Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 3, 7194-7207
Jak Piriyapornsiri et al.

Adaptation in Technology and Marketing of Hotel Business Survival in Thailand during the Covid-19 Pandemic

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Abstract

The study focuses on: determine whether the Structural Equation Modeling (SEM) is consistent with empirical data based on the assumption of congruence, and study the causal relationship model of technological adaptation and modern marketing adaption that affects the survival of small hotel businesses in Thailand during the COVID-19pandemic. The researcher used questionnaires as a tool to aid in the process. The sample group for the study consisted of 400 small hotel operators in Thailand, and the statistics utilized were the number, the mean, the percentage, and the Path Analysis.The results demonstrated that Structural Equation Modeling on hotel business survival was congruent with empirical data at the statistical significance of 0.05. Moreover, the technological adaptation and modern marketing adaption directly related to the survival of a small hotel businesses during the COVID-19crisis.

Keyword:adaptation, technology,modern marketing,hotel business

Introduction

There is no denying that the pandemic [1-6]has had a devastating effect on the global hotel industry. Occupancy rates are falling all over the world, with Europe and North America taking the brunt of the damage. According to the Bureau of Labor Statistics, the unemployment rate for workers in the leisure and hospitality industry [1, 7, 8]in the United States is at an all-time high of 28.9 percent.In the UK, occupancy [9]rates are expected to fall from 75.4 percent in 2019 to 37.6 percent in 2020, before rising to 59.2 percent in 2021. Worse, even if the Coronavirus vaccines are successfully deployed, that it will take four years for occupancy rates to return to pre-COVID-19levels.Despite the pandemic's [2]ongoing devastation, hotel sales [10]and marketing [11, 12]teams are doubling down on their efforts and doing everything they can to maximize their revenues now, knowing that the end of the pandemic may be in sight.

In Thailand, Over the years, tourist revenues from both Thais and foreigners have accounted for more than 17% of the country's GDP Top five provinces that create the greatest revenue from domestic tourism includes: Bangkok generates 9.47 billion baht, Phuket generates 423 billion baht, Chonburi generates 2.4 billion baht, Krabi generates 1.05 billion baht, and Chiang Mai generates 9.9 billion baht. However, when the COVID-19outbreak strikes, service firms whose primary clientele were foreign visitors are undoubtedly impacted. Particularly, the hotelsin Bangkok must be exacerbated the need to restructure operations.It is not only about the cost of the service but also in terms of business capacity, the trend toward decrease

has resulted in the discovery of the hotel industry's economic processes. Consumers' demand remains high in Thailand despite the strategy change, including adapting through the use of digital technology in service in order to minimize contact between consumers and service professionals.In2019 prior to COVID-19,Thailand welcomed approximately 40 million international tourists, the highest record for the Thai tourism industry. Later in 2020, the COVID-19 pandemic has dispersed, the current situation of hotels employees in the tourism industry was in the lowest recession.In 2021, Thailand's economy reachedthe worst tipping point. Economic activity has to be paused, it directly impacted hotel businesses which have been forced to temporarily close due to the government's lockdown measures that aimed at reducing an international travel. As a result, global tourism [13]has decreased at an unprecedented rate. Global visitor arrivals were fell by 72 percent in the first ten months of 2020, with an average occupancy rate of 29.30 percent in the first 11 months of the year, compared to the same period in the previous year at 69.70 percent. According to nationwide average revenue per room contracted 73.60 percent, entrepreneurs must rapidly adapt to keep their businesses running, such as lowering lodging rates, changing the service model, placing a strong emphasis on the domestic tourist industry (as of January 8th, 2021)

The COVID-19crisis [3, 5]is a sudden and difficult phenomenon, with 26.16 percent decline in overall occupancy rates compared to the same period of the last year. Across the country, the three regions in Thailand with the lowest occupancy rates dropping are the North, the Northeast and the Western. Additionally, that was discovered that an occupancy rate has decreased in all locations when compared to the same period of the last year. Bangkok has the largest reduction in occupancy rates at 30.26 percent, followed by the Eastern area at 30.10 percent, and the South area at 28.05 percent, respectively. Small hotel operators concern about the situation the most (52.60percent), followed by large hotel operators (50.50percent), and medium-sized hotel operators (41.20percent). It indicated that medium-sized hotels with 30 and 100 rooms have the least concern (only 41.2 percent) while the impact on small hotel businesses will be greater than large and medium-sized hotels that causes the same fixed expense withan insufficientfinancing budget. As can be shown, small hotels have suffered and afflicted by the COVID-19outbreak[4]the most which exacerbating the impact and severity. The hotel reservation rate, particularly in April - May 2021, was completely zero percent. When income is "zero", small hotel business has the most severe consequences from a temporary shutdown and it's likely to be shutdown permanently. In the case of small hotel operators that has already been affected are staff lay-off and lower wage salary.

Currently, we are in the era of modern marketing (Marketing Mix) or digital marketing [12]4.0 era. there is a marketing [11]that applies various technologies to reach more consumers or customers, there is a type of marketing that applies various technologies in order to reach more consumers; adapts marketing strategies [3, 5, 14, 15]to the new world of technology [16-21]in order to make them more convenient and connected, because digital [3, 12, 22-24]is more than just communication[25], there is also something that changes the perspectives [6, 20, 21, 26, 27]and lifestyles of the online world as it merges into one. As such, it should be critical to assist businesses in winning over consumers' hearts and sustaining long-term growth.

Entrepreneurs have to digitalize businesses [28, 29]when consumer behavior changes[30]. Operators must adapt to online booking and online payment systems[30, 31], use these as a marketing support tools and facility resources while guests staying in a hotel or accommodation under the new normal after the COVID-19crisis. The operators must establish trust among tourists and maintain their competitiveness to further develop the business to meet the needs of various tourists and respondto the direct exposure reduction behavior in the COVID-19epidemic situation.

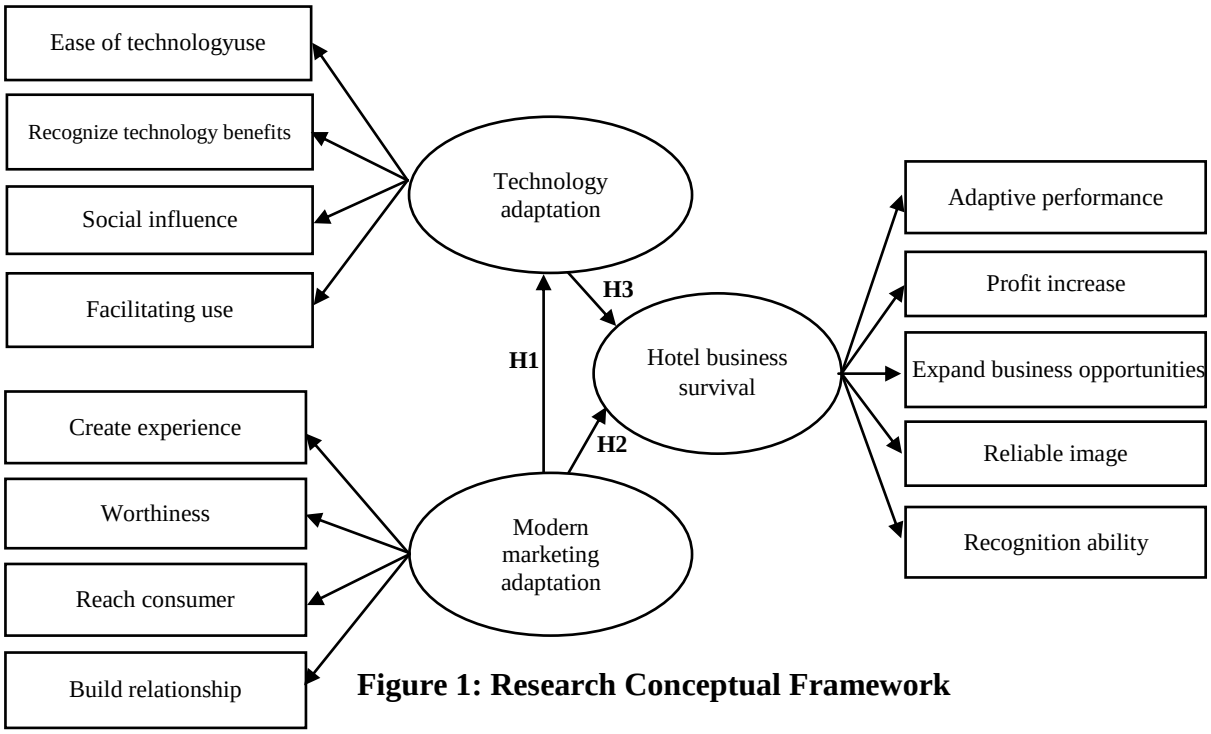

Figure 1: Research Conceptual Framework

Moreover, analyzing historical data is required to predict the growth of seasonal trends and traveler preferences also fundamental analysis of social media data to retrieve new marketing trends and current tourist interests.Study Objectives:determine whether the Structural Equation Modelingis consistent with empirical data based on the assumption of congruence and study the causal relationship model of technology and modern marketing adaptions that affect the survival of small hotel businesses in Thailandduring the COVID-19 pandemic.

Research Hypothesis

H1: Modern marketing adaptation directly influences technology adaptation.

H2: Modern marketing adaptation directly influences hotel business survival.

H3: Technology adaptation directly influences hotel business survival.

Expected Benefits

1. The new technology and modern marketing adaptation measurement model that can assess the survival of the small hotel businesses in the Thailandduring the COVID-19 pandemic.

2. The recognition of the causal relationship model of technology and modern marketing adaptions that affect the survival of small hotel businesses in Thailandduring the COVID-19 pandemic.

Scope of study

The researcher has defined the population and samples of the research as follows:The population used in this study is hotel business operators.The sample group used in this study is 400 small hotel business operators in Thailand.

Scope of Variables

The variables involved in the study consist of latent variables: adoption theory and use of UTAUT technology, 4E's modern marketing strategy, hotel business survival. The observed variables consist of the ease of technology use, recognizingof technologybenefits, social influence on technology use, facilitating technology use, creating experiences, worthiness, reaching consumers through online channels, building relationship, adaptive performance, profit increase, expanding business opportunities,reliable image,recognition ability.

Literature Reviews

The researcher has studied concepts, theories and related researches to apply as a guideline for research studies. The researcher presented a literature review with details as follows:

2.1 Concept and theory of entrepreneurial adaptation

2.2 Concept and theory of hotel business

2.3 Concepts of the collective theory of technology adoption and use

2.4 Concept and theory of 4E's marketing mix

2.5 Concept and theory of consumerbehavior

Consumer Behavior [4, 28, 32-34]refers to the behavior of searching, purchasing, using, evaluating, using products, and services of consumers which expected to meet their own needsor to meet the needs of their family and their organization. All consumers who purchase goods and services are defined as the consumer market. Consumer behavior study will benefit the creation of marketing strategies that satisfy consumers and the ability of solutions. Consumer decision-making behavior in society is more accurate and consistent with the responsiveness of the business.

Research Tools

This research is quantitative research.The researcher used a questionnaire as a tool for collecting data by created questionnaire to the advisors and experts to verify the completeness and consistency of the content. There are 3 qualified experts who considered the questionnaire.

Data Collection Method

The researcher collected data by distributing an online questionnaire to small hotel business operators in Thailand . From the sample estimation with the effect size of 0.05, the probability of the test error (α) is 0.05. The number of variables is equal to 3, Power of test (1- β) is 0.95, resulting in a sample size of 348 samples. The researcher collected data from 400 additional samples for store data purposes. In addition, the researcher distributed a questionnaire to the sample groupfrom January 2022 - February 2022.

Data Analysis

The researcher analyzed the data obtained from the sample by statistical methodology using a computer program. The procedure is as follows: descriptive Statistics i.e., frequency distribution (amount), percentage, standard deviation. Inference Statistics i.e., correlation coefficient between variables by using Pearson's Product-Moment Correlation Coefficient at significance of 0.951 to see the relationship between the variables to use as the basis analysis of the Structural Equation Modeling between technology and modern marketing adaptations, and hotel business survival.

Table 1: Criteria for Considering the Correlation Coefficient

Correlation coefficient (r)	Correlation level
$r > 0.8$	Very high correlation
$0.6 < r < 0.8$	High correlation
$0.4 < r < 0.6$	Moderate correlation
$0.2 < r < 0.4$	Low correlation
$r < 0.2$	Very low correlation

3.Relationship Analysis of Causal Variables

Relationship of causal variables influence small hotel business survival by applying data analysis that used AMOS tool to check the coherence between hypothesis-based models and empirical data. Direct Influence (DI), Indirect Influence (ID) and Total Influence (TE)were wholly analyzed. Important statistical values were used to verify the coherence of the hypothesis-based model and the empirical data.

Data Analysis Results

The researcher divided the presentation of the data analysis results into 3 topics: 1) the results of the descriptive statistical analysis of the sample group, 2) the results of analysis to examine the data before the Structural Equation Model analysis, and 3)the results of

analysis of the hypothesis-based structural equation model, to make the presentation of the data analysis results more convenient.

Table 2: Variable Representative

Variable	Refers to:
Technology	
Expectancy	Ease of technology use
Effort	Recognizing of technologybenefits
Influence	Social influence on technology use
Facilitating	Facilitating technology use
Marketing	
Experience	Creating experiences
Everywhere	Worthiness
Evangelism	Reaching consumers through online channels
Exchange	Building relationship
Survival	
Anticipation	Adaptive performance
Fighting	Profit increase
Existence	Reliable image
Control	Expanding business opportunities
Skill	Recognition ability

1)Results of The Descriptive Statistical Analysis of The Sample Group

The research comprises of demographic data of 400 respondents, details as follows:

1.1 Most of respondents are203 females, representing 50.75 percent, 187 males representing 46.75 percent, and 10 LGBTQs representing 2.50 percent, respectively.

1.2 Most of respondents are between 46 -55 years old which is a group of 143 participants accounted for 35.75 percent, followed by 106 participants age between 36 - 45 years old which representing 26.50percent, 67 participants age between 25 - 35 years old which accounting for 16.75 percent, participants age between 56-65 years old which representing 14.25 percent, 23 participants ageunder 25 years old which representing 5.75%, and 4 participants age more than 65 years old which representing 1.00 percent, respectively.

1.3 Educational level of the respondents mostly are 309participants with bachelor's degree which representing 77.25 percent, followed by 66 undergraduate participants which accounting for 16.50 percent, and 25 participants with higher bachelor's degree which representing 6.25 percent, respectively.

1.4 Duration of the respondents' business operations mostly are between 6 - 10 years which this group consists of 192 participants representing 48.00 percent, followed by 146 participants with 1-5-year experiences which accounting for 36.50percent, and 35 participants with over 11-year experiences which accounting for 8.75 percent, and the smallest group is 27 participants with less than 1-year which representing 6.75 percent, respectively.

1.5 Respondents' monthly net income mostly are amount between 100,001 - 500,000 baht/month which this group consists of 197 participants representing 49.25 percent, followed by 134 participants with incomes of 50,001 - 100,000 baht/month which representing 33.50 percent, and 41 participants with less than 50,000 baht/month incomes which representing 10.25 percent, andlastly,28 participants with more than 500,000 baht/month incomes which representing 7.00 percent, respectively.

2)Results of Analysis to Examine the Data Before the Structural Equation Model Analysis

Analysis to verify the data before analyzing the Structural Equation Model (SEM) by considering an approximation of the observed variables based on data collection and reconstruct the observed variable with details as follows:

2.1 Results of The Basis Statistical Analysis of Observed Variables

According to Table 3. Observed variables describing the characteristics of technological adaptation and modern marketing adaptation showed that most of the observed variables are at the most significant level with an average between 4.22 – 4.55, details as follows:

Table 3: Statistical Values: Describing the Characteristics of Component Variables

Component	Variable	$\bar{x}$	S.D.
1. Technology adaptation	**Technology**	**4.38**	**0.54**
1.1 Ease of technology use	Expectancy	4.29	0.59
1.2 Recognizing of technology benefits	Effort	4.38	0.53
1.3 Social influence on technology use	Influence	4.41	0.53
1.4 Facilitating technology use	Facilitating	4.44	0.50
2. Modern marketing adaptation	**Marketing**	**4.43**	**0.54**
2.1 Creating experiences	Experience	4.44	0.56
2.2 Worthiness	Everywhere	4.44	0.53
2.3 Reaching consumers through online channels	Evangelism	4.44	0.52
2.4 Building relationship	Exchange	4.41	0.53
3. Business survival	**Survival**	**4.41**	**0.53**
3.1 Adaptive performance	Anticipation	4.55	0.56
3.2 Profit increase	Fighting	4.55	0.56
3.3 Reliable image	Existence	4.22	0.49
3.4 Expanding business opportunities	Control	4.55	0.56
3.5 Recognition ability	Skill	4.22	0.49

2.2 Analysis of The Correlation Coefficient Between Observed Variables

Pearson's Product Moment Correlation consideration creates the correlation matrix between variables to verify the preliminary agreement of the elemental analysis. The researcher presented the results of the correlation coefficient analysis between the observed variables by showing correlation matrix. The results of the analysis can be presented as follows:

Table 4: Multicollinearity by Creating Correlation Matrix of Research Variables

	Basic personal characteristics					Technology adoption			Modern marketing mix				Business survival
Variable	**Gender**	**Age**	**Education**	**Income**	**Business**	**Expectancy**	**Effort**	**Influence**	**Facilitating**	**Experience**	**Everywhere**	**Evangelism**	**Exchange**	**Survival**
Pearson's Product Moment Correlation														
Gender	1													
Age	0.257**	1												
Education	0.156**	0.043	1											
Income	0.117*	0.588**	0.044	1										
Business	0.001	0.509**	0.207**	0.543**	1									
Expectancy	0.049	0.084	0.123*	0.042	0.032	1								
Effort	0.008	0.098	0.066	0.014	0	0.739**	1							
Influence	0.086	0.072	0.103*	0.03	0.022	0.646**	0.795**	1						
Facilitating	0.013	0.128*	0.129*	0.023	0.005	0.657**	0.763**	0.723	1					
Experience	0.027	0.044	0.021	0.066	0.003	0.599**	0.701**	0.680**	0.711**	1				
Everywhere	0.039	0.105*	0.031	0.006	0.034	0.589	0.756	0.688**	0.674**	0.763**	1			
Evangelism	0.104*	0.104*	0.077	0.055	0.02	0.623	0.752	0.709**	0.632**	0.713**	0.708**	1		
Exchange	0.022	0.093	0.083	0.007	0.057	0.613	0.705	0.636**	0.623**	0.750**	0.684**	0.728**	1	
Survival	0.057	0.022	0.09	0.079	0.058	0.486	0.638	0.532*	0.616**	0.724**	0.825**	0.605**	0.618**	1

**. Significant correlation at 0.01
*. Significant correlation at 0.05

The following section discusses the hotel business survival. The assessment of the structural model was processed through the SEMapproach[1, 35, 36]. In previous studies, many statistical techniques have been used to measure model fit[6, 10, 19, 37-40].The criteria for considering the correlation coefficient, in this study, this research chose important quality indices such as Chi-squared (χ^2), degree of freedom df, χ^2/df, CFI, TLI, IFI, GFI, RMR, and RMSEA to be the goodness-of-fit (GOF) tests' indices. There are minimum requirements to achieve these quality indices in terms of model fitting. The model was assessed by means of Chi-square goodness of fit statistics ($p > 0.05$), comparative fit index (CFI, > 0.95), a ratio of the Chi-squared statistic to the respective degrees of freedom (χ^2/df) < 2 indicates a good model fit, RMSEA and RMR which should be < 0.05 [139], the comparative fit index CFI > 0.95, the goodness-of-fit index (GFI) which should be > 0.95, which is acceptable as a close model fit. Additionally, the incremental-fit index (IFI) and Tucker–Lewis's index (TLI) have also been considered in this study; these indices should be IFI > 0.95 and TLI >0.95. The research model was accepted with no further modification[5]. The estimation of the parameters was acceptable, and the statistics provided by this study were taken as final values, and they showed that all tests achieved the test requirements. The results of the structural equation modeling [1](SEM) analysis and the confirmatory factor analysis (CFA). We used structural equation modeling analysis as a second-order confirmatory factor analysis via Analysis of Moment Structures (AMOS) software, version 22.0.0.

3) Results of Analysis of The Hypothesis-Based Structural Equation Model

The researcher analyzed the relationship model between components, technology adaptation, modern marketing adaptation, and hotel business survival to examine the congruence between the hypothetical model and empirical data. The criteria applied for investigating the congruence of the model with empirical data, the results of the first model analysis revealed that the congruence index is inconsistent with empirical data or not reach the specified criteria.

3.1 Model Modification of Empirical Evidence with Congruence with Empirical Data

The researcher proceeded to adjust the model (Model Modification) by considering the recommendations for adjusting the parameters in the Modification Index (MI) until the harmonization index has congruence with empirical data. The details of model modificationfor empirical evidence (Model fit) congruence with empirical data are as follows:

In the first revision of the model, the correlation of the adjusted error values of e13 and e14 showed that there is no better improvement, indicating that the hypothetical model has no congruence with empirical data. The model was secondly revised, the correlation of the adjusted error valuesof e1 and e10, χ^2 / df = 1.234, p-value =0.170, GFI = 0.986, IFI = 0.998, RMSEA=0.024. This showed that the hypothetical model is consistent with empirical data.

3.2 Analysis of The Causal Influence of Technology Adaptation and Modern Marketing Adaptation Affecting Hotel Business Survival

The researcher analyzed the causal influence of technology adaptation and modern marketing adaptation affecting hotel business survival to clarify research hypotheses. The researcher presented the analysis of Direct Effects: DE, Indirect Effects: IE, and Total Effects: TE. The research found that the model has congruence with empirical data as follows:

Table 5: Results of The Analysis of The Causal Influence of Technology Adaptation and Modern Marketing Adaptation Affecting Business Survival

Statistical value			
χ^2= 39.490, df = 32, p = 0.170, GFI = 0.986, CFI = 0.998, RMR = 0.003, RMSEA = 0.024, NFI = 0.990, IFI = 0.998			
Variables	**Hotel business survival**		
Causal variables	**DE**	**IE**	**TE**
Technology adaptation	0.98*	-	0.98
Modern marketing adaptation	0.15*	0.87	1.02
R-Square (R^2)	0.89		
Correlation matrix between latent variables			
Latent variables	**1**	**2**	**3**
Technology adaptation (1)	1.00		
Modern marketing adaptation (2)	0.95	1.00	
Hotel business survival (3)	1.09	1.13	1.00

Table 5shows the results of the analysis of the causal influence of technology adaptation and modern marketing adaptation affecting business survival found that the model has congruence with empirical data. Considering the Chi-Square which is 39.490 at degrees of freedom (df is 32). The hypothesis test probability, p-value=0.170. The relative Chi-Square (χ^2 / df =1.234). The Goodness of Fit Index (GFI) =0.986.The Comparative Fit Index (CFI) = 0.998. The Root Mean Square Error of Approximation (RMSEA) = 0.024. According to these data, the GFI and CFI values approach 1 while the RMR and RMSEA approach zero. The relative Chi-Square (χ^2 / df is less than 3) indicated that the specified model has congruence with empirical data.

When considering the direct influence estimation that affects the survival of the hotel business, the research was found that the survival of the hotel business Influenced by technology adaptation with a statistically significant level of 0.001with a total influence of 0.98, followed by modern marketing adaptation, statistically significant level of 0.05 with a total influence of 0.15, the details of direct influence, indirect influenceand the total influence of latent variables in the model are as follows: The total influence of technology adaptation on hotel business survival is 0.98, all of which are direct influences. Moreover, the total influence of modern marketing adaptation on hotel business survival is 1.02, the direct influence is 0.15, and the indirect influence is 0.87. When considering the utilization rate of latent variables, the research was found that the predictive coefficient (R^2) of the hotel business survival is 1.28. Considering the correlation matrix between the latent variables, the research was found that the latent variables are highly correlated (r > 0.8)which relation of the modern marketing adaptation and hotel business survival has a correlation coefficient of 1.13.

3.3 Result of The Analysis of Factor Loading of Observed Variables

The researcher analyzed the factor loading of the observed variables to determine the common composition that could explain the relationship between the observed variables. The analysis results are presented in Table 6. The results of factor loading of the observed variables are as follows:

Table 6: Result of The Analysis of Factor Loading of Observed Variables

Latent variables / Observed variables	(b)	(S.E.)	(B)	(R^2)
Technology adaptation				
Ease of technology use	0.95	0.05	0.77	0.60
Recognizing of technology benefits	1.00	-	0.93	0.87
Social influence	0.99	0.04	0.86	0.74
Facilitating technology use	0.91	0.04	0.83	0.69
Modern marketing adaptation				
Creating experiences	1.00	-	0.84	0.71
Worthiness	0.89	0.40	0.84	0.71
Reaching consumers through online channels	0.87	0.05	0.84	0.71
Building relationship	0.90	0.04	0.81	0.65
Hotel business survival				
Adaptive performance	0.72	0.08	0.41	0.17
Profit increase	1.00	-	0.57	0.32
Expanding business opportunities	0.78	0.08	0.48	0.26
Recognition ability	0.93	0.90	0.54	0.29
Reliable image	0.81	0.80	0.51	0.28

72 – 1.00 and differs from zero at statistical significance of 0.001. The most factor loading observed variables are Effort, Experience, and Fighting, thefactor loading of 1.00. The observed variablewith the lowest factor loading is Anticipation which factor loading equals to 0.72, details as follows:

1) Technology adaptation components, the most weighted variable is the recognition of technology benefits. The factor loading is 0.93 and the variance value of technology adaptation component is 87 percent, followed by the social influence on technology use with the factor loading of0.86 and the variance value oftechnology adaptation component is74percent. Next, facilitating technology use has factor loading of 0.83 and the variance value of technology adaptation component is 69 percent. Ease of technology use has factor

According to Table 6, the analysis of factor loading of observed variables are all positive. Ranges from 0.
loading of 0.77 and the variance value oftechnology adaptation component is 60 percent.

2)Modern marketing adaptation components, the most weighted variablesarecreating experiences, worthiness, reaching consumers through online channels. The factor loading is 0.84 and the variance value of modern marketing adaptation component is 71 percent. Building relationship has factor loading of 0.81 and the variance value of modern marketing adaptation component is 65 percent.

3) Hotel business survival components, the most weighted variable is quantity. The factor loading is 0.57 and the variance value of hotel business survival components is 32 percent, followed by skill has factor loading of 0.54 and the variance value of hotel business

survival components is 29 percent. Next, reliable imagehas factor loading of 0.51 and the variance value of hotel business survival components is 28 percent. Then, profit has factor loading of 0.48 and the variance value of hotel business survival components is 26 percent. Lastly, recognition has factor loading of 0.41 and the variance value of hotel business survival components is 17 percent.

3.3 Analysis of Research Hypothesis

The results of research hypothesiscan conclude as follows:

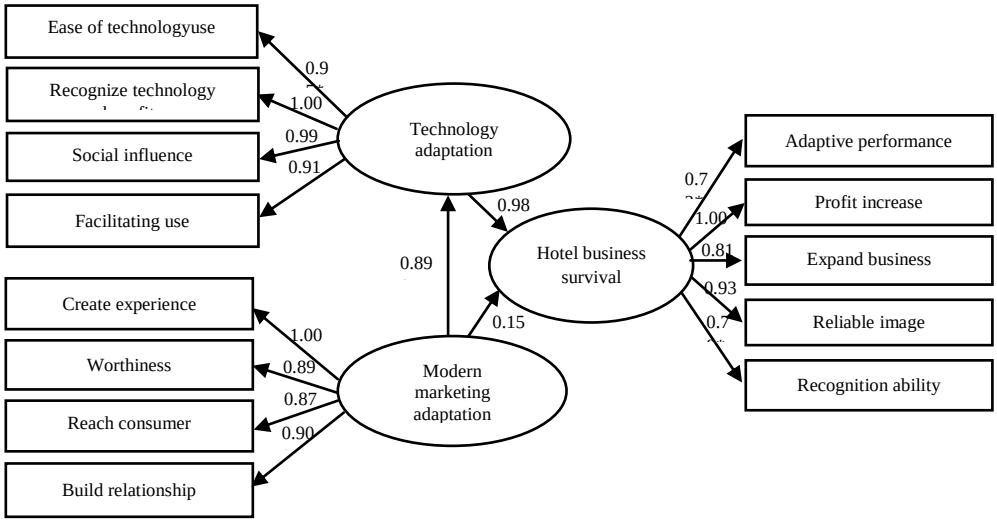

Figure 2: Results of Research Hypothesis Test

Table 7: Results of the research hypothesis test (research results hypothesis 1-3)

	Hypothesis	Result
H1	Modern marketing adaptation directly influences technology adaptation.	Consistent with hypothesis
H2	Modern marketing adaptation directly influences hotel business survival.	Consistent with hypothesis
H3	Technology adaptation directly influences hotel business survival.	Consistent with hypothesis

Conclusion

Technology adaptation and modern marketing adaptation of small hotel business operators in Thailandduring the COVID-19 pandemic, the research was found that technology adaptation and modern marketing adaptation have direct influences on hotel business survival. Therefore, entrepreneurs have to digitalize businesses when consumer behavior changes. Operators must adapt to technology, use these as a marketing support tools and facility resources for reaching tourists in the new normal era or after the COVID-19 crisis. Also, a tool to promote confidence in the standards, cleanliness, and safety along with maintaining business potential of small hotel operators.In terms of modern marketing adaptation, there are affects hotel business survival in the long run. This will benefit the hotel business and small hotel operators. Hotel business operators can use the obtained information to prepare for the adaptation that is suitable for their hotel businessin preparing for the crisis situation that may arise in the future.

Reference

1. Bangwal, D., J. Suyal, and R. Kumar, *Hotel building design, occupants' health and performance in response to COVID 19.* Int J Hosp Manag, 2022. **103**: p. 103212.
2. Cheng, S.C. and Y.H. Kao, *The impact of the COVID-19 pandemic on job satisfaction: A mediated moderation model using job stress and organizational resilience in the hotel industry of Taiwan.* Heliyon, 2022. **8**(3): p. e09134.
3. Hao, F., Q. Xiao, and K. Chon, *COVID-19 and China's Hotel Industry: Impacts, a Disaster Management Framework, and Post-Pandemic Agenda*. Int J Hosp Manag, 2020. **90**: p. 102636.
4. Kim, J.J. and H. Han, *Saving the hotel industry: Strategic response to the COVID-19 pandemic, hotel selection analysis, and customer retention.* Int J Hosp Manag, 2022. **102**: p. 103163.
5. Le, D. and G. Phi, *Strategic responses of the hotel sector to COVID-19: Toward a refined pandemic crisis management framework.* Int J Hosp Manag, 2021. **94**: p. 102808.
6. Xiang, K., et al., *COVID-19 prevention in hotels: Ritualized host-guest interactions.* Ann Tour Res, 2022. **93**: p. 103376.
7. Akbaba, A., *Measuring service quality in the hotel industry: A study in a business hotel in Turkey.* International Journal of Hospitality Management, 2006. **25**(2): p. 170-192.
8. Hameed, W.U., Q.A. Nisar, and H.-C. Wu, *Relationships between external knowledge, internal innovation, firms' open innovation performance, service innovation and business performance in the Pakistani hotel industry.* International Journal of Hospitality Management, 2021. **92**.
9. Liu, P., L. Wu, and X. Li, *What can hotels learn from the last recovery? Examining hotel occupancy rate and the guest experience.* International Journal of Hospitality Management, 2022. **103**.
10. Ye, F., L. Zhang, and Y. Li, *Strategic Choice of Sales Channel and Business Model for the Hotel Supply Chain.* Journal of Retailing, 2018. **94**(1): p. 33-44.
11. Kopaneli, A., *Finance, Marketing, Management and Strategy Planning. A Qualitative Research Method Analysis of Case Studies in Business Hotels in Patras and in Athens.* Procedia Economics and Finance, 2014. **9**: p. 472-487.
12. Visentin, M., A. Tuan, and S. Prestini, *Love or hate? Hotels' gay-friendliness and their intention to maintain or diminish the hotel digital service relationship with OTAs.* Industrial Marketing Management, 2021. **98**: p. 28-40.
13. Ertuna, B., H. Gu, and L. Yu, *"A thread connects all beads": Aligning global CSR strategy by hotel MNCs.* Tourism Management, 2022. **91**.
14. Blengini, I. and C.Y. Heo, *How do hotels adapt their pricing strategies to macroeconomic factors?* International Journal of Hospitality Management, 2020. **88**.
15. Japutra, A. and R. Situmorang, *The repercussions and challenges of COVID-19 in the hotel industry: Potential strategies from a case study of Indonesia.* International Journal of Hospitality Management, 2021. **95**.
16. Gaur, L., et al., *Capitalizing on big data and revolutionary 5G technology: Extracting and visualizing ratings and reviews of global chain hotels.* Computers & Electrical Engineering, 2021. **95**.
17. Hadi Putra, P.O. and H.B. Santoso, *Contextual factors and performance impact of e-business use in Indonesian small and medium enterprises (SMEs).* Heliyon, 2020. **6**(3): p. e03568.
18. Lee, J.-w., *Analysis of technology-related innovation characteristics affecting the survival period of SMEs: Focused on the manufacturing industry of Korea.* Technology in Society, 2021. **67**.
19. Rakshit, S., et al., *Mobile apps for SME business sustainability during COVID-19 and onwards.* J Bus Res, 2021. **135**: p. 28-39.

20. Selamat, M.A. and N.A. Windasari, *Chatbot for SMEs: Integrating customer and business owner perspectives.* Technology in Society, 2021. **66**.
21. Zhong, L., et al., *Multi-stakeholder perspectives on the impacts of service robots in urban hotel rooms.* Technology in Society, 2022. **68**.
22. Chaudhuri, A., N. Subramanian, and M. Dora, *Circular economy and digital capabilities of SMEs for providing value to customers: Combined resource-based view and ambidexterity perspective.* Journal of Business Research, 2022. **142**: p. 32-44.
23. Costa, E., A.L. Soares, and J.P. de Sousa, *Industrial business associations improving the internationalisation of SMEs with digital platforms: A design science research approach.* International Journal of Information Management, 2020. **53**.
24. Troise, C., et al., *How can SMEs successfully navigate VUCA environment: The role of agility in the digital transformation era.* Technological Forecasting and Social Change, 2022. **174**.
25. Reyes-Rodríguez, J.F., *Explaining the business case for environmental management practices in SMEs: The role of organisational capabilities for environmental communication.* Journal of Cleaner Production, 2021. **318**.
26. Nhep, T., C. Schott, and M. Sahli, *Climate change adaptation in Cambodia's coastal hotel sector: An analysis of adaptation measures and hotel characteristics.* Tourism Management Perspectives, 2021. **40**.
27. Shagirbasha, S., *Hotel specific mega disruptions: Exploration of multi-stakeholder perspectives.* Journal of Hospitality and Tourism Management, 2022. **51**: p. 333-338.
28. Emiroğlu, B.D., O. Akova, and H. Tanrıverdi, *The Relationship Between Turnover Intention and Demographic Factors in Hotel Businesses: A Study at Five Star Hotels in Istanbul.* Procedia - Social and Behavioral Sciences, 2015. **207**: p. 385-397.
29. Lashley, C. and B. Rowson, *Lifestyle businesses: Insights into Blackpool's hotel sector.* International Journal of Hospitality Management, 2010. **29**(3): p. 511-519.
30. Andriotis, K. and P. Paraskevaidis, *Negotiated exchanges in the online hospitality market: Hoteliers and hotel managers' perceptions of Booking.com.* International Journal of Hospitality Management, 2021. **97**.
31. Guizzardi, A., F.M.E. Pons, and E. Ranieri, *Advance booking and hotel price variability online: Any opportunity for business customers?*International Journal of Hospitality Management, 2017. **64**: p. 85-93.
32. Akova, O., G. Cetin, and I. Cifci, *The Relation between Demographic Factors and the Turnover Intention in Pre-opening Hotel Businesses.* Procedia - Social and Behavioral Sciences, 2015. **207**: p. 377-384.
33. Fisher, R., R. McPhail, and G. Menghetti, *Linking employee attitudes and behaviors with business performance: A comparative analysis of hotels in Mexico and China.* International Journal of Hospitality Management, 2010. **29**(3): p. 397-404.
34. Sezer, C., *An analysis on relations between implementation of training activities and HRM organization in service businesses: A sample in hotels.* Procedia - Social and Behavioral Sciences, 2009. **1**(1): p. 2385-2389.
35. Grissemann, U., A. Plank, and A. Brunner-Sperdin, *Enhancing business performance of hotels: The role of innovation and customer orientation.* International Journal of Hospitality Management, 2013. **33**: p. 347-356.
36. Scholl-Grissemann, U., A. Kallmuenzer, and M. Peters, *This hotel is family-run! Enabling positive consumer response via perceived hospitableness.* International Journal of Hospitality Management, 2021. **99**.

37. Miller, K., et al., *Business models big and small: Review of conceptualisations and constructs and future directions for SME business model research.* Journal of Business Research, 2021. **131**: p. 619-626.
38. Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. Academy of Accounting and Financial Studies Journal, Vol. 26, no.2, pp. 1-18
39. Allugunti, V.R. (2019). Diabetes Kaggle Dataset Adequacy Scrutiny using Factor Exploration and Correlation. International Journal of Recent Technology and Engineering, Volume-8, Issue-1S4, pp 1105-1110.
40. Miroshnychenko, I., et al., Absorptive capacity, strategic flexibility, and business model innovation: Empirical evidence from Italian SMEs. Journal of Business Research, 2021. 130: p. 670-682.
41. Müller, J.M., O. Buliga, and K.-I. Voigt, The role of absorptive capacity and innovation strategy in the design of industry 4.0 business Models - A comparison between SMEs and large enterprises. European Management Journal, 2021. 39(3): p. 333-343.
42. Pizzi, S., L. Corbo, and A. Caputo, Fintech and SMEs sustainable business models: Reflections and considerations for a circular economy. Journal of Cleaner Production, 2021. 2**81**.