INNOVATION E-LEARNING AFFECTING THE EFFICIENCY OF EMPLOYEE: A CASE STUDY OF AIRPORTS OF THAILAND PUBLIC COMPANY LIMITED

a Phrompatsorn Kiewkong, b Amnuay Saengnoree, c Samart Deepijarn, d Sujira Vuthisopon

ABSTRACT

Introduction: Human resource development from Innovation E-Learning is one of the important steps in Human Resource Management that affects the efficiency and success of modern organizations that are prone to high technological changes starting from the moment those employees come to work by orientation and must continue training and development continuously throughout the time. The current administration cannot therefore use the traditional methods that were used in the past but must be ready to accept changes from various factors and adjust to keep up with the situation at all times. Therefore, “Electronics Learning Innovation” is therefore a necessity of organizational management in the current era (Covid-19) and in the future in order for the organization to continue to be successful and produce effective personnel.

Objective: This dissertation aims 1) to examine the components of online learning efficiency 2) to explore the variables influencing the online learning efficiency of Airports of Thailand (AOT) employees.

Method: This is quantitative research. The sample is employees of Airports of Thailand Public Company Limited for 340 people through quota and simple random methods. The research tool is questionnaire and data are analyzed by descriptive and inferential statistics, confirmatory component analysis and SEM.

References:

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Results: E-learning Innovation and Human Resource management have direct influence on job satisfaction. Moreover, Innovative Electronic Learning and Personal Learning have direct influence on Performance Efficiency through the intermediate variable of Performance Satisfaction. According to the results of SEM, overall Innovative Electronic Learning has the highest influence on Performance Efficiency, followed by Performance Satisfaction, Human Resource Management and Personal Learning, respectively.

Conclusion: This research is a guideline for AOT to develop personnel's operational potential through learning with e-learning innovation. This research adds the value to the concept of E-learning, Innovative Electronic Learning, Human Resource Management, Personal Learning for airport companies.

Keywords: e-learning, innovative electronic learning, human resource management, personal learning, AOT.

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INNOVAÇÃO E E-LEARNING AFETANDO A EFICIÊNCIA DO FUNCIONÁRIO: UM ESTUDO DE CASO DE AEROPORTOS DA TAILÂNDIA PUBLIC COMPANY LIMITED

RESUMO

Introdução: O desenvolvimento de recursos humanos a partir do e-learning de inovação é um dos passos importantes no gerenciamento de recursos humanos que afeta a eficiência e o sucesso das organizações modernas que estão propensas a grandes mudanças tecnológicas a partir do momento em que os funcionários vêm trabalhar por orientação e devem continuar treinando e desenvolvendo continuamente ao longo do tempo. A atual administração não pode, portanto, utilizar os métodos tradicionais que foram usados no passado, mas deve estar pronta para aceitar mudanças de vários fatores e ajustar-se para acompanhar a situação em todos os momentos. Por conseguinte, a “Inovação em Aprendizagem de Eletrônica” é uma necessidade de gestão organizacional na era atual (Covid-19) e no futuro, a fim de que a organização continue a ser bem-sucedida e produza pessoal eficaz.

Objetivo: Esta dissertação visa 1) examinar os componentes da eficiência da aprendizagem on-line 2) explorar as variáveis que influenciam a eficiência da aprendizagem on-line dos funcionários dos aeroportos da Tailândia (AOT).

Método: Isso é pesquisa quantitativa. A amostra é composta por funcionários da Airports of Thailand Public Company Limited para 340 pessoas através de cotas e métodos aleatórios simples. A ferramenta de pesquisa é questionário e os dados são analisados por estatísticas descritivas e inferenciais, análise de componentes confirmatórios e SEM.

Resultados: Inovação de e-learning e gestão de recursos humanos têm influência direta na satisfação do trabalho. Além disso, o Aprendizado Eletrônico Inovador e o Aprendizado Pessoal têm influência direta na Eficiência de Desempenho através da variável intermediária de Satisfação de Desempenho. De acordo com os resultados da SEM, a aprendizagem eletrônica inovadora tem a maior influência na eficiência de desempenho, seguida pela satisfação de desempenho, gestão de recursos humanos e aprendizagem pessoal, respectivamente.

Conclusão: Esta pesquisa é uma diretriz para a AOT desenvolver o potencial operacional do pessoal através da aprendizagem com inovação de e-learning. Esta pesquisa agrega o valor ao conceito de e-learning, aprendizagem eletrônica inovadora, gestão de recursos humanos, aprendizagem pessoal para empresas de aeroporto.
INTRODUCTION

Advances in technology have led to competition in enhancing learning skills in today's era, which has entered a society of wisdom and learning. In this regard, the country that is able to move towards a quality knowledge-based society must have quality human resources and modern teaching technology to keep up with world changes. However, due to the current situation such as the outbreak of Coronavirus 2019, the organization is unable to operate smoothly. This is because the organization must face an environment that is constantly changing. In order for employees to be able to perform their jobs effectively, it is important that employees know and understand their rights, duties, and understanding of work. Every organization has an important goal that is people can work together to perform duties to achieve the set goals efficiently. Self-study innovations are therefore developed for use in the development of participants. This means advancements in computer technology and telecommunications technology, development of learning in this digital age. Therefore, educational innovations in technology have been brought in to help support. As a result, learning styles have changed in the New Normal era. It also facilitates access to various learning resources, creating a new type of learning called "E-Learning" that can incorporate strategies, process techniques to train Participants to be able to think and analyze effectively. The popularity of teaching through the computer system has begun to increase in popularity. In line with the current Covid-19 situation, electronic communication formats have become widely popular. Current training arrangements have therefore changed from training that requires the instructor and the trainee to meet face to face at the same time (Synchronous) changed to self-learning due to time constraints, location, and other limiting factors, this form of e-learning has gained attention. Communication via electronic systems must therefore take into account the quality of human resources that depend on knowledge, skills, and experience that may not be sufficient to perform the job, developing personnel to have the knowledge and ability to perform their jobs and cope with changes in various situations in a timely manner towards the goals set requires the use of self-learning kits in the form of electronic media that provide opportunities for personnel, develop knowledge skills and attitudes on your own according to your competencies and interests.
Airports of Thailand Public Company Limited or AOT is a state enterprise under the Ministry of Transport. It is Thailand's national airport management organization and is the center for taking care of all sectors of airports, divided into 6 airports: Suvarnabhumi Airport. Don Mueang Airport Phuket Airport Chiang Mai Airport Hat Yai Airport and Mae Fah Luang Chiang Rai Airport. Training is supported by using mostly external lecturers including sending personnel to get training with agencies or institutions that provide training services. But this method is still not consistent with the workload. Other factors include the COVID-19 situation where normal operations cannot be carried out, traditional training and development methods still have many limitations, such as time constraints, budget to support training interest in access, the novelty of the training format and unlimited self-review of knowledge. From the above reasons, it is the reason for the creation of training and the development of electronic learning that is used as a tool to solve the limitations of time and place and facilitate personnel to study and develop themselves as desired. Learning through electronic systems is another channel that increases opportunities for personnel to develop themselves continuously to have skills and abilities ready for work and be beneficial to the organization as well as Human Resource Development, Manpower Development or Training and Development is a process for developing and promoting personnel with knowledge, abilities, understanding, and skills in practice, work, as well as having good attitudes and behavior to create an employee better performance both now and in the future that results in benefits to employees, such as adding value to themselves, helping reduce and prevent accidents during erroneous work, helping to enhance knowledge, understanding, skills and knowledge to be able to be higher and giving them opportunities to advance in positions. Performance duties benefits to executives, such as reducing various problems that may occur from the work of employees, helping to reduce governance conditions, supervise and control the work of personnel, saving time in teaching/training employees. and allow time to manage according to roles, duties and responsibilities. Finally, there are benefits to the organization or agency, such as making systems and work methods more efficient, stimulating personnel to work for advancement in their careers, causing savings and reducing wastage of expenses. Job training practice (Materials/Equipment/Time), help relieve the duties of Supervisors in answering questions/suggestions/teaching work to subordinates. and helps reduce the time of learning the job. It also gives personnel the opportunity to get to know new ideas. Keep up with new technological advancements as
well. Human resource development from Innovation E-Learning is one of the important steps in Human Resource Management that affects the efficiency and success of modern organizations that are prone to high technological changes starting from the moment those employees come to work by orientation and must continue training and development continuously throughout the time. The current administration cannot therefore use the traditional methods that were used in the past but must be ready to accept changes from various factors and adjust to keep up with the situation at all times. Therefore, “Electronics Learning Innovation” is therefore a necessity of organizational management in the current era (Covid-19) and in the future in order for the organization to continue to be successful and produce effective personnel.

This study has 2 research objectives, 1) To study the components of online learning efficiency of AOT employees and 2) To study the variables that influence the effectiveness of AOT employees' online learning.

Theoretical Framework employed in this study consisted of the following:

Components of Innovation E-Learning: Innovation E-Learning refers to learning through the medium of technology or online media (E-learning) that reduces limitations on time and place to study. Teachers can present learning ideas in a variety of formats and Participants can choose to study the topics they want (Hafize Kaser and Dilek Karahoca, 2010). Innovation components E-Learning in this study consists of Content, Control and Participants (Tao Lei, 2021).

Human resource management: Human resource development is one of the activities in the personnel management process and is part of the management of the organization which is closely related to the characteristics of the organization: Management policy, Organizational atmosphere, Characteristics and missions, duties, performance results, and efficiency in production or service (Pitchayapa Yuenyawan, 2009). Human resource management components in this study include Training, Skill Development, and Reward.

Employee Learning: Grow (1991) and Hammond & Collin (1991) presented a model of instructional thinking. This is a conceptual framework in which teachers in the education system can integrate methods incorporate self-directed learning into teaching and learning activities to enhance participants’ self-directed learning and self-directed learning. There are 4 learning stages: Dependent, Interested, Involved, and Self–Direction. The teacher must teach or use teaching activities that are consistent with the
learning sequence of the participants. The Employee Learning component in this study is Self-Determination, Planning and Evaluation.

Job Satisfaction: Job Satisfaction refers to the feelings of employees of Airport of Thailand Public Company Limited (AOT) who are ready and strive to be fully dedicated in performing their jobs fluently. With orderliness and rules, completing work on time, quickly, correctly, with quality and standards, this research is divided into 5 areas: Work environment, Colleagues, Supervisors, Compensation/benefits, and Stability/Safety. Job components Satisfaction in this study is Working Environment Colleagues Supervisors and Stability / Safety.

Employee Performance: Employee Performance refers to the actions of employees in AOT who are capable and ready, try best to perform the job fluently with orderliness and rules, work is completed on time, quickly, correctly, with quality and standards. This research is divided into 5 areas: work environment, Colleagues, Supervisors, compensation/benefits, and Stability/Safety. Employee components Performance in this study consists of 4 aspects: Quality, Duration, Process, and Expenditure.

Figure 1: Conceptual Framework

Source: Researcher’s Analysis

The researcher has studied various variables. used in research as follows:
1. Innovation E-Learning includes Content Control and Participants
2. Human resource management including Training, Skill Development and Reward
3. Employee Learning includes Self-Determination Planning and Evaluation.
4. Job Satisfaction includes Working Environment Colleagues Supervisors and Stability / Safety
5. Employee Performance includes Quality Duration Expenditure and Process

2 METHOD

This is quantitative research. The target population in this research study is employees of Airport of Thailand Public Company Limited (AOT), divided into 6 airports, including Suvarnabhumi Airport, Don Mueang Airport Phuket Airport Chiang Mai Airport Hat Yai Airport and Mae Fah Luang Chiang Rai Airport. The sample size used in the study was determined using the criteria for selecting samples in the Structural Equations Model (SEM) analysis, which is a sample size equal to 10-20 times the parameters (Joreskog and Sorbom. 1000; Hair, J. et. al., 2010) for this research is a structural equation model analysis. The researcher therefore used a maximum dose of 20 times with observed variables total 17 variables, resulting in a sample size of 340 samples. The researcher used Non-Probability Sampling by Quota Sampling to request cooperation in answering questionnaires from sample groups using the Online questionnaire. Once the information has been collected, the researcher checked the number and filled out each questionnaire that was returned. The researcher analyzed the data by taking the information from the questionnaires and processing them using a computer with the SPSS package, statistics used in data analysis include:

Analysis using Descriptive Analysis is statistics used to describe or explain various characteristics in the overall sample or population by analyzing the data to know the general characteristics of the respondents. The basic statistics used in the analysis include calculating Mean, Percentage, Frequency and Standard Deviation. It will be used to analyze various parts of the questionnaire by general information questionnaire of respondents analyze data by presenting it in a table to find Percentage and Frequency.

Rating Scale data questionnaire, opinion level, and the opinion level that was obtained were ranked by item by finding Frequency, Percentage, $\bar{x}$, S.D., Skewness and Kurtosis in the analysis.
Test the relationship hypothesis using Pearson Correlation of influence at significance level of 0.05, with the level of relationship according to the meaning of the correlation coefficient (Wongratana, 1991).

Test hypotheses by coding the obtained data using the package SPSS Version 23.0, analyze data with Descriptive statistics and Inferential statistics using Structure Equation Model (SEM) statistics and Path Analysis with the package program LISREL Version 9.20.

3 RESULTS

Table 1 Mean, Standard Deviation Level and Ranking Mean Opinions of AOT employees

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>( \bar{x} )</th>
<th>S.D.</th>
<th>LEVEL</th>
<th>RANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation E-Learning</td>
<td>3.82</td>
<td>0.24</td>
<td>HIGH</td>
<td>3</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>3.80</td>
<td>0.29</td>
<td>HIGH</td>
<td>4</td>
</tr>
<tr>
<td>Employee Learning</td>
<td>3.91</td>
<td>0.31</td>
<td>HIGH</td>
<td>1</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3.86</td>
<td>0.24</td>
<td>HIGH</td>
<td>2</td>
</tr>
<tr>
<td>Employee Performance</td>
<td>3.78</td>
<td>0.29</td>
<td>HIGH</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2 Mean, Standard Deviation level of opinion of AOT employees, Skewness and Kurtosis of Latent variables and Observed variables

<table>
<thead>
<tr>
<th>LATENT VARIABLE/ OBSERVED VARIABLE</th>
<th>( \bar{x} )</th>
<th>S.D.</th>
<th>LEVEL</th>
<th>Skew**</th>
<th>Kurtosis**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation E-Learning CONTENT (IL_A)</td>
<td>3.82</td>
<td>0.24</td>
<td>HIGH</td>
<td>-0.23</td>
<td>0.67</td>
</tr>
<tr>
<td>CONTROL (IL_B)</td>
<td>3.81</td>
<td>0.42</td>
<td>HIGH</td>
<td>-0.10</td>
<td>0.31</td>
</tr>
<tr>
<td>PARTICIPANT (IL_C)</td>
<td>3.83</td>
<td>0.39</td>
<td>HIGH</td>
<td>-0.45</td>
<td>0.57</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.83</td>
<td>0.43</td>
<td>HIGH</td>
<td>0.01</td>
<td>0.49</td>
</tr>
<tr>
<td>Human Resource Management TRAINING (HR_A)</td>
<td>3.80</td>
<td>0.29</td>
<td>HIGH</td>
<td>-0.25</td>
<td>0.59</td>
</tr>
<tr>
<td>SKILL DEVELOPMENT (HR_B)</td>
<td>3.83</td>
<td>0.40</td>
<td>HIGH</td>
<td>-0.95</td>
<td>1.41</td>
</tr>
<tr>
<td>REWARD (HR_C)</td>
<td>3.88</td>
<td>0.44</td>
<td>HIGH</td>
<td>-0.48</td>
<td>1.89</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.69</td>
<td>0.62</td>
<td>HIGH</td>
<td>-0.62</td>
<td>0.44</td>
</tr>
<tr>
<td>Employee Learning SELF-DETERMINATION (EL_A)</td>
<td>3.91</td>
<td>0.31</td>
<td>HIGH</td>
<td>0.81</td>
<td>1.63</td>
</tr>
<tr>
<td>PLANNING (EL_B)</td>
<td>3.85</td>
<td>0.47</td>
<td>HIGH</td>
<td>0.24</td>
<td>-0.03</td>
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<tr>
<td>EVALUATION (EL_C)</td>
<td>3.91</td>
<td>0.49</td>
<td>HIGH</td>
<td>0.01</td>
<td>0.29</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.96</td>
<td>0.39</td>
<td>HIGH</td>
<td>1.71</td>
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</tr>
<tr>
<td>Job Satisfaction WORKING ENVIRONMENT (JS_A)</td>
<td>3.86</td>
<td>0.24</td>
<td>HIGH</td>
<td>-0.35</td>
<td>0.47</td>
</tr>
<tr>
<td>COLLEAGUES (JS_B)</td>
<td>3.94</td>
<td>0.37</td>
<td>HIGH</td>
<td>-0.32</td>
<td>1.00</td>
</tr>
<tr>
<td>SUPERVISORS (JS_C)</td>
<td>3.93</td>
<td>0.37</td>
<td>HIGH</td>
<td>-0.42</td>
<td>1.36</td>
</tr>
<tr>
<td>STABILITY/SAFETY (JS_D)</td>
<td>3.85</td>
<td>0.43</td>
<td>HIGH</td>
<td>-0.12</td>
<td>0.46</td>
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<tr>
<td>EMPLOYEE PERFORMANCE QUALITY (EP_A)</td>
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<td>0.47</td>
<td>HIGH</td>
<td>-0.45</td>
<td>-0.14</td>
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<tr>
<td>DURATION (EP_B)</td>
<td>3.72</td>
<td>0.47</td>
<td>HIGH</td>
<td>-0.66</td>
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<tr>
<td>EXPENDITURE (EP_C)</td>
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<td>0.50</td>
<td>HIGH</td>
<td>-0.29</td>
<td>-0.10</td>
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</tbody>
</table>
3.1 CONFIRMATORY FACTOR ANALYSIS

Table 3 Correlation Value of Observed Variables in Innovation E-Learning Component

<table>
<thead>
<tr>
<th>OBSERVED VARIABLES</th>
<th>CORRELATION VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL_A</td>
<td>IL_B</td>
</tr>
<tr>
<td>IL_B</td>
<td>0.73**</td>
</tr>
<tr>
<td>IL_C</td>
<td>0.64**</td>
</tr>
</tbody>
</table>

Remark: **p<.01

Figure 2 Innovation E-Learning Model

Table 4 Composite Reliability and Average Variance Extraction of Innovation E-Learning

<table>
<thead>
<tr>
<th>LATENT VARIABLES</th>
<th>AVE</th>
<th>CR</th>
<th>OBSERVED VARIABLES</th>
<th>STANDARD COMPONENT WEIGHT</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation E-Learning</td>
<td>0.58</td>
<td>0.81</td>
<td>Content (IL_A)</td>
<td>0.71</td>
<td>0.62</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Control (IL_B)</td>
<td>0.82</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Participants (IL_C)</td>
<td>0.76</td>
<td>0.68</td>
</tr>
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</table>

Table 5 Correlation of Observed variables of Human Resource Management Components

<table>
<thead>
<tr>
<th>OBSERVED VARIABLES</th>
<th>CORRELATION VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR_A</td>
<td>HR_B</td>
</tr>
<tr>
<td>HR_B</td>
<td>0.63**</td>
</tr>
<tr>
<td>HR_C</td>
<td>0.68**</td>
</tr>
</tbody>
</table>

Remark: **p<.01
Table 6 Composite Reliability and Average Variance Extraction of Human Resource Management

<table>
<thead>
<tr>
<th>LATEX VARIABLES</th>
<th>AVE</th>
<th>CR</th>
<th>OBSERVED VARIABLES</th>
<th>STANDARD COMPONENT WEIGHT</th>
<th>R²</th>
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</thead>
<tbody>
<tr>
<td>Human Resource Management</td>
<td>0.61</td>
<td>0.82</td>
<td>Training (HR_A)</td>
<td>0.79</td>
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<td></td>
<td></td>
<td></td>
<td>Skill Development (HR_B)</td>
<td>0.81</td>
<td>0.66</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Reward (HR_C)</td>
<td>0.73</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Table 7 Correlation Value of Observed Variables in Employee Learning Model Component

<table>
<thead>
<tr>
<th>OBSERVED VARIABLES</th>
<th>CORRELATION VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EL_A</td>
</tr>
<tr>
<td>EL_A</td>
<td>1</td>
</tr>
<tr>
<td>EL_B</td>
<td>0.61**</td>
</tr>
<tr>
<td>EL_C</td>
<td>0.58**</td>
</tr>
</tbody>
</table>

Remark: **p<.01

Figure 3 Human Resource Management Model

Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00
;RMSEA=0.00; RMR=0.00; GFI=1.000; AGFI=1.00

Figure 4 Employee Learning Model

Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00
;RMSEA=0.00; RMR=.000; GFI=1.000; AGFI=1.00
Table 8 Composite Reliability and Average Variance Extraction of Employee Learning

<table>
<thead>
<tr>
<th>LATENT VARIABLES</th>
<th>AVE</th>
<th>CR</th>
<th>OBSERVED VARIABLES</th>
<th>STANDARD COMPONENT WEIGHT</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Learning</td>
<td>0.65</td>
<td>0.72</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Self-Determination</td>
<td>0.76</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(EL_A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Planning (EL_B)</td>
<td>0.88</td>
<td>0.77</td>
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<tr>
<td></td>
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<td></td>
<td>Evaluation (EL_C)</td>
<td>0.77</td>
<td>0.59</td>
</tr>
</tbody>
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Table 9 Correlation Value of Observed Variables in Job Satisfaction Model Components

<table>
<thead>
<tr>
<th>OBSERVED VARIABLES</th>
<th>CORRELATION VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JS_A</td>
<td></td>
</tr>
<tr>
<td>JS_B</td>
<td></td>
</tr>
<tr>
<td>JS_C</td>
<td></td>
</tr>
</tbody>
</table>

| JS_A | 1 |
| JS_B | 0.66** |
| JS_C | 0.68** |

Remarks: **p<.01

Figure 5 Job Satisfaction Model

Table 10 Composite Reliability and Average Variance Extraction of Job Satisfaction

<table>
<thead>
<tr>
<th>LATENT VARIABLES</th>
<th>AVE</th>
<th>CR</th>
<th>OBSERVED VARIABLES</th>
<th>STANDARD COMPONENT WEIGHT</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.70</td>
<td>0.82</td>
<td>Working Environment</td>
<td>0.79</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(JS_A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Colleagues (JS_B)</td>
<td>0.80</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Supervisors (JS_C)</td>
<td>0.90</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stability / Safety</td>
<td>0.77</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Table 11 Correlation Value of Observed Variables in Employee Performance Model Component

<table>
<thead>
<tr>
<th>OBSERVED VARIABLES</th>
<th>CORRELATION VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP_A</td>
<td></td>
</tr>
<tr>
<td>EP_B</td>
<td></td>
</tr>
<tr>
<td>EP_C</td>
<td></td>
</tr>
</tbody>
</table>

| EP_A | 1 |
| EP_B | 0.58** |
| EP_C | 0.60** |

Remarks: **p<.01
3.2 CORRELATION VALUE BETWEEN LATENT VARIABLES

Table 13 Correlation coefficients between LATENT VARIABLES (under the diagonal), Composite Reliability (CR), and Average Variance Extraction (AVE)

<table>
<thead>
<tr>
<th>LATENT VARIABLES</th>
<th>IL</th>
<th>HR</th>
<th>EL</th>
<th>JS</th>
<th>EP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation E-Learning</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>0.08*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee Learning</td>
<td>0.08*</td>
<td>0.44*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>0.15*</td>
<td>0.50*</td>
<td>0.51*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Employee Performance</td>
<td>0.17*</td>
<td>0.15*</td>
<td>0.36</td>
<td>.14*</td>
<td>1</td>
</tr>
</tbody>
</table>

KMO: Measure of Sampling Adequacy = 0.76
Bartlett's Test of Sphericity: Chi-Square = 33.215, df = 120, p = .000
Remark *p<0.05

3.3 THE RESULTS OF THE DEVELOPMENT OF THE CAUSAL RELATIONSHIP MODEL

Based on basic data analysis of Observed Variables, the confirmatory component of Latent Variables and relationship between Latent Variables has been found to be suitable to bring Observed Variables and Latent Variables into the structural equation and the researcher has adjusted the model until it meets the consistent standards for statistical significance. Using the LISREL 8.72 program, and in the final model, it was found that the accuracy of the structural equation model had an effect on employees Performance of AOT employees and the influence values between the variables in the model using the
influence analysis method with Latent Variables and using the Goodness of Fit Statistics criteria with value of $\chi^2$ with significant level $p>0.05$) or $\chi^2$/df $>2.00$, RMSEA $<0.05$, GFI $>0.90$, AGFI $>0.90$, RMR $<0.05$, SRMR $<0.05$, NFI $>0.90$, and CFI $>0.90$. Values are standardized according to the statistical criteria for measuring harmony with statistically significance.

Figure 7 Structural equation model of factors affecting Employees Performance of AOT employees

Table 14 Standardized coefficients of influence in the structural equation model of factors affecting Employees Performance of AOT employees

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>$R^2$</th>
<th>IL</th>
<th>HR</th>
<th>EL</th>
<th>JS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.34*</td>
<td>0.1*</td>
<td>0.3*</td>
<td>0.01*</td>
<td></td>
</tr>
<tr>
<td>Employee Performance</td>
<td>0.45*</td>
<td>0.2*</td>
<td>0.1*</td>
<td>0.03*</td>
<td>0.04*</td>
</tr>
<tr>
<td>Remark * p&lt;0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15 The accuracy index of the structural equation model has factors affecting the Employee Performance of AOT employees

<table>
<thead>
<tr>
<th>INDEX</th>
<th>CRITERIA</th>
<th>RESULTS</th>
<th>INTERPRETATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $\chi^2$ with significant level</td>
<td>$P &gt; 0.05$</td>
<td>0.59</td>
<td>PASSED</td>
</tr>
<tr>
<td>2. Chi-square: $\chi^2$/df</td>
<td>$\leq 3.00$</td>
<td>173.53</td>
<td>PASSED</td>
</tr>
<tr>
<td>3. RMSEA</td>
<td>$&lt; 0.08$</td>
<td>0.04</td>
<td>PASSED</td>
</tr>
<tr>
<td>4. GFI</td>
<td>$&gt; 0.90$</td>
<td>0.96</td>
<td>PASSED</td>
</tr>
<tr>
<td>5. AGFI</td>
<td>$&gt; 0.90$</td>
<td>0.95</td>
<td>PASSED</td>
</tr>
<tr>
<td>6. RMR</td>
<td>$&lt; 0.05$</td>
<td>0.03</td>
<td>PASSED</td>
</tr>
<tr>
<td>7. SRMR</td>
<td>$&lt; 0.05$</td>
<td>0.05</td>
<td>PASSED</td>
</tr>
<tr>
<td>8. NFI</td>
<td>$&gt; 0.90$</td>
<td>0.95</td>
<td>PASSED</td>
</tr>
<tr>
<td>9. CFI</td>
<td>$&gt; 0.90$</td>
<td>0.97</td>
<td>PASSED</td>
</tr>
</tbody>
</table>
From Figure 7 and Table 14-15, the structural equation model of factors that affect Employees Performance of AOT employees developed with precision. This is because the model is consistent with the empirical data. The harmony index passed every criterion, the chi-square value was statistically significant, $\chi^2/df=173.53$, RMSEA=0.4, GFI=0.96, AGFI=0.9, RMR=0.03, SRMR=0.05, NFI=0.95, and CFI=0.97.

All causal variables in the model influence Employee Performance of AOT employees can jointly explain the variance of factors affecting Employee Performance of AOT employees ($R^2$) was 59 percent. All 5 cause variables selected to be imported into the model had an influence on Employees Performance of AOT employees.

<table>
<thead>
<tr>
<th>HYPOTHESES</th>
<th>Coef.</th>
<th>t-test</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Innovation E-Learning has direct influence to Job Satisfaction</td>
<td>0.64</td>
<td>0.45</td>
<td>CONSISTENT</td>
</tr>
<tr>
<td>H2 Innovation E-Learning has direct influence to Employee Performance</td>
<td>0.49</td>
<td>0.47</td>
<td>CONSISTENT</td>
</tr>
<tr>
<td>H3 Human Resource Management has direct influence to Job Satisfaction</td>
<td>0.57</td>
<td>0.41</td>
<td>CONSISTENT</td>
</tr>
<tr>
<td>H4 Employee Learning has direct influence to Employee Performance</td>
<td>0.48</td>
<td>0.32</td>
<td>CONSISTENT</td>
</tr>
<tr>
<td>H5 Job Satisfaction has direct influence to Employee Performance</td>
<td>0.59</td>
<td>0.74</td>
<td>CONSISTENT</td>
</tr>
</tbody>
</table>

4 DISCUSSION

4.1 RESULTS OF THIS STUDY HAS NEW ACADEMIC DISCOVERIES

1) Employee Performance is related to Innovation E-Learning and Employee Learning, which the relevant organizations can use this knowledge to develop employees competencies. Employee Performance, such as creating electronic learning projects where employees can learn by themselves both inside and outside of work hours to increase employees' knowledge and experience consistent with the research of Weeraphon, Jirawan, and Pornchai (2020), it was found that self-paced learning affects work and educational achievement and consistent with Pitchaporn's research (2020), factors that influence the success of learning through the electronic learning system (E-learning). It was found that the success level of learning through EGAT Learning Space (ELS) is related to the characteristics of the participants, Working Environment and learning innovations along with learning media.

2) From the research results, it was found that Job Satisfaction has a relationship with Employee Performance and learning innovation and personnel management. It has a relationship with Job Satisfaction, which the agency can use this knowledge to develop
in personnel management. To create learning projects for personnel in line with their work duties along with selecting learning innovations that are appropriate for employees in each department consistent with the research of Eksakayaphong (2013), it was found that Human Resource Management and morale in work have a direct influence on Employee Performance and is consistent with study of Wongsangsap (2014) found that human resource management Human resource planning Recruitment and selection of human resources Training and development of employees and labor relations In terms of performance evaluation, it affects the performance of employees.

5 CONCLUSION

From the results of data analysis in this research. The researcher performed statistical analysis to check the accuracy and reliability of the questionnaire using the Index of Item-Objective Congruence (IOC) method. From the evaluation of the questionnaire by experts, it was found that the questionnaire had a consistency index between 0.67-1.00. Then The researcher carried out a confidence check and the discriminatory power of the questionnaire by testing it with AOT employees which is not a sample group during June 2023, a total of 30 people analyzed confidence values by analyzing Cronbach's alpha coefficient \( \alpha \)-coefficient) with the value of 0.73 – 0.85. The standard criterion is set to be higher than 0.70, so it shows that the tools used in the research are of reliable quality.

The researcher collects research data from employees of AOT company by selecting a sample group from Quota Sampling to request cooperation in answering questionnaires from the sample group using an online questionnaire. After preparing the actual questionnaire as a Google Form and distributing the link or QR Code of the questionnaire, dividing it into selecting a sample group from the population, namely AOT employees at 6 airports, totaling 340 people, then analyzing the data descriptively in the form of a frequency distribution and percentage. Mean, Standard Deviation, Kurtosis and Skewness, Confirmatory factor analysis (CFA) of external latent variables and internal latent variables. The analysis results from Confirmatory Factor Analysis of latent variables found that

1) The components of Innovation E-Learning (IL) consist of 3 observed variables with Average Variance Extraction (AVE) equal to 0.58 and Composite Reliability
(CR) equal to 0.81. Each observed variable has a standard component weight value between 0.71 – 0.82.

2) Components of Human Resource Management (HR) consist of 3 observed variables with Average Variance Extraction (AVE) equal to 0.61 and Composite Reliability (CR) equal to 0.82. Each observed variable has a standard component weight value between 0.73-0.81.

3) The component of Employee Learning (EL) consists of 3 observed variables with Average Variance Extraction (AVE) equal to 0.65 and Composite Reliability (CR) equal to 0.72. Each observed variable has a standard component weight value between 0.76-0.88.

4) The components of Job Satisfaction (JS) consist of 4 observed variables with Average Variance Extraction (AVE) equal to 0.70 and Composite Reliability (CR) equal to 0.82. Each observed variable has a standard component weight value between 0.77-0.90.

5) Components of Employee Performance (EP) consist of 4 observed variables with Average Variance Extraction (AVE) equal to 0.76 and Composite Reliability (CR) equal to 0.66. Each observed variable has a standard component weight value between 0.70-0.77.

The researcher then analyzed the structural equation model of factors that affect Employees Performance of AOT employees which was found to be accurate. This is because the developed model is consistent with empirical data. The harmony index passed every criterion, chi-square value was statistically significant, $\chi^2$/df=173.53, RMSEA=0.04, GFI=0.96, AGFI=0.95, RMR=0.03, SRMR=0.05, NFI=0.95 and CFI=0.97. All causal variables in the model influence Employee Performance of AOT employees, and can jointly explain the variance of factors affecting Employee Performance of AOT employees ($R^2$) was 59 percent. All 5 cause variables selected to be imported into the model had an influence on Employees Performance of AOT employees.

And lastly, the researcher has summarized the results of the hypothesis test of the structural equation model of factors affecting Employees Performance of AOT employees regarding the consistency of the 5 assumptions, it was found that all 5 assumptions were consistent with the empirical data with statistical significance.

Based on new academic findings from research, the researcher was able to draw Figure 8, summarized as follows.
From the results of this study, AOT and air transport operators in Thailand can use them in their operations to plan and develop strategies. In terms of developing Innovation E-Learning to make personnel satisfied with their work and promote work efficiency as follows:

1) Define knowledge for personnel in each department by clearly studying the behavior and needs of the agency and personnel.
2) Develop content and learning time for each course including specifying the qualifications of participants, learning methods, methods of evaluating academic
results and informing personnel so that personnel can arrange time to study in the courses that they are interested in or are necessary for their own work.

3) Set criteria and process to evaluate the performance of personnel after learning on their own through Innovation E-Learning.

This study has findings that have theoretical value, which is a new knowledge by the researcher. Please present the details as follows.

1) From the results of the study it was found that Model Innovation E-Learning influences employees Performance of AOT employees. When using variables to create an Innovation model E-Learning found that with a 59% probability, this is a new discovery. From the literature review, no studies have been found in this section and Job Satisfaction of personnel has an influence on Employees Performance of personnel through learning innovations, Human Resource Management and Employee Learning. From the literature review, no results have been found in this section. So, this is a new discovery, the relationship and influence of variables from this study can be used for further research and develop knowledge very well including researchers can study the relationship and influence of the variables presented by the researcher to develop knowledge and innovation E-Learning to promote employees’ performance of personnel in depth very well.

2) Results of this study, it was found that in the context of Innovation E-Learning influences job Satisfaction and Employee Performance from this study can bring innovation information. E-Learning is a way to develop employee and employee satisfaction, employee performance so that agencies and countries can benefit from the use of Innovation E-Learning.

Therefore, the researcher suggests that Air transportation service companies and the airport business in Thailand should have human resource management and strategic planning with details to be suggested as follows:

1) In the present environment, the business environment of operating in a world of competition is rapidly changing. Air transport service operators and airport business operators in Thailand should research and develop Innovation E-Learning to have innovative strengths that meet the needs of personnel, such as language courses. Dressing course conflict resolution course that will be a point of creating competitive advantage by setting strategic plans and Human Resource
Management plans that are communicated directly to the agency's personnel group.

2) Set the Innovation E-Learning service plan, emphasizing the communication of new and outstanding courses by public relations and organize demonstration activities where personnel can try lessons or try out workshops to stimulate awareness among personnel as well as help promote the course to other personnel.
REFERENCES


