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## **THE TOURISTS' SPATIAL BEHAVIOUR AND TOURIST MOVEMENT PATTERN IN MUAR JOHOR**

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### **Abstract**

Unsystematic transportation system and accessibility, fewer tourism packages supply, and disorganised digital marketing strategy in destination management are the factors of the limitation of the tourist movement in a destination. Therefore, this research aims to determine the characteristics of the tourist's spatial behaviour and tourist movement pattern in Muar, Johor. This research implemented a qualitative method through the semi-structured interview, which involved seven respondents who visited Muar, Johor. The result shows the characteristics of tourists' spatial behaviour and tourist's movement pattern has a significant interaction in investigating visiting characteristics, spatial data and movement. In the context of the macro-level movement pattern, the findings indicate that Muar has the potential to be developed as a one-day trip and three days one-night trip destination. Hence, it has positively affected tourism destination management to improve the travel package for domestic and international tourists. The main contribution of this research is to apply the mutual understanding of the tourist movement concept among visitors in investigating the complex visitor movement during travel related to the physical environment factor such as attractions, route and accessibility, and mode of transportation influenced by tourists' spatial behaviour. This study can also be a primary reference for Muar local authority and destination management to ameliorate many aspects of creating an efficient tourist movement considering sustainable development in the urban heritage area.

**Keywords:** Muar Royal Town, tourist spatial behaviour, tourist movement pattern, urban heritage

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## **INTRODUCTION**

People travelling would produce the movement which acquires the mobility of human on the earth. The human movement pattern was formed purposely with meaningful interest and intention to travel, influenced by personal behaviour characteristics. The movements produce various patterns characterised by the numerous locations visited at different times. It provides plentiful benefits for the global economy in receiving a huge number of tourist arrival in tourism destination. Encouraging tourist arrival from different parts of the world is vital (Md Khairi, 2017); it is also critical to analyse tourists' movement and spatial behaviour to investigate the demand and supply in the tourism sector. The digital technologies application in the tourism industry influences traveller's experiences to contribute significant roles in tourism economy growth and social changes. The relevant use of the internet in tourism has unearthed more knowledge about consumer or tourist products (Masron et al., 2014). This is one of the strategies to increase the development of the destination for recovering the management of visitor flow (UNWTO, 2019).

The International Tourism Highlight 2019 specifies that travellers' current trend nowadays is to pursue a healthy life by encouraging walking and wellness tourism. Henceforth, solo travellers and multigenerational travel are considered as the ageing population in tourist flow. For instance, these travellers live like the locals and appreciate the authenticity and experiencing travel moments through social media updates during their visit. Thus, it is crucial to create awareness of sustainability in the tourism movement.

The increasing number of tourist arrival and receipts to Malaysia in 2018 and 2019 contributes to the positive achievement. Thus, it can be evident that Malaysia is a leading country in the modernisation of tourism industry performance nowadays, aligned with The Malaysian Government's Economic Transformation Programme (ETP) Roadmap, which is considered as the Malaysian Government initiative to refurbish and re-emerge Malaysia as a favourable tourism destination in the world (Aminudin et al., 2018).

In order to increase the number of tourist arrival, tourists nowadays face limitations in their movement of the journey while visiting attractions. The movement limitations can occur in transportation and accessibility, namely road congestion and the insufficient supply of public transportation. As a result, the pattern of movement based on distance, mode of transportation and tourist typology are imperative elements that need to be considered (Caldito & Dimanche, 2016). In addition to that, spatial demographic studies are still lacking in Malaysia due to data paucity (Tey et al., 2021).

Hence, in realising Malaysia's vision 2020-2030 to achieve tourism firms more competitive, while also encouraging sustainability and planning for future disasters, the federal government initiates the appropriate visitor

management by optimising the design of tourist services and improving tourist infrastructural and facilities development (Dandy, 2020). Thus, these will be the factors to attract more tourists with the diversity of tourist flow patterns in tourist destination areas. This research highlighted the importance of the theoretical understanding of tourist movement patterns in developing tourism products consisting of various attractions. Besides, it is also essential to produce a feasible tour product and provide eminence places according to its interest and preferences. Hence, the tourist movement pattern is vital in determining tourist arrivals and receipts, whether international and domestic. It will create an understanding of factors that affect tourist choices in visited places and the tourists' spatial behaviour and tourist movement pattern characteristic (Caldito & Dimanche, 2016). Places characterised by various tourism products and tourist facilities will lead to tourist satisfaction, fulfilling tourist wants and preferences during visitation.

Numerous academics in this field have examined the suitable methodology in determining the characteristics of tourist spatial behaviour and the factors that influence their movement pattern. The study from Sabereh Dejbakhsh (2008) stated that the tourist movement characteristic can be categorized into two main aspects name destination and visiting characteristic through differing needs and preferences of the particular group of visitors. The study has introduced the concept of simplified sketches of macro-level movement pattern by Lau and McKercher, 2007. Furthermore, in the context of identifying tourist spatial behaviour, Jian Hong Xia (2007) has developed a methodological framework in understanding tourist wayfinding behaviours through classified various age groups, residency, gender, and different level of familiarity with the physical environment. The model of a general map of the spatio-temporal movement has been developed which to derive the concept of ontology of the spatio-temporal movement of tourist. The aspects of the study discussed were involved in interactive interview methods from visitors. Based on the model and concept discussed it would be the main reference to address the characteristics of tourists' spatial behaviour and tourist movement in Muar, Royal Town, Johor. In conclusion, the present study intended to fill gaps in research by integrating the aspects of tourists' spatial behaviour and tourist movement patterns specifically in Muar Royal Town, Johor. Most of the study is mainly focusing on the characteristics of tourists' spatial behaviour and tourist movement pattern in urban heritage areas which considering the individual spatial data and movement patterns in the destination region. Therefore, the findings from this study could be utilized the domestic and international visitors' participation in three aspects namely characteristics of tourists' spatial behaviour, tourist movement pattern, and GPS data. It is enabling advances in tourist tracking, social media geotagging through smartphone applications and it allows people to reach movements

accurately. Hence, it is important to determine tourist's spatial behaviour in creating the efficiency of tourist movement patterns in Muar Royal Town, Johor as a potential destination to be developed as a popular tourist destination in Malaysia.

### **Tourist Movement Pattern**

Tourist movement pattern characteristics can be viewed as a change of position or location. Understanding the movement concept can be analysed as human's movement, demonstrating a pattern of mobility on earth (Fithriah et al., 2018). The human's movement is illustrated through the relationship formed between the places. It is similar to the context of tourism whereby tourist movement created to be to visit an attraction. This is showing the human needs to move from place of origin to destination with plenty of purposes.

The concept of tourist movement pattern developed based on the points of tourist destinations, namely routes taken to visit a destination and the routes taken from the duration of tourists visiting the place. There were researchers agreed that the main focus of travel pattern would be influenced by tourist behaviour. Thus, knowing the attractiveness of a destination through tourist movement patterns is important due to identifying the attraction attractiveness, tourist preference, cultural recognition and effectiveness of destination marketing (EJ Kim, Y Jo, & Y Kang, 2018; Zhong et al., 2019). The tourist movement patterns involve two types of movement levels, namely macro level and micro level. This study focuses on the macro-level movement patterns by reviewing the simplified sketches. It is relevant for determining tourist movement patterns by understanding simplified sketches due to know the nature of space and describe the occurrence of tourist activities based on their preferences (Dejbakhsh, 2008). The patterns were identified by previous studies (Lau and Mckercher, 2006) consist that the macro-level of movement patterns have three main categories, namely single, multiple, and complex. The patterns categories as listed as follows.

1. Single pattern refers to the same route used by tourists for visiting a single destination and returning home without any diversions in the whole visitation process.
2. Multiple patterns refer to the three sub-patterns, namely base site, stopover, and chaining loop. Base site pattern illustrates tourists' journey, which starts from home and travels to a primary destination. The journey makes the 'base camp' for future overnight visits to secondary destinations within that particular area. The stopover pattern is a single destination as the trip's focus, whereby the attractions along the route are present. Finally, the chaining loop pattern demonstrates the several destinations go through by

tourists without any repetition. Usually, tourists stop in between the loop, which may not necessarily be related or connected.

3. Complex pattern refers to the two types of sub-patterns, namely destination-region loop and complex neighbourhood. The destination region loop indicates tourists' direct route as part of their travel to a primary destination or a site near the destination region. It starts from a circuitous route to visiting other destinations. Due to that, tourists prefer to finish their travel by touring loop approach to returning home through the most direct route between the primary destination and home. This pattern is a combination of the single-point and the 'chaining-loop' pattern. Meanwhile, complex neighbourhood refers to tourists who prefer to travel from one destination to another without repeating the travelling leg, which tends to plenty of places or attractions within a specific region. It can be seen from the combination of some or all patterns mentioned. Thus, this pattern most suitable for describing the complexity of tourist movement patterns, allowing deviations and blending of a different pattern.

## **RESEARCH METHODOLOGY**

This research has employed a qualitative methodology in which emphasised on semi-structured interviewing approach. Qualitative research involving humans in many aspects of ethics, study relational, situational, and emerging (Kyngäs et al., 2020). GPS tracking devices considered as another method in the data collection process to determine tourists' spatial behaviour and tourist movement pattern. In this process, the aspect that needs to be concerned is departure point (address traveller generating region), way point (address transit region), destination point (address tourist destination region), routing points and trip itinerary. Other research has found that qualitative research would focus on the humanist essence to achieve understanding through express social reality behaviour and thinking (Macías & Contreras, 2019). Therefore, it is suitably used for determining tourist's spatial behaviour and tourist movement patterns through a tourist perspective. Conducting this research has focused on the visitors who visited Muar to identify the different viewpoints about the spatial behaviour and tourist movement pattern. Population and sample size is a vital consideration in market research whereby this research has focused purposive sampling which is reliable for identifying and selecting information related to the phenomenon approach. This research has focused on seven respondents interviewed among Malaysian and International visitors who had visited Muar Royal Town, Johor. It is a reliable number of respondents for doing semi-structured interviews method (Morse, 2000). The category of targeted respondents is among youth and eldest. Besides, the targeted respondents are domestic visitors who came from adjacent districts

or states. Therefore, identifying interviewees characteristics and behaviour are deemed critical for emerged research findings.

## RESULT AND DISCUSSION

This result demonstrates the conceptualisation of tourist's spatial behaviour and tourist movement patterns through the Global Positioning System (GPS) tracking device. It was investigated through GPS personal and interview data collected from visitors.



**Figure 1:** Map of Muar Royal Town Johor

Figure 1 indicates the map of Muar Royal Town, Johor, the focus study area. The highlighted areas are following the interviews and GPS data during two days of data collection. Thus, the research has found that the study areas have covered within seven road boundaries namely Kampung Parit Besar, Taman Meranti, Jalan Bentayan, Muar City, Jalan Kesang, Kampung Temang, and Rizab Melayu Tanjung Gading



**Figure 2:** The Preferable Places and Activities (Leisure and Recreations, and Local Food and Beverage Attractions) Analysis



**Figure 3:** The Preferable Places and Activities (Shopping Centre and Entertainment, and Community Village Attractions) Analysis

The tourist spatial behaviour maps were analysed by analysing the zoning area of preferable places and activities based on GPS and interviews data from respondents. The result shows the four main zoning areas: leisure and recreation, local food and beverage restaurant, shopping centre and entertainment, and community village. The zoning analysis was determined by dividing the areas into a specific road of boundaries and locations. Thus, the location of all respondents is important to be pointed out on the map.

Figure 2 demonstrates the preferable places and activities analysis which specifically focusing on leisure and recreation and local food and beverage restaurant areas. These two areas have been classified under hot spot attractions whereby the leisure and recreation zone has recorded 85% confidence from six respondents (R1, R2, R3, R4, R5, and R6). Additionally, this zone is characterised in the red circle because the place is considered an attraction popular among visitors. Meanwhile, for local food and beverage restaurant zone has recorded 72% confidence from five respondents (R1, R2, R3, R4 and R7). The zones allocation has been shaped in green because the areas have been categorised into different roads. It indicates the respondents who visited those places are different preferences in selecting local food and beverage restaurant.

Figure 3 shows the preferable places and activities analysis concentrating on shopping centres and entertainment and community village. Tourist spatial behaviour results demonstrated that shopping centres and entertainment are categorised as non-prominent places among respondents, which recorded 28% confidence from R5. Meanwhile, for community village zone at Sabak Awor village has been categorised as not significant visitation among respondents, which recorded 15% confidence from R7.



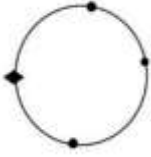

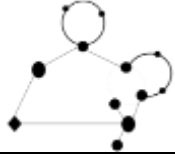
### Tourist Movement Pattern Map


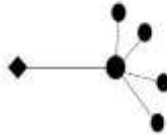
This section focuses on the tourist movement pattern based on GPS and interview data. The maps have been designed according to a specific travel itinerary that respondents mentioned during the interview session. The respondents can conceptualise the movement pattern through travel memories that describe six aspects: transportation, accessibility, tourist movement around the location, overall time allocation for one trip, time distance, and the corresponding time or duration. All these data acquisitions have been triangulated with GPS tracking data on a specific date.

**Table 1** The Overall Data of Tourist Movement Pattern

Respondents	Tourist Generating Region (TGR)	Tourist Destination Region (TDR)	Departure Time to Destination and Time In Destination	Overall time distance within destination area	Tourist movement patterns
Transportation Mode					Types of travel itinerary
R1 Car Motorcycle	Kelang, Selangor	Primary destination: Muar  Secondary destination: Melaka	From Kelang, Selangor (08:00AM) to Muar (10:25AM)	52 minutes	<b>Complex neighbourhood (2 days 1 night trip)</b>



						
R2 Ferry Walking Bus	Dumai, Riau Indonesia	Primary destination: Muar Ferry Terminal  Secondary destination: Kemaman Terengganu	From Dumai City (1;30PM) to Muar Ferry Terminal (5.30PM)	51 minutes	<b>Stopover</b> (Half day / one day trip)	
R3 Car	Simpang Renggam	Primary destination: Melaka  Secondary destination: Muar	From Melaka (2:30PM) to Muar (3:20PM)	45 minutes	<b>Chaining loop</b> (1 day trip)	
R4 Car	Kuala Lumpur	Primary destination: Bukit Gambir  Secondary destination: Muar	From Bukit Gambir (3:30PM) to Muar (4:10PM)	42 minutes	<b>Destination region loop</b> (3 days 2 night trip)	
R5 Bus Car Walking	Pulau Pinang	Primary destination: Bentayan Bus Station, Muar  Secondary destination: Edu Hub Pagoh	From Pulau Pinang (10:00PM) to Bentayan Bus Station (10:00AM)	35 minutes	<b>Complex neighbourhood</b> (Half day' one day trip)	
R6 Car	Kuala Pilah, Negeri Sembilan	Primary destination: Muar City	From Kuala Pilah, Negeri Sembilan (5:30PM) to	10 minutes	<b>Single point</b> (Half day trip)	

		Secondary destination: Edu Hub Pagoh	Muar City (6:25PM)		
R7 Car	Kuala Lumpur	Primary destination: Muar City  Secondary destination: Edu Hub Pagoh	From Kuala Lumpur (10:00AM) to Muar (12:10PM)	32 minutes	<b>Base site (I day trip)</b> 

The description on maps is showing the overall data of movement patterns for each respondent. Investigating the aspects of tourists' spatial behaviour and tourist movement patterns through GPS tracking data can be thoroughly described into two aspects namely map of the most preferable attractions among visitors and the tourist movement pattern. Map of the most preferable attractions shows the spatial behaviour among visitors. Meanwhile, tourist movement pattern shows the flow of movement through GPS tracking data that matching with simplified sketches of movement (Lau and Mc Kercher, 2007). The first aspect of this section has mapped out the preferable attractions through zoning the areas into four divisions namely culture and heritage, leisure and recreations, natural heritage, and shopping centre. The data shows that the map of preferable attractions among visitors contributes to culture and heritage, and leisure and recreation attractions. The second aspect of this section has demonstrated the tourist movement pattern that has been outlined on Google Maps according to GPS tracking data. As an outcome, each respondent has been characterized into different macro-level of movement namely based site, single point, stopover, chaining loop, destination region loops and complex neighbourhood.

## CONCLUSION

In conclusion, this research has employed a qualitative methodology for determining tourists' spatial behaviour and tourist movement patterns through a semi-structured interview approach and GPS. This research recommends two main arguments to achieve a mutual understanding of the tourists' spatial behaviour and tourist movement pattern characteristics in Muar, Johor. Hence, the stakeholders might have to emphasise the strategies implemented in tourist destination management to incorporate digital elements and heritage value of Muar. Therefore, this study has successfully delivered a better understanding of tourists' spatial behaviour and tourist movement characteristics through a tourist

perspective. One of the significant outcomes of this research is to clarify the route and movement issues in Muar by integrating interview data and simplified sketches of macro-level movement theory. Thus, researchers and developers from different disciplines can share their knowledge in this area to benefit from this research. The review of tourist perspective on attractions image in Muar also can provide a direction in transportation planning of future facilities and infrastructure in Muar, Johor. The processed data provided a better awareness of the tourist movement in Muar Royal Town that has the potential to be developed as sustainable development in the future.

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