organizations strive to enhance their efficiency at all levels, prevent regress, and prepare for future expansion. Human resource development is to enhance the experience of learning to attain a change in human resources that has permanent effects on jobs and helps improve related qualifications of human resources, such as knowledge, skills, attitudes, and behaviors in the workplace, including relationships with colleagues and supervisors. For these reasons, every organization is striving to devise strategies for the development of human resources, with the aim of achieving its objectives.

Previous studies have indicated a favorable correlation between high-performing corporate entities and human resource development strategies. But there is a lack of empirical studies on human resource development in the water supply sector, particularly in Cambodia. According to previous scholars, if the organization needs to achieve higher performance, it should prioritize human resource development practices such as training and development, organizational development, and employee participation (Kareem & Hussein, 2019). Therefore, this current study is critical to identify key factors influencing employee performance and organizational effectiveness, including training and development, leadership, performance appraisal, and organizational development, to achieve sustainable competitive advantage and improve organizational effectiveness.

Training and Development

Training is a systematic approach for providing people with the knowledge and techniques they need to accomplish work effectively (Lim & Ahmad, 2021). Another way to describe training is as a process of learning whereby employees acquire concepts, information, and skills to enhance their performance at work (Lim & Ahmad, 2021). People frequently use training and development to close the performance gap between their current and future performance. Some people consider training and development to be an essential part of human resource management, and it is a part of the human resource development job. According to Lim and Ahmad (2021), training and development is critical components of human resource development because they improve performance at the individual and organizational levels. An organization uses training and development as a process to maintain and enhance the effectiveness and efficiency of individuals and groups (Otoo & Mishra, 2018).

Leadership

According to Nguyen et al. (2020), leadership is a power dynamic that is based on more than motivations and resources. It must also specify the purpose. The concept of leadership offers a more comprehensive and profound comprehension of human interactions, rather than focusing solely on followers' power. The needs and ambitions of followers closely influence leadership. Leadership is an activity that employs a leadership style to inspire rather than force others to attain goals. Moreover, leadership as someone who exercises power and leadership by instructing subordinates to execute some of his work in order to achieve organizational goals. Furthermore, scholars defined leadership as an effort to persuade people to attain organizational goals on their own initiative. This perspective highlights the ability of leaders to avoid forcing people in the organization to perform tasks or activities that lead to organizational goals.

Performance Appraisal

Several authors have proposed several definitions of performance appraisal. As stated by Cook and Crossman (2018), performance appraisal (PA) is the process of analyzing and documenting employee performance in order to make judgments about employees. According to DeNisi and Murphy (2017), performance appraisal is the process of reviewing an individual's job performance. A systematic appraisal process is required to ensure the optimal development of a firm's human resources. It is important for supervisors involved in performance appraisal to understand human and organizational behavior. Each organization requires qualified staff to increase performance. The human resources team/department collaborates to evaluate the strengths and weaknesses of employees, linking performance to actions and incorporating the judgment and appraisal process (Nikolaou & Foti, 2018). The relationship between social and

emotional environments, rather than specific attention qualities, determines the performance (Khan, 2017).

Organizational Development

Organizational development (OD) is a system-wide process that involves shifting actions to specialized development plans in order to improve the structures, strategies, and procedures that lead to increased performance in the organization (Kareem & Hussein, 2019). Organizational development seeks to improve the culture within a company in order to assist personnel in operating more effectively (Burke & Noumair, 2015). Furthermore, an effective performance management system allows for employee performance evaluation and support in developing skill sets, and organizational development is a methodical approach to executing change and development programs (Kareem & Hussein, 2019). Additionally, organizational development is an integrated and comprehensive method that addresses organizational deficiencies and inefficiency. It is a purposeful attempt to alter individual and group work attitudes, culture, values, leadership, organizational structure, technology, and decision-making (Al-aldaeja, 2016). Organizational development, according to Swanson (2022), is basically the process of recognizing and overcoming internal organizational challenges to enhance performance.

Employee Performance

Employee performance (EP) is one aspect that influences the effectiveness of an organization (Gabriel et al., 2015). Any firm can only achieve growth if its personnel perform well. According to Aule et al. (2018), define employee performance as efficiency or job completion. Mohsen et al. (2020) state that the organization measures employees' performance against its established performance standards. Darmawan et al. (2020) briefly outline several measures to assess performance, including profitability, quality, productivity, efficiency, and effectiveness. The ratio of output to input determines productivity. Moreover, scholars defined efficiency and effectiveness: efficiency is the capability to deliver the intended results with as few resources as feasible, whereas effectiveness is employees' ability to accomplish the desired objectives or targets. It is a measure of how an individual, organization, or industry converts input resources into goods and services. The measurement of how much output is produced per unit of resource used (Nwaeke & Obiekwe, 2017). Quality refers to the characteristics of goods or services that can meet expressed or implied needs (Armstrong et al., 2017). Profitability is the ability to generate profits continuously over time. (Wood & Sangster, 2015) calculate profitability as the ratio of gross profit to sales or the return on capital employed. It is gradually producing better products and services at a more competitive price (Darmawan et al., 2020).

Organizational Effectiveness

An organization's effectiveness (OE) at achieving its goals is called organizational effectiveness. Human resources managers can share their knowledge on how to develop people for organizational effectiveness through human resources development. Human resource development is positively correlated with organizational effectiveness (Ahmad et al., 2016). Because of speedy development and strong battles for persistence and steadiness, effectiveness has emerged as a influential and critical notion in organizations. Numerous scholars and researchers (Abu El Khair, 2016; Bharadwaj et al., 2015) have endeavored to develop an effective theory for organizations. However, the complexity of the subject of effectiveness has led to numerous differences in defining the concept and measuring organizational effectiveness, possibly due to the challenge of identifying the underlying phenomena. According to Kareem and Hussein (2019), organizational effectiveness has been one of the most challenging and difficult issues since the beginning of organizational philosophy. Kareem (2019) was the first scholar to attempt to define organizational effectiveness, characterizing it as any action that contributes to the achievement of the activity's original goal.

Conceptual Framework

The conceptual framework was a specific topic that researchers intended to investigate (Plano Clark, 2017). Additionally, Hair Jr et al. (2019) claimed that the conceptual framework shows how the variables and the conceptions being studied relate to one another. Furthermore, the conceptual framework served as a visual depiction of the correlation between the variables in a particular study (Cooper et al., 2018). The conceptual framework was also developed with assistance from earlier research frameworks (Plano Clark, 2017). This conceptual framework was proposed in accordance with existing theories and prior empirical research, as illustrated in Figure 1, as a result of its connection to previous research frameworks.

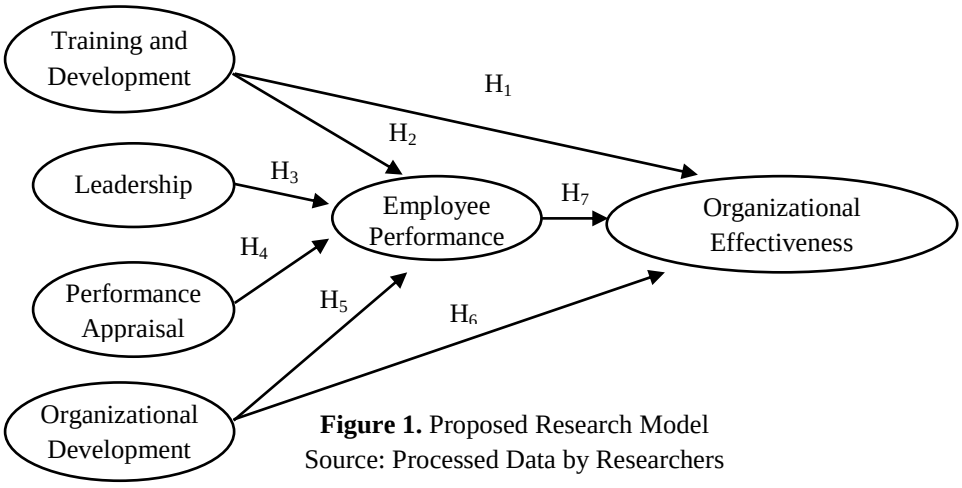

Figure 1. Proposed Research Model
Source: Processed Data by Researchers

Research Hypotheses

The current study's objective is to investigate factors influencing employee performance with the purpose of enhance organizational effectiveness. The current researcher, in formulating the hypothesis, has endeavored to locate relevant past empirical studies that have examined the connections between independent variables that influence employee performance and organizational effectiveness, including training and development, leadership, performance appraisal, and organizational development. Consequently, the researchers will develop hypotheses between the independent and dependent variables, drawing from a variety of theories and incorporating the researcher's perspective. The aforementioned literature review and research conceptual framework inform the formulation of seven research hypotheses:

H_1: Training and Development has a significant influence on Organizational Effectiveness.

H_2: Training and Development has a significant influence on Employee Performance.

H_3: Leadership has a significant influence on Employee Performance.

H_4: Performance Appraisal has a significant influence on Employee Performance

H_5: Organizational Development has a significant influence on Employee Performance.

H_6: Organizational Development has a significant influence on Organizational Effectiveness.

H_7: Employee Performance has a significant influence on Organizational Effectiveness.

RESEARCH METHODOLOGY

Research Method Used and Measurement Scale

This study employed a quantitative approach and used a questionnaire to gather primary data. A quantitative methodology is appropriate for evaluating hypotheses regarding the connection among variables that are independent and dependent (Sekaran & Bougie, 2016). The goal of the quantitative approach is to confirm the study hypotheses. As stated by Cooper et al. (2018), quantitative research is a process for measuring customer behavior, ideas, knowledge, and attitudes concerning anything. Furthermore, Cooper et al. (2018) viewed it as a method of coding and categorizing data for statistical analysis and a means of addressing questions like frequency, quantity, number, timing, and identity. In addition, it can be characterized as a process utilizing numerical measurements (Else-Quest & Hyde, 2016). Moreover, Polonsky and Waller (2018) defined quantitative research as a strategy for analyzing information gathered from a significant number of those who responded using a survey approach. The researcher conducts the survey using questionnaires. In accordance with the A-

priori Sample Size Calculator for Structural Equation Models, the researcher used Google Forms to develop the online survey and disseminated it via Telegram to gather primary data from respondents. As stated by Kotler and Armstrong (2016), questionnaires were the most popular instrument for conducting surveys due to their outstanding flexibility and variety of questionnaire designs to construct the research tool. The authors explained that they delivered a series of questions to a specified group to collect primary data. Additionally, the authors stated that one method of gathering data from participants was a self-administered survey, which had to be understood and filled out by the participants. Furthermore, the researchers utilized a five-point Likert scale to rate all of the six construct factors, such as training and development, leadership, performance appraisal, organizational development, employee performance, and organizational effectiveness. One mark indicates the least agreement, which gradually increases to five marks, signifying the greatest agreement.

Target Population and Sample Size

Sekaran and Bougie (2016) defines that the research population refers to the total group of individuals, events, or topics of interest that the researcher wants to investigate. According to Hair Jr et al. (2019), the target population was a complete set of the elements related to the research project. The researcher was able to gather the necessary information from these elements. Furthermore, Else-Quest and Hyde (2016) mentioned that the target population consisted of a group of people with common behavior towards a specific element. Besides, according to Cooper et al. (2018), the target population can include people, records, and events that were the focus of the research. As a result, the target population was in Cambodia's Phnom Penh Water Supply Authority. The A-priori Sample Size Calculator for Structural Equation Models was used in this investigation. After entering all of the necessary data into the calculator, the results showed that the expected effect size was 0.2, the desired statistical power level was 0.8, the number of latent and observed variables was 6 and 36, respectively, the probability level was 0.05, the minimum sample size to detect effect was 403, the minimum sample size for model structure was 200, and the number of recommended minimum sample sizes was 403 samples. Soper (2019) proposed a minimum sample size of 403. Therefore, the researchers aimed to gather 500 samples in order to attain a more reliable statistical conclusion.

Sampling Procedure

The process of choosing a subset of the total population to take part in the study to accomplish the goals of the research is known as sampling (Lohr, 2021). There were two kinds of sampling techniques: nonprobability and probability (Polonsky & Waller, 2018). According to Paltoglou (2020), the sample strategies were chosen based on the study topic and can be coupled with other sampling

methods. Moreover, Else-Quest and Hyde (2016) asserted that the study's purpose determines the selection of a sampling strategy, considering factors like time, money, and accuracy. Furthermore, the sampling strategy selects individuals well-versed in the subject matter of the study (Sekaran & Bougie, 2016). Consequently, this study employed both probabilities sampling of stratified random sampling and nonprobability sampling of purposive sampling as sampling strategies for the quantitative approach.

Content Validity and Pilot Test

This study used an Item Objective Congruence (IOC) index to validate the content of the research instrument. According to Else-Quest and Hyde (2016), content validity was defined as the degree to which questions accurately reflected all aspects of the measured constructs. Rovinelli and Hambleton (2019) established the IOC to verify content validity in order to assure that judges agreed on each statement. This study utilized this IOC approach to analyze the content validity of the research instrument, based on the judgment of three experts. The IOC approach requires the experts to assign a score of 1, 0, or -1 to each item. If an expert gives a rating of 1, the item can clearly measure the construct and its objective. If an expert rate 0, the item's ability to measure the construct and its objective remains unclear. However, if an expert rated -1, the item likely does not measure the construct and its objective. According to Pasunon (2015), once the researcher receives the scores of all items from the three experts, the researcher must input these scores into a formula to calculate the item-objective congruence indexes. If the average of each item's IOC rating was greater than 0.5, it was acceptable. This study concluded that the highest rating for six constructs with 36 items was equal to 1, and the lowest rating was equal to 0.66, which was greater than 0.5. In addition, before starting the full investigation, the researchers used a pilot test involving 50 participants to evaluate the reliability of the questionnaire's items. The researchers did this by using Cronbach's alpha. An instrument is deemed dependable if its alpha coefficient is higher than 0.6 (Ghozali, 2016).

RESULT AND DISCUSSION

Research Result

Validity and Reliability of the Constructs in the Study

The researchers evaluated each construct item in this study using Cronbach's alpha reliability. Sekaran and Bougie (2016) regard Cronbach's alpha values of 0.60 as average reliability; however, a higher value of 0.70 indicates that the instruments have a better reliability standard. As stated by Hair Jr et al. (2019), a higher alpha coefficient led to higher reliability, whereas a lower alpha coefficient reflected lower reliability or unreliability. After obtaining responses from 500 respondents, the researchers applied Cronbach's alpha to analyze the

data using SPSS version 23 software. According to the reliability analysis, all of the study's constructs had coefficient values ranging from .801 to .908. This result demonstrated the accuracy and high degree of internal consistency of the scales used to measure the items of each construct.

Table 1. The Value of Reliability Analysis of the Constructs

Constructs	Number of Items	Cronbach's Alpha	Strength of Association
Training and Development (TD)	5	.808	Very Good
Leadership (LS)	8	.904	Excellent
Performance Appraisal (PA)	4	.801	Very Good
Organizational Development (OD)	5	.853	Very Good
Employee Performance (EP)	9	.908	Excellent
Organizational Effectiveness (OE)	5	.890	Very Good

Source: Processed Data by Researchers

Demographic Profile

Table 2 reveals that the survey received responses from 500 permanent employees, accounting for 100% of the sample size in the Phnom Penh Water Supply Authority (PPWSA). The results are summarized that 390 males, or 78%, participated in answering the questionnaire. 110 females, or 22% of the total, participated in answering the questionnaire. Among those respondents, the age group less than 30 years old is 83, which is equal to 16.60%. The age between 30 and 40 years old is 248, which is equal to 49.60%. The age between 41 and 50 years old is 122, which is equal to 24.40%. The age from 50 years old up is 47, which is equal to 9.40%. Furthermore, the research results indicate that 112 respondents, or 22.40%, are single. The number of respondents who are married is 377, which is equal to 75.40%. There are 5 divorced respondents, representing 1.00% of the total. Six respondents, accounting for 1.20% of the total, are widows.

In this connection, the data analysis of educational background reveals that 157 individuals hold degrees below the bachelor's level, representing 31.40% of the total. The bachelor's degree is 266, which is equal to 53.20%. The Master degree is 77, which is equal to 15.40%. The results of the working experience show that 32 respondents, or 6.40%, have less than 1 year of experience. The working experience from 1 year to less than 5 years is 82, which is equal to 16.40%. The working experience from 5 years to less than 10 years is 130, which is equivalent to 26.00%. The working experience from 10 years up is 256, which is equivalent to 51.20%. Furthermore, the functional results indicate that four

distinct groups of respondents participated in the questionnaire. Those respondents who are at Senior officials (Deputy Director General, Director of Department, Head of Internal Audit, and Equivalent) is 19, which is equal to 3.80%. The respondents who are at Departmental framework (Deputy Director of Department and Equivalent) is 14, which is equal to 2.80%. The respondents who are at Implementation framework (Chief and Vice-Chief of Office, Chief of Section, and Equivalent) is 147, which is equal 29.40%, and at Executive framework (Vice-Chief of Section, Group Leader, and Employees) is 320, which is equal to 64%. Therefore, the functional results of the respondents total 500, indicating a 100% response rate.

Table 2. Demographic Characteristics of Respondents

Demographic	Category (n=500)	Frequency	Percentage (%)
Gender	Male	390	78.00
	Female	110	22.00
Age	Less than 30 years old	83	16.60
	Between 30 and 40 years old	248	49.60
	Between 41 and 50 years old	122	24.40
	From 50 years old up	47	9.40
Marital Status	Single	112	22.40
	Married	377	75.40
	Divorced	5	1.00
	Windowed	6	1.20
Educational Background	Lower than Bachelor's degree	157	31.40
	Bachelor's degree	266	53.20
	Master degree	77	15.40
Working Experience	Less than 1 year	32	6.40
	1 year to less than 5 years	82	16.40
	5 years to less than 10 years	130	26.00
	From 10 years up	256	51.20
Functionality	Senior Officials	19	3.80

	Departmental framework	14	2.80
	Implementation framework	147	29.40
	Executive framework	320	64.00

Source: Processed Data by Researchers

Confirmatory Factor Analysis (CFA)

Prior to using the structural equation model to analyze the structural model, the researchers in this study employed confirmatory factor analysis. Confirmatory factor analysis is necessary as the researchers test the scales' discriminant and convergent validity. Hair Jr et al. (2019) recommended guidelines for determining each item's significant factor loading and acceptable values for determining the goodness of fit. Furthermore, Ainur et al. (2017) state that a common application of Goodness of Fit Indices (GFI) is necessary to confirm the model's fit. The p-value is less than 0.05, and factor loadings are more than 0.50. Sarstedt et al. (2021) also say that the construct's convergent validity is still good if the average variance extracted (AVE) is less than 0.5 and the composite reliability (CR) is higher than 0.6. The confirmatory factor analysis result, as shown in Table 3, indicates that all items in each variable are significant and have factor loadings greater than 0.50, thereby proving their discriminant validity.

Table 3. Confirmatory Factory Analysis Result

Constructs	Factor Loading	t-Value	CR	AVE
Training and Development (TD)				
TD1	0.565	10.860*		
TD2	0.686	12.612*		
TD3	0.716	13.506*	**0.801**	**0.449**
TD4	0.576	12.345*		
TD5	0.783	-		
Leadership (LS)				
LS1	0.726	15.774*		
LS2	0.716	15.531*		
LS3	0.772	16.815*	**0.905**	**0.545**
LS4	0.770	16.823*		

LS5	0.729	15.719*		
LS6	0.727	15.679*		
LS7	0.744	16.250*		
LS8	0.719	-		
Performance Appraisal (PA)				
PA1	0.677	13.677*		
PA2	0.698	13.834*	**0.797**	**0.496**
PA3	0.748	14.922*		
PA4	0.693	-		
Organizational Development (OD)				
OD1	0.729	13.315*		
OD2	0.746	13.820*		
OD3	0.738	16.344*	**0.846**	**0.524**
OD4	0.715	16.617*		
OD5	0.689	-		
Employee Performance (EP)				
EP1	0.663	13.416*		
EP2	0.777	16.017*		
EP3	0.760	16.878*		
EP4	0.737	16.498*		
EP5	0.737	16.574*	**0.912**	**0.535**
EP6	0.664	14.613*		
EP7	0.741	16.452*		
EP8	0.747	16.508*		
EP9	0.747	-		
Organizational Effectiveness (OE)				

OE1	0.833	18.561*		
OE2	0.797	18.469*		
OE3	0.734	16.872*	**0.888**	**0.615**
OE4	0.779	21.306*		
OE5	0.774	-		

Source: Processed Data by Researchers

Notes: * = p-value < 0.05

According to Sarstedt et al. (2021) state that they calculated the square root of each AVE to assess the testing for discriminant validity. In order to support discriminant validity, they suggested that the square root of the AVE for a latent construct should be greater than the correlation values among all of the latent variables. The results of this investigation support the significance of discriminant validity. This indicates that the constructs being measured are distinct from one another, as evidenced by the square roots of the average variance extracted (AVE) being greater than the correlations between the constructs.

Table 4. Discriminant Validity

Constructs	TD	LS	PA	OD	EP	OE
TD	**0.670**					
LS	0.104	**0.738**				
PA	0.122	0.128	**0.705**			
OD	0.094	0.108	0.137	**0.724**		
EP	0.096	0.096	0.124	0.106	**0.731**	
OE	0.105	0.118	0.151	0.135	0.129	**0.784**

Source: The diagonally listed value in bold represents the AVE square root of the variables

The measurement model fits the data well, as shown by the goodness-of-fit statistics (CMIN/df = 1.384, GFI = 0.931, AGFI = 0.907, NFI = 0.941, IFI = 0.983, TLI (NNFI) = 0.978, CFI = 0.983, RMSEA = 0.028) in Table 5. This means that the measurement model has the required psychometric properties and adequate construct validity.

Table 5. Goodness of Fit for Measurement Model

Fit Indices	Acceptance Value	Statistical Value	Source
CMIN/df	≤ 3.0	1.384	Schreiber et al. (2006)
GFI	≥ 0.90	0.931	Bagozzi and Yi (1988)
AGFI	≥ 0.85	0.907	Schermelleh-Engel et al. (2003)
NFI	≥ 0.90	0.941	Arbuckle (2016)
IFI	≥ 0.85	0.983	Kline (2011)
TLI (NNFI)	≥ 0.90	0.978	Hopwood and Donnellan (2010)
CFI	≥ 0.90	0.983	Hopwood and Donnellan (2010)
RMSEA	≤ 0.05	0.028	Pedroso et al. (2016)

Source: Processed Data by Researchers

Notes: CMIN/DF = the ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker-Lewis index, IFI = Incremental Fit Index, and RMSEA = root mean square error of approximation.

Structural Equation Model (SEM)

In this study, the researchers depend on literature review to create a theoretical model as the base model and then apply the structural equation model to analyze and test the model. Furthermore, the application of the structural equation model allows for the examination of relationships among multiple variables. In the previous part of this study, the researchers collected the data, used confirmatory factor analysis to verify the validity and reliability of the measures, and used the structural equation model to validate the measurement model. The researchers also employed the structural equation model to examine the proposed hypotheses. All of the structural equation model's fit indices were included in Table 6. When evaluating the structural model's overall goodness-of-fit, this table is a useful reference.

Table 6. Goodness of Fit for Structural Model

Fit Indices	Acceptance Value	Statistical Value	Source
CMIN/df	≤ 3.0	1.367	Schreiber et al. (2006)
GFI	≥ 0.90	0.932	Bagozzi and Yi (1988)

AGFI	≥ 0.85	0.908	Schermelleh-Engel et al. (2003)
NFI	≥ 0.90	0.941	Arbuckle (2016)
IFI	≥ 0.85	0.984	Kline (2011)
TLI (NNFI)	≥ 0.90	0.979	Hopwood and Donnellan (2010)
CFI	≥ 0.90	0.983	Hopwood and Donnellan (2010)
RMSEA	≤ 0.05	0.027	Pedroso et al. (2016)

Source: Processed Data by Researchers

Hypothesis Testing

The researchers tested this hypothesized model using SEM. According to Kline (2023), standardized coefficients with t-values > 1.98 are statistically significant and also confirmed by the p-value < 0.05. Table 7 presented the result that the paths from the following independent constructs to dependent constructs are significant at a level lower than 0.05. In this study, the strongest path is OD → OE with its standardized estimate of 0.724 ($p < 0.05$). The second strongest path is OD → EP with its standardized estimate of 0.480 ($p < 0.05$). The third strongest path is EP → OE with its standardized estimate of 0.253 ($p < 0.05$), and the last path is TD → EP with its standardized estimate of 0.167 ($p < 0.05$). Therefore, the research findings were not significant and unsupported for 3 research hypotheses, but they were significant and supported for 4 research hypotheses.

Table 7. Hypotheses Result of the Structural Model

Hypothesis	Paths	Standardized Coefficient (β)	t-Value	p-Value	Test Result
H_1	OE ← TD	-0.002	-0.045	0.964	Not Supported
H_2	PE ← TD	0.167	2.446*	0.014	Supported
H_3	PE ← LS	0.009	0.101	0.919	Not Supported
H_4	PE ← PA	0.193	1.300	0.193	Not Supported
H_5	PE ← OD	0.480	3.150*	0.002	Supported
H_6	OE ← OD	0.724	9.214*	***	Supported
H_7	OE ← PE	0.253	4.456*	***	Supported

Source: Processed Data by Researchers

Notes: t-value > 1.98, * = p-value < 0.05

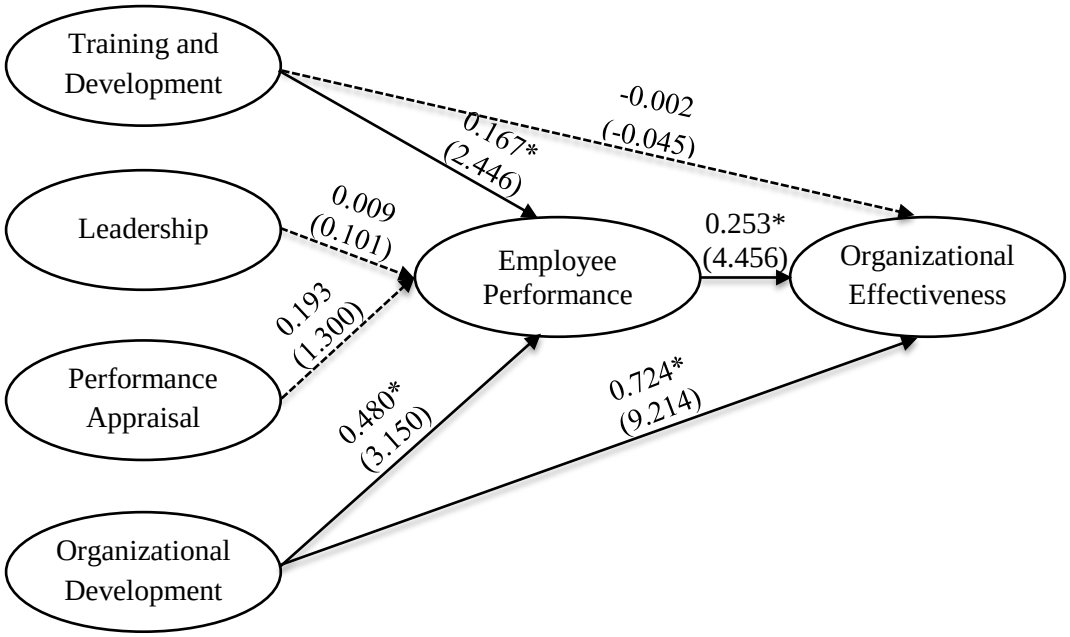

Figure 2. The Results of Structural Model
Source: Processed Data by Researchers

Notes: Solid line reports the Standardized Coefficient with * as $p < 0.05$, and t-value in Parentheses; Dash line reports Not Significant.

Research Discussion

The results of the hypotheses testing in Table 7 is described as follow:

Hypothesis 1: According to the result, training and development has no significant influence on organizational effectiveness with $\beta = -0.002$, t-value = -0.045 < 1.98, and p-value = 0.964 > 0.05. Therefore, the result did not support hypothesis 1 and was not significant.

Hypothesis 2: The result confirmed that training and development has a significant influence on employee performance with $\beta = 0.167$, t-value = 2.446 > 1.98, and p-value = 0.014 < 0.05. Therefore, hypothesis 2 was significant and supported.

Hypothesis 3: Leadership has no significant influence on employee performance with $\beta = 0.009$, t-value = 0.101 < 1.98, and p-value = 0.919 > 0.05. Therefore, the result did not support hypothesis 3 and was not significant.

Hypothesis 4: Performance appraisal has no significant influence on employee performance with $\beta = 0.193$, t-value = 1.300 < 1.98, and p-value = 0.193 > 0.05. Therefore, the result did not support hypothesis 4 and was not significant.

Hypothesis 5: Organizational development has a significant influence on employee performance with β = 0.480, t-value = 3.150 > 1.98, and p-value = 0.002 < 0.05. Therefore, hypothesis 5 was significant and supported.

Hypothesis 6: Organizational development has a significant influence on organizational effectiveness with β = 0.724, t-value = 9.214 > 1.98, and p-value = 0.000 < 0.05. Therefore, hypothesis 6 was significant and supported.

Hypothesis 7: Employee performance has a significant influence on organizational effectiveness with β = 0.253, t-value = 4.456 > 1.98, and p-value = 0.000 < 0.05. Therefore, hypothesis 7 was significant and supported.

Overall, the factors influencing employee performance are training and development, as well as organizational development. This research indicates that employee performance is significantly impacted by training and development, as evidenced by the study's β = 0.167, t-value = 2.446 > 1.98, and p-value = 0.014 < 0.05. This evidence suggests that employees perform greater when they can receive appropriate training and opportunities for professional growth. This not only enhances their knowledge, skills, and abilities but also boost their confidence, leading to higher job satisfaction and productivity, and it also potentially leads to improving organizational effectiveness at the workplace. Simultaneously, this research demonstrates that organizational development has positive relationship impact on employee performance, with β = 0.480, t-value = 3.150 > 1.98, p-value = 0.002 < 0.05. By fostering a culture of ongoing learning and growth, an organization can empower its employees to enhance their skills and contribute more effectively to team and organizational goals.

In addition, the factors influencing organizational effectiveness are organizational development and employee performance. With β = 0.724, t-value = 9.214 > 1.98, and p-value = 0.000 < 0.05, this study shows that organizational development has the strongest significant positive relationship influence on organizational effectiveness. This means that putting in place strategies that encourage continuous learning and adaptability makes organizations more effective. It involves systematic change initiatives that enhance an organization's ability to adapt to market demands and improve overall performance. By fostering a culture of continuous learning, collaboration, and innovation, the organization can better respond to external challenges, improve their overall performance, and align resources and strategies to achieve the organization's goals. Additionally, the present research demonstrates that employee performance significantly influences organizational effectiveness, with β = 0.253, t-value = 4.456 > 1.98, and p-value = 0.000 < 0.05. This means that companies that put an emphasis on employee development and recognition usually see better performance. Effective

employee performance contributes to higher productivity, improved morale, and enhanced team collaboration; it also promotes a positive work atmosphere, which eventually helps the company succeed as a whole. Employees that are motivated and engaged are more likely to produce high-quality work and help the company achieve its objectives. Consequently, organizations that prioritize employee development and engagement often see better overall results and a competitive edge in their industry.

On the contrary, the factor that has not influenced organizational effectiveness is training and development. This research finding indicates that training and development has no significant influence on organizational effectiveness, with $\beta = -0.002$, t-value = -0.045 < 1.98, and p-value = 0.964 > 0.05, which indicates that there is no noticeable difference in organizational effectiveness between employees who receive more or less training. The underlying reason for this assumption is that training and development may indirectly affect organizational effectiveness. Moreover, the factors that have not influenced employee performance are leadership and performance appraisal. The research finding indicates that leadership has no significant impact on employee performance, with $\beta = 0.009$, t-value = 0.101 < 1.98, and p-value = 0.919 > 0.05. This finding suggests that organizational development and training and development are more important factors in improving employee performance. Consequently, organizations may benefit from focusing on employee development, as well as organizational development, rather than solely on leadership strategies. This study also demonstrates that there is no significant relationship between performance appraisal and employee performance, as indicated by $\beta = 0.193$, t-value = 1.300 < 1.98, and p-value = 0.193 > 0.05. The result indicates that other elements, such as training and development and organizational development, should be taken into account since they may have a greater impact on enhancing employee performance. Therefore, organizations should focus on creating comprehensive development programs that address skill enhancement and career growth, which could lead to more substantial improvements in performance outcomes. Additionally, fostering a supportive work environment that encourages collaboration and feedback may further contribute to achieving higher levels of employee effectiveness.

CONCLUSION

The study aimed to determine the most important factors that affect employee performance in relation to human resource development, with the goal of improving organizational effectiveness that aligns with existing theories, prior empirical research, and previous research frameworks. These factors include training and development, leadership, performance appraisal, and organizational development. Additionally, the research intended to comprehend how these

variables interact and enhance employee performance, thereby increasing organizational efficiency. Finally, the study sought to determine the relationship between these identified factors, employee performance, and organizational effectiveness from the perspective of the PPWSA. The researchers employed a quantitative approach, collected data through an online survey, which was built using the Google Forms tool, and then distributed the link to the target group. In answering the research questions, objectives, and hypotheses, this dissertation presents substantial empirical findings.

The research results of this study show several key findings: First, this study determined six (6) factors: training and development, leadership, performance appraisal, organizational development, employee performance, and organizational effectiveness. Second, this research finding indicates that training and development has no significant influence on organizational effectiveness. Third, this research finding indicates that employee performance is significantly impacted by training and development. Fourth, the research finding indicates that leadership has no significant impact on employee performance. Fifth, this study also demonstrates that there is no significant relationship between performance appraisal and employee performance. Sixth, this research demonstrates that organizational development has positive relationship impact on employee performance. Seventh, the result shows that organizational development has the strongest significant positive relationship influence on organizational effectiveness. Lastly, the present research demonstrates that employee performance significantly influences organizational effectiveness. To sum up, this research offers valuable insights into the factors influencing employee performance to improve organizational effectiveness at the PPWSA of Cambodia, but there is still much more to explore in this field. PPWSA can further enhance their human resource strategies to maximize productivity and better support their workforce by addressing the recommendations and limitations mentioned in this study. This proactive approach aims to boost employee morale and fosters a culture of constant development and innovation within the organization.

LIMITATIONS

The researchers were undertaken in the Phnom Penh Water Supply Authority (PPWSA) of Cambodia, which is an autonomous organization under the supervision of the Ministry of Industry, Science, Technology, and Innovation (MISTI) and the Ministry of Economic and Finance (MEF). The purpose of the study was to improve organizational effectiveness by determining the key factors that affect employee performance in relation to human resource development. These factors include training and development, leadership, performance appraisal, and organizational development. The result indicates that other factors that affect employee performance for enhancing organizational effectiveness−such

as recruitment and selection, career development, work motivation, workplace environment, and job satisfaction−are excluded and are referred to as study limits.

RECOMMENDATION

Due to a lack of funding, time, and personnel, the researchers also did not employ qualitative data. Therefore, the researchers recommend conducting further research on the effects of the previously mentioned factors. Future studies should apply them to obtain more in-depth information. The study might offer a more thorough comprehension of how these components interact to affect employee performance and overall business success. Future studies might also look into how new technologies affect workforce dynamics, ensuring that PPWSA remains competitive in a rapidly evolving landscape.

REFERENCES

Abu El Khair, R. (2016). Productive university requirements, And their relationship with Organizational effectiveness in technical colleges in Gaza Governorates. Gaza, Palestine: Al Azhar University. https://doi.org/10.1016/0090-2616(80)90041-8

Ahmad, N. A., Bulbul, A., Naher, K., Rahman, M. M., & Uddin, M. B. (2016). The impact of human resource development (HRD) practices on organizational effectiveness: A review. Asian Business Review, 6(3), 131-140. https://doi.org/10.18034/abr.v6i3.38

Ainur, A., Sayang, M., Jannoo, Z., & Yap, B. (2017). Sample size and non-normality effects on goodness of fit measures in structural equation models. Pertanika Journal of Science & Technology, 25(2).

Al-aldaeja, F. (2016). The effect of organizational development of the parties participating in King Abdullah II Award on the organizational performance. Tlemcen, Algeria: Abu Bakr Blqayd University.

Armstrong, G., Kotler, P., Trifts, V., & Buchwitz, L. A. (2017). Marketing: An Introduction, Updated Sixth Canadian Edition with Integrated B2B Case. Pearson Canada.

Aule, O., Zayum, S. Z., & Kokona, B. (2018). Job satisfaction and employee performance in Nasarawa State Water Board, Lafia, Nigeria. Cimexus, 13(2), 59-70.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. Journal of the academy of marketing science, 16, 74-94.

Bharadwaj, S. S., Chauhan, S., & Raman, A. (2015). Impact of knowledge management capabilities on knowledge management effectiveness in Indian organizations. Vikalpa, 40(4), 421-434.

https://doi.org/10.1177/0256090915613572

Bolanle, O. I., & Esther, A. M. (2023). Human Resource Development and Employees Performance: A Theoretical Review.

Boon, C., Eckardt, R., Lepak, D. P., & Boselie, P. (2018). Integrating strategic human capital and strategic human resource management. The International Journal of Human Resource Management, 29(1), 34-67. https://doi.org/10.1080/09585192.2017.1380063

Burke, W. W., & Noumair, D. A. (2015). Organization development: A process of learning and changing. FT Press.

Cook, J., & Crossman, A. (2018). Satisfaction with performance appraisal systems: A study of role perceptions. Journal of managerial psychology, 5(3), 5-19. https://doi.org/10.1108/02683940410543605

Cooper, D. R., Schindler, P. S., & Sharma, J. (2018). Business research methods, 12/E (SIE). McGraw-Hill Education.

Darmawan, D., Mardikaningsih, R., Sinambela, E. A., Arifin, S., Putra, A. R., Hariani, M., Irfan, M., Al Hakim, Y. R., & Issalillah, F. (2020). The quality of human resources, job performance and employee loyalty. International Journal of Psychosocial Rehabilitation, 24(3), 2580-2592. https://doi.org/10.37200/IJPR/V24I3/PR201903

DeNisi, A. S., & Murphy, K. R. (2017). Performance appraisal and performance management: 100 years of progress? Journal of applied psychology, 102(3), 421. https://doi.org/10.1037/apl0000085

Else-Quest, N. M., & Hyde, J. S. (2016). Intersectionality in quantitative psychological research: II. Methods and techniques. Psychology of Women Quarterly, 40(3), 319-336. https://doi.org/10.1177/0361684316647953

Gabriel, J., Gabriel, L., & Nwaeke, L. (2015). Reappraising human resource management practices as predictor of employees' performance in the nigerian banking industry: Current Evidence. nature, 7, 24.

Ghozali, I. (2016). Ghozali, Imam.(2016). Aplikasi Analisis Multivariate dengan Program IBM SPSS 23. Semarang: BPFE Universitas Diponegoro. IOSR Journal of Economics and Finance, 3(1), 98.

Goldin, C. (2024). Human capital. In Handbook of cliometrics (pp. 353-383). Springer.

Hair Jr, J., Page, M., & Brunsveld, N. (2019). Essentials of business research methods. Routledge.

Hassan, A. K. F., & Mohammed, S. (2016). Artificial neural network model for estimation of wear and temperature in pin-disc contact. Universal Journal of

Mechanical Engineering, 4(2), 39-49.

Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality inventories be evaluated? Personality and social psychology review, 14(3), 332-346. https://doi.org/10.1177/1088868310361240

Kareem, M. A. (2019). The impact of human resource development on organizational effectiveness: An empirical study. Management Dynamics in the Knowledge Economy, 7(1), 29-50. https://doi.org/10.25019/MDKE/7.1.02

Kareem, M. A., & Hussein, I. J. (2019). The impact of human resource development on employee performance and organizational effectiveness. Management Dynamics in the Knowledge Economy, 7(3), 307-322. https://doi.org/10.25019/MDKE/7.3.02

Khan, Z. (2017). Impact of performance appraisal on employee's performance including the moderating role of motivation: A survey of commercial banks in Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan. Universal journal of industrial and business management, 5(1), 1-9. https://doi.org/10.13189/ujibm.2017.050101

Kim, K. Y., Eisenberger, R., & Baik, K. (2016). Perceived organizational support and affective organizational commitment: Moderating influence of perceived organizational competence. Journal of organizational behavior, 37(4), 558-583. https://doi.org/10.1002/job.2081

Kline, R. B. (2011). Principles and practice of structural equation modeling. Guilford publications. https://doi.org/10.25336/csp29418

Kline, R. B. (2023). Principles and practice of structural equation modeling. Guilford publications. https://doi.org/10.25336/csp29418

Lee, M. (2001). A refusal to define HRD. Human Resource Development International, 4(3), 327-341. https://doi.org/10.1080/13678860110059348

Lim, C. T., & Ahmad, N. (2021). The relationship between human resource management practices and employee performance. Research in Management of Technology and Business, 2(1), 123-136. https://doi.org/10.30880/rmtb.2021.02.01.009

Lohr, S. L. (2021). Sampling: design and analysis. Chapman and Hall/CRC.

Mohsen, A., Neyazi, N., & Ebtekar, S. (2020). The impact of organizational culture on employees performance: an overview. International Journal of Management (IJM), 11(8), 879-888. https://doi.org/10.34218/IJM.11.8.2020.079

Nguyen, P. T., Yandi, A., & Mahaputra, M. R. (2020). Factors that influence employee performance: motivation, leadership, environment, culture

organization, work achievement, competence and compensation (A study of human resource management literature studies). Dinasti International Journal of Digital Business Management, 1(4), 645-662. https://doi.org/10.31933/DIJDBM

Nikolaou, I., & Foti, K. (2018). Personnel selection and personality. The SAGE handbook of personality and individual differences, 3, 458-474.

Nwaeke, L. I., & Obiekwe, O. (2017). Impact of manpower training and development on organizational productivity and performance: A theoretical review. European Journal of business and management, 9(4), 153-159.

Otoo, F. N. K., & Mishra, M. (2018). Measuring the impact of human resource development (HRD) practices on employee performance in small and medium scale enterprises. European Journal of Training and Development, 42(7/8), 517-534. https://doi.org/10.1108/EJTD-07-2017-0061

Paltoglou, A. E. (2020). Book Review: Doing Your Qualitative Psychology Project. Sullivan, C., Gibson, S. & Riley, S.(Eds), Sage Publications,(2012). Qualitative Methods in Psychology Bulletin(29).

Pasunon, P. (2015). Validity of questionnaire for social science research. Journal of Social Sciences Srinakharinwirot University, 18(18), 375-396.

Pedroso, R., Zanetello, L., Guimarães, L., Pettenon, M., Gonçalves, V., Scherer, J., Kessler, F., & Pechansky, F. (2016). Confirmatory factor analysis (CFA) of the crack use relapse scale (CURS). Archives of Clinical Psychiatry (São Paulo), 43(3), 37-40. https://doi.org/10.1590/0101-60830000000081

Plano Clark, V. L. (2017). Mixed methods research. The Journal of Positive Psychology, 12(3), 305-306. https://doi.org/10.1080/17439760.2016.1262619

Polonsky, M. J., & Waller, D. S. (2018). Designing and managing a research project: A business student's guide. Sage publications.

Rovinelli, R., & Hambleton, R. (2019). On the use of content specialists in the assessment of criterion-referenced test item validity [Internet].

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In Handbook of market research (pp. 587-632). Springer. https://doi.org/10.1007/978-3-319-05542-8_15-2

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. Methods of psychological research online, 8(2), 23-74.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis

results: A review. The Journal of educational research, 99(6), 323-338.

Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill building approach. john wiley & sons.

Swanson, R. A. (2022). Foundations of human resource development. Berrett-Koehler Publishers.

Wang, G. G., & Swanson, R. A. (2008). The idea of national HRD: An analysis based on economics and theory development methodology. Human Resource Development Review, 7(1), 79-106. https://doi.org/10.1177/1534484307311415

Widarni, E. L., & Bawono, S. (2021). Human capital, technology, and economic growth: A case study of Indonesia. The Journal of Asian Finance, Economics and Business, 8(5), 29-35. https://doi.org/10.13106/jafeb.2021.vol8.no5.0029

Wood, F., & Sangster, A. (2015). Frank Wood's Business Accounting Volume 2 PDF eBook. Pearson Higher Ed.

Yorks, L., Abel, A. L., & Rotatori, D. (2022). Strategic human resource development in practice. Management for Professionals, 13(41), 547-549. https://doi.org/10.1007/978-3-030-95775-9