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FACTOR ANALYSIS OF TOURISM APPS FEATURES BY TOURIST IN KUCHING, SARAWAK

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ABSTRACT

This paper highlights the factor analysis of tourism apps features that anticipate the needs and demands of travelers. Dumping of apps that emphasized how to develop the tourism industry and can promote the arts, culture, and heritage in facilitating the travel organization by promoting their business. Producing apps need absolute research on needs and demands of inbound and outbound tourist. Objectives of this paper to identify the features of tourism Apps throughout travel needs and tourism attractions. Second is to propose the features of tourism Apps for tourists and travel agencies in Kuching, Sarawak.Because of that matter, this paper shows the items need in features of tourism apps. Quantitative method used to collect the data then analyze factor analysis using Statistical Package for Social Science. According to the findings find out there are four features in tourism apps should be includes, natural attraction, accommodation, facilities then activities and safety. The tourism industry is a wide field, before certain products are produced and certain services are offered, the producers need to analyze so the product and services can meet target market desire and demands.

1.INTRODUCTION

Malaysia has diversified tourism attractions and resources that can be used as a tool to attract tourists. They are divided into various categories such as beaches, businesses, cities, culture, and heritage, jungles, local cuisines, resorts, health care, sports as well as shopping and retails. These attractions need to be highlighted to gain the interest of tourists. Tourists are an important part of tourism because they are the target customer of the industry. They need travel Apps that can map out their desired products. Cristescu (2016), has identified five fields in which mobile Apps influenced tourists' travel experience. First, tourism mobile Apps help tourists to plan a perfect vacation through the reviews and suggestions shared in the Apps. Lately, the production of travel Apps increases from time to time due to the demands from travelers. The factor analysis is used to examine how underlying constructs can influence the response on several measured variables. Factor analysis has two types, exploratory and confirmatory. Exploratory factor analysis (EFA), attempts to discover the nature of influencing a set of

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responses while confirmatory factor analysis (CFA), tests whether a specified set of constructs influences response in a predicted way. In this study moderating, application features use confirmatory factor analysis.

1.1 Objective

i) To identify the features of tourism Apps throughout travel needs and tourism attractions
ii) To proposethe features of tourism Apps for tourists and travel agencies in Kuching, Sarawak.

1.2 Literature Review

There are four important aspects to be deliberate in Literature review are below:

- **Tourism Apps**

Tourism apps have its own impact and influence on tourist preference and to make the tourism apps before effective in order to market tourism location, product and services research of the needs by tourist must be implemented. There are variety tourism apps in the world that offering many functional features can simplify tourist to make their planning and check information. Based on Wang and Xiang (2012) classify travel apps have eleven categories. These eleven categories are; single city destination guide, online travel agency, language assistant, flight manager, theme park and resort guide, facilitators, multiple city destination guide, food finder, entertainment, live camera, and currency converter. Wang et al. (2012) also stated that recommend to doing research should focus on the influence of mobile application especially tourism application on travel planning, because travellers' decisions will be impacted by innovative of functional function in apps and emerging information channels such as mobile apps to express their opinion to the others tourist also this can become one of the marketing tools promoting tourism destination.

- **Benefits of Tourism Apps**

Hundson and Bendon (2010) in their study stated that there are ten main benefits of tourism Apps and all are independent of their functions. They are transport planning, event listing, travel planning, accommodation planning, tour guidance, providing directional services, delivering attraction experience, organizing local information, tourist assistance and providing tourist information about specific companies. These ten main benefits help tourists before, during and after their vacation. Before vacation, tourists will use tourism Apps to get as much information as possible to plan their trips properly. While during vacation, they use it mostly for directional services purposes and some will use it to share their traveling experience with other tourists after vacation.

- **Factors Influence the Tourist in using Tourism Apps**

According to Kang (2014), several main factors influence the tourist's decision in using tourism Apps. The main factors can be interpreted as either the tourists' satisfaction with the capability of the Apps in providing relevant information that helps with their vacation planning, or the efficiency and effectiveness of the Apps features in providing directional information during their vacation.

- **E-Tourism**

According to Ghorbani, Mohammadzadeh and Hossein (2020), the best way market tourism location and activities is via E-tourism for the marketers because customers look at tourism apps in terms of advertising as to announce also value for their efficiency. It will also be more cost effective for marketers to use mobile applications rather than traditional marketing tools to promoting their tourism business. In addition, users spend an average of 82% of their time working with applications and usually use 15 applications, mobile applications are divided into 5 categories as below:

i. Games and entertainment
ii. Social networks,
iii. Utility
iv. Discovery
v. Brands

One more important part in order to develop mobile application is the design of the ways presenting, colours and layout.Successful mobile application has many moving parts and much research must be undertaken to look for key characteristics that may impact successful design, functional of the features and acceptance by the users. Past research includes areas studied in the mobile context paradox, user interfaces, program designers and user's perspectives, and social issues of culture and age.
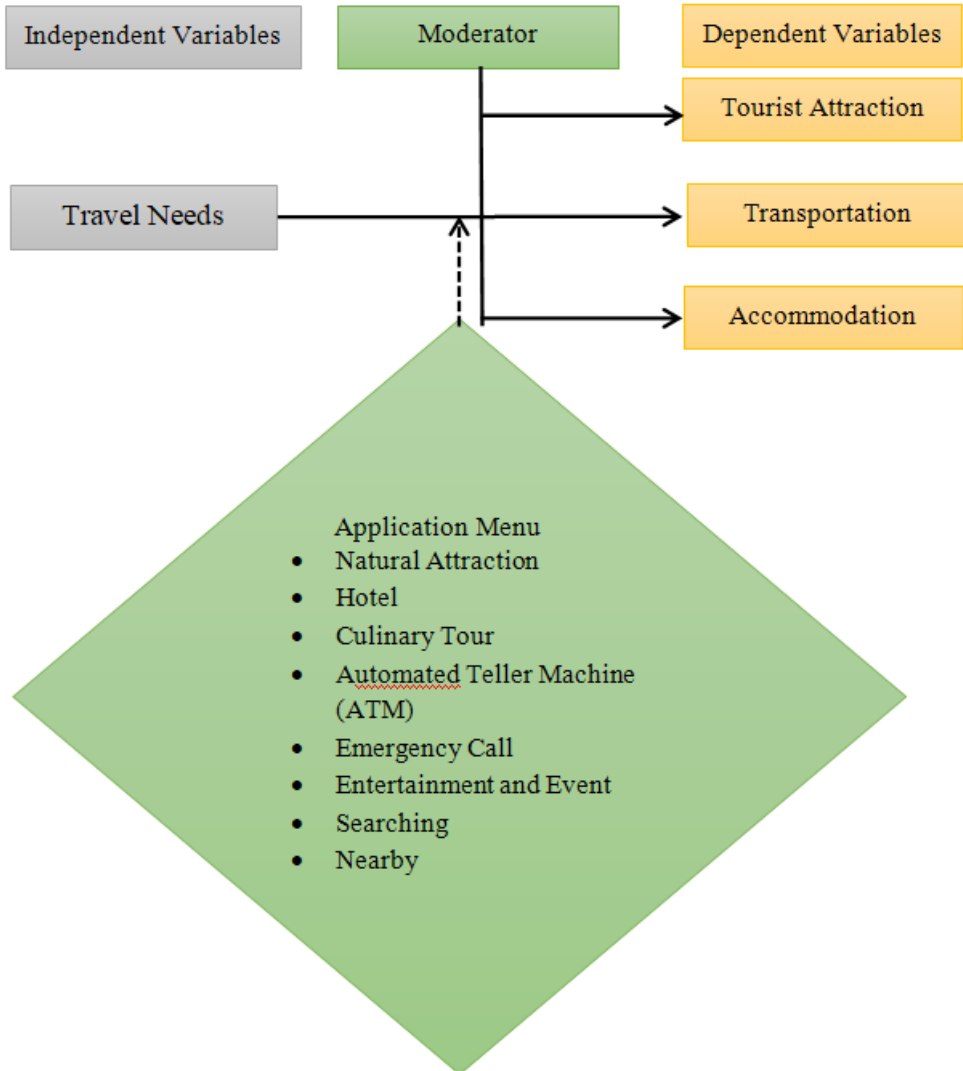
2. METHODS

This study analyses data using factor analysis. Factor analysis clearly explains to find the patterns in the correlation of each of the variables. After analyses, every item of the patterns is arranged into groups based on the result after rotated components. Factor analysis explains the measurable or observable variables rotated to suitable variables that share a common variance and are unobservable, which is known as reducing dimensionality (Bartholomew, 1980). According to Naseer (1998), The goal of factor analysis to measure the relationship between each variable. Measures that are highly correlated (either positively or negatively) are likely influenced by the same factors, while those that are relatively uncorrelated are likely influenced by different factors.

Results of framework gather from the factor analysis conducted from questionnaire data have been answered by 384 respondents around Kuching, Sarawak. By looking at tourist travel needs and tourism attractions in Kuching the result of tourism apps features needed have been identified. Factor analysis results also show Kasier – Meyer –Olkin (KMO). KMO is an analysis that measures the suitability of factor analysis results for each

variable. The measure of sampling adequacy is a measure of value that is adequate for conducting FA. A measure of >0.9 is marvellous, >0.8 is meritorious, >0.7 is middling, >0.6 is mediocre, >0.5 is miserable and <0.5 is unacceptable (George and Mallery, 2003).

3. RESULTS

3.1 Framework Moderator Variables Before Factor Analysis

Independent Variables

Moderator

Dependent Variables

Tourist Attraction

Travel Needs

Transportation

Accommodation

Application Menu
- Natural Attraction
- Hotel
- Culinary Tour
- Automated Teller Machine (ATM)
- Emergency Call
- Entertainment and Event
- Searching
- Nearby

3.2 Moderator Factor Analysis (Features of Tourism apps)

KMO and Bartlett's results shown in table below depicts the features in the tourism apps factor analysis value, which is 0.808 and considered a great value for correlation of the research. Results of Bartlett's test of sphericity is 0.000 which is significance through the factor analysis process on the 13 items counted from the 384 valid respondents. These results answered the third objective of the research which is to propose tourism apps prototypes for travelers and travel agencies.

Table 1: KMO and Bartlett's Test Moderator

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.808
Bartlett's Test of Sphericity	Approx. Chi-Square	941.414
	Df	78
	Sig.	.000

The moderator factor analysis using varimax rotation revealed that more added items will perform under the new names of variables. Before conducting the varimax rotation, only one item was identified but after the rotation, the researcher identified four new components. The results of the factor analysis using the varimax rotation revealed that the existence of the four components with initial has a value of 0.860, which is greater than other values.

Table 2: Component Transformation Matrix Moderator

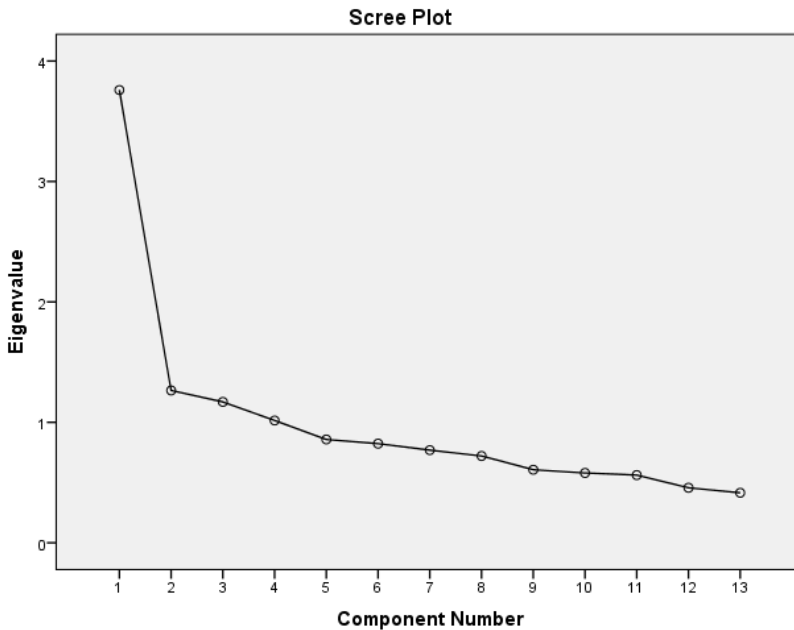| Component Transformation Matrix				
Component	1	2	3	4
1	.598	.529	.409	.442
2	-.285	-.415	.860	.087
3	-.421	.706	.253	-.510
4	-.620	.222	-.172	.733

Scree Plot

Figure 1: Result of scree plot to support validity items of features tourism apps

The result of varimax rotation also shows in the scree plot as supported factor analysis. There are four components of varimax rotation. This matter revealed that there are more added items that will perform under the new names of variables. After the rotation, the components matrix revealed that four components items that are related to the features of tourism apps. Because of that, the new variables will be added to the features of the tourism apps. Before conducting the factor analysis, the moderator only has one item with nine sub-items. However, after the factor analysis, it was revealed that there are four more components. Component 1 included ATM, transportation, emergency call and nearby facilities. The rotation varimax factor's smallest value is 0.550 and the largest value of the factor is 0.692. The new name of the first component will be named 'Facilities'. Then, the second component has four items under it; event, culinary tour, emergency call and searching. The greatest value of the items is 0.673 and the lowest is 0.508. These new variables will have their new name in the second component, which will be activities. Component Three had included three items which are hotel searching. The largest value of the factor analysis varimax of component three is 0.733 and the lowest is 0.707. After the varimax rotation, it was revealed that there are added variables and the new name of the new variables of Components Three is Accommodations. The last component which is Component 4 has three items; culinary tour, natural attraction and ATM. These matters had been added in the new component variables name natural attraction. The largest value of rotation varimax of Component Four is 0.707 and the lowest is 0.550.

Table 3: Factor Analysis of Tourism Apps Features

Rotated Component Matrix^a				
	Component			
	1	2	3	4
Facilities				
Features for ATM should state name or type of ATM	.692			.342
Transportation available should be featured to benefit mobility of tourist	.632		.389	
Emergency calls are one of the important features to ensure tourists' safety	.576			.303
Nearby aids tourists in having access to facilities and activities easily.	.550	.337		
Activities and Safety				
Showing show time of event and entertainment		.673		
Culinary tour should be included in apps		.656	.371	
Tourist can install their own emergency call	.305	.626		
Searching helps tourist to use the apps systematically		.508		
Accommodations				
Hotel searching should be included in apps	.320		.733	
Hotel searching should be filtered according to the budget			.707	
Natural Attraction				
Culinary tour should show cultural food according to the race of community				.770
Natural attraction should be included in apps			.421	.607
ATM nearby should be included	.429			.550

3.3 Framework Moderator After Factor Analysis

After doing rotated components matric the items in moderator as tourism apps features have been changed to the new one. Before rotated there are nine items all together. However, after rotated analysis, the result finds out that only four items in application features are existed. Before rotated nine items were identified as natural attraction, hotel, culinary tour, ATM, emergency call, entertainment and event, searching,

nearby places and transportation. While, after the rotation, there are four items which are facilities, natural attraction, safety and activities then accommodation. This happened because of ATM, emergency call, nearby and transportation combined in facilities items. Then, activities and safety features consist of events and entertainment, culinary tour, and searching. Furthermore, items for accommodations stand by themselves where the only hotel includes. The final item is natural attraction which consist of natural attraction, culinary tour and ATM. After the rotation new items in the moderator which is application features have created as below:
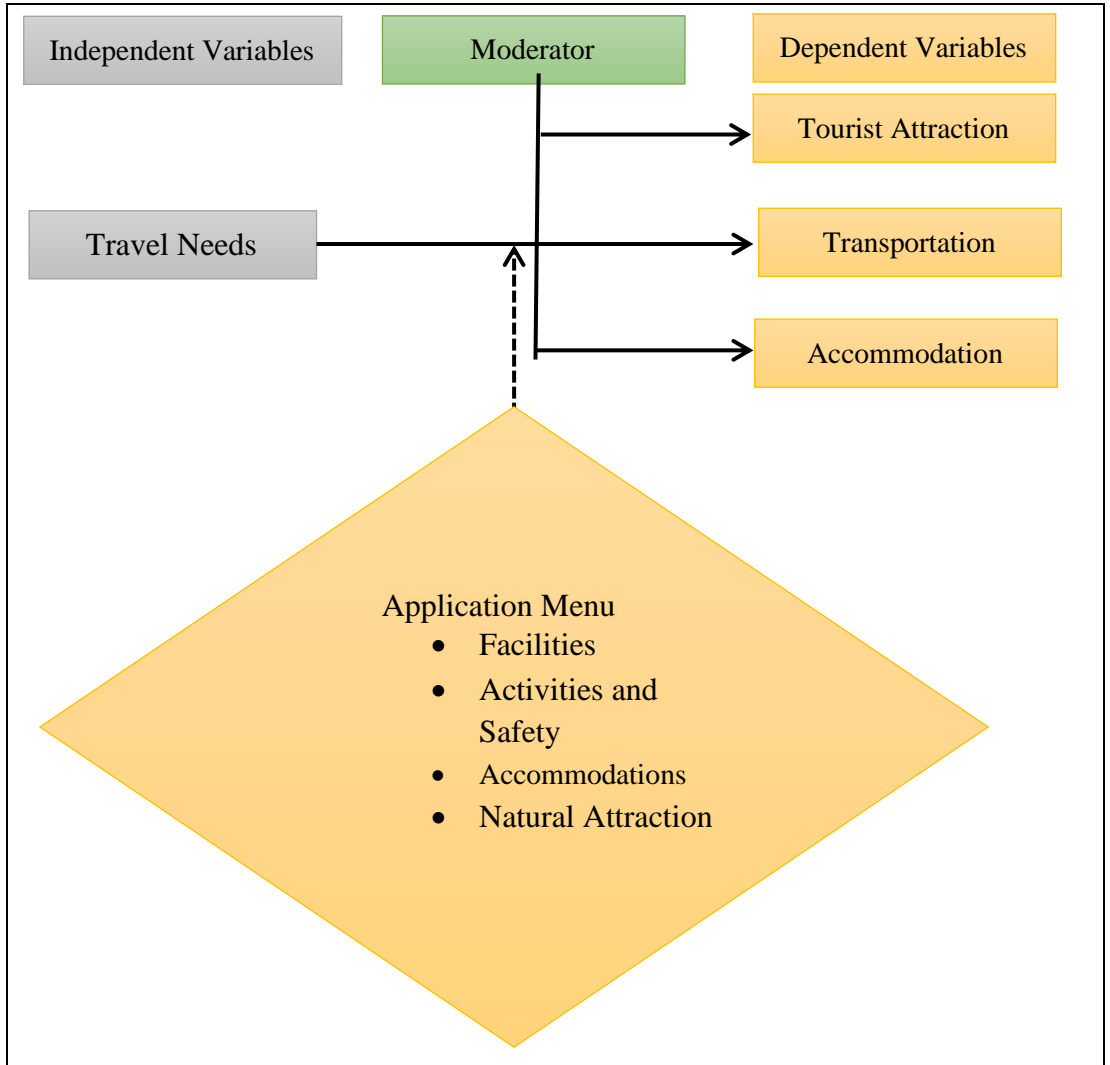
4.CONCLUSION

In conclusion, this paper has shown the features that should be included in the tourism apps menu. Divided into four components which is component 1 included ATM, transportation, emergency call and nearby facilities. The new name of the first component will be named 'Facilities'. Then, the second component has four items under it; event, culinary tour, emergency call and searching. These new variables will have their new name in the second component, which will be 'Activities'. After the varimax rotation, it was revealed that there is hotel stand by itself in onevariablethe new name of the new variables of Components Three is Accommodations. The last component which is Component 4 has three items; culinary tour, natural attraction and ATM. These matters had been added in the new component variables name as natural attraction.Hopefully, this feature of tourism apps can help the Key of Tourism Association to update their database and information based on tourist travel needs and tourism attractions in Kuching. Besides, this research is also carried out to provide information that is needed by the Key of Tourism Association in Kuching Sarawak to improve, promote and market their products and services in proposed features of tourism apps. Moreover, this research also to increase their awareness on the importance of tourism Apps in marketing their brands. Other than that, this study is conducted to increase the efficiency of the local tourism industry. The inclusion and use of technology such as tourism Apps are hopefully able to help the Minister of Tourism, Arts, Culture, Youth and Sports of Sarawak to develop the local tourism industry along to the Sarawak Digital Economy strategy. The propose features of the tourism Apps will highlight on the tourist's attractions around directly help to market various interesting activities and adventures in Kuching, Sarawak.

9. ACKNOWLEDGEMENT

AUTHORS PROFILE

Qistina Donna Lee Abdullah is an Associate Professor at the Faculty of Applied and Creative Arts, University Malaysia Sarawak (UNIMAS). She gained her PhD in Office Management System (Event Management)

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Aimuni Athirah Binti Latif is a student pursuing Masters in Arts in University Malaysia Sarawak (UNIMAS). She has graduated with Bachelor of Applied Arts with Honours majoring in Arts Management field. Her current research is on the significance of using tourism apps to influence tourist travel experience. She also possesses some experience in the education field by aiding her supervisor in taking up tutorial classes and small scaled lectures. taught courses such as Funding and Sponsorship in the arts, Financial Management in the arts Organization, Research Methodology and many more. This experience gave her a deep appreciation on how important is her career and self-improvement in determining the future generations.

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