PREPARING HOTEL EMPLOYEES IN KANCHANABURI PROVINCE FOR THE TRANSITION TO ARTIFICIAL INTELLIGENCE TECHNOLOGY

Jiajun MAI[1], Preecha WORARATCHAI[1] and Xin LIU[2*]
1 Graduate School, Suan Sunandha Rajabhat University, Thailand
2 Department of Primary Education, College of Education, Shaanxi Fashion Engineering University, Xi'an, China; 86839605@qq.com (Corresponding Author)

ARTICLE HISTORY
Received: 19 September 2024 **Revised:** 3 October 2024 **Published:** 17 October 2024

ABSTRACT
This research aims to study the readiness, awareness, and acceptance of hotel employees in Kanchanaburi province towards the transition to artificial intelligence technology. The findings revealed that: 1) The overall awareness and acceptance of hotel employees in Kanchanaburi towards the transition to artificial intelligence technology were moderate. 2) The preparedness of hotel employees in Kanchanaburi for the transition to artificial intelligence technology was also moderate. 3) Awareness impacted the preparedness for the transition to artificial intelligence technology among hotel employees in Kanchanaburi, while acceptance did not affect their readiness. 4) An increase of 1 unit in the awareness variable would result in a 0.645 unit increase in preparedness for the transition to artificial intelligence technology among hotel employees in Kanchanaburi.
Keywords: Artificial Intelligence Technology, Preparedness, Awareness, Acceptance, Transition

CITATION INFORMATION: Mai, J., Woraratchai, P., & Liu, X. (2024). Preparing Hotel Employees in Kanchanaburi Province for the Transition to Artificial Intelligence Technology. *Procedia of Multidisciplinary Research, 2*(10), 32.

INTRODUCTION

Artificial Intelligence (AI) is a technology in Computer Science. It consists of scientific and engineering knowledge. The use of computer programs to learn and understand human capabilities and have similar capabilities to humans by using software and hardware to be able to work instead of humans or to promote human activities to be better (Setthapong Malisuwan, 2010 cited in Sukon Mungpattanasunthon, 2020) The advancement and development of artificial intelligence technology has made it unavoidable for many businesses to use this technology, whether it is the industrial business in the production sector that uses artificial intelligence technology to increase efficiency and reduce production costs, extend the life of machinery, and control the quality and safety of production. The buying and selling business uses artificial intelligence technology to collect a large amount of data in the system and process it systematically, including analyzing complex data accurately and precisely. Finally, the service business uses artificial intelligence technology to present modern service formats, provide convenience to customers in a digital format, and provide personalized services by creating a unique customer experience. This service can significantly attract modern customers. Many hotels have adjusted and used artificial intelligence technology or AI (Thai Hotel Business, 2015). As AI technology plays a more significant role in human society, concerns about its impact will only increase. Referring to Charles Darwin's theory of social evolution (1809-1882) on the survival of the fittest, scholars, researchers, and experts in many fields worldwide are interested in its impact. AI technology will start to impact businesses in many industries from now on, such as media, telecommunications, banking, logistics, retail, medicine and health, and education. For example, the bankruptcy of Kodak in 2013 and the closure of many magazines in Thailand and abroad resulted from consumer behavior changing from reading books and recording images for memories on film to reading news and sharing experiences on online media instead. A team of researchers from Yale University and the Oxford Future of Humanity Institute began surveying hundreds of businesspeople and academics from May to June 2016 to predict when AI will become more intelligent than humans. The published research results indicate that by 2060, artificial intelligence will be able to perform better than humans and will take away all human jobs by 2136. These results come from 352 experts (Setthapong Malisuwan, 2017). When technology creates such a significant change, many careers will disappear or be replaced. Some careers will still exist but will change their form. Those who survive must be more creative. Without creativity, they will lose to AI (Chamnong Sorapipat, 2018), as stated in the academic forum on Shaping. The 4th Industrial Revolution. Due to the technologies mentioned above, they are changing how services are done, such as hotels, to be more modern and more convenient for customers, especially by creating new services. On the other hand, there are concerns about the direct impacts on hotel staff, such as reducing the number of employees and using technology instead. When artificial intelligence (AI) technology is continuously developed and has become part of the hotel business process, especially in the service sector through operating systems, the researcher has used the number of employees in the hotel business as data. From the survey results of hotel, resort, and guest house businesses in 2018, it was found that there were 24,391 hotels nationwide, 5.0 percent of which were in Bangkok, and approximately 323,850 people worked in accommodation establishments nationwide. When considering the number of employees in accommodation establishments in each region, it was found that accommodation establishments in the South had the most employees, approximately 113,355 people or 35.0 percent. Regarding employment, accommodation establishments in the South had the most employees, at 103,939 people or 36.1 percent, followed by accommodation establishments in the Central region, Bangkok. The North and the Northeast, respectively. The number of employees in Kanchanaburi Province is 60,903, accounting for 21.2 percent of the total number of employees in the country (National Statistical Office, 2018). Therefore, if hotel staff are

aware that changes are about to happen, accept the changes that will soon occur to AI technology, and are prepared to plan to prevent impacts or issues in other topics that may arise from changes in this Industry 4.0 era, the chance that humans will be replaced by AI technology may change to working together. Hotel staff only need to be aware, accept, and prepare for the changes, which will be studied further.

LITERATURE REVIEWS

Concepts and theories about perception

Peer Puangmalit (2017) defined perception as the expression of knowledge and opinions resulting from interpretation and physical contact with the environment, which is a stimulus, by using previous experiences to help define the meaning of that contact. Chitchanok Thongthai (2013) mentioned the factors that influence perception, which must include the following factors: 1) The recipient's own needs will make the recipient feel the stimulus sent as something that satisfies their own needs. Therefore, needs motivate us to perceive what we want quickly; for example, when we are hungry, we will quickly perceive things related to food. 2) Experience: People generally interpret what they experience according to their background. 3) Preparation: When people have experienced and learned something before, they prepare to respond to it in the same way as they perceive it. 4) Personality: It is related to perception, such as people with strong, persistent personalities, who will perceive changes in stimuli slower than people with flexible personalities. 5) Attitude: It influences perception. Having a good attitude towards someone, that person's actions will always be perceived positively. 6) Social position or role makes people perceive things differently. 7) Culture is an essential factor that makes people perceive things differently. 8) The emotional state of the perceiver is the final factor that affects perception.

Concepts and theories of acceptance

Regarding the meaning of technology acceptance, Aggelidis and Chatzoglou (2016) stated that technology acceptance is the most adequate theory. It is also a popular theory used to explain the behavior of technology acceptance of individuals, especially in information systems, and is applied in business processes. The study and review of literature on concepts and theories related to acceptance shows that individual acceptance will occur only when the acceptance process occurs, namely, awareness, interest, evaluation, experimentation, and then the decision to accept. Acceptance or rejection must come from the individual's thoughts. When individuals think that changes will help solve the problems they are facing better, including providing training and increasing new skills and expertise that are beneficial to individuals, it will help individuals accept changes more efficiently, leading to readiness. This will be further studied.

Concepts and theories on readiness

The Royal Institute Dictionary B.E. 2542 (Royal Institute, 2542) defines the word “ready” as an adjective meaning complete. The word “readiness” is a noun meaning completeness or having everything complete. “Readiness” is a word that indicates a joint action or at the same time or in that manner, such as going together or reaching together. By implication, it means complete, meaning ready, not lacking, complete, such as work is ready, well-prepared, ready, finished, such as ready. Panithi Amphonphanarat (2015) defines readiness for change as an action in which an organization tries to make the entire structure and system in a better condition. If something new affects the organization, it may be technology, skills, etc. The organization is always ready to support that and tries to create it as a strength, expecting it to be more advanced than other organizations. Therefore, the meaning of readiness can be summarized as a state in which individuals prepare themselves in many aspects, such as physical, intellectual, and emotional, and may include any skills or expertise that are beneficial to themselves and the organization before the change occurs in order to cope with anything or the changes that will occur in the future.

Concepts and theories on change management

Panras Malakul Na Ayutthaya (2009) defined change management as managing the mechanisms of various components of the organization to be able to learn and adapt to situations both inside and outside the organization so that the organization receives good results and reduces the negative impacts of changes, which will help the organization operate continuously, smoothly, survive and progress. Wilawan Anmak (2013) defined change management as planning and implementing various actions to reduce the impacts of changes and support adaptation and acceptance, as well as creating new potential to support changes to occur due to the set goals. Therefore, it can be concluded that change management means preparing an operational plan, creating participation, and distributing information to employees in the organization to reduce acceptance and understanding of changes that organizations in the present era cannot avoid to survive and achieve the organization's goals. In general, flexible organizations constantly developing, ready, and alert to support any changes are considered effective in change management.

Research hypothesis

Hypothesis 1: Hotel employees in Kanchanaburi Province with different personal factors are more or less ready for changes to AI technology.

Hypothesis 2: Perception affects hotel employees' readiness for changes to AI technology in Kanchanaburi Province.

Hypothesis 3: Acceptance affects hotel employees' readiness for changes to AI technology in Kanchanaburi Province.

Research Conceptual Framework

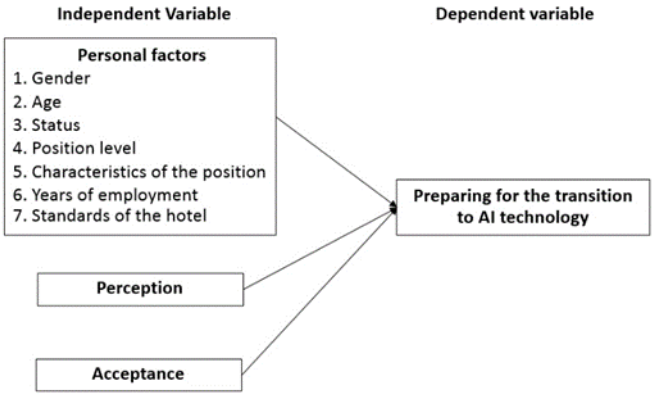

Figure 1 Conceptual framework

HOW TO CONDUCT RESEARCH

This research is quantitative. The population used in the research is all levels of employees in 3-5 star standard hotel accommodation establishments in Kanchanaburi Province, which has a total population of 60,903 people (National Statistical Office, 2018). The sample group is a simple random sampling by accident according to the specified sample size. The sample size used in the research is determined at a 95% confidence level by comparing the sample table of the Cochran formula (1953). Therefore, the sample group used in the research is 385 people. In this study, the researcher collected data from 400 samples to prevent errors and facilitate the analysis of the data results.

The research instruments were questionnaires, which three experts checked to measure the consistency and reliability of the instruments by testing 30 sets of questionnaires with a non-sample population. The Cronbach's Alpha Coefficient was tested to check the reliability and find the flaws of the questions used to measure the variables. The data was then entered into a ready-made computer program. When the questionnaires were tested, the reliability of the entire questionnaire was .974. Data collection 1) Primary Source: The questionnaire was used

to collect data from employees at all levels in 3- 5 star standard hotel establishments in Kanchanaburi Province—a random sample collected data based on reality and the required number. The data was then analyzed according to the specified statistical process. 2) Secondary Source: The study of data from the study area and the collection of academic documents, articles, theses, research reports, books, journals, publications, searches for information and data on the internet, and documents related to the data to be studied. Concepts, theories, and related research documents supported this research. The statistics used in data analysis are mean and standard deviation (SD). I used t-test and F-test statistics to test the mean or difference of the sample groups used in the study. I also used Multiple Regression Analysis to study the relationship between variables.

RESEARCH RESULTS

The analysis results of the perception of changes to artificial intelligence technology among hotel employees in Kanchanaburi Province were moderate, as shown in Table 1.

Table 1 Analysis of the results of the perception of change towards artificial intelligence technology of hotel employees in Kanchanaburi Province.

Perception of changes to artificial intelligence technology among hotel employees in Kanchanaburi Province	**$\bar{X}$**	**SD**	**Opinion level**	**rating**
1) Many hotels have started to implement AI technology in their hotels.	2.87	.98	moderate	4
2) Do you think this change will likely lead to less human labor in the hotel industry?	3.32	.96	moderate	2
3) You are aware of the vast capabilities of AI technology.	3.19	.98	moderate	3
4) You will be aware of changes in your hotel's operations as AI takes over.	3.33	.95	moderate	1
Total	**3.18**	**.97**	**moderate**	

You will know about changes in your hotel's operations as AI takes over.

Table 2 Results of analysis of data on acceptance of changes to artificial intelligence technology by hotel employees in Kanchanaburi Province

Acceptance of changes to artificial intelligence technology by hotel employees in Kanchanaburi Province	**$\bar{X}$**	**SD**	**Opinion level**	**Rating**
1) You agree that many hotels have started to use AI technology.	2.98	1.00	moderate	4
2) Are you concerned if this change occurs?	2.85	.94	moderate	5
3) Do you want to be a part of the transformation towards AI technology?	3.13	.92	moderate	3
4) You acknowledge that your work role may change if the hotel adopts artificial intelligence technology.	3.42	.99	moderate	1
5) Are you willing to cooperate with the organization in any actions that lead to this change?	3.40	.97	moderate	2
Total	**3.16**	**.97**	moderate	

The data analysis results on the readiness of hotel employees in Kanchanaburi Province to cope with changes to artificial intelligence technology were found to be at a moderate level, as shown in Table 3.

Table 3 Results of data analysis on readiness to cope with changes to artificial intelligence technology, artificial intelligence of hotel employees in Kanchanaburi Province

Preparing for the Shift to Artificial Intelligence Technology Artificial intelligence of hotel staff in Kanchanaburi Province	**$\bar{X}$**	**SD**	**Opinion level**	**Rating**
1) You research AI technology whenever possible.	2.78	.96	moderate	4
2) You have information to cope with changes in AI technology.	2.73	.97	moderate	6
3) Have you recently developed skills related to AI technology?	2.54	1.03	Little	8
4) Have you recently developed other skills and knowledge that will be needed in the future?	2.74	1.03	moderate	5
5) Have you received training, seminars, or promotions to prepare for changes to AI technology?	2.47	1.03	Little	9
6) You want to improve your skills in working with AI technology.	3.35	1.03	moderate	1
7) Have you exchanged information about AI technology with colleagues or people with knowledge in this field?	2.66	1.07	moderate	7
8) Do you think you have enough skills and are ready to embrace the changes in AI technology?	2.92	.99	moderate	3
9) Can you adapt and be ready to deal with changes in artificial intelligence technology?	3.28	.92	moderate	2
Total	**2.83**	**.82**	**moderate**	

Results of research hypothesis analysis

Gender It was found that employees of different genders had no difference in their readiness for the change to AI technology of hotel employees in Kanchanaburi Province, which was inconsistent with the hypothesis.

Age It was found that employees of different ages had different readiness levels for changes to AI technology among hotel staff in Kanchanaburi Province, which was consistent with the hypothesis. If classified by age by pair using Scheffe's method, it was found that hotel staff aged 41-50 had a higher readiness level for changes to AI technology than those aged 51 years and above.

Status It was found that employees with different statuses had no difference in their readiness for the change to AI technology of hotel staff in Kanchanaburi Province, which was inconsistent with the hypothesis.

Job level It was found that employees with different job levels had no difference in their readiness for the change to AI technology of hotel staff in Kanchanaburi Province, which was inconsistent with the hypothesis.

Job characteristics It was found that employees with different job characteristics had different readiness for the change to AI technology of hotel employees in Kanchanaburi Province, which was consistent with the hypothesis.

Working age It was found that employees of different working ages were different in their readiness for the change to AI technology among hotel staff in Kanchanaburi Province, which was not consistent with the hypothesis.

Standards of the hotels they work for It was found that employees working in hotels with different hotel standards were different in their readiness for the change to AI technology among hotel staff in Kanchanaburi Province, which was consistent with the hypothesis.

Table 4 Results of Multiple Linear Regression Analysis testing the relationship between perception and acceptance and readiness for change to AI technology among hotel employees in Kanchanaburi Province.

variable	B	SE	Beta	t	Sig.	Tolerance	VIF
Constant	.637	.202		3.158*	.002		
Acceptance	.847	.077	.645	11.051*	.000	.439	2.280
Recognition	-.016	.094	-.010	-.166*	.868	.439	2.280
R = .638 Adjusted R^2 = .404 R^2 =.407 F = 136.134*, Sig = 0.000							

* Statistically significant at the 0.05 level.

The results of the analysis of the relationship between the perception and acceptance with the readiness for changes to AI technology of hotel employees in Kanchanaburi Province using the multiple regression method found that the multiple correlation coefficient (R) was .638, which could explain the variation with statistical significance at the .05 level, with the predictive power of R2 = .407 as follows:
Forecasting equation
Unstandardized Y = 0.637 + 0.847X1*-0.016X2
When Y = Preparation for the transition to AI technology of hotel staff in Bangkok
X1 = Awareness X2 = Acceptance
Standardized Zy = 0.645X1*-0.010X2
When ZY = Preparing for the transition to AI technology for hotel staff in Bangkok
X1 = Awareness X2 = Acceptance
Therefore, it is necessary to test the regression equation of perception to see if it is related to the readiness of hotel employees in Bangkok to change to artificial intelligence technology. The standard regression coefficient of the perception variable is equal to 0.645. The equation shows that if the perception variable increases by 1 unit, hotel employees' readiness to change to artificial intelligence technology in Bangkok will increase by 0.645 units.

SUMMARY AND DISCUSSION OF RESULTS

1) Perception affects the readiness of hotel staff in Bangkok for the change to AI technology. The research found that the perception variable has a B value of 0.847, a t value of 11.051, and a Sig value of 0.000, less than 0.05. Therefore, the variable of perception affects the readiness of hotel staff in Bangkok to adapt to the change to AI technology. When considering the questions on the perception of the change to AI technology by hotel staff in Bangkok, the average values can be ranked from most to least as follows: 1) Do you perceive if there is a change in the work system in the hotel when AI replaces it? 2) Do you think this change tends to use less human labor, including the hotel industry? 3) are you aware of the incredible capabilities of AI technology? Moreover, 4) You know that many hotels have started to use AI technology in their hotels. Order it is consistent with the research on the problem of perception and expectations in preparing for the ASEAN Economic Community of entrepreneurs in special economic zones by Wipada Mukda (2018), who studied the relationship between the perception and expectations of entrepreneurs in terms of economy, human security, society, environment, culture, and politics and security, which have a positive relationship. The preparation for entering the ASEAN Economic Community of entrepreneurs in the special economic zones with statistical significance at the 0.01 level may be because employees know that there will be changes and that artificial intelligence technology tends to replace human labor. Therefore, they begin to prepare to adapt to the changes. This is preparation by being open to news and increasing skills in various areas to develop themselves further and prevent them from being selected to leave their jobs when the hotel needs to reduce the number of employees.

2) Acceptance affects hotel employees' readiness for changes to AI technology in Bangkok. The research found that the acceptance variable had a B value of -0.016, a t value of -0.166, and a Sig value of 0.868, more significant than 0.05. Therefore, the acceptance variable did not affect hotel employees' readiness for changes to AI technology in Bangkok. This may be because acceptance of change is an individual's behavior to accept or reject change through a mental process that develops from feelings to a decision to accept or reject something. The acceptance of new changes that occur is different for each person, depending on the different thoughts of each person. However, individuals will know by themselves their changed behaviors and attitudes. (Rawiwan Atchasai, 2002) It defined acceptance of change as a decision-making process about new things that occur in the brain through perception, learning, and experimentation until acceptance and implementation behaviors occur with willingness. This may be because employees view hotel work as service work, and providing service that satisfies customers requires mutual understanding through communication. Therefore, if we look at this shortcoming of AI technology, we can think that it will take a long time to replace AI technology. The process of changing AI technology to recognize and understand the human mind and be able to respond to human needs is not easy. Therefore, acceptance does not affect hotel employees' readiness in Bangkok for the change to AI technology.

Suggestions from research

1) Since research on AI technology is new, the available data is in the form of online articles, so it cannot be used as a reference. In the future, there may be data that can be used as a reference and is more in-depth than the current data, which will be more beneficial for research.

2) This study still lacks personal factors in terms of education level, which may affect the readiness of hotel employees in Bangkok to change to AI technology. If there is a future study, it can be further studied, or other variables may be added. Especially if there is a study in other provinces, it will be helpful for those using the research results.

3) Data should be collected using in-depth interviews or focus groups to obtain data beyond the specified questionnaires. Especially during the time that the researcher conducted this study, which was during the COVID-19 outbreak, interviews or conversations were therefore limited.

REFERENCES

Aggelidis, P., & Chatzoglou, D. (2016). Using a modified technology acceptance model in hospitals. *International Journal of Medical Informatics*, 78.

Chamnong Sorapippat. (2018). *The Fourth Industrial Revolution: When the Winners and Losers Are Different Groups*. National Strategic Intelligence Institute, College of Public Administration, Rangsit University.

Chitchanok Thongthai. (2013). *Perception and Attitude Affecting Readiness to Enter the ASEAN Community Labor Market of Master's Degree Students, Srinakharinwirot University*. Master of Business Administration, Major in Management.

Kulchanaya Waenkaew and Sata Warunkul. (2016). *Culture and the application of e-invoice in Thailand: A case study of companies in the Stock Exchange of Thailand*.

National Statistical Office. (2018). *Accommodation Survey*. Retrieved from http://www.nso.go.th/sites/2014/Pages/Survey/Economic/Tourism and Sports/Hotel BusinessSurvey.aspx.

Panithi Amphonphanarat. (2015). *Factors affecting the readiness for change of academic personnel in the group of Rajamangala University of Technology in Bangkok and its vicinity*. Faculty of Business Administration, Rajamangala University of Technology Thanyaburi

Panras Malakul Na Ayutthaya. (2009). *Organizational Development*. Bangkok: Mr. Copy.

Peer Puangmalit. (2017). *People's Attitudes and Perceptions on the Law on Floating Lanterns*. Suan Dusit University.

Rawiwan Atchasai. (2002). *The relationship between the use of change strategies by nursing administrators and the acceptance of change by nurses in hospitals that are developing towards hospital quality accreditation*. Master of Nursing Science Thesis, Department of Nursing Administration, Chulalongkorn University.

Royal Institute. (1999). *Royal Institute Dictionary B.E. 2542*. Bangkok: Aksorn Charoentat Printing.

Setthapong Malisuwan. (2010). *Artificial Intelligence*. Retrieved from http://www.vcharkarn.com/varticle/42043.

Setthapong Malisuwan. (2017). *Introduction to Artificial Intelligence*. Retrieved from https://www.nbtc.go.th/getattachment/News/Information/Introduction-to-Artificial-Intelligence- อินทรีวิทยา/Document Attachment.pdf.aspx.

Sukon Mungpattanasunthorn. (2020). Digital anthropology under the framework of media technology theory. *MCU Journal of Social Science Review, 9*(1), 82-97.

Wilawan Anmak. (2013). *A study of change management of administrators of public secondary schools under the Office of Secondary Education Area 2*.

Wiphada Mukda. (2018). Problems from the perception and expectation in preparing for entering the ASEAN Economic Community of entrepreneurs in special economic zones. *Dusit Thani College Journal, 1*(January-April), 12.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Conflicts of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.