Structure Equation Model of Causal Factors Affecting Employees' Performance in Modern Trade Organization

Komonmanee Kettapan[1], Onuma Suphattanakul[2*], Jeky Mekianus Sui[3], Sarfraz Hussain[4]

[1] Department of Modern Trade and Service Innovation, Faculty of Economics and Business Administration, Thaksin University, Songkhla 90000, Thailand
[2] Department of General Education, Faculty of Liberal Arts, Rajamangala University of Technology Srivijaya, Songkhla 90000, Thailand
[3] Department of Mathematic, Morotai Pasific University, Morotai 97773, Indonesia
[4] Department of Commerce, Govt. Graduate College Liaqat Road Sahiwal, Sahiwal 57000, Pakistan

Corresponding Author Email: onuma.s@rmutsv.ac.th

ABSTRACT

Employees' performance depends on both internal factors and external factors that stimulate the willingness to work which drives organizational performance. The purposes of this study are to develop and investigate the consistency and conformity of the structural equation model of causal factors affecting the employees' performance, and to analyze factors that affect employees' performance in modern trade organizations. Indices were derived from revised literature and related research. This study used the case of 220 employees in a modern trade organization in Songkhla Province, Thailand to collect data. In addition, the data were analyzed by using structural equation modeling. The results demonstrated the structural equation model of causal factors affecting employees' work performance in modern trade organizations and are consistent with empirical data. The result also indicated that loyalty and motivation had significant direct and indirect influences on employees' performance in modern trade organizations. Additionally, loyalty is passed on to motivation as an indirect power in employees' performance. These results carry implications for the ways to improve employees' performance by increasing factors affecting it and finally, employees' performance will ultimately affect the organizational effectiveness and achieve of overall organizational goals.

1. INTRODUCTION

Modern trade involves a more planned and organized approach to distribution and logistics management. It includes the larger players such as Supermarket, Discount stores or Hypermarket or Supercenter, Convenience stores or Express or Mini mart, and Specialty stores. Currently, modern trade is a highly efficient trading system in Thailand. Modern trade is the second highest after the industrial sector which has a market share of 40% [1]. However, for any business, employee performance is the key to success. Every individual employee must work toward the company's vision and mission. It is all about how businesses manage, upskill, and motivate their employees. Thus, increasing the efficiency of employees' performance is a key driver of the achievement of the modern trade organization. Firms have learned that to compete in a continuously changing marketplace, they must generate distinctive dynamic qualities that empower their comparative edge. As a result, they're concentrating on leveraging their human resources (HR), notably employee performance (EP), as a source of competitive benefit [2]. Performance appraisal intrudes on one of the most emotionally driven processes in corporate life, namely the evaluation of a man's contribution and competence [3]. Shabir et al. [4] indicate that an employee evaluation approach that is well-defined Performance is

critical to a company's smooth operation. Bin et al. [5] say that the biggest difficulty for businesses is evaluating employee performance and figuring out ways to improve operational efficiency and "valid." In another sense, how can businesses use performance evaluation procedures to increase their capacity to discern "excellent" employees (those who perform well) from "poor" employees? As a result, businesses must understand their employees' skills to manage them and align them with the company's broader business plan. An organization is a purposefully organized system in which individuals, collective, and institutional traits interact with one another, and the efficient interaction of them all is strongly related to organizational culture, which determines individual performance [6].

According to Fishbein and Ajzen [7] an attitude that clarified human behaviors reflected in their attitudes could be positive or negative. Attitude is the inclination caused by learning, followed by satisfaction or unsatisfaction behavior consistent with the subjects [8]. While, Barnard [9] defined loyalty as a vital role in management, contributing to a willingness to work which is the essential condition of the organization. Loyalty demonstrates love with respect, integrity in duty, and advocacy, such as promoting corporate reputation, cooperation for corporate benefit, etc. [10]. When persons have a positive work attitude, they will devote themselves to

work more for the organization's benefit [11]. In addition, Herzberg et al. [12] explained motivation as searching for work satisfaction and unsatisfaction which consists of internal and external motivation. 1) Internal motivation stimulates positive emotions such as achievement, recognition, work itself, responsibility, and advancement. 2) External motivation generated from external circumstances or supportive factors is not working motivation. Productivity or unproductivity depended on how much internal motivation of employees was fulfilled [13].

An organization's achievement is backed up by the employees' performance which consists of the resources management (Man, Money, Material, Machine, and Management). The other dimension of a new theory or behavioral science admitted that humans had social needs, individual needs, and different goals to work in the same organization. We can't use only one factor as a tool for motivation to accomplish work effectiveness. To achieve work efficiency, we need to satisfy the employees and value them as a part of the team which is a significant component of the loyalty. However, this study found that employees' productivity is the consequence of many aspects, for example, attitude, loyalty, and motivation. In addition, Attitude, motivation, and loyalty variables support observing the employee performance, while employee-related factors are the connection between employee attitude toward motivational factors and employee attitude toward loyalty with trade organization help to investigate the employee performance; hence, further research is necessary to better comprehend these linkages.

As a result, the goal of this study is to investigate and incorporate into an analytical employee performance assessment model the relations between firm-level employee contribution factors, such as employee attitude, firms' motivational factors, and employee loyalty toward their job-related factors and employee-related factors. Specifically, the research will focus on employee attitudes. The originality of this research lies in the unification of the model components into a cohesive model (holistic framework), as well as the correlations between the numerous subfactors and employee performance. Although the individual effect of the model components has been demonstrated in the previous research, this study is the first to unify them.

From the above concepts and theory, this study apprehends that work efficiency depended on persons' internal factors and external factors which motivated the willingness to work and in turn drove effective work and led to virtually organizational development. These reasons should bring to study the structural equation model of causal factors which affects the work efficiency of employees in the model trade organization.

2. OBJECTIVES

(1) To develop and investigate the consistency and conformity of the structural equation model of causal factors affecting the employees' performance in the modern trade organization.

(2) To analyze direct, indirect, and overall influence factors which affect employees' performance in the modern trade organization.

3. CONCEPTUAL FRAMEWORK

The research aimed to determine the best fit model on the factors influencing employees' performance of the modern trade organization in the context of: attitude, loyalty, motivation and employees' performance in the modern trade organization. The structural equation model (SEM) of causal factors affecting employees' efficiency in a modern trade organization was presented in Figure 1.
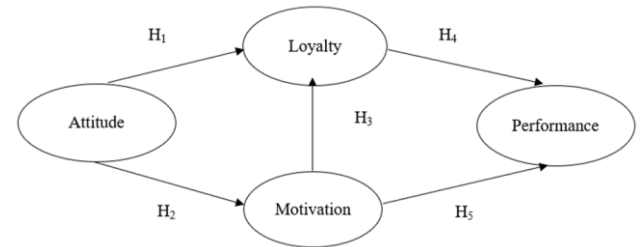

Figure 1. The structural equation model (SEM) of employees' performance

To establish the hypothetical model and data synthesis, the researchers created a hypothesis framework using a structural equation model (SEM). This study examined four related theoretical factors which consists of employees' attitude, employees' loyalty, employees' motivation, and employees' performance as shown in Figure 1. Thus, the hypotheses of the study were followed.

H1: Positive attitudes directly affect employees' loyalty in modern trade organizations.

H2: Positive attitudes directly affect employees' motivation in the modern trade organization.

H3: Motivation directly influences employees' loyalty in the modern trade organization.

H4: Loyalty directly influences employees' performance in the modern trade organization.

H5: Motivation directly influences employees' performance in the modern trade organization.

4. RESEARCH METHODOLOGY

This research is quantitative research by analyzing the structural equation model of causal factors affecting employees' performance in the modern trade organization. The procedural design was separated into two phases. In the first phase, the study framework was developed based on acknowledged studies investigating the causal factors of the modern trade organization using an initial outline of a SEM. Subsequently, the appropriateness of the constructed model was verified, and the model was adjusted according to expert recommendations regarding the draft model. In the second phase, quantitative data were collected using a questionnaire consisting of five rating scale to acquire empirical data and assess the consistency between the empirical data and the conceptual framework.

4.1 Population and samples

This research is quantitative research used for analyzing the structural equation model of causal factors affecting employees' performance in the modern trade organization.

The population is employees in modern trade organizations in Songkhla Province, Thailand. Kline [14] noted that the sample size of the structural equation modeling (SEM) analysis should consist of at least 200 samples. According to, Schumacker and Schumacker [15] proposed that structural equation analysis can be determined from observation variables. Each observation variable should have at least 10 samples. In addition, Hair et al. [16] confirmed that the sample size of the model which generally use 10-20 respondents per parameter to be estimated. In this study, there were 12 parameters to be estimated. Thus, the appropriate sample size should be 120-240 respondents. Finally, the 400 questionnaires were distributed and 220 respondents were received with 55% of respondent rate.

4.2 Study instrument

Research Tools are close-ended questionnaires that were developed by basing on Emin [17] and Na Wichian [18]. There are 5 parts to the questionnaires as; part 1-general information, part 2-attitudes including wisdom, emotion, and behavior, part 3-internal & external motivation, part-4 loyalty including behavior, emotion, and cognition, part-5 productivity including ability, quantity, development, and work efficiency. In parts 2-5, the questions demonstrate the sampling group's perception measured on 5 level rating scale of the Likert Scale. The sample size was determined based on the concept of Hair

et al. [16].

4.3 Reliability test

After appropriate adjustments were made according to the experts' advice, the adjusted questionnaire was tried out on 30 people. Cronbach's alpha coefficients were evaluated the reliability. The outcome was 0.96 that considering reliability not less than 0.7 [16]. This meant the questionnaires is reliable and proper for data collection.

4.4 Examine fundamental conditions in the structural equation model analysis

Consider the enumeration of whether it is a normal curve or not, Skewness value of ± 3 and Kurtosis of ±10. Empirical data showed Skewness value and Kurtosis value are in the range shown in Table 1. This determined normal data enumeration which met the fundamental requirement of structural equation model analysis.

Measure construct validity to test convergent validity by considering Average Variance Extracted (AVE) and Composite Reliability (CR)'s values not less than 0.5 [16]. The result of AVE & CR reached the requirement and shown in Table 1. Thus, the structural study factor correlated with the same construct could be used to analyze the structural equation model.

Table 1. Demonstrate loading factor, data enumeration, and construct validity

Variable	Item Code	Loading Factor	Data Enumeration		Construct Validity	
			Skewness	Kurtosis	AVE	CR
A	A1	0.87	-0.41	0.62		
	A2	0.81	-0.33	0.41	0.77	0.78
	A3	0.79	-0.35	0.52		
M	M1	0.68	-0.46	1.80	0.81	0.82
	M2	0.76	-0.68	1.47		
L	L1	0.54	-0.54	1.09		
	L2	0.60	-0.62	0.82	0.84	0.84
	L3	0.67	-0.04	1.07		
P	P1	0.68	-0.23	0.84		
	P2	0.42	-0.03	0.04	0.82	0.83
	P3	0.51	-0.35	2.68		
	P4	0.47	-0.07	0.99		

Remark: A = Attitude, M = Motivation, L = Loyalty and P = Performance

Table 2. Consistency and conformity criteria of structural equation model of causal factors

Consistency and Conformity Index	Criteria
Chi-Square	N/A
d.f.	N/A
Chi-Square/ df	≤ 2.00
P-value	≥ 0.05
Goodness-of-fit (GFI)	≥ 0.90
Comparative fit index (CFI)	≥ 0.90
Normalized Fit Index (NFI)	≥ 0.90
Adjusted goodness-of-fit (AGFI)	≥ 0.90
Root mean square error of approximation (RMSEA)	≤ 0.05
Standardized RMR (SRMR)	≤ 0.05

4.5 Data collection

Google Form Questionnaire was generated for online data collection. In this research, a purposive sampling group was used to select members of the population. The research set

screening questions and the respondents can fill in the questionnaires only once to avoid recurring answers from data collection and complete response examination. Thus, 220 samplings were used to analyze the data referred to in the above calculation.

These criteria were considered according to Hair et al. [19] and Diamantopoulos and Siguaw [20] as displayed in Table 2.

5. FINDINGS

Respondents' information analysis: Most of the respondents were female which counted for 51.9%, age range 30-40 (36.9%), bachelor's degree (51.2%), supervisor level (48.3%), and 6-10 service years.

Objective Analysis: Structural equation model of causal factors was developed to observe the impact on employees' performance in modern trade organizations by analyzing revised direct, indirect, and overall influences as present in Table 3 and Figure 2.

After checking the consistency of the model, it was found that the equation model was inconsistent with the empirical data. Therefore, the model was adjusted by considering the theoretical feasibility and using the Model Modification Indices (MI) by the program's adjustments. The final model was accepted according to the conformity index criteria.

The results in Table 3 represented the consistency and conformity of the structural equation model. Consistency indexes after adjustment were $\lambda^2 = 76.90$, df = 68, λ^2/ df = 1.13, P-value = 0.101, GFI = 0.910, CFI = 0.984, NFI = 0.963, AGFI = 0.905, RMSEA = 0.025, SRMR = 0.048 which met the criterion. Thus, structural equation model of causal factors affected employees' performance in modern trade organization, related, and conformed with empirical data.

The SEM model of this study was followed.

The findings in Table 4 indicated motivation and loyalty were the direct influences on employees' performance in the modern trade organization. Significant Statistics of TE was 0.99 in motivation represented the highest in employees' work efficiency, followed by TE was 0.35 in loyalty. While indirect influences showed significant statistics of IE was 0.59 in attitude, pursued by IE was 0.32 in motivation. Thus, hypotheses H1 to H5 were accepted.
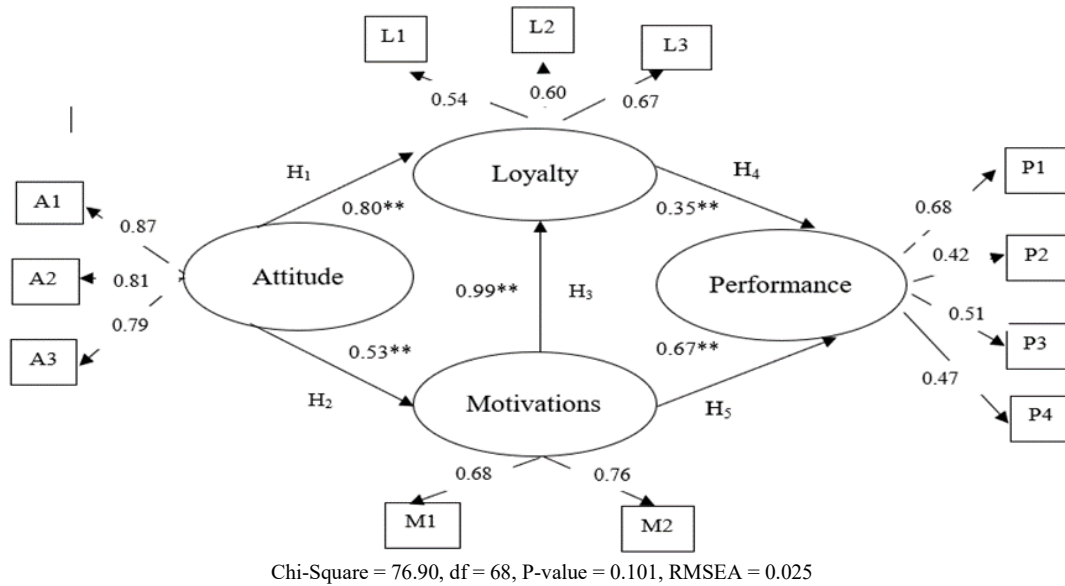

Chi-Square = 76.90, df = 68, P-value = 0.101, RMSEA = 0.025

Figure 2. Test result of consistency and conformity of developed structural equation model after model adjustment with empirical data

Table 3. Consistency and conformity test result of structural equation model and empirical data before and after revision

The goodness of Fit Index	Level of acceptance	Index before model adjustment	Result	The index after model adjustment	Result
Chi-Square	N/A	139.84	-	76.90	-
d.f.	N/A	109	-	68	-
Chi-Square/ df		1.28		1.13	
P-value	> 0.05	0.07	pass	0.101	pass
GFI	> 0.90	0.86	Fail	0.910	pass
CFI	> 0.90	0.90	pass	0.984	pass
NFI	>0.90	0.95	pass	0.963	pass
AGFI	> 0.90	0.86	Fail	0.905	pass
RMSEA	< 0.05	0.054	Fail	0.025	pass
SRMR	< 0.05	0.052	Fail	0.048	pass

Remark: 1.GFI = Goodness-of-fit, CFI = Comparative fit Index, NFI = Normalized Fit Index, AGFI = Adjusted goodness-of-fit, RMSEA = Root mean square error of approximation, SRMR = Standardized RMR

Table 4. Influential variable analysis of employees' performance in the modern trade organization

DV	R^2	Independent Variables								
		Attitude: A			Motivation: M			Loyalty: L		
		TE	IE	DE	TE	IE	DE	TE	IE	DE
M	0.68	0.53**	-	0.53**	-	-	-	-	-	-
L	0.76	0.98**	0.18**	0.80**	0.99**	-	0.99**	-	-	-
P	0.84	0.59**	0.59**	-	0.99**	0.32**	0.67**	0.35**	-	0.35**

Remark: 1. *p<.05, **p<.01
2. DE = Direct effect, IE = Indirect effect, TE = Total effect
3. M = Motivation, L = Loyalty, P = Performance, DV = Dependent Variables

6. DISCUSSION

1. The structural equation model of causal factors affected employees' performance in modern trade organization that represented the consistency and conformity model with empirical data regarding to $\lambda 2 = 76.90$, df = 68, Chi-Square/df = 1.13, P-value = 0.101, GFI = 0.910, CFI = 0.984, NFI = 0.963, AGFI = 0.905, RMSEA = 0.025, SRMR = 0.048.

2. The analysis showed that motivation and loyalty were direct influences affecting employees' performance in the modern trade organization. Both factors conformed to Kalyanamitra [21, 22]; who indicated motivation as reinforcement, fortification, and driving force to enthuse employees. Thus, they had high determination to reach their goals. Suksawat [23] also mentioned work efficiency is based on motivation, confidence, and trust in the organization, and motivation is positively related to employees' efficiency. These research results conformed with [24] identified motivation as a positive influence on loyalty leading to achievement. In addition, Lee [25] suggested work efficiency is caused by loyalty. Loyalty played a major role to drive employees and positively impacted work efficiency [26].

3. The analysis suggested that attitude and motivation were indirect influences affecting employees' performance in the modern trade organization. This result was consistent with the research that indicated job satisfaction varies with organization bonds and leads to better performance [25]. Kanjanasatien [11] also confirmed that positive attitude employees would devote themselves to organizational benefits. Additionally, Mungsan and Muhammad [24] proclaimed that loyalty passed on motivation as an indirect power in employees' productivity.

Therefore, the study contributed that one of the most important factors in employees' performance is to achieve employee motivation. Employees that lack motivation don't fully commit themselves to a position and lose productivity. When employees are productive, engaged and motivated, they can more easily meet the targets. In addition, building employee loyalty is a set of emotions that make employees feel attached to their current work and position. Inspiring loyalty will help them get the most success and lay the foundation for lasting achievement. Moreover, employee attitude is a role to ensure a harmonious professional environment and a productive staff. Thus, the organizations should focus on employee attitudes influence organizational performance.

7. SUGGESTIONS

7.1 Suggestions for application

(1) The research demonstrated that motivation acquired the highest coefficient and had a direct impact on employees' performance in modern trade organizations. Therefore, modern trade organizations should emphasize, and promote motivation. Corporate should put the right man to the right job or assign job scope and responsibility to enthuse and motivate employees' performance. Thus, they would be willing to work and cause higher yields.

(2) Management team should set compensation and welfare according to job assignment and responsibility. For this reason, employees could perceive their value and stability so they desire to serve in the corporate for the long term.

7.2 Suggestions for further research

(1) Competency theory should be applied for further research of employees in modern trade organizations since this theory was adopted to study in the government sector.

(2) Extraneous variables such as economics, society, etc. should be included as additional factors in employees' productivity in the modern trade organization.

8. CONCLUSIONS

Employee is a key element of the organization. Increasing employees' performance can achieve the goals of the organizations. Employees' performance depends on both internal factors and external factors that stimulate the willingness to work which drives organizational performance. The results of this study demonstrated the structural equation model of casual factors affecting employees' performance in modern trade organizations. These results of the study carry implications for the ways to increase employees' performance by considering factors affecting it. Finally, employees' performance will ultimately affect the organizational effectiveness and also achieve of overall organizational goals.

REFERENCES

[1] Srisai, K., Mukdaprakorn, W. (2021). Relationship between modern commercial business innovation and Success of retail business operators In Bangkok. Journal of Arts and Service Industry, 4(2): 183-192.

[2] Diamantidis, A.D., Chatzoglou, P. (2018). Factors affecting employee performance: An empirical approach. International Journal of Productivity and Performance Management. https://doi.org/10.1108/IJPPM-01-2018-0012

[3] Doargajudhur, M.S., Hosanoo, Z. (2022). The mobile technological era: insights into the consequences of constant connectivity of personal devices by knowledge workers. Information Technology & People. https://doi.org/10.1108/itp-08-2021-0593

[4] Shabir, S., Khan, O.F., Gani, A. (2021). Work-life interference: A perpetual struggle for women employees. International Journal of Organizational Analysis, 30(2): 181-196. https://doi.org/10.1108/IJOA-04-2020-2133

[5] Bin Othayman, M., Mulyata, J., Meshari, A., Debrah, Y. (2022). The challenges confronting the training needs assessment in Saudi Arabian higher education. International Journal of Engineering Business Management, 36(2): 206-217. https://doi.org/10.1108/ijem-04-2021-0121

[6] Rehman, T.U., Khatoon, R. (2022). Human resource management practices and organizational performance in the new normal: A relational analysis. In Navigating the New Normal of Business with Enhanced Human Resource Management Strategies, 212-233. https://doi.org/10.4018/978-1-7998-8451-4.ch010

[7] Fishbein, M., Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.

[8] Schiffman, L.G., Kanuk, L.L. (1994). Consumer Behavior. (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

[9] Barnard, C.I. (1972). The Functions of the Executives. Boston: Harvard University Press.

[10] Graham, J.W. (1991). An essay on organizational citizenship behavior. Employee Responsibilities and Rights Journal, 4: 249-270. https://doi.org/10.1007/BF01385031

[11] Kanjanasatien, A. (2019). Attitudes, motivation and work atmosphere affecting the commitment of security officers at ALSOK Thai security services company limited. Mater of Business Administration Program, Rajamangala University of Technology Thanyaburi Thailand. http://www.repository.rmutt.ac.th/xmlui/handle/123456789/3686, accessed on Feb. 9, 2021.

[12] Herzberg, F., Bernard, M., Snyderman, B. (1959). The Motivation to Work. New York: John Willey & Sons.

[13] Zaleanick, A., Roethlisberger, F.J., Christensen, C.R., Homans, G.C. (1958). The motivation, productivity, and satisfaction of workers: A prediction study. Massachusettes: Division of Research, Harward University. https://doi.org/10.5296/ijld.v1i1.1132

[14] Kline, R.B. (2011) Principles and Practice of Structural Equation Modeling. Guilford Press, New York.

[15] Schumacker, R.E., Lomax, R.G. (2010). A Beginner]s Guide to Structural Equation Modeling (3rd Ed). New York: Routledge.

[16] Hair, J., Black, W.C., Babin, B.J., Anderson, R.E. (2010). Multivariate Data Analysis. (7th ed.). Upper saddle River, New Jersey: Pearson Education International.

[17] Emin, K. (2009). The effects of job performance on effectiveness. International Journal of Industrial Ergonomics, 39(1): 96-104. https://doi.org/10.1016/j.ergon.2008.06.006

[18] Na Wichian, N. (2019). The multi-group analysis of the performance model of government hospital nurses in Bangkok. Doctor of Philosophy, Graduate School, Silpakorn University Thailand.

[19] Hair, J.F., Jr., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L. (2006). Multivariate Data Analysis. (6th ed). Upper Saddle River, NJ: Prentice Hall.

[20] Diamantopoulos, A., Siguaw, A.D. (2000). Introducing LISRAL: A Guide for the Uninitiated.: Sage Publications, London.

[21] Kalyanamitra, K. (2016). Two powerful motivation factors to success. Valaya Alongkorn Review, 6(3): 175-183.

[22] Charutawephonnkoon, P., Wattalo, T., Sutprasoet, W. (2020). Factor affecting organizational commitment of employees' SSK logistics Co., LTD. Social Science Journal of Prachachuen Research Network, 2(3): 28-39. https://so01.tcithaijo.org/index.php/EAUHJSocSci/article/view/254849, accessed on Nov. 2, 2021.

[23] Suksawat, C. (2014). The analysis of the organizational loyalty indicators of personnel in basic education school. Veridian E-Journal, 7(2): 173-186. https://he02.tci-thaijo.org/index.php/Veridian-E-Journal/article/view/16872/23394, accessed on Sep. 4, 2021.

[24] Mungsan, W., Muhammad, K. (2021). Factors affecting employee' organizational loyalty of electricity generating authority of Thailand (EGAT) at headquarter. Journal of Humanities and Social Sciences, Rajapruk University, 6(2): 151-164.

[25] Lee, J.W. (1967). Loyalty: What Is It? Motivation and Job Performance. U.S.A. MeKinsey & Co. Inc.

[26] Solomon, C.M. (1992). The loyalty factor. Personnel Journal, 52-62.