

Public Acceptance On Bicycle Sharing Service In City Centre: A Malaysia's Perspective

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Abstract

Public bicycle sharing services has gained much attention through the expanding of its services globally. This service is important to support sustainable strategy which has been implemented. While the adaptation of this service has provided a good acceptance in other regions, Malaysia is also trying to serve the gap. There are four variables that have been selected as the independent variables which are accessibility, technology, safety and attitude while public acceptance is the dependent variable for this study. Therefore, the aim of this paper is to analyse the public acceptance towards the implementation of bicycle sharing services in Malaysia city centre focusing on Kuala Lumpur and Johor Bharu areas. The online questionnaire is done on 271 public user of bicycle sharing services. The results indicate that the acceptance of bicycle sharing services in Malaysia has significant impact towards the implementation of its services. However, the acceptance of this service strongly depends on the safety aspect compared to other variables.

Keywords: bicycle sharing, public acceptance, sustainability

Introduction

As our life is improving towards sustainable lifestyle, it is one of a healthy and environment-friendly trip mode which is known as bicycle-sharing system that has started to gain much attention especially to the country which is highly developed. The implementation of this service have so far being adapted in many cities around the world such as China and European country. Environmental concerns have propelled public and private entities to search for ways to increase the usage of public bicycle sharing system. In order to achieve that the target, knowing the public acceptance regarding this system is one way to get the information to have a better understanding on the barriers or ways to improve the

service.

In early 2018, bicycle sharing has expanded to more than 20 countries. Bicycle sharing is standout amongst the most encouraging urban arranging intercessions to encourage an all-vital change towards a more economical transport worldview. Besides, they said that the usage of bicycle sharing, specifically, is a standout amongst the most particular practices for rousing travel conduct change (Nikitas, Wallgren, & Rexfelt, 2016) since it mixes dynamic transportation with open travel. Bicycle sharing frameworks are pervasive in a few urban areas on the planet, and are an undeniably essential help for multi-modular transport frameworks (Shaheen, Guzman, & Zhang, 2010).

Bicycle sharing offers various benefits such as environmental, social and transportation-related benefits. For instance, bicycle sharing actually provides a low-carbon solution to the “last mile” problem. The last mile refers to the short distance either between home and public transit or transit stations and the workplace, which may be too far to walk (Shaheen et al., 2010). It is supported by Jäppinen (2013), who states that these frameworks can upgrade supportability towards open transportation frameworks by enhancing the last mile network while normalizing the picture of cycling as an ordinary travel mode and hence, widening the cycling statistic (Goodman et al., 2014).

In Malaysia, bicycle sharing has started to take place in early 2017 and with its fast expansion it starts to receive public attention. This paper has reviewed on a wide literature, recognized with current field of study. The aim of this paper is to investigate Malaysians’ acceptance towards bicycle sharing scheme and in particular, to determine the factor that contributes to its successful implementation.

Literature Review

Public acceptance is a person's assent to the reality of a situation, recognizing a process or condition without attempting to change it (Liu & Liddawi, 2015). In context of sharing services, there is a few research regarding

public sharing services been discussed. Acceptability is a multifaceted term which includes financial and resourcing acceptability alongside factors associated with the market and customer preferences (Graham & Zhang, 2015).

In addition, Liu and Liddawi (2015) have mentioned the success of a policy highly depends on public acceptance of new transport concepts from policymakers. Since bicycle sharing starts to take place since their third generation, new technology has been implemented but lack of policies have been taken in Asian countries. New concept is not easily adapted by the public, therefore, they should take public acceptance into consideration when constructing the policy. To enable this change, it therefore becomes important to understand the public user of bicycle sharing services in Malaysia as well as its potential to become a more well-embraced travel option in actual usage terms.

The accessibility of bicycle sharing in remote areas from individuals' homes liberates them from the need of providing their own bicycle toward the beginning of the day for trip making later in the day. The impacts of this inconspicuous change could be significant on versatility and outflows. Bicycle sharing gives less demanding openness to urban goals more remote away, decreasing the requirement for driving or taxi utilize (Shaheen et al., 2013). Basically, bicycle sharing helps the public with the first mile and last mile journey. It helps the city occupants to move to cycling methods of transport and enhancing general wellbeing.

Since the third generation of bicycle sharing is more into "IT-based", the usage of credit and debit cards as a method of payment limits the access towards the bicycle sharing. It creates the blocks towards the consumer (Duarte, 2016). It reveals those who have access to a service, and those who don't. Moreover, there are some arguments about purchase membership and daily passes. That is how they give value to the loyal user and distinguish them (Faghih-Imani & Eluru, 2015). However, Fishman, Washington, and Haworth (2012) reported that the lack of accessibility/spontaneity and an inability to sign-up easily with a credit card

swipe, were significant barriers to bicycle sharing usage. This present paper would look over the distance between each station and the number of users who signing up for purchase membership.

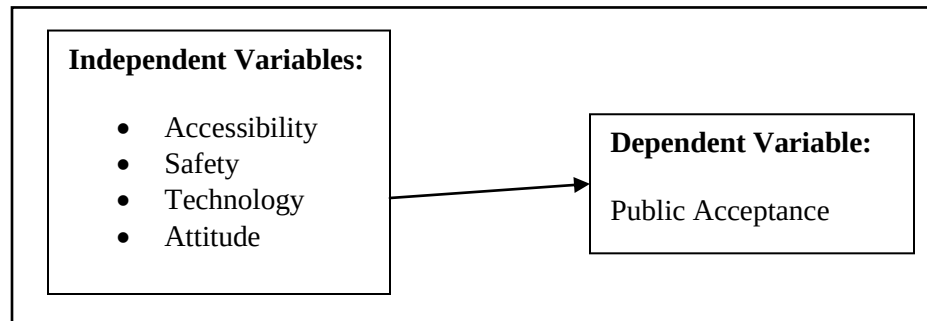


Figure 1. Conceptual Framework

Methodology

An online questionnaire survey was administered to evaluate the acceptance of public user of bicycle sharing service in Malaysia's city center. This study use a conclusive research design which defined by Malhatra (1999) as a research designed to assist the decision maker in deciding, evaluating and choosing the better action course in a given situation. Conclusive research may be either descriptive or causal research design respectively. The data was obtained through online survey in order to save time, be cost effective and require less skill when conducting interviews (Sekaran & Bougie, 2010). The questionnaire consists of six (6) sections with a total of 29 questions to represent each variable. The target population are those who live in Kuala Lumpur and Johor Bahru areas which hold approximately 1.76 million and 1.46 million people respectively. Thus, the appropriate sample size for this study is calculated by using Raosoft (2004) calculator formula which indicates about 271 questionnaires should be delivered. The sampling technique used is a non-probability sampling technique which is the convenience sampling through an online survey.

Discussions and Results

A total of 271 respondents participated in the online survey which focused on Kuala Lumpur and Johor Bharu city areas. The questionnaires were analyzed and it is found that 48.3% of the total number is male while 51.7% are majority lead by female. Online participants comes from a diverse background of bicycle sharing public user. Based on reliability test in Table 1, the Cronbach's alpha for each variables measured are statistically accepted with the values are greater than 0.5 (Sekaran, 2003). It shows that all the variables are positively correlated to one another.

Table 1. Reliability Test for Each Variables

Variable	Cronbach Alpha
Public Acceptance	0.782
Technology	0.648
Safety	0.687
Attitude	0.702
Accessibility	0.778

From the results in Table 2, it shows that the mean value of safety is the highest of which is 4.1928 compared to other independent variables. The second highest falls to attitude with mean value of 4.0138 is followed by technology with 3.7583, accessibility with 3.5727 and stated the lowest is public acceptance with only 3.1395. Safety has a standard deviation value of 0.58883 which makes it very close to its mean compared to other variables. This indicates that the respondents strongly agreed and are more influenced by safety compared to other variables as referred to Fishman et al. (2012).

Table 2. Descriptive Statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
Public Acceptance	3.1395	.77681	271
Accessibility	3.5727	.69132	
Technology	3.7583	.59875	
Attitude	4.0138	.62586	
Safety	4.1928	.58883	

Table 3 shows the overall items in the questionnaire for public acceptance. From the table, the highest mean value 3.6790 indicates that most of the respondents agreed to the statement “Bicycle sharing service can provide riders a flexible route”. Meanwhile the mean value of respondent agreeing to the “I use bicycle sharing often” statement is only 2.1845, the lowest of all. From these results, the majority of the respondents do agree that bicycle sharing offers more flexible route though they rarely use the particular service.

Table 3. Public Acceptance Mean Values

Public Acceptance			
	Mean	Std. Deviation	N
I use bicycle sharing often	2.1845	1.07630	271
Riders know the related policy of bicycle sharing such as the rental cost and how to check in	2.8635	1.21404	
Riders are encouraged to use public transit, bicycles and walking while travelling	3.6642	1.00819	
Bicycle sharing is greatly introduced to the public (advantages, policy and benefits)	3.3063	1.14112	
Bicycle sharing service can provide riders a flexible route	3.6790	.93704	

The study attempts to explore public acceptance of bicycle sharing service which is newly implemented in Malaysia city center focusing on Kuala Lumpur and Johor Bharu area. From this study, it has been recognized that the public users are much more concern on the safety aspect compared to the other variables. The implementation of bicycle sharing service in Malaysia is well accepted even by the people that do not seem likely to ever use it. Bicycle sharing service was actually pro-social value since it was recognised, by the vast majority of the respondents, as a scheme benefiting society as a whole in many ways such as provide solution for last mile journey in affordable prices and provide healthy living. The fact is that expanding so much in so little time, bicycle sharing service became instantly recognisable to anyone even to non-users commuting within Malaysia cities and it has been perhaps centralized for solidifying this pro-social character.

Conclusion

In essence, the possibilities of bicycle sharing service adaptation in Malaysia are positively accepted by the public. They support the government initiatives towards creating a more sustainable and environmental lifestyle. While bicycle sharing services have generated overwhelming interest worldwide, it has created a phenomena in creating a cycling culture not only changing their travel behavior but also lifestyle. This study evolved our understanding of public acceptance in Malaysia towards the adaptation of new concept of travel modes and their readiness towards greener and sustainable transportation in the future.

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