



The End-User's Satisfaction of Public Space in Dataran Cendekia UiTM Shah Alam

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DOI: <https://doi.org/10.30880/ijscet.2021.12.03.019>

Received 22 May 2021; Accepted 15 October 2021; Available online 2 December 2021

Abstract: Successful public space should meet the needs of all people in different social classes, ages, genders, ethnicities and backgrounds. These substantially beneficial spaces provide physical, social and psychological comfort for public user. Dataran Cendekia UiTM Shah Alam shows lacks of satisfactorily public open spaces that meet user needs. The main question raised in this research is 'what are the public user satisfaction and the quality of public space towards a better public space?' This research aims to investigate the quality and public's satisfaction towards a public space at Dataran Cendekia UiTM Shah Alam. The research employed a set of questionnaires that involves quantitative approach to achieve a precise data collection and information. The finding shows that the public facilities, activities, landscape and maintenance plays a huge and significant role in attracting people to the public open space. The research disclosed that the public users are only having passive activities in the public spaces. The results showed that the lack of quality in facilities and also lack of interesting activities affect social experiences in public space. Furthermore, the lack of proper shades. In summary, the physical factors, social activities and events, inclusiveness and social interactions, and design features are the public space contributing factors to the creation of a successful public open space.

Keywords: Public space facilities, quality elements of public space, public satisfaction

1. Introduction

Public spaces are important as they constitute an important part of Malaysia's city elements. Public space is an important part of the development of a city and contributes to the quality of life. Furthermore, public space becomes inevitable if a certain number of issues involve public and urban areas are concerned with public space. According to Amir (2014), public space is essential to supporting municipalities in public structures. It is an adequate space for social events such as cultural events or the declaration of political freedom. In addition, he said that public space is a physical space that is unique and attractive in urban areas, which allows everyone from different backgrounds to make use of the prejudice and which have open access for a variety of physical conditions. In short, public space is an integral part of an urban area which plays a huge role in enhancing the quality of an urban environment in the city. Public space regardless of their individual, social and cultural differences.

Moreover, public space satisfies a number of social needs with different functions and features. As Cheesbrough et. al. mentioned (2019), there are so many people in the city that they have to see and talk to and there are so many beautiful optional activities in a good public space. The relationship between public space quality and public satisfaction can therefore be established. Schaefer-Borrego (2017) reports that successful public spaces have three or more basic features,

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which are responsive to a wide range of activities, are free to public users and have a connection between human beings, space and the environment as a whole, without Public space is an important space and asset which it provides people many opportunities to come together and engage with the community. Public spaces also form an integral part of the green space in urban areas that benefit the well-being of people in different forms, including physical, emotional and social health. A successful public space has its own elements and criteria that lead to the maximum satisfaction of the public user. However, there are some issues and few lacking elements at the public spaces where it may lead to an ineffective public space. As we can see, most of the public space in Malaysia's are seldom used by citizens due to a several reasons and problems. The chosen case study is Dataran Cendekia (DC) in UiTM Shah Alam. Dataran Cendekia (DC) is one of the public spaces which are mostly utilized by students in UiTM Shah Alam. Besides, the location is at the centre of UiTM Shah Alam which surrounded by student's colleges. It serves as one of the main public places in UiTM Shah Alam. However, there are a number of issues that lead to unsatisfactory which includes; the lack of sufficient protection against adverse weather consequences such as trees and rooftop walkway and seating area (Rajjan, 2016, Dyah, 2013);, lack of activities and attraction whereby end users are only able to do passive activity such as eating (Cheesbrough, et. al., 2019, Marek, 2015) and lack of maintenance and facilities especially on the landscaping and environments (Praliya & Garg 2019).

2. Quality and user' perceptions in public space

The significances of public space are through the perspective of individual, community and city. The main purpose study to explore and establish, through the satisfaction and perception of users, the attributes of successful public space. The main feature is beneficial to an integrated project to revitalize public space that can be used by public users in a meaningful manner. Hence, developing appropriate planning strategies to improve their performance and comparing public space performance in specific urban and different urban areas to encourage the competitiveness of cities to improve their public space quality.

According to Wojnarowska (2016), public space is an important element of urban structure, playing a variety of spatial, social and economic roles in cities and cities. Its quality affects the quality of life of its inhabitants and the attractiveness of the city as a whole. Public space located in the centre of the city is the most representative of its identity and image, and also serves multiple functions and activities. In the opinion of Wojnarowska (2017) and Gruszecka et. al. (2009), the definition of public space usually takes the form of land ownership and space form as a basis for its functions. According to Alfatih (2018) and Dyah (2013), the essential characteristic of a public space is its open space that is accessible to all users, its spatial form as urban space and its capacity for various types of activities or interactions. Public space is a designed organization for the purposes of physical, social, meaning and governance. Not only the spatial elements of space, but the social context need to be understood. Space development forced by different elements will generate continuous space transformation over time to satisfy human needs. The approach thus covers the experiences and interpretations of individuals and groups that bring about common social, cultural, physiological characteristics and needs and that should be reflected in the proper elements of the physical public space.

Rouhi et. al. (2017) stated that, parks create a substantial part of the urban green space. In addition to the beauty which creates from the perspective of urban development, the role of these parks is fully evident in reducing environmental problems they can be seen as one of the most appropriate places for people to spend leisure time and cultural activities, social activities, leisure and so on. The observation and perception of landscape by humans is of great importance in and determines the satisfaction and unhappiness of the perception and understanding of the environment. Grant (2012) stated that space planning is a key element in the cycle of architectural design. It starts with a thorough analysis of how to use public space. The designer then drafts a plan that defines the space zones and the activities to be carried out in those areas. The space plan will also describe the movement trends that show how people move across space. The plan is finalized by adding details of all the facilities and amenities, vegetation, landscaping including softscape and hardscape and others related equipment. Efficient public spaces are in the long run an outdoor environment which works beyond the users' typical space of recreation, ensures social sustainability, psychological care and unlimited outdoor opportunity, with a feeling of comfort, protection and social stability and invites users to visit frequently (McCay et. al., 2019).

The main function of open space was, as reported in Elham (2013), to enable people to engage in various activities. The nature and function of open spaces have constantly been altered by cultural, social, economic and political changes. Thus, a good public space must meet certain cognitive, economic, organizational and visual needs. Deep understanding of successful public spaces by designers will promote good quality and long-term popular use, leading to a successful development project. Furthermore, Hanan (2014) said public space is an attractive and safe place to live, work and play with people. Community planning also includes architectural practices as important facilities that allow the public to choose and spend more of their free time. Efficient public spaces are in the long run an outdoor environment which works beyond the users' typical space of recreation, ensures social sustainability, psychological care and unlimited outdoor opportunity, with a feeling of comfort, protection and social stability and invites users to visit frequently (McCay et. al., 2019).

del Campo et. al. (2020) study argues that public-space activities are essential to public- space perceptions. He distinguished three major public space activities necessary for our activities, the optional activities we choose to carry out when the location and time is conducive and also (social) activities that depend on the presence of others in public space. Therefore, Wojnarowska, A, (2016) said that quality in varying areas of urban development is becoming recently an increasingly important topic for research. One of the causes of this trend is the broad implementation, with the aim of improving the quality of life and the principle of sustainable development as the basis of human civilization. Public space served its purpose as a place where people can meet and interact. Besides, activities in public space come with many features and elements that exist in such areas is ideal and could be a place for people to interact and enjoy themselves.

The essential factors that attract people to open spaces are sitting areas, dining areas, shopping, sports and activities and enough toilets. Social interactions, sharing ideas and learning from others, practicing religious thoughts, spending free time, enhancing quality of life and feelings are the hidden opportunities that contribute to physical, social and psychological comfort in public open spaces. In addition, Amir (2014) pointed out that social interaction between different groups is one of the main issues in the use of open spaces by the public. Physical and psychological confidentiality, group equal rights, security and safety, compliance, cleanliness, cleanliness, art, locations, access to visual and physical materials, the delivery of numerous sociocultural activities and events, excluding offensive groups. Furthermore, Praliya, S., & Garg, P. (2019) argues that the park should be designed specifically for children and contains a variety of swings and a large area for children to enjoy, run around and play in which it is also enjoyed by families and is a popular place for morning walkers of a public space. Hence, various activities and facilities like a small open theatre, a public library, new landscape features, fountains, new swings and public amenities in a public park with the carrying out of regular maintenance works will attracts visitors from the entire city as well as a large number of tourists.

3. Methodology

This research focuses on the quality and level of satisfaction of users to understand the success of public space. To achieve this, this study used a quantitative approach to the data collection process. The study consisted of a series of well-structured questionnaires on the quality elements of the public space, as well as on the satisfaction of the public space user, involving, in particular, people with experience and familiarity with Dataran Cendekia UiTM Shah Alam. The questionnaires shall consist of three (3) main sections, the following:

- 1)Part A: Demographic Specifications
- 2)Part B: Public Space Quality
- 3)Part C: The Satisfaction of Public Users

Components of questionnaires structured on the basis of previous literature review theories and secondary source data. Åkerblad (2020) pointed out, theories are essential in the development of questionnaires to guide data collection and analysis of findings in order to address the research objective. In fact, each section of the questionnaires has been structured and classified to respond to each study objective. Part A deals with demographic data. In addition, respondents were asked about what are the purpose and the reason for visit to Dataran Cendekia, as well as the length of time spent. Part B is structured to determine the quality of the public space in order to achieve the second objective while Part C is concerned with the public space user satisfaction survey, it is intended to achieve the third objective of the study. The overall idea is to find out how the relationship between quality and user satisfaction can be established after the data collection has been distributed and collected. The correlation aspects of this study are the relationship between quality and user satisfaction. The purpose of the correlation is to identify the strength of the connection and the link between quality and people's satisfaction. This objective will help to identify high and low readings and the value of each element of quality and user satisfaction. As a result, the correlation will be generated by using the Pearson Matrix Correlation. The study setting involved in this study is not contrived. In other words, in field studies and experiments where data collection were conducted in a natural setting at Dataran Cendekia UiTM Shah Alam. Thus, the undetermined setting is where the research parameters are studied in the natural environment where they normally occur:

- 1)In the field
- 2)Field studies: no or minimal inference on the part of the researcher, observation
- 3)Field experiments: certain manipulation of variables

In addition, an uncontrolled or uncontrolled setting is the natural environment in which events normally occur. Examples of undetermined settings include field studies and field experiments. Such studies on the part of the researcher are carried out with very limited interventions. Researchers did not have control over the variables and therefore the research setting is not contrived. Furthermore, to study in a natural setting is basically to observe in their "real life" environments. This method can be time-consuming to collect information that specifically trying to obtain on project. In this study the unit of analysis or respondent will be limited only for the individual or groups who has visited Dataran

Cendekia specifically for students, non-student including outside visitors or anyone who has visited and experienced the space.

The site study focuses at Dataran Cendekia UiTM Shah Alam, setting out the background against which the research case studies can be both understood and analyzed. There is also an analysis of the planning, identification of facilities and amenities in the public spaces, which contributes to meet the objective of this study. The total size area of public space Dataran Cendekia is approximate 8,532.45 m². Dataran Cendekia can be divided into two (2) sections of space. The first section is the food stall area which has more than twelve (12) stall in an area included with seating area around the stall area. Auto Teller Machine (ATM) also provided at the centre area of the space. The second section is the open space area where the events mostly will be conducted at the area. There is more than eighty (80) side carparks provided at the space and 1 bus stop located at the south area of the space. This study used both on-site and on-line surveys for the distribution of questionnaires. An online survey or an online survey is one of the most popular sources of data collection, where a set of survey questions are sent to 500 targeted respondents. Respondents receive online surveys through various media such as email, embedded websites, social media and other related social media platforms. The online survey will make it possible to create and manage survey tools online. As a result, this study used the Google Form survey as the main survey tools to collect data that helps to generate questions and any subscales so that they can be easily analyzed and answered by question research.

3.1. Research Framework

The research framework study shown in Figure 1 shows the whole structure and process of the study. The figure outlines the topic of the study, the aims and objective and the scope and limitation for preliminary stage. The objective of the initial stage is to define the problem statement, the purpose of the study and also the aims of this study. The objective is to identify the characteristics and elements of a public space that contributed to quality of the space as well as satisfaction of users. The next stage listed the various literature review related to this study followed by the research methodology stage including the introduction of the case study chosen. The literature review analyses the various issues of open public spaces in order to identify urban gaps in the field that form the theoretical framework, assists in the selection of areas of the study and sets out the research objectives. The figure also mentioned the research methodology stage which it explained the instruments used to gather data and the others related process involved in conducting this study.

The last stage was the data analysis, findings, discussion and also conclusion with recommendation were also prepared to elaborate deeper understanding of the study. Thus, these findings of research generated a conclusion and suggestion for the improvement of Dataran Cendekia in future. At the end, the study revealed the results which helps to generate a relevance recommendation that provided practical suggestions for the future development of the Dataran Cendekia in UiTM Shah Alam as successful public spaces. This stage pointed out the outcomes significantly help urban planners improve the design based on public life across different groups within society. The following issues contribute to the research structure:

1. Identifying the meaning, context and assumptions of open public spaces, the value of such spaces, the needs of people or common users and their participation in such spaces, and the role of such spaces in enhancing urban public life.
2. Descriptive and inferential statistical analysis of public opinion and comments on social issues in public open spaces.
3. Mapping the impact of results on people's involvement in public spaces.
4. Documenting results in relation to research objectives to generate hypotheses and suggestions.
5. To extract the results of the tests on how the findings can be implemented and how the future design of public spaces can be affected.

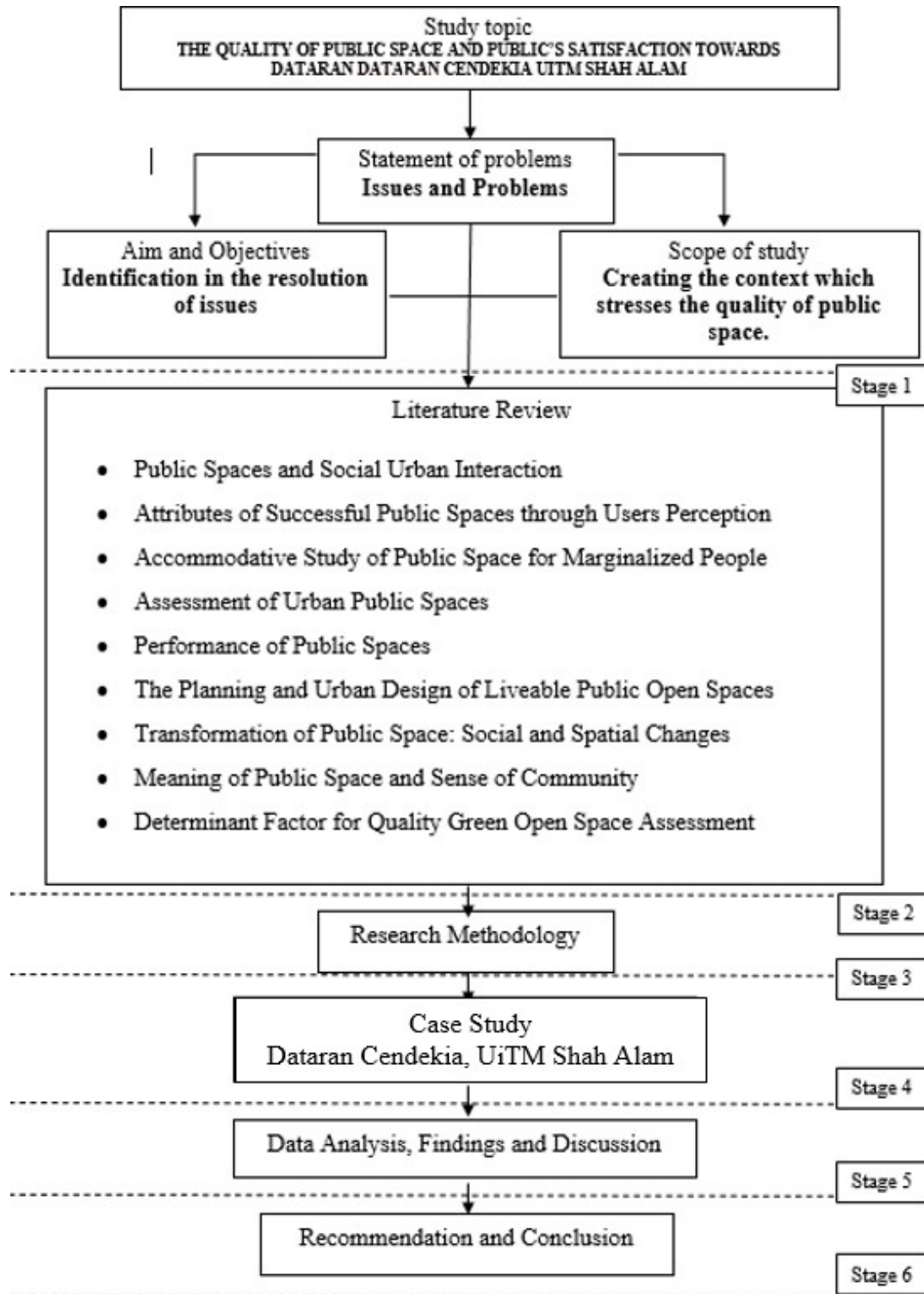


Fig. 1 - The research framework

The first section (Part A) of this questionnaire gives information about the demographic profiles of the participants. The second section which is (Part B) is about the quality of the public space. The last section (Part C) is to investigate the satisfaction of the respondents. Both part of the questionnaires will be analysed using descriptive analysis in Statistical Product and Service Solutions 14 (SPSS 14) software. The questionnaires was send to 500 targeted respondents and with 100 feedback return. The relationship of the quality of the space and respondent satisfaction can be made to achieve third objective of the study that analyzed using Pearson matrix correlation. For each part and section of the questionnaires, the data collected by the distribution questionnaires in the online survey will be analyzed in further detail below.

Table 1 - The objectives of the study

Research Question 1	What is the main deficiency of the public space at Dataran Cendekia?
Research Question 2	Why the level of public’s satisfaction is important towards successful Dataran Cendekia?
Research Question 3	How the public’s satisfaction and effectiveness of public space is related?

4. Results and Discussion

This survey is conducted by distributing a total of 500 sets of questionnaires to the targeted respondents which is the user of Dataran Cendekia, Universiti Teknologi MARA, Shah Alam. However, the response received are only 100 which bring to a response rate of 20%. Table 1 summarized the socio–demographic of the respondents. Analysis shows that the table reveals that the 21 years – 30 years age group are the highest (52%) followed by the 18 years – 20 years age of group (35%), The 31 years – 50 years age group are (10%) while the last age group more than 50 years recorded by (3%) only. Generally, it can be concluded that most of the visitors of the public space of Dataran Cendekia is mostly from the students from the younger generation which is from the 21 years – 30 years age group followed by the other age group. For the frequency of the public users visiting Dataran Cendekia; results shows that the highest frequency was “few times a week” which recorded at (42%) followed by the “few times a month” (30%). While the least, “few times a year” and “everyday” was recorded at (17%) and (11%) respectively. The results and findings may be related to the satisfaction of the users as well as the quality of the public space itself. This is because Dataran Cendekia is the activity centre especially for the students whereby it provides various facilities which include Café and restaurant, convenient shops printing services in one space that suits student needs and requirement of a space. For the amount of time spent in Dataran Cendekia, result show most of the respondent spent their time “between one and two hours” (45%) while (44%) percent of the respondent spent “less than thirty minutes. The balance of other (11%) was the “more than two hours”. This is because the majority of the visitors has one purposed only which is to having meals (59.0%) which its only takes probably one to two hours.

Table 1 - Socio – respondents demographic

Description	No	%	
Gender	Male	36	36.0
	Female	64	64.0
Age	18 – 20 years old	35	35.0
	21 – 30 years old	52	52.0
	31- 50 years old	10	10.0
	More than 50 years old	3	3.0
Frequency of Visit	Everyday	11	11.0
	Few times a week	42	42.0
	Few times a month	30	30.0
	Few times a year	17	17.0
Time spent at Dataran Cendekia	Less than 30 min	44	44.0
	Between 1 hour – 2 hours	45	45.0
	More than 2 hours	11	11.0
Purpose of Visit	To buy foods/having meals	59	59.0
	Revision/Study/Assignment	14	14.0
	Recreation	13	13.0
	Others	14	14.0

4.1 The Deficiency and Efficiency of the Public Space at Dataran Cendekia

The analyzation of the qualities of Dataran Cendekia aims to achieved the research objective one (1) which to find out the deficiency and efficiency of the public space at Dataran Cendekia and the research questions is “What is the deficiency of the public space at Dataran Cendekia?”. The questionnaire on quality of public space has been divided and classified to seven (7) elements which are space and design, landscape elements, maintenance, accessibility, facilities, recreation and play and also safety and security elements. Each of the quality elements has several more questionnaire has been listed. The analyzation of the study finds that there is a several elements that has a high reading of mean value among all of seven (7) quality elements. The rank of qualities has been showed in previous chapter which exposed the deficiency and efficiency of each elements accordingly. The quality elements in term of accessibility of the space are at first rank followed by space and design and also safety and security elements recorded at second and third rank respectively. While the other four elements are listed in lowest mean value.

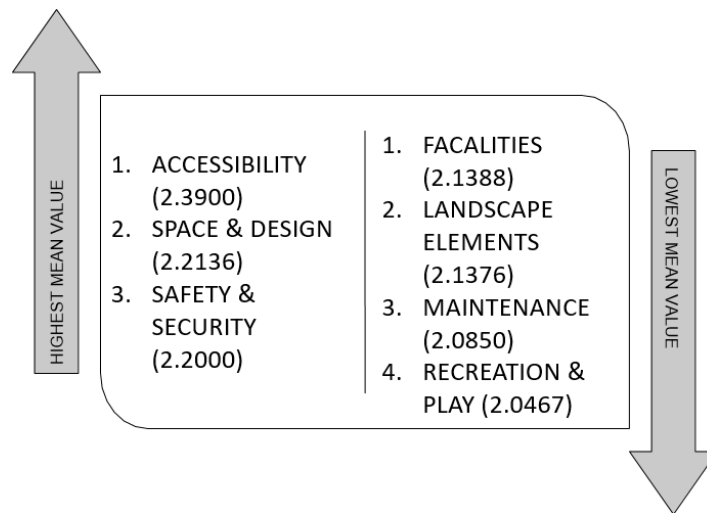


Fig. 2 - The values of mean in qualities of public space

This conclude that the best quality elements of the space is the accessibility while the lowest is the recreation play elements. Through observation, the accessibility for the public space has no major issues because the space can be easily accessed by the end-users including disabled person. The pathway such as ramps with railings for disabled are well prepared. The space can also be easily accessed by any mode of transportation or any vehicles. This is due to the public space is strategically located at the center of UiTM and surrounded by various faculties, colleges, dormitories and apartments which can be considered as one of the important areas in UiTM. However, few improvement should be focused especially on the lowest elements which includes recreations and plays aspect. Also, from observations, the space seems to be lack on activities, interactions and connections with the end-users. The obvious activities that can be actively seen is eat-in and buying foods or goods. The space should introduce more attractive and interactive activities which can further pull and connect with end-users such as mini library, outdoor physical exercise equipment or traditional play or games which may include congkak play area, outdoor chess, sepak takraw and similar games.

4.2 The Level of Satisfaction of Public User towards Dataran Cendekia

This objective is to investigate the level of satisfaction of public user towards Dataran Cendekia. The study show that 68% percent of respondents have low level of satisfaction towards Dataran Cendekia, followed by another 32% who have moderate level and none rated for high level communication satisfaction. This table reveals that majority of the respondents aren't satisfy with the public space. The result and outcome may be related to the quality of the space, where the finding shows that “recreation and play” “maintenance” and “landscape elements” listed as the lowest mean value among all the elements. This may be due to the various reason that has been explained in previous analysis such as the lack on various activities promoted and provided in a space, the lacking of the maintenance for the hardscape facilities and surroundings and also the several issue of landscape. Based on observation, the major issue that can be seen clearly is the lacking of some suitable vegetation and greenery for the space. The suitable softscape include plants,trees, can provides shades and fresh oxygen gives a huge contribution to the thermal comfort which act as a natural cooling agent for the space. In a nutshell, it can be summarized that the three lowest elements of quality may impacted the level of satisfaction in Dataran Cendekia. Some improvisation needs to be implemented to encounter these three elements to

improve the satisfaction of users.



Fig. 3 - The values of mean in qualities of public space

4.3 The Relationship between the Effective Public Space and Public’s Satisfaction of DataranCendekia

Table 2 - Pearson matrix correlation

Variables	Correlation Coefficient P value	
	The Quality of Dataran Cendekia	(rs)
	Space And Design	.635**
	Landscape Elements	.562**
	Maintenance	.342**
	Accessibility	.714**
The Satisfaction of Public People	Facilities	.440**
	Recreation and Play	.381**
	Safety and Security	.746**

Sig. Value Two-tailed: ** p-value <0.001, * p-value< 0.005

Pearson matrix correlation is used to analyze the relationship of both elements which it helps to identify the strength of connection of both elements (Wang et. al., 2018). The strongest correlation defines the high satisfaction and quality elements of a public space while the lowest correlation has listed as the low correlation which may listed weak in term of the quality and satisfaction. It has been recorded that safety and security, accessibility and space and design are listed in the high correlation values. Landscape elements were in the medium correlation group while the low correlation was the facilities, recreation and play and also the maintenance. It can be summarized that there is a strong relationship which defines a there is a good quality among these three elements. This is because the results and outcome have a strong connection with objective one and two of this study. Thus, the higher the satisfaction of public user in terms of “safety and security” and “accessibility” aspects, the higher the level of effectiveness public space of Dataran Cendekia. While some improvement on the facilities, recreation play and maintenance shall be improvised. Thus, the lower the satisfaction of public user in terms of “recreation and play” and “maintenance” aspects, the lower level of effectiveness of Dataran Cendekia (Campbell-Arvai et. al., 2021). It can be conclude that these three elements has been labelled as a low level of satisfaction as well as low effective of public space. In a nutshell, the study clearly shows that all of seven elements plays a huge roles and contribution of the level of satisfaction as well as the quality of the space itself. All these elements also have a strong relationship and connection in order to achieve an effective outdoor public space.

5. Conclusion

This study summarized the significance of the immediate context aspects of quality and satisfaction. It aims to understand the quality and user satisfaction aspects that help designers create socially successful public areas where different groups of people use comfortably. It discusses how the results of the research contribute to the further development in the Dataran Cendekia or in similar circumstances of successful public spaces. Conclusion can be made based on each of the research question and also objective of this study. Successful green open areas are an outdoor environment that operates beyond a normal recreational area. This located in the area offers the user a sense of comfort,

security and social cohesion that guarantees social durability, psychological treatment and unlimited outdoor experience and invites users to visit periodically in the future. Furthermore, public spaces are essential elements of every urban structure that shape the social life of the town fundamentally. However, due to the absence of these seven important public space aspects, including space, design, landscaping, infrastructure, safety and security, accessibility, recreation and play and activities, many parks and open spaces have been created, so long as it remain inadequately utilized, especially in the Malaysian context. Parks and open space are far from achieving permanent success without understanding the criterion for the production of high public space. Furthermore, Public Park planning, design and management are one of the important elements because these parks are one of the most important areas of urban life, particularly for the rapid population growth of recent years. This public preferences for urban parks is to assess preferences in order to design and manage urban parks to meet appropriate standards. In urban planning the most important advice for management of parks is the use of park users' preferences in the development and design of parks. All decisions to design and build spaces in urban parks should be taken in compliance with end-user's requests, interests, experiences and values or else it would be unsafe and uninteresting. The overall study finds that the quality and satisfaction do have a strong relationship between them. To conclude, deep understanding of the new society needs is substantial in developing successful public spaces in future.

Acknowledgement

I would like to acknowledge and extend heartfelt gratitude to Universiti Teknologi MARA (UiTM) for funding this study under the Lestari Research Grant: 600-IRMI 5/3 LESTARI (052/2018) and International Islamic University Malaysia (IIUM).

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