

Factors Affecting the Use of UniRide Bicycle-Sharing in a University Setting

Mohammad Ikhwan Suga^a & Abdul Azeez Kadar Hamsa^{a*}

^a*Department of Urban and Regional Planning, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, Malaysia*

**Corresponding author: akadarhamsa@yahoo.com*

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ABSTRACT

Bicycle-sharing has become one of the most popular transportation modes especially for short-distance travel and supports sustainable transportation. This concept is relatively new in Malaysia and cycling culture is not widely spread among the community. This has provided growing difficulties and challenges to the use of bicycle-sharing service especially in the university campuses. The increasing use of motorized vehicles and decreasing use of bicycles has not only affected bicycle-sharing services but also the environment of the campus. Thus, the aim of this study is to identify the significant factors affecting the use of UniRide bicycle-sharing and the existing level of use of bicycle-sharing in International Islamic University Malaysia (IIUM), Gombak Campus. The data required for this study were collected by using an online questionnaire survey targeting the students who live on-campus. The collected data were analysed by using both univariate and bivariate analysis methods. The results of the analysis show that most of the respondents felt that convenience and bicycle infrastructure are the main factors that affect the use of UniRide bicycle-sharing in IIUM. Most of the respondents also stated that riding bicycles on a dedicated and exclusive bicycle lane would enhance the safety of the bicycle users. Few recommendations to improve the existing UniRide bicycle-sharing service on-campus were formulated.

Keywords: Bicycle-sharing; bicycle use; bicycle infrastructure; bicycle safety; university

INTRODUCTION

Bicycle-sharing is a service that acts as one of the modes of transport for the first and last mile journey from the origin to the destination. This service is relatively new in Malaysia as cycling culture is yet to become a norm in Malaysia. OBike and UniRide are the examples of the bicycle-sharing services which were being introduced and commissioned by the private companies in Malaysia. This service is also being introduced in many public universities in Malaysia including International Islamic University Malaysia (IIUM). However, this bicycle-sharing service has been facing many complex challenges in sustaining it for a long-term. It is understandable that any failure to sustain this service will cause undue problems to the people who rely on this service. One of the imminent and growing challenges faced by bicycle-sharing service is the high dependent on private motorized vehicles. A higher use of private transport would eventually generate a greater number of vehicles on the campus roads leading to difficulties on mobility for bicycle users. In 2018, the number of private vehicles registered in IIUM was 14,600 vehicles as compared to 11,350 vehicles in 2016 (Office of Security Management IIUM, 2019). The high reliance on private vehicles also allows the University students to use their own private motorized vehicle rather

than bicycle-sharing service (Yen, 2018). Other than that, low number of bicycle-sharing users is also another prominent reason for unsustain use of bicycle-sharing service on-campus. According to Wahab et al. (2018), only 4.16% of the Klang Valley population use bicycle-sharing despite a high acceptance of the bicycle-sharing service.

The problems associated with the use of bicycle-sharing service have imposed significant challenges in implementing this environment-friendly transport system in Malaysia especially in the University campuses. This has clearly demonstrated the need to study the existing use of bicycle-sharing in a university setting to determine on what constitutes a low use of this service and how to improve the service further. The primary aim of this study is to investigate the factors that affect the use of bicycle-sharing service among university students in International Islamic University Malaysia. The study objectives are: 1) to determine the current level of UniRide bicycle-sharing use among the students of IIUM Gombak Campus, 2) to identify the significant factors that affect the use of UniRide bicycle-sharing service on-campus, and 3) to propose suggestions to improve UniRide bicycle-sharing on-campus to facilitate a wider use of bicycles as part of the mobility of the IIUM community.

OVERVIEW OF BICYCLE-SHARING

Bicycle-sharing service was firstly introduced in Europe in the 1960s. The first generation of bicycle-sharing programs was begun in Amsterdam in 1965 with the introduction of White Bikes (DeMaio, 2009). The second generation of the bicycle-sharing scheme was begun in 1991 to solve the problems encountered during the first generation. The scheme was introduced in Farsø and Grenå, Denmark, and in Nakskov, Denmark in 1993 (Midgey 2011). This generation also launched the first large scheme of the bicycle-sharing program in Copenhagen as the City bikes in 1995. Copenhagen City Bikes had made drastic improvements to the program including the use of a “heavy-duty” bicycle design, the introduction of “bicycle lending library” system, and coin-deposit system in response to reducing the number of theft and vandalism of the bicycles.

The use of technologies in the bicycle-sharing system has happened during the third generation of bicycle-sharing services. This scheme has required the users to use a magnetic stripe card to rent the bike (DeMaio 2009). This generation has made major improvements in the bicycle-sharing system by introducing newly improved bicycle designs, sophisticated bicycle dock system, and application of technologies including the use of smartcard payment system. Global Positioning System (GPS) and Radio Frequency Identification (RFID) system were introduced to track the location of the bicycles, and using website to provide real-time information about the bicycle-sharing services for the users.



FIGURE 1. UniRide Bicycle-Sharing

Bicycle-sharing service in IIUM was started with the introduction of Obike in 2017. It provides a convenient and environment friendly transport option for the IIUM users. This is followed by the introduction of another bicycle-sharing service in IIUM in 2019 called UniRide. UniRide is a electrically charged bicycle-sharing program implemented in four public Universities in Malaysia promoting energy efficient vehicles (Pattaratadanukul, 2019). It differs from Obike system in which UniRide provides bicycle-sharing service using electric scooters to the users that are rechargeable at the dock stations.

The factors affecting the use of bicycle-sharing were discussed by many researchers across the world. According to De Sousa et al. (2014), the possible factors that a person may consider to use bicycle-sharing are travel time, congestion, safety, physical fitness, personal factors (e.g., time management), travel at night, convenience, bicycle infrastructure, climatic and topographic condition.

Bicycle-sharing can be reliable to the users during peak hours. However, some users are unwilling to use bicycle-sharing because of the inappropriateness of their attire to ride a bicycle (Rosnan and Abdullah 2018). Despite bicycle mode is faster than walking, it can, however, be less convenient to the users when travelling long distance. According to Shi (2019), the use of the official bicycle in Nanjing City on a point-to-point basis has taken considerable time to travel compared to official cars. On the other hand, bicycle-sharing is suitable for short-distance trips. Travel time less than 30 minutes covering short distance is the ideal time for users who are willing to use bicycle (Guo, 2017).

The latest scheme of bicycle-sharing has incorporated Information Technology (IT) in its service. However, the service which encourages the use of electronic payment for using the bicycle has limited the access to the bicycle-sharing (Tengku Aziz et al. 2018). According to Duarte et al. (2016), the use of debit and credit cards has created a barrier for the consumers to use bicycle-sharing services. Fishman (2012) also reported that the lack of access and inability to use credit cards is a significant barrier in using bicycle-sharing services. This indicates that the use of IT has created a clear barrier to those who are willing to use the services.

Like other modes of transport, bicycle-sharing also requires adequate and efficient infrastructure. Without a good, proper and adequate infrastructure for bicycle-sharing, it would create several issues to the bicycle users. As cited in Rosnan and Abdullah (2018), lack of dedicated bicycle infrastructure has caused a significant barrier to the utilization of bicycle-sharing in Brazil. The lack of docking stations also contributes to vandalism of the bicycles (Wahab et al. 2018). If the bicycle-sharing infrastructure is adequate, a high number of people are expected to use bicycle-sharing. As cited in Guo (2017), the increasing number of bicycle-sharing facilities such as docking stations would increase the number of bicycle-sharing ridership.

The climatic condition is also one of the factors that affect the use of bicycle-sharing. Hot weather and high rate of precipitation in Malaysia allows people less likely to use bicycle for travelling (Mat Yazid, 2011). Furthermore, the temperature also affects the usage of bicycle-sharing. According to Flynn (2012), low temperature affects the willingness of the users in Vermont, USA to ride bicycle to work. However, the effect of temperature on the use of bicycle is different according to areas. For instance, in areas having hot weather condition, it can be seen the use of bicycle during low temperature.

The topographic condition of an area can be another barrier affecting the use of bicycle-sharing. An uneven terrain

will discourage people to use bicycle-sharing. According to Mat Yazid et al. (2011), the presence of slopes makes non-motorized transport including bicycle less preferable. As cited in Rosnan and Abdullah (2018), the presence of slope in Sao Paulo is the second important barrier for the use of bicycle-sharing.

Safety is also one of the major factors affecting the use of bicycle-sharing. Some of the users are concerned on the designated bicycle lanes where the lanes are not consistent along the routes. According to Fishman (2012) and Wahab (2018), lack of designated and inconsistent bicycle lane would allow the cyclist in a dangerous situation. This also prevents them to use bicycle-sharing on the road especially during the peak hours. Other than that, lack of awareness from other road users is also a concern on the safety of the bicycle-sharing users. The driver's behaviour of the motorized vehicles on the road may affects the bicycle-sharing users especially when the roads are shared between motorized vehicles and bicycles (Fishman, 2012).

RESEARCH METHODOLOGY

STRUCTURE OF THE STUDY

The structure of this study consists of four stages. The first stage is the identification of problems related to this study. The second stage is the data collection stage. The third stage is data analysis and the fourth stage is formulation of recommendations to improve the use of UniRide bicycle-sharing service. Figure 2 shows the sequences of these four stages in the form of a flow chart.

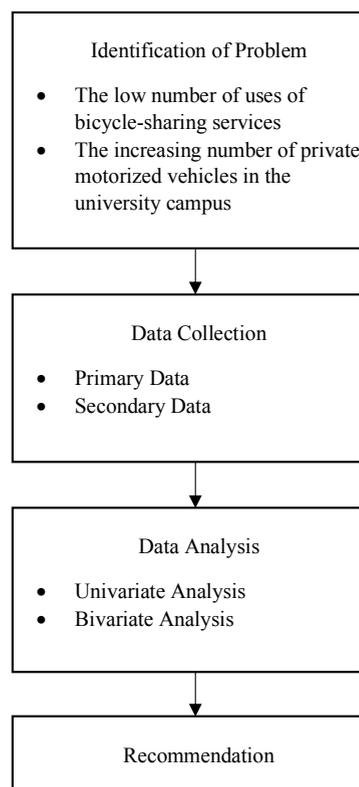


FIGURE 2. Structure of the Study

The primary data collected include factors that affect the use of UniRide bicycle-sharing among the students of IUM Gombak campus. The views of the students on five major factors that were collected are: convenience, bicycle infrastructure, climatic condition, topographic condition, and safety. The other primary data collected include the demographic profiles of the students, travel pattern on-campus, and frequency of using UniRide bicycle-sharing service as their main mode of transport in the campus. The secondary data collected are the total number of students enrolled in IUM up until 2019/2020 session, total number of students who stayed on-campus during 2019/2020 session, and the total number of IUM students who had registered for UniRide bicycle-sharing service. The other secondary data collected include a map of IUM Gombak campus indicating the location of the Kulliyahs (faculties), administrative buildings, library, student activity centres and Mahallahs (student residences).

A questionnaire survey was used to collect primary data for this study. The questionnaire survey was administered online by using various social media platforms because of the difficulties faced to approach the respondents in-person due to the health pandemic crisis. Some of the questions in the questionnaire were designed by using Likert-scale where the respondents were asked to state their agreement on the statements pertaining to the use of UniRide bicycle-sharing service on-campus. The questionnaire also includes question to rank the most significant factors that affect the use of UniRide bicycle-sharing service on-campus. The data collection period was from 26 March to 26 April 2021. As the total number of bicycle sharing service users among the students was unknown, an arbitrary sample size of 150 was selected. This sample size is expected to represent the total number of bicycle sharing users as the number of this service users was low on campus. However, only 100 questionnaires were returned by the respondents representing a response rate of 68%.

The methods of analysis applied in this research include both univariate and bivariate analysis techniques. The bivariate analysis techniques applied include both cross-tabulation and rank-biserial correlation. The data indicating the level of use of UniRide bicycle-sharing service among the targeted students were analysed by univariate analysis technique whereas the data on the factors affecting the use of UniRide bicycle-sharing was analysed by bivariate analysis technique.

RESULTS AND DISCUSSION

The findings of the respondents' profiles are summarized in the form of a table and figure. The respondents' profiles highlighting the characteristics of the respondents are shown in Table 1.

TABLE 1. Respondents' Profile

Characteristics	Frequency	Percentage (%)	Mean	Std. Variation
Gender				
Male	53	53.0	53	0.502
Female	47	47.0		
Total	100	100.0		
Nationality				
Malaysian	96	96.0	1.04	0.197
Non-Malaysian	4	4.0		
Total	100	100.0		
Kulliyah				
AIKOL	12	12.0	3.13	1.733
KAED	44	44.0		
KENMS	6	6.0		
KICT	10	10.0		
KIRKHS	18	18.0		
KOE	5	5.0		
KOED	5	5.0		
Total	100	100.0		
Year of Study				
Year 1	1	1.0	3.21	0.820
Year 2	21	21.0		
Year 3	35	35.0		
Year 4	42	42.0		
Year 5 and above	1	1.0		
Total	100	100.0		
Level of Study				
Undergraduate	98	98.0	1.02	0.020
Postgraduate	2	2.0		
Total	100	100.0		
Vehicle Ownership				
Car	17	17.0	0.22	0.416
Motorcycle	22	22.0		
Bicycle	8	8.0		
Car and Motorcycle	4	4.0		
Car and Bicycle	1	1.0		
None	48	48.0		
Total	100	100.0		

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Mahallah		11.51	3.961
Aminah	1	1.0	
Asiah	1	1.0	
Asma'	1	1.0	
Hafsah	1	1.0	
Halimatul Sa'adiyah	3	3.0	
Maryam	2	2.0	
Nusaibah	3	3.0	
Ruqaiyyah	2	2.0	
Safiyah	26	26.0	
Sumaiyyah	7	7.0	
Salahudin	6	6.0	
Ali	9	9.0	
Bilal	4	4.0	
Farouq	5	5.0	
Siddiq	6	6.0	
Uthman	4	4.0	
Zubair	19	19.0	
Total	100	100.0	

UNIVARIATE ANALYSIS

The male respondents were slightly higher than the female counterparts. Almost all the respondents were Malaysians and were undergraduate students. A slightly higher percentage of students owned cars and motorcycles compared to other modes of transport. Unsurprisingly only 8% of the total respondents were found to own a bicycle.

Figure 3 illustrates the various modes of transport used by the students to travel within campus. The findings showed that most of the students were preferred to walk to the Kulliyah (Faculty) from their Mahallahs (hostels) followed by motorcycles and cars. The use of UniRide bicycle-sharing among the students was found to be very low. It clearly demonstrates that most of the students who stay on-campus were not using bicycles as their main mode of transport to commute within campus.

Figure 3 to Figure 8 shows the level of agreement and disagreement on each of five major factors on the use of UniRide bicycle-sharing services by the students. The five major factors are convenience, infrastructure, climatic conditions, topographic conditions, and safety.

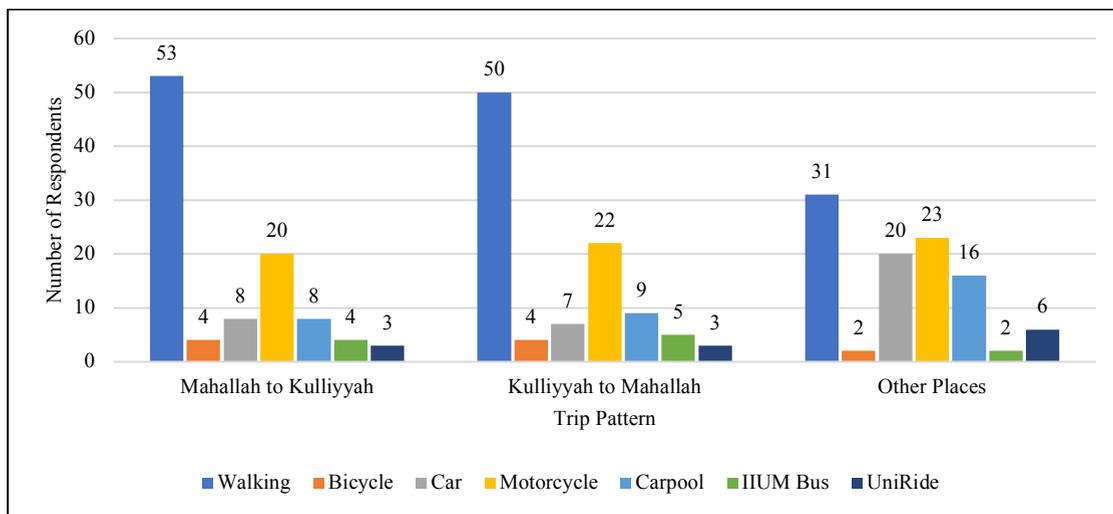


FIGURE 3. Respondents' mode of transport used in the Campus

Figure 4 illustrates that most of the respondents had agreed that the use of UniRide bicycle-sharing has actually helped shorten their travel time and travel distance when commuting on-campus. However, the availability

of the UniRide bicycles at the dock stations had caused inconvenience to the users. The students also expressed that the UniRide bicycle-sharing service on-campus was user-friendly when using it through the mobile application.

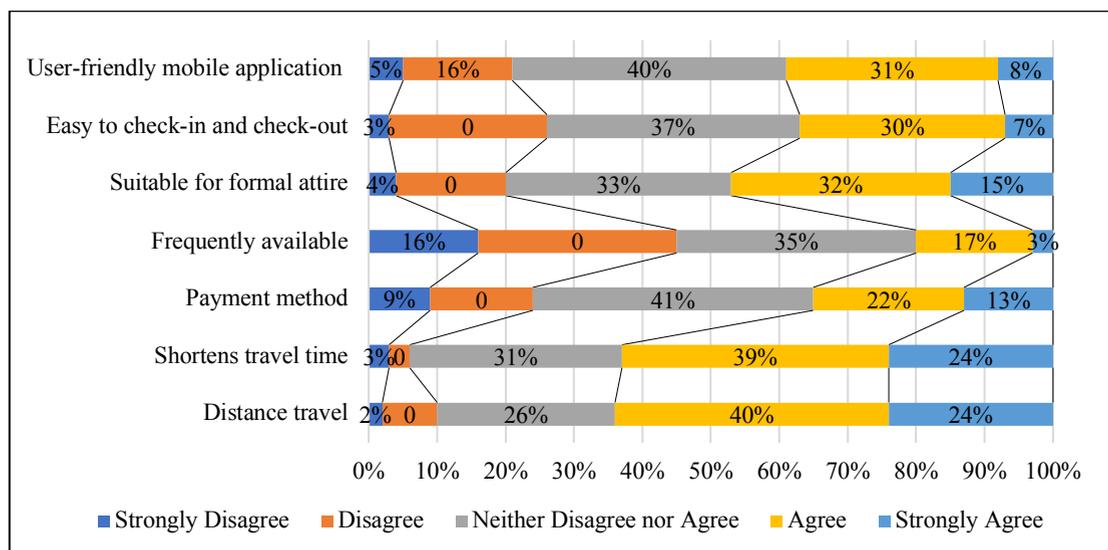


FIGURE 4. Convenience to UniRide Users

The findings indicating the level of agreement on the “provision of bicycle infrastructure” on-campus to use bicycles are shown in Figure 5. Poor bicycle routes, lack of clear signages and poor conditions of bicycle docks at the parking stations were the major concerns expressed by the students. These findings can be interpreted that the good conditions of bicycle infrastructure including signages, dock

stations, bicycle routes are very essential in encouraging students to use bicycles to a wider extent. These results aligned with the studies from Rosnan (2018), Wahab et al. (2018) and De Sousa et al. (2014) where inconvenience and lack of bicycle infrastructure had become the major factor affecting the use of bicycle-sharing.

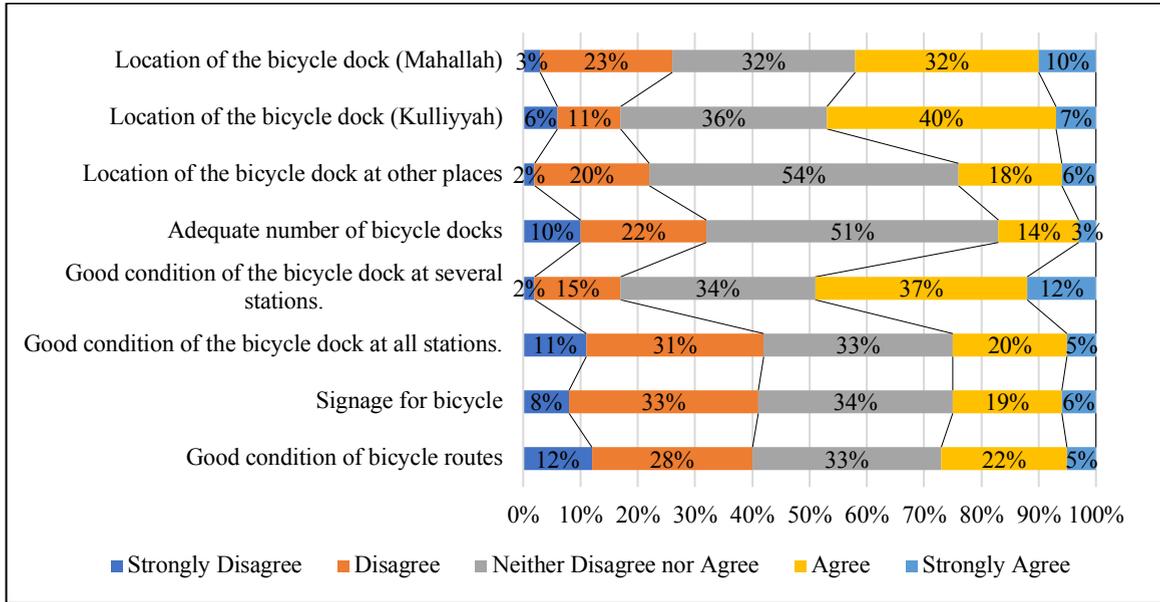


FIGURE 5. Provision of Bicycle Infrastructure

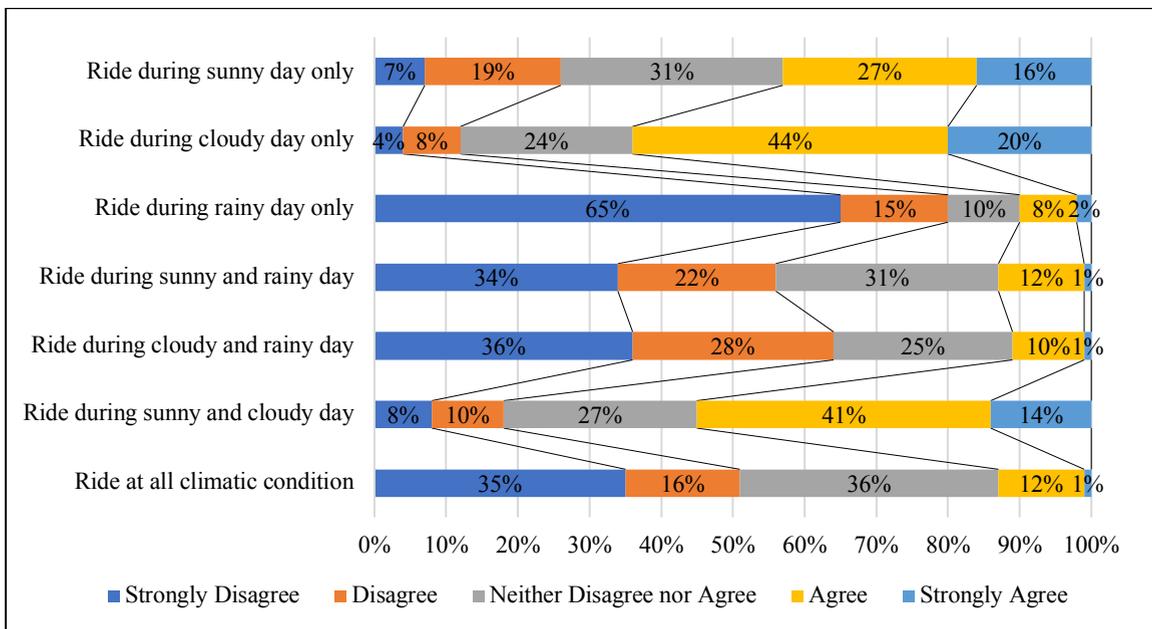


FIGURE 6. Climatic Condition

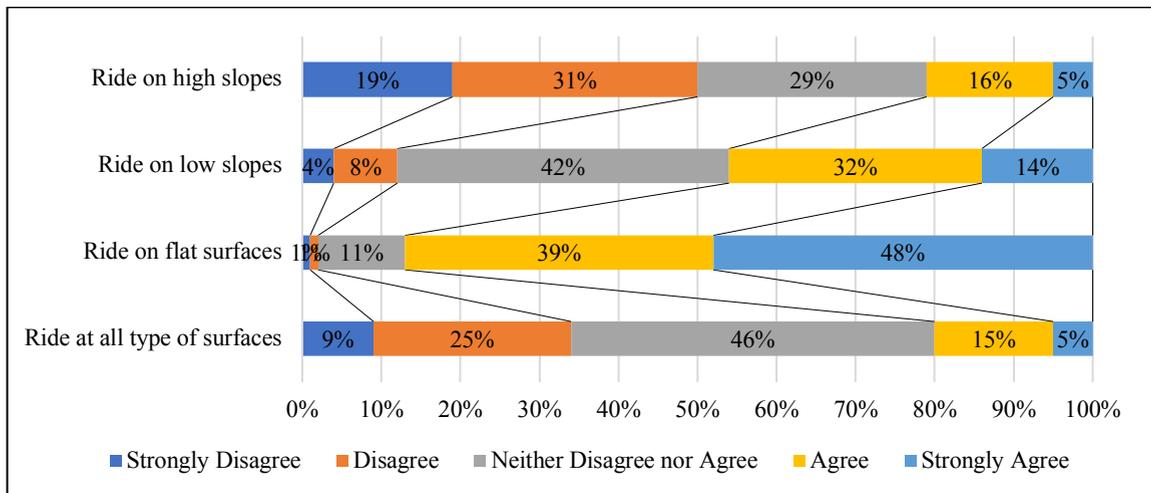


FIGURE 7. IIUM Topographic Condition

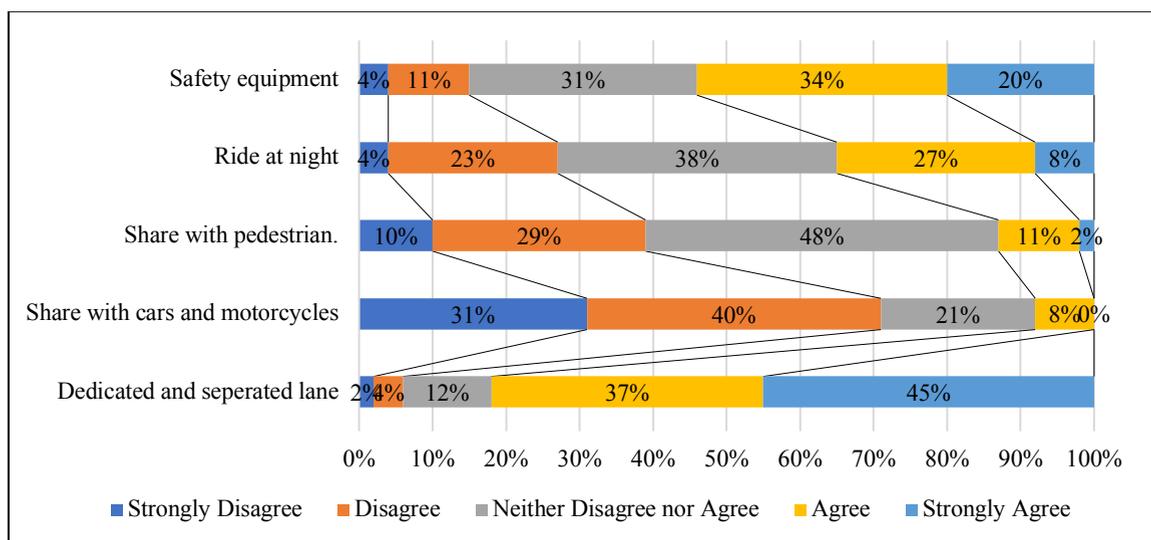


FIGURE 8. Safety of the Bicycle-Sharing

Figure 6 illustrates the perceptions of the students on the climatic conditions to use UniRide bicycle-sharing. The results show that most of the students prefer to ride UniRide bicycle-sharing during sunny and cloudy days. It clearly demonstrates that the sunny and cloudy climatic conditions are not the deterrents for the students to use UniRide bicycle-sharing service. A study showed that weather condition is one of the major deterrents to use bicycle which stated that hot weather conditions and high rate of precipitation in Malaysia allows people less likely to use bicycle for travelling (Mat Yazid et al. 2011). The other finding indicates that the users were unwilling to use bicycle-sharing services during rainy days. Not surprisingly, the respondents prefer to ride UniRide bicycle-sharing on flat and low slopes surfaces as shown in Figure 7. Although climatic and topographic condition does not affect the use of UniRide bicycle-sharing, the results show that the users tend to use the bicycle-sharing on a comfortable weather

conditions and less hilly surfaces as indicated in De Sousa et al. (2014) and Flynn et al. (2012).

The findings on the safety aspects to use bicycle-sharing are shown in figure 8. The results indicate that most of the students were concerned about the safety aspects when using bicycle-sharing especially when sharing road space with motorized vehicles. Some of the students were also experienced unsafe situations when riding UniRide at night. The students were strongly agreed that the safety of the bicyclist would greatly improve if they were allowed to use bicycles along a dedicated and exclusive bicycle lane rather than sharing the road space with motorized vehicles. With the lack of infrastructure, safety becomes one of the factors that being highlighted and relevant for the bicycle-sharing users which is similar to the discussion made by DeMaio (2009), De Sousa et al. (2014), Midgley (2011), Rosnan and Abdullah (2018) and Tengku Aziz et al. (2018).

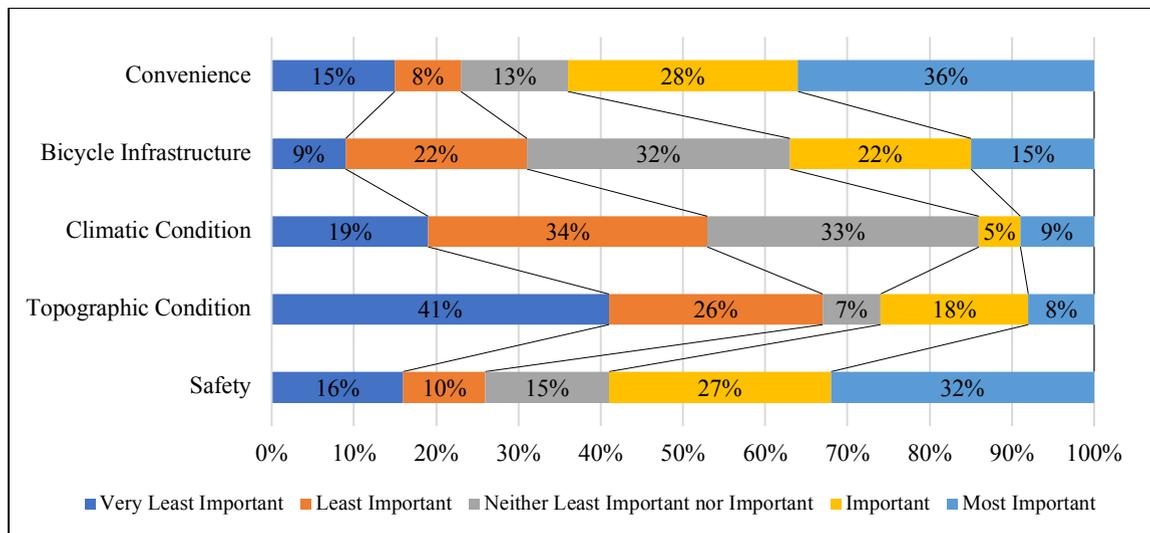


FIGURE 9. Student's view on the important factor to use bicycle-sharing

Figure 9 illustrates the important factors to use bicycle-sharing as expressed by the students. The findings indicate that the most important factor to use UniRide bicycle-sharing is "Convenience" followed by "Safety" and "Bicycle Infrastructure". These results aligned with the studies from Rosnan (2018), Wahab et al. (2018) and De Sousa et al. (2014). "Climatic condition" and "topographic condition" were considered as the least important factors towards their inclination to use UniRide bicycle-sharing service on-campus.

BIVARIATE ANALYSIS

The relationship between the respondents' characteristics and the factors affecting the use of UniRide bicycle-sharing on-campus was examined. The gender of the respondents was chosen to differentiate with the two variables. The results of these relationships are shown from Figure 9 to Figure 11.

Figure 10 illustrates that both male and female respondents had expressed that the UniRide bicycle-sharing services were not frequently available whenever they want to use it. Some of the female respondents had expressed that the check-in and check-out of the bicycle-sharing service was unfriendly. Most of the male respondents, however, had stated convenient when using the bicycle-sharing service.

For safety factor as shown in Figure 11, both male and female students had generally agreed that it is safer to ride the UniRide bicycle-sharing on-campus. Most of the male respondents had expressed safe when using UniRide at night but it was unsafe for some of the female respondents. This shows that the existing conditions to use bicycle-sharing at night in the campus are totally unsafe. The location and illumination of streetlights on-campus should be improved to create a safe environment to use bicycles at night.

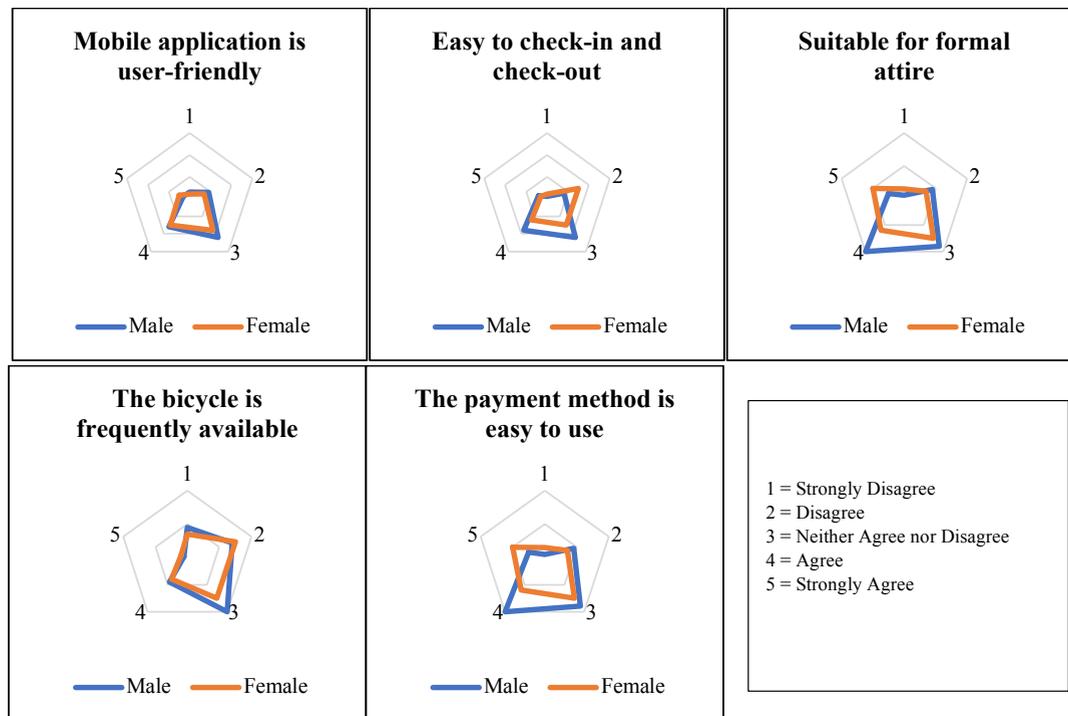


FIGURE 10. Relationship between Gender and Convenience Factor

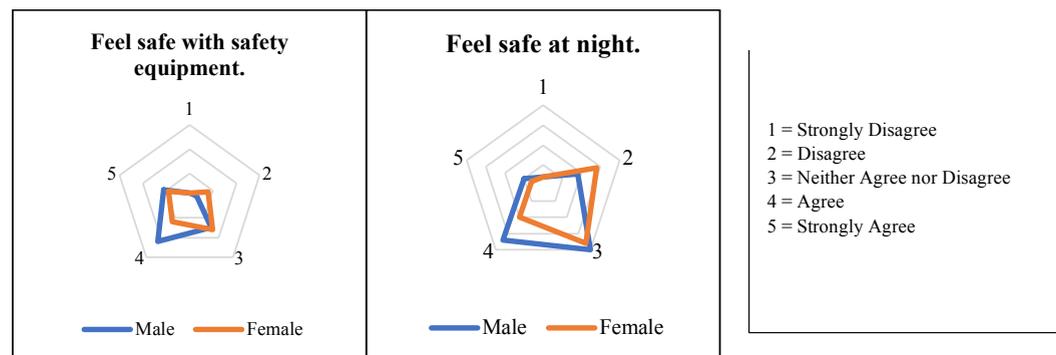


FIGURE 11. Relationship between Gender and Safety Factor

Figure 12 shows that most of the female respondents choose “convenience” as the most important factor when riding UniRide bicycle-sharing whereas most of the male respondents choose “safety” as the most important factor when using the service. Both male and female students also expressed that “bicycle infrastructure” is the most important factor when riding UniRide bicycle-sharing service. For climatic condition, most of the male respondents felt that it is the very least important factor when riding UniRide. For topographic condition, most of the female respondents

felt that this factor is the very least important factor when using the service. Overall, “convenience” is the most important factor among the female respondents when riding the UniRide bicycle-sharing, followed by “safety”, “bicycle infrastructure”, “climatic condition” and “topographic condition” whereas “safety” is the most important factor among the male respondents, followed by “convenience”, “climatic condition”, “bicycle infrastructure” and “topographic condition”.

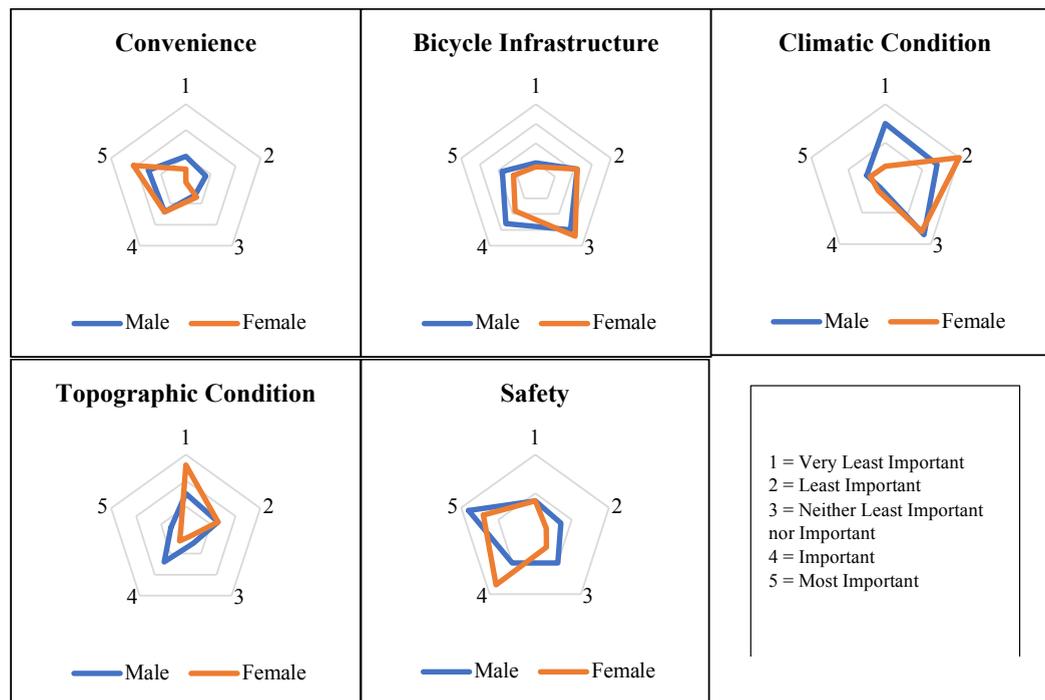


FIGURE 12. Relationship between Gender and the Significant Factor on Riding UniRide

The statements related to the convenience factor were correlated with gender to identify the strength of each of these statements with gender. The results of the correlation coefficient of each of these statements with gender are given in table 2. The strength (r-value) of each of these statements with gender was weak indicating a weak association of these statements with male and female students. In other

words, each of these statements under “convenience” for using UniRide bicycle-sharing was found to be independent of male and female students. The α -value of all statements with gender is more than 0.05. It shows that the correlation between these statements with gender is not statistically significant. Thus, convenience is not a factor for both male and female gender..

TABLE 2. Correlation Coefficient between Convenience Factor and Gender

Statement	Gender	
	r-value	α -value
The mobile application of UniRide is user-friendly.	-0.085	0.400
The bicycle is easy to check-in and check-out.	0.169	0.092
The bicycle is suitable for me when I wear formal attire.	-0.022	0.829
The bicycle is frequently available when I feel want to use it.	-0.017	0.870
The payment method to ride the UniRide is easy to use.	0.091	0.366
The use of UniRide shortens my travel time from Kulliyah to Mahallah and vice versa.	-0.071	0.483
The distance travel from my Mahallah to Kulliyah and vice versa on using the UniRide is convenient for me.	-0.088	0.382

Table 3 shows the r-value and α -value of each statement under “safety” factor with gender. The correlation coefficient of each of these statements with gender is more than 0.1 indicating a weak positive correlation. The significance of the correlation between each of these statements with gender is more than 0.05. It shows that the correlation between the safety variables with gender is statistically insignificant. Thus, safety is not a factor for both male and female.

TABLE 3. Correlation Coefficient between Safety Factor and Gender

Statement	Gender	
	r-value	α -value
I feel safe when rode the UniRide with safety equipment.	0.149	0.138
I feel safe when rode the UniRide at night.	0.156	0.122

Table 4 shows the correlation coefficient of each of the major factor affecting the use of UniRide bicycle-sharing service on-campus with gender. The results show that the r-value for “convenience” factor is more than 0.1 negative, whereas for “topographic condition” it is more than 0.3 positive. It shows that the “convenience” factor has a weak negative relationship with gender whereas “topographic condition” factor has moderate positive relationship with gender. On the other hand, the r-value for ‘bicycle infrastructure’ is less than 0.1 positive whereas “climatic condition” is more than 0.1 negative. The r-value for “safety” factor is less than 0.1 negative. The results show that the “bicycle infrastructure” and “safety” have no relationship with gender whereas “climatic condition” has weak negative relationship with gender. The α -value of the relationship between both “convenience” and gender and “topographic condition” and gender is less than 0.05 whereas for “bicycle infrastructure”, “climatic condition” and “safety” is more

than 0.05. It shows that the correlation between both “convenience” and gender and “topographic condition” and gender are statistically significant whereas the correlation of “bicycle infrastructure”, “climatic condition” and “safety” with gender is statistically insignificant. Thus, both male and female respondents considers the “convenience” and “topographic condition” as the Major Factor when using UniRide.

TABLE 4. Correlation Coefficient between Major Factor affecting Use of UniRide and Gender

Variables	Gender	
	r-value	α -value
Convenience	-0.238*	0.017**
Bicycle Infrastructure	0.062	0.540
Climatic Condition	-0.107*	0.288
Topographic Condition	0.327*	0.001**
Safety	-0.042	0.681

* r-value weak more than 0.1, moderate more than 0.3, strong more than 0.6.

** α -value significance less than 0.05.

Recommendation to Improve the UniRide Bicycle-Sharing Service

To improve the use of UniRide bicycle-sharing in the university campus, few recommendations were derived from the major findings of the data. These recommendations are expected to improve the use of bicycle-sharing service in IIUM Gombak Campus.

First, provision of bicycle lane. The provision of bicycle lane can help overcome the issue of safety for bicycle users. Improvement of the shared roadways especially along the main circular road on-campus can be applied by providing an exclusive bicycle lane for bicycle-sharing users. An exclusive protected bicycle lane would encourage the use

of bicycle and thus increase the number of bicycle users on-campus. Additionally, the restriction on the speed limit of the motorized vehicles would further enhance the safety of the bicycle users on-campus.

Second, increase in the number of UniRide bicycle and better supporting infrastructure. One of the measures to facilitate the use of bicycle on-campus is the availability of UniRide bicycles to the users by increasing the number of UniRide bicycles. On the other hand, the enhancement of bicycle supporting infrastructure on-campus should be carried out to increase the number of bicycle users. Adding more bicycle dock stations at the strategic locations within the campus would provide easy access to UniRide bicycle-sharing service. Additional bicycle routes on other roads apart from the major road should be identified to decrease the travelling distance between the points of interests on-campus. Other supporting infrastructure such as location and illuminance of streetlighting along the campus roads must be improved to enhance the safety of the bicycle users especially female users at night.

Third, promotion of programmes that encourage cycling activity. Implementing programmes to promote cycling in campus can attract more students to use bicycle for their travel in campus rather than using motorised vehicles. Programs such as cycling weeks, cycling benefits awareness, cycling orientation for freshman and sophomores can help encourage a greater use of bicycle on-campus. Furthermore, a bicycle-sharing incentive scheme can also be introduced by the university by giving incentives to the student users to facilitate them to use bicycle-sharing service. This would help attract more students to use bicycle-sharing as their main mode of transport in the campus.

CONCLUSIONS

Cycling is one of the modes of transport that should be encouraged in a university campus. This would not only help reduce the emissions from motorized vehicles but also promote the use of sustainable transport in a campus. This study identifies significant factors affecting the use of UniRide bicycle-sharing service in IIUM Gombak Campus. It is important to identify the factors as it would help to determine the level of use of UniRide bicycle-sharing service in the campus. The identification of factors would also help to improve the bicycle-sharing service in the campus which could eventually ease the movement of the users especially students who are depending on this service. Major factors such as convenience, bicycle infrastructure, climatic conditions, topographic conditions, and safety were used in this study to ascertain the views of the students on each of these five factors affecting the use of UniRide bicycle-sharing service in the campus. The findings show that the campus was lacking on important infrastructure such as exclusive bicycle lane, dock stations, signages, bicycle routes affecting the use of bicycling-sharing service on-campus. Some of the female

students felt less safe to use bicycles at night because of poor streetlighting along the major road and other roads on campus. These findings have clearly demonstrated that these factors should be addressed to encourage bicycle use which would eventually increase the use of bicycle-sharing service in the campus.

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DECLARATION OF COMPETING INTEREST

None.

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