

## **DOMESTIC TOURISM RESTART: UNDERSTAND THAI TRAVELERS' HOTEL STAYING PREFERENCE UNDER NEW NORMAL ENVIRONMENT**

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### **ABSTRACT**

During the first quarter of 2020, World Health Organization declared Covid-19 as a global pandemic and health has become a major concern worldwide. It then has substantially shaped global society in various ways including traveling and staying preference. In Thailand, during the second and third quarter of 2020, limiting the spread of Covid-19 was witnessed with less than 10 new confirm cases per day, on average. Hence, the recovery of Thai tourism and hospitality sector started under new normal environment with strict measures being implemented nationwide. The purpose of this study is to understand Thai travelers' staying preference during this unpredictable situation. We aim to capture factors that influence Thai travelers' hotel staying preference. Four types of preference included in this study are location, pricing, government subsidy and social media influence. Since the result from our exploratory data analysis revealed that the relationship between the dependent variable and some independent variables does not exploit linear structure, tree-based method will be used with secondary data from June to August 2020. We draw statistical inference from "variable important plot" and "partial dependence plot" and then perform validation of regression tree. To sum up, location, pricing, government subsidy and social media influence are important variables in predicting hotel staying preference. Overall, the government subsidy is the most important variable. Next, the lower the price, the greater occupancy rate, except for three high cost of living and global tourist destination provinces. Shifting to geographical location, visitors prefer to stay near Bangkok as we see occupancy rate goes down when distance from the capital goes up, on average. Finally, "social media influence" positively correlates with over 50 provinces staying preference. Recommendation for practitioner and future research are stated as well.

**Keywords:** Hotel, Tourism, Thai traveler, Hotel staying preference, New normal, Thailand

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## **Introduction**

In March 2020, World Health Organization declared Covid-19 as a global pandemic which has substantially shaped global society in various ways including economic, travel preference, healthcare system and consumer behavior. Specifically, tourism and related sector shrink enormously. However, after the implementation of some strict measures in preventing the spread of Covid-19, in June 2020, local hospitality businesses were allowed to reopen under new normal situation. Thailand has been globally recognized as one of the most attractive tourist destinations worldwide. It offers various travel experiences including natural beauty, historical heritage, authentic cuisine, cultural uniqueness and nightlife. Statistically speaking, hospitality and tourism has been considered as an important contribution to Thai economy. According to, Surawattananon (2019), It contributed around 17% to Thai GDP in 2019 and roughly maintained up to 2.94 million employments nationwide. Thanks to several beneficial government measures to attract international visitors such as “Free Visa on Arrival”, during the last 5-year, revenue from international tourism consistently increased by 10% on average. Spending from around 39 million international tourists contributed approximately 1.9 billion baht to Thai economy. However, there was a concentration in geographical location of visiting destination of around 65% in three provinces namely, Bangkok, Phuket and Chonburi.

Due to the pandemic, the restriction on travel has been widely applied locally and oversea. This has spread the economic effects, disrupting hospitality business for a prolonged period. Besides, visitors are required to take an alternative quarantine before entering the country. As a result, the number of foreign visitors were nearly zero

during the second quarter of 2020. From the business perspective, in the short run, the absence of visitors leads to a shortage of liquidity with an excessive supply of room availability. In the long run, visitors’ behavior regarding travelling and staying are expected to fundamentally change, this change is unpredictable and highly uncertain, depending on the success of controlling the COVID-19 outbreak worldwide.

In Thailand, during the second and third quarter of 2020, limiting the spread of Covid-19 could be witnessed with less than 10 new confirm cases per day, on average. Hence, Thai visitors have slowly started to travel domestically. To accelerate the recovery of tourism sector, the government has constantly introduced nationwide campaign to promote local travel, including announcing extra national holiday and substantial subsidy of hotel accommodation and travelling cost. In addition, real sector has also played their part through introducing various types of attractive promotion. Taken together, these acts as a catalyst to boost domestic tourism restart under new normal situation where preventive measures including the use of face masks, practice social distancing, and frequent hand-wash are strictly implemented nationwide. A slow recovery in domestic travel has been observed since June 2020, although, there was an impact of the pandemic on willingness to spend, ability to spend and travelling preference. Because of uncertainty and additional travelling procedure, people are anticipated to be more conservative and spend wisely. The paper aims to understand Thai visitors’ staying preference at the hotel in Thailand under new normal situation after Covid-19 lock down. During the pandemic, we opt to use secondary data, trying to capture behavioral preference that is related to intention to stay. Alternative data will be used

as proxies to capture visitor staying behavior. Statistical inference will be drawn through the tree-based model.

Fast forward to the result, in summary, people prefer to travel to areas in which closer to Bangkok. Social media has been positively influenced intention to stay. Government measures including “an extra national holiday” and “financial subsidy” in room and allowances cost works effectively, statistically significance in boosting occupancy rate across the country. Lastly, visitors spend more conservatively, the lower the hotel price, the greater the occupancy rate.

### **Objectives of the Study**

The purpose of this study is to understand Thai travelers' staying preference under new normal environment. We aim to capture factors that influence Thai travelers' hotel staying preference. There are four types of preference included in this study, namely location, pricing, government subsidy and social influence. The research question is that which factors influence hotel staying preference of Thai travelers under new normal environment. In addition, we aim to investigate the level of association between these factors and the staying preference. During this uncertain time where people are allowed to travel conservatively under additional traveling and staying safety measures, we obtain preferences based on their actual staying behavior from secondary data. This alternative data will be used as proxies to capture these preferences.

### **Literature Review**

There are many factors incentivized how visitors choose place or hotel to stay. Generally speaking, staying preference or intention to stay involves both internal and external factor such as personal preference

and promotion respectively. Previous literature has prescribed various factors that influence and incentivize customer hotel preference or selection. Important factors were commonly similar among those literature across the years and region. For the purpose of our study, three key features are selected for literature review including social media, location and price.

In terms of social media, McCharty, Stock, and Verma (2010) mentioned that social media shifts how visitors determine hotel preference, especially for leisure travelers. Saugestad (2012) suggested that general word of mouth and trip advisor review are main driver of all hotel booking. Varkaris and Neuhofer (2017) revealed that social media brings positive engagement reaching to greater audience and leading to nuanced decision making. Singh and Torres (2015) explained that short-list of possible hotel choices is formed from hotel review. Social media has been influencing hotel preference and decision in many aspects depending on content, granularity and channel. According to Kalatzis, Roussaki, Matsoukas, and Paraskevopoulos (2018), they illustrated a strong and linear correlation between data from Google trend and social media topic discussion on twitter. Hence, the study will focus on Google trend which is a newly available feature provided by Google. This feature illustrates the frequency of given words or sentences are searched on Google search engine relative to site's total search volume.

Regarding location, Callan (1998) reveals that over 100 features are related to hotel selection process including location, price and security. Over the period, Dolnicar and Otter (2003) revealed that 86% of the studies between 1984 and 2000 included hotel location as an attribute. Later, Chou, Hsu, and Chen (2008) explained that not only can location rise

profitability, it also boosts convenience for client. At the international scale, Barsky (2012) presented that location is ranked highest in hotel selection criteria. The finding was based on survey response from 40,000 consumers represented American, European and Asian. Another study by Baruca and Civre (2012) revealed that location was ranked as the most significant factor, chosen by around 32% of 1,520 guest survey. For Middle East tourist, Yusoff and Abdullah (2010) suggested that “convenient location” has the highest rank in important attributes. Zhang and Ye (2011) applied regression models to prove that quality and location are important determinants. They suggested that attributes affect room rate differ largely among segment of hotel. To be more specific, Tsai, Yeung, and Yim (2011) mentioned that location is the most important attribute for business traveler. Kim (2014) confirmed that leisure travels has less concerned about location than business traveler.

As for pricing, Chu and Choi (2000) revealed that price and quality are rated as two most significant attribute in hotel selection for various ages. Later, Dolnicar and Otter (2003) revealed that 76% of the studies between 1984 and 2000 included pricing attribute. “Price and value for money” are often the concern to most visitors when choosing a place to stay, suggested by Xue and Cox (2008). Another study conducted by Baruca and Civre (2012) suggested that many guests are sensitive to price, it is essential to understand pricing for hotel management to maintain revenue generation and satisfy customer. They also revealed that price was ranked third most significant factor, chosen by around 25% of 1,520 guest survey. Noone and McGuire (2015) suggested that price is a very important tool for marketing to attract consumer to buy.

Under new normal environment after the pandemic where health has been the most critical issue for travelling and staying, Brannen, Ahmed, and Newton (2020) explained how Covid-19 reshapes of future. Their work covers a wide spectrum of topic including “False News and Social Media”, “Trust”, “Fragmentation” and “Internet of Things”. To conclude, they believe that Covid-19 marks the beginning of continuous and rapid change era and many future surprises can be expected. There are not many specific literatures regarding visitor’s travelling behavior or staying preference after the pandemic. Therefore, we try to learn more about customer behavior during this uncertain and specific time by obtaining insights from secondary data that related to their actual staying behavior.

In attempt to understand hotel staying preference of Thai visitors after the lock down measure, we gather data that relevant to measure staying preference which is occupancy rate. According to the literature, three important factors are selected for the purpose of this study namely, location, price and social influence. Additionally, government subsidy factor will be included in our study, since it has been implemented nationwide to support Thai tourism and hospitality restart. According to Monetary Policy Committee (2020), the Government should continuously implement policies in a targeted and timely manner to facilitate appropriate adjustments of businesses and households. Policies should also be coordinated, coherent and consistent. All factors will be proxies by alternative data due to the limitation in individual guest related data. Studying travelers’ staying preference after the nationwide lock down could provide new insights as visitor’s travel preference is expected to change under new normal situation where strict preventive

measures have been widely applied and both direct and indirect impact of the pandemic is still fresh. Due to the immigration restriction during the period we collected data, we are able to insightfully and purely focus on Thai visitor's preference.

### Research Methodology

We collected data by directly downloaded statistics from various online sources including "Ministry of Tourism and Sport", "Google Map" and "Google trend". In data preparation, we performed data cleansing including modifying format, type and excluding null. In the exploratory data analysis, we did observe patterns, detected anomalies and verified critical assumptions required in performing statistical inference. We used monthly alternative data as proxies to capture Thai visitors' staying preference for each Thai province, obtaining data from June to August 2020. To start with, hotel preference was measured by average occupancy rate, which could be quantified as occupancy rate. Next, we captured hotel location by measuring distance from Bangkok. This was because potential Thai traveler were highly concentrated in Bangkok metropolitan area and the capital city is best

known for accessibility to high quality medical service, comparing with other provinces in Thailand. Pricing feature was captured from the business side by average revenue from Thai visitor. In other words, we used it for the proxy of how much the hotel price is. This was because the price and promotion during and after the pandemic were highly volatile. Next feature was financial incentive which was Thai government subsidy. The subsidy campaign includes 40% discount on accommodation cost with additional travelling allowance up to 900 THB. The reason we include two financial incentives is that these two can capture different aspect of the incentive. Incentive at systemic level captured by government subsidy while individual captured by pricing. Lastly, we use Google trend from keyword "hotel" to relatively shows the frequency of this search term is entered into Google's search engine. As briefly mentioned in literature review in previous section that Kalatzis et al. (2018) illustrated a strong and linear correlation between data from Google trend and twitter. Hence, this figure will be used as proxy to measure influence from social media. The summary of key variable is included in the table below.

Figure 1 Data and variable

Variable	Captured by	Type	Unit	Source
Hotel preference	Hotel occupancy rate	Numeric	percent	Ministry of tourism and sport
Location	Distance of each province from Bangkok	Numeric	kilometer	Google map
Pricing	Average revenue from visitors	Numeric	THB	Ministry of tourism and sport

Our exploratory data analysis revealed that the relationship between the dependent variable and independent variable (s) does not exploit linear structure. In order to draw a robust statistical interference, we use Tree-Based method to study Thai travelers' hotel staying preference under new normal environment because this method is more likely to outperform classical approach such as linear regression. Regression tree model form are shown below.

$$f(X) = \sum_{m=1}^M C_m \times 1_{(X \in F_m)}$$

Conceptually speaking, regression tree will fit the data through a series of splitting rules, beginning from the top of the tree. The split is done through the use of the most important variable, aiming to reduce error term. The process repeatedly performs until the terminal node meet specific condition such as the maximum observation number. In

addition, there are several advantages in using decision trees for regression. The advantages include ability to interpret more closely to logical human decision making, handle qualitative predictors and graphically displayed (if the tree is small).

## Result

In order to investigate factors that are associated with hotel staying preference, we show first variable importance plot or "correlations" to examine conditional in figure 2. To interpret, the importance score gives an indication of how useful the variables are for occupancy prediction which. Government subsidy, pricing, location and social influence are associated and useful for occupancy prediction in that order. Next, after fitting the model on real data, we interpret directional relationship for each variable. As a dummy variable, government subsidy has a positive association with occupancy rate.

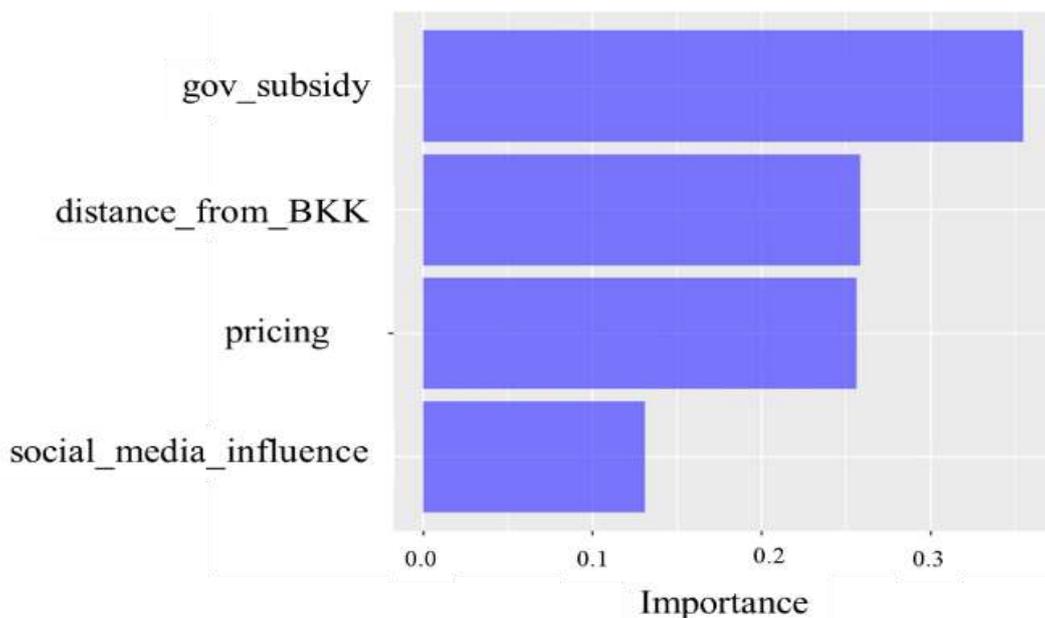


Figure 2 Variable important plot

We then create partial dependence plots to show the relationship between hotel staying preference which captured by hotel occupancy and a couple of variables in figure 3. This figure illustrated how hotel staying preference change on the vertical axis as we move the value of variable on horizontal axis. Regarding distance from Bangkok, we see the occupancy rate fall as hotel getting further away from the capital. As for pricing, similarly, we see the occupancy rate fall when the average price increase, but this

relationship holds until the price reaches around 8,000 THB. In terms of social influence, the more social media searching or discussing which captured by google trend, the higher occupancy rate in the location which were mentioned in the social. This holds for relative those places that have google trend score lower than 60. The result from the graphically plot tree will not be discussed due to the complexity of pruning tree.

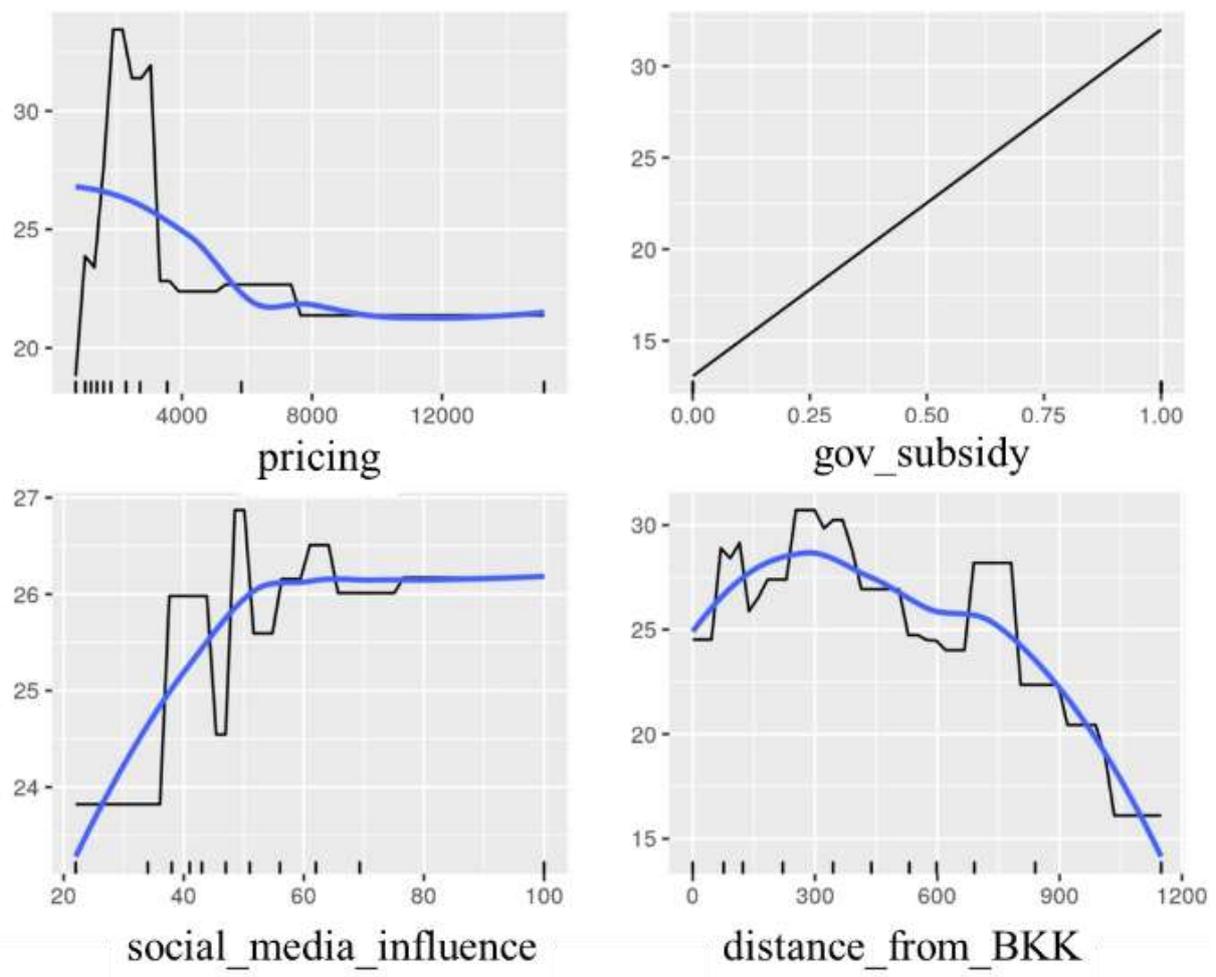


Figure 3 Partial dependence plot

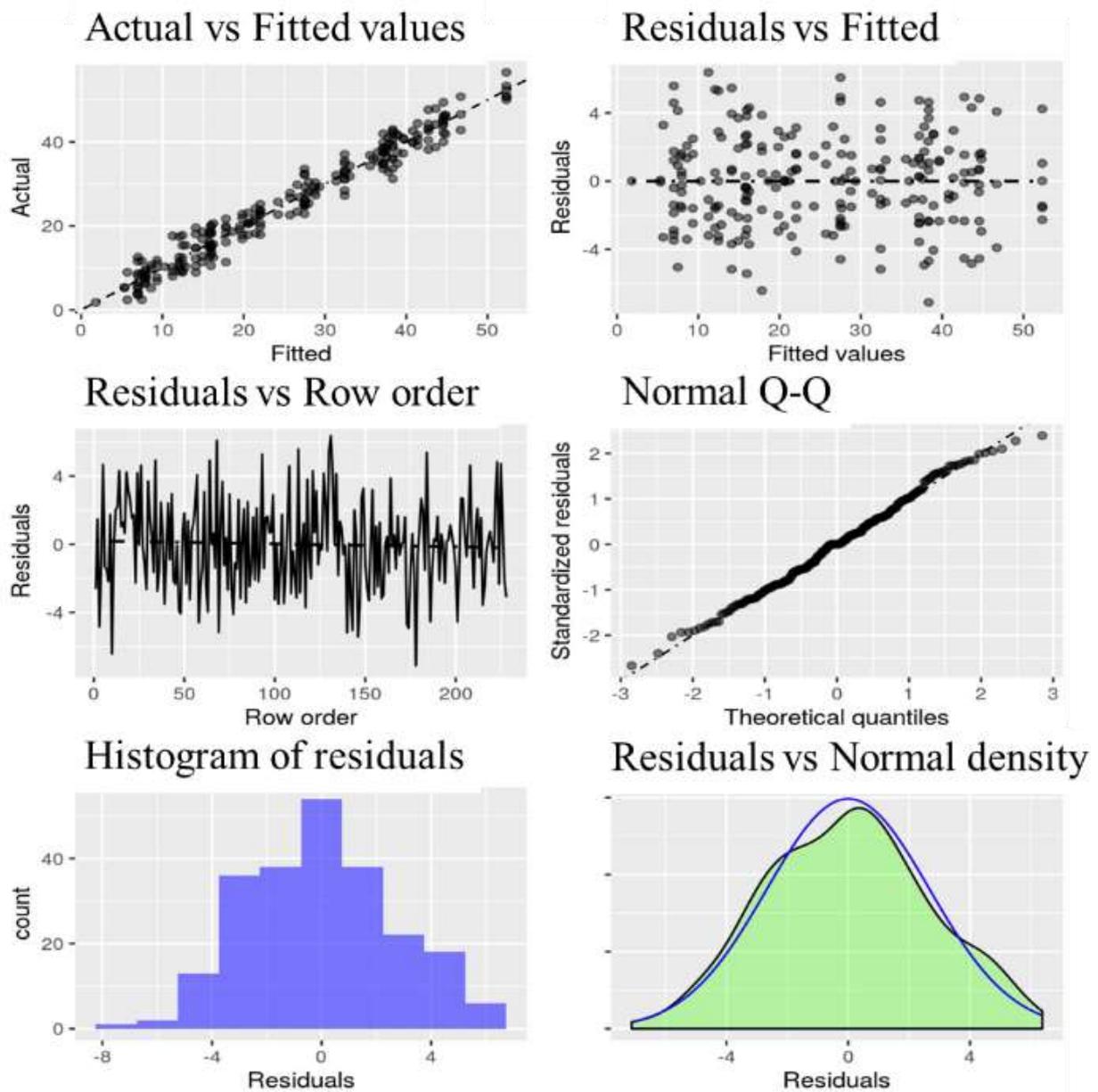


Figure 4 Validation of regression tree

We perform robustness test, summarized in figure 4 above, to ensure the validity of our interpretation and result. To begin with, there is no clear pattern in the scatter plot between residuals and fitted values on the top right plot, this proves homoscedasticity (constant variance) validation. In terms of autocorrelation, the plot between residuals and row order shows the observations do not have a natural sequential order so there is no obvious sign of

autocorrelation, observations are anticipated to be independent. For normality assumption, normal Q-Q plot is almost a diagonal line. Moreover, histogram of residuals and the plot between residual and normal density look normal shape. Taken together, these confirm normality of errors.

## **Discussion**

From the result, it can be explicitly seen that the most important factor in determining intention or preference to stay at the hotel for any given location is government subsidy. This has served as an important boost for local to step out of their home and experience Thailand under new normal environment. The government campaign has officially started from July to October 2020 including hotel, travel and allowance subsidy. This subsidy includes 40% discount on hotel cost, up to 900 THB travel allowance and up to 40% cash back on air-travel. Next, Thai visitors do not prefer getting further from the capital as occupancy rate fall on average in the location where distance from Bangkok is further. This could indicate the likelihood of preferring the short trip with respect to distance of travel. Regarding pricing, given the average hotel price less than 8,000 THB which included a majority of provinces nationwide, visitors prefer to spend more conservatively as the cheaper location experienced greater occupancy rate, on average. Three provinces excluded from this pricing and occupancy association are Bangkok, Phuket and Krabi. These three are among those popular tourist destinations in Thailand. Interestingly, we did not observe a strong correlation between hotel price and distance from Bangkok. Last but not least, during this digital era where information is almost freely flow online with near real time velocity, social media influence does play its part in incentivizing visitors, culminating in boosting an intention to stay. To elaborate, provinces with greater frequency search term "hotel" would see a rise in occupancy rate, this association seems to apply with 58 provinces that have, on average, google trend score lower than 60 such as Phra Nakhon Si Ayutthaya, Ratchaburi and Ubon Ractchathani. A possible explanation for those provinces

with scores of google trend above 60 which are less sensitive to social media influence is because they might have already been popular or well-recognized among Thai visitors, hence the increase in google trend score or social media influence might not statistically and positively correlate with the occupancy rate. Although, there is a limitation of this research regarding the use of qualitative primary data, our finding from quantitative secondary data, is in accordance with previous studies.

## **Conclusion**

This research contributes to tourism, hotel and hospitality literature. It provides a better understanding of Thai travelers' staying preference under new normal environment. Fairly speaking, this preference could be uncertain in the short run and unpredictable in the long run due to the situation of global pandemic. However, with the intention to foster Thai domestic tourism reboot, recent secondary data was used to capture factors that influence Thai travelers' hotel staying preference. The result shows that government subsidy, pricing, location and social media influence determine hotel preference which is proxied by occupancy rate. The government subsidy is the most important factor. It allows Thai visitors to enjoy local staying experience at a much lower cost. The lower the price, the greater occupancy rate, with the exception of three high cost of living and global tourist destination provinces. Shifting to geographical location, visitors prefer staying at hotel or location near Bangkok as we see occupancy rate goes down when distance from the capital goes up, on average. Finally, social media influence positively correlates with over 50 provinces staying preference. This excludes top tourist destination such as Bangkok, Phuket and Krabi.

## Recommendations for Practitioner and Policy Makers

Because hotel and hospitality have contributed significantly to Thai GDP and roughly maintained up to nearly 3 million employments nationwide, it is urgently crucial to support the restart of Thailand tourism and hospitality after the lockdown to sustain this contribution and employment. An obvious impact from the lockdown is the shortage of liquidity nationwide due to limitation of visitor number and willingness to spend. To solve this issue under new normal environment, there are three recommendations referred from our finding. First, for policy makers, we recommend the continuation of government financial subsidy as our finding reveals that the subsidy is the most important boost to staying or travelling preference. On top of that, it could indirectly lead to viral marketing which is likely to incentivize other potential visitors. To preserve long-term viability of the industry, we suggest launching marketing campaign through social media channel. Social media trend does influence willingness to stay at that location, on average, resulting in higher preference to stay, resulting in an increase of revenue and profitability. This could partially explain by the speed and cost of social media message, which is much cheaper, wider and faster than other communication channels. The social media movement allows entity to understand, monitor and influence visitor staying preferences. Lastly, for hotel business, we recommend launching a customized pricing for customer from specific geographical location as both pricing and distance directly related to their preference such as “local price for local people”. This would directly reduce cost and allows business to set a more competitive price with additional campaign to their potential customers.

## Limitations and Recommendations for Further Study

A key limitation of this research is the use of qualitative primary data. Our finding resulted from secondary data which proxies from alternative data nationwide hence future research should be done on primary data such as in-depth interview or conducting a survey from Thai tourist. It would qualitatively shed some lights on staying preference. Moreover, it is expected to add more descriptive preference to the literature with respect to respondent characteristic. On the other hand, regarding quantitative secondary data, it should focus more specifically on granular data at hotel level or regional level. This would improve the usefulness of the result in terms of setting specific business strategy given hotel characteristic. The inclusion of longer time span is expected to broaden the insights of the finding given the similarity in the situation of local health situation.

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