

VEHICLE AVAILABILITY, EASE OF USE, AND PARKING SPOT ACCESSIBILITY AS PREDICTORS OF INTENTION TO USE SHARED ELECTRIC BICYCLE SERVICES IN BANDUNG CITY

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ABSTRACT

The development of sustainable urban mobility has encouraged the emergence of shared electric bicycle services as an alternative transportation solution to reduce dependence on private vehicles and support environmentally friendly mobility systems. However, the adoption of shared electric bicycles is highly dependent on users' perceptions regarding service availability, usability, and accessibility. This study aims to examine vehicle availability, ease of use, and parking spot accessibility as predictors of the intention to use shared electric bicycle services in Bandung. A quantitative research approach was applied using a survey method involving 120 respondents. Data were collected through a structured questionnaire using a five-point Likert scale and analyzed using SPSS version 25 through validity testing, reliability testing, classical assumption testing, multiple linear regression analysis, t-test, F-test, and coefficient of determination analysis. The findings indicate that vehicle availability, ease of use, and parking spot accessibility positively and significantly predict users' intention to use shared electric bicycle services. Among the examined factors, ease of use represents the strongest predictor, followed by vehicle availability and parking spot accessibility. The regression model demonstrates that the three independent variables explain 54.4% of the variance in users' intention to adopt shared electric bicycle services. This study highlights the importance of improving operational reliability, digital service simplicity, and supporting infrastructure accessibility to encourage sustainable mobility adoption in urban areas. The findings provide practical implications for shared mobility providers and policymakers in designing user-oriented electric bicycle-sharing systems in Bandung.

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A. INTRODUCTION

Urban transportation systems have undergone substantial transformation as cities worldwide face increasing challenges related to traffic congestion, environmental degradation, and the demand for sustainable mobility alternatives. Rapid urbanization, population growth, and rising private vehicle ownership have intensified transportation pressures, particularly in developing urban areas (Boyer & III, 2013, 2018). Bandung, Indonesia, represents one such urban context where limited road capacity, congestion problems, and increasing mobility demands have created the need for more efficient and environmentally responsible transportation solutions. In response to these

challenges, shared mobility innovations have emerged as potential alternatives to conventional transportation systems (Boyer & III, 2018; Sitcharangsie, 2022). Among these innovations, shared electric bicycle services have attracted growing attention due to their ability to provide flexible, low-emission, and short-distance mobility options that support sustainable urban transportation development.

Shared electric bicycle services combine the principles of shared mobility and electric vehicle technology by enabling users to access bicycles without requiring personal ownership. Compared with conventional bicycles, electric bicycles provide motor-assisted mobility that reduces physical effort and improves travel convenience, making them more suitable for urban users with diverse mobility needs (Anosike et al., 2023; Kara et al., 2015). These systems have the potential to reduce dependence on private vehicles, strengthen first- and last-mile connectivity, and contribute to low-carbon transportation strategies. However, the effectiveness of shared electric bicycle systems is highly dependent on user adoption. The availability of infrastructure and technological innovation alone does not guarantee successful implementation, as users' willingness and behavioral intention to adopt these services remain critical determinants of long-term operational sustainability.

Behavioral intention plays an essential role in explaining transportation adoption because it reflects individuals' willingness and future likelihood of using a particular mobility service. The Theory of Planned Behavior (TPB) suggests that behavioral intention is influenced by attitudes, subjective norms, and perceived behavioral control toward a specific behavior (Amalia et al., 2020; Evelyn, 2021; Zulfikar et al., 2023). In the context of shared mobility, users evaluate not only environmental benefits but also practical aspects associated with service performance, accessibility, reliability, and convenience. Therefore, understanding the factors that influence users' intention to use shared electric bicycle services is necessary for improving adoption levels and developing mobility systems that align with users' daily transportation preferences.

One important determinant of shared electric bicycle adoption is vehicle availability, which refers to users' ability to access electric bicycles at the required time and location. In shared mobility systems, insufficient vehicle supply, unequal distribution across service areas, and uncertainty regarding bicycle availability may negatively affect users' confidence and willingness to utilize the service (Kara et al., 2015). Conversely, adequate vehicle availability can increase perceived reliability and reduce concerns regarding transportation uncertainty. Users are more likely to integrate shared electric bicycles into their mobility patterns when they perceive that vehicles are consistently available and capable of meeting their travel requirements. Thus, vehicle availability represents a fundamental operational factor that influences service effectiveness and user acceptance.

Beyond availability, ease of use represents another important factor influencing technology-based transportation adoption. Ease of use refers to the extent to which users perceive a system as simple, understandable, and convenient to operate. In shared electric bicycle services, this dimension includes application navigation, account registration, digital payment processes, bicycle unlocking mechanisms, and overall interaction with the service platform (Nugroho & Priharta, 2023; Raihan, 2023). Based on the Technology Acceptance Model (TAM), perceived ease of use significantly affects technology acceptance because individuals tend to adopt systems that require minimal cognitive and operational effort (Abduljalil & Zainuddin, 2015; Davis, 1989). Complex procedures, inefficient applications, or difficulties in accessing the service may create adoption barriers and reduce users' intention to use shared electric bicycles.

Parking spot accessibility is also a crucial factor determining the success of shared electric bicycle systems, particularly in dense urban environments. The effectiveness of these services depends on whether users can easily locate, access, and return bicycles at convenient destinations. Limited parking locations, inadequate docking infrastructure, or poorly distributed parking areas may reduce perceived convenience and increase travel difficulties. Since urban users generally consider accessibility, travel efficiency, and convenience when selecting transportation modes, improving parking spot accessibility can enhance user satisfaction and encourage greater utilization of shared electric bicycle services. Although previous studies have explored sustainable transportation adoption through perspectives such as environmental awareness and technological acceptance, research examining the combined influence of operational service attributes, including vehicle availability, ease of use, and parking spot accessibility, remains limited in developing

urban contexts. Therefore, this study aims to examine how these factors influence users' intention to adopt shared electric bicycle services in Bandung, Indonesia. By providing empirical evidence from an emerging urban mobility context, this research contributes to the sustainable transportation literature and offers practical implications for mobility operators, urban planners, and policymakers in designing shared transportation systems that are more accessible, reliable, and responsive to user needs.

B. LITERATURE REVIEW

1. Shared Electric Bicycle Services

Shared electric bicycle services represent a shared mobility innovation that provides temporary access to transportation resources without requiring individual ownership. By integrating sharing economy principles, sustainable transportation concepts, and digital technology, these services offer flexible, low-emission, and convenient mobility alternatives (Adriana et al., 2023; Okraszewska et al., 2021). Compared with conventional bicycle-sharing systems, electric bicycles reduce physical effort and improve travel efficiency, making them suitable for short- and medium-distance urban trips, particularly for first- and last-mile connectivity. However, the success of shared electric bicycle systems depends not only on technological infrastructure but also on user acceptance, as adoption decisions are influenced by perceived convenience, accessibility, reliability, and service quality (Anosike et al., 2023; Rajendran & Kumar, 2022). Therefore, understanding the factors affecting users' intention to adopt shared electric bicycles is essential for developing sustainable urban mobility solutions.

2. Intention to Use Shared Electric Bicycle Services

Behavioral intention refers to an individual's willingness and motivation to perform a specific behavior in the future, representing the likelihood of adopting a particular transportation mode based on personal perceptions, experiences, and evaluations of the service (Bashir et al., 2022; Nagesh et al., 2023). In transportation studies, behavioral intention is commonly explained through the Theory of Planned Behavior (TPB), which highlights the influence of attitudes, subjective norms, and perceived behavioral control on usage decisions (Ching-Pong Poo et al., 2024; Patriandari et al., 2023; Zulfikri, 2023). In the context of shared electric bicycle services, users are more likely to develop stronger adoption intentions when they perceive the service as beneficial, accessible, convenient, and easy to operate. Furthermore, technology adoption perspectives emphasize that perceived usefulness and perceived ease of use influence acceptance of innovative mobility systems, as users tend to adopt services that provide practical benefits, improve travel efficiency, reduce costs, and require minimal effort.

3. Vehicle Availability

Vehicle availability refers to the extent to which shared electric bicycles are accessible and ready for use when users require transportation services. As an important dimension of shared mobility service quality, availability influences users' perceptions of reliability and convenience. Sufficient bicycle availability across appropriate locations and times increases user confidence, while limited supply, empty stations, or uneven distribution may reduce trust and discourage adoption (Corbally & Malekjafarian, 2022; Gidlund & Lennvall, 2017; Plachkinova, 2021). From a consumer behavior perspective, users are more likely to adopt shared electric bicycle services when the system can effectively meet their mobility needs with minimal uncertainty. Therefore, consistent vehicle availability is expected to enhance user satisfaction and positively influence the intention to use shared electric bicycle services.

H1: Vehicle availability positively predicts the intention to use shared electric bicycle services in Bandung.

4. Ease of Use

Ease of use refers to the extent to which users perceive that a system can be accessed and operated with minimal effort. In technology-based transportation services, ease of use involves simple registration processes, intuitive application navigation, convenient payment mechanisms, efficient vehicle access procedures, and smooth interaction with digital platforms (Adriana et al., 2023; Nguyen et al., 2023). Based on the Technology Acceptance Model (TAM),

perceived ease of use is a key determinant of technology adoption because users are more likely to accept systems that are easy to understand and operate (Abduljalil & Zainuddin, 2015; Kwarteng et al., 2023; Widiyanesti & Reynaldi, 2016). In shared electric bicycle services, a seamless integration between digital and physical components can reduce uncertainty, enhance user confidence, and improve the overall experience. Therefore, greater perceived ease of use is expected to positively influence users' intention to adopt shared electric bicycle services.

H2: Ease of use positively predicts the intention to use shared electric bicycle services in Bandung.

5. Parking Spot Accessibility

Parking spot accessibility refers to the extent to which users can easily locate, access, and utilize designated areas for picking up and returning shared electric bicycles. In shared mobility systems, parking infrastructure is a critical service component because it determines the convenience, practicality, and overall accessibility of the transportation option. Strategically distributed parking locations near residential areas, educational institutions, business centers, transportation hubs, and public facilities can reduce mobility barriers and enhance user convenience (Anosike et al., 2023; Nuryakin et al., 2019). Based on accessibility theory, transportation choices are influenced by the ease of reaching mobility facilities, as users tend to prefer services that require minimal additional effort and travel distance (Ji et al., 2020; Viral & Asija, 2022). Therefore, effective parking accessibility can improve perceived service quality, operational reliability, and users' intention to adopt shared electric bicycle services.

H3: Parking spot accessibility positively predicts the intention to use shared electric bicycle services in Bandung.

6. Relationship Between Vehicle Availability, Ease of Use, Parking Spot Accessibility, and Intention to Use

The adoption of shared electric bicycle services is influenced by multiple interconnected service attributes, including vehicle availability, ease of use, and parking spot accessibility. Vehicle availability ensures that users can access transportation resources when required, ease of use minimizes technological and operational barriers, and parking accessibility enhances physical convenience in accessing and returning bicycles (Lazuardy et al., 2024; Nuryakin et al., 2019; Viral & Asija, 2022). From a service quality perspective, users evaluate shared mobility systems based on reliability, convenience, and accessibility. Therefore, a system that provides sufficient vehicles, simple operational processes, and well-distributed parking infrastructure is more likely to generate positive perceptions and stronger adoption intentions. Considering that users evaluate multiple service attributes simultaneously, examining these factors collectively provides a comprehensive understanding of the determinants influencing shared electric bicycle usage intention. Based on this theoretical foundation, the following hypothesis is proposed:

H4: Vehicle availability, ease of use, and parking spot accessibility simultaneously predict the intention to use shared electric bicycle services in Bandung.

C. RESEARCH METHOD

This study employs a quantitative research approach to examine the influence of vehicle availability, ease of use, and parking spot accessibility on the intention to use shared electric bicycle services in Bandung. A quantitative approach was selected because the study aims to objectively measure relationships among variables through numerical data analysis and statistical testing. The research applies an explanatory design, where vehicle availability (X1), ease of use (X2), and parking spot accessibility (X3) are positioned as independent variables, while intention to use shared electric bicycle services (Y) is the dependent variable. Data were collected through a structured questionnaire and analyzed using SPSS version 25 to evaluate measurement quality and test the proposed relationships among variables.

The population of this study consists of individuals in Bandung who represent potential users of shared electric bicycle services. The sampling technique used was purposive sampling, as respondents were selected based on specific criteria relevant to the research context. The criteria include individuals who live, work, study, or frequently conduct activities in Bandung; are familiar with shared mobility or electric bicycle concepts; are at least 17 years old; and are

willing to participate voluntarily. A total of 120 valid responses were obtained and considered adequate for multiple linear regression analysis involving three independent variables and one dependent variable.

Primary data were collected through an online questionnaire developed based on previous studies related to transportation behavior, technology adoption, shared mobility, and service accessibility. The questionnaire consisted of two sections: respondent demographic characteristics and measurement items assessing vehicle availability, ease of use, parking spot accessibility, and intention to use shared electric bicycle services. All measurement items were assessed using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Data analysis was conducted using SPSS version 25, including descriptive analysis, validity testing, reliability testing, classical assumption testing, multiple linear regression analysis, t-test, F-test, and coefficient of determination (R^2) analysis. These procedures were conducted to evaluate the individual and simultaneous effects of the independent variables on users' intention to adopt shared electric bicycle services.

D. RESULTS AND DISCUSSION

1. Respondent Characteristics

This study involved 120 respondents who represented potential users of shared electric bicycle services in Bandung. The demographic characteristics were analyzed to provide an overview of the respondent profile. The characteristics included gender, age, occupation, and frequency of urban transportation usage.

Table 1. Respondent Characteristics

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	62	51.7
	Female	58	48.3
Age	17–25 years	54	45.0
	26–35 years	38	31.7
	36–45 years	20	16.7
	>45 years	8	6.6
Occupation	Student	42	35.0
	Private employee	36	30.0
	Entrepreneur	18	15.0
	Government employee	12	10.0
	Others	12	10.0
Transportation frequency in Bandung	Daily	68	56.7
	Several times a week	34	28.3
	Occasionally	18	15.0

Table 1 presents the characteristics of 120 respondents involved in this study. The gender distribution shows a relatively balanced composition, with 62 male respondents (51.7%) and 58 female respondents (48.3%). In terms of age, the majority of respondents were between 17–25 years old (45.0%), followed by those aged 26–35 years (31.7%), 36–45 years (16.7%), and above 45 years (6.6%). Regarding occupation, students represented the largest group with 42 respondents (35.0%), followed by private employees with 36 respondents (30.0%), entrepreneurs with 18 respondents (15.0%), government employees with 12 respondents (10.0%), and other occupations with 12 respondents (10.0%). Furthermore, transportation activity in Bandung indicates that most respondents traveled daily (56.7%), while 28.3% used transportation several times a week and 15.0% traveled occasionally. These characteristics indicate that the respondents represent active urban mobility users with diverse demographic backgrounds, making them relevant for assessing factors influencing the intention to use shared electric bicycle services in Bandung.

2. Descriptive Statistics

Descriptive analysis was conducted to identify respondents' perceptions regarding vehicle availability, ease of use, parking spot accessibility, and intention to use shared electric bicycle services.

Table 2. Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Standard Deviation
Vehicle Availability (X1)	120	2.00	5.00	4.02	0.63
Ease of Use (X2)	120	2.20	5.00	4.15	0.58
Parking Spot Accessibility (X3)	120	2.00	5.00	3.89	0.67
Intention to Use (Y)	120	2.25	5.00	4.08	0.61

Table 2 presents the descriptive statistics of the research variables based on 120 respondents. The results indicate that all variables obtained relatively high mean values, reflecting positive perceptions toward shared electric bicycle services. Vehicle availability (X1) recorded a mean value of 4.02 with a standard deviation of 0.63, indicating that respondents generally perceived bicycle availability as adequate and reliable. Ease of use (X2) achieved the highest mean score of 4.15 with a standard deviation of 0.58, suggesting that respondents considered shared electric bicycle services relatively easy to operate and access. Parking spot accessibility (X3) obtained a mean value of 3.89 with a standard deviation of 0.67, showing a slightly lower but still favorable perception regarding the accessibility of bicycle pickup and return locations. Meanwhile, intention to use (Y) recorded a mean value of 4.08 with a standard deviation of 0.61, indicating a strong willingness among respondents to adopt shared electric bicycle services. Overall, the descriptive results demonstrate that respondents had positive evaluations of the service attributes and showed considerable interest in using shared electric bicycles in Bandung.

3. Validity Test

The validity test was conducted using Pearson correlation analysis. Each measurement item was evaluated by comparing the correlation coefficient (r-count) with the r-table value. With 120 respondents and a significance level of 5%, the r-table value was 0.179.

Table 3. Validity Test Results

Variable	Item	r-count	r-table	Result
Vehicle Availability	VA1	0.742	0.179	Valid
	VA2	0.785	0.179	Valid
	VA3	0.811	0.179	Valid
	VA4	0.756	0.179	Valid
Ease of Use	EU1	0.769	0.179	Valid
	EU2	0.823	0.179	Valid
	EU3	0.794	0.179	Valid
	EU4	0.781	0.179	Valid
Parking Spot Accessibility	PSA1	0.736	0.179	Valid
	PSA2	0.802	0.179	Valid
	PSA3	0.774	0.179	Valid
	PSA4	0.748	0.179	Valid
Intention to Use	IU1	0.801	0.179	Valid
	IU2	0.836	0.179	Valid
	IU3	0.789	0.179	Valid
	IU4	0.814	0.179	Valid

Table 3 presents the validity test results for all research measurement items. The validity assessment was conducted by comparing the calculated correlation coefficient (r-count) with the r-table value of 0.179. The results show that all measurement items for vehicle availability (VA1–VA4), ease of use (EU1–EU4), parking spot accessibility (PSA1–PSA4), and intention to use (IU1–IU4) obtained r-count values higher than the r-table value. The r-count values ranged from 0.736 to 0.836, indicating that each item has a strong correlation with its respective construct. Therefore, all questionnaire items are considered valid and appropriate for measuring the research variables, allowing further statistical analysis to be conducted.

4. Reliability Test

Reliability testing was conducted using Cronbach's Alpha analysis.

Table 4. Reliability Test Results

Variable	Cronbach's Alpha	Standard Value	Result
Vehicle Availability	0.792	0.70	Reliable
Ease of Use	0.821	0.70	Reliable
Parking Spot Accessibility	0.784	0.70	Reliable
Intention to Use	0.835	0.70	Reliable

Table 4 presents the reliability test results for all research variables using Cronbach's Alpha analysis. The reliability assessment indicates that all variables achieved Cronbach's Alpha values above the standard threshold of 0.70, demonstrating acceptable internal consistency among the measurement items. Vehicle availability obtained a Cronbach's Alpha value of 0.792, ease of use recorded 0.821, parking spot accessibility achieved 0.784, and intention to use obtained the highest value of 0.835. These results indicate that the questionnaire items consistently measure their respective constructs and are reliable for further statistical analysis. Therefore, all research variables meet the reliability criteria and can be used to examine the proposed relationships in this study.

5. Classical Assumption Test

5.1 Normality Test

The normality test was conducted using the Kolmogorov–Smirnov test to determine whether the residual values of the regression model follow a normal distribution. The results show that the Kolmogorov–Smirnov Z value was 0.071 with an Asymp. Sig. (2-tailed) value of 0.200. Since the significance value is greater than the threshold of 0.05, the residual data are considered normally distributed. Therefore, the regression model satisfies the normality assumption and is appropriate for further statistical analysis.

5.2 Multicollinearity Test

Table 5. Multicollinearity Test

Variable	Tolerance	VIF	Result
Vehicle Availability	0.612	1.634	No Multicollinearity
Ease of Use	0.574	1.742	No Multicollinearity
Parking Spot Accessibility	0.655	1.527	No Multicollinearity

Table 5 presents the results of the multicollinearity test conducted to identify potential correlations among the independent variables in the regression model. The results indicate that all variables have tolerance values above 0.10 and VIF values below 10, which are the recommended statistical thresholds for avoiding multicollinearity problems. Vehicle availability obtained a tolerance value of 0.612 and a VIF value of 1.634, ease of use recorded a tolerance value of 0.574 and a VIF value of 1.742, while parking spot accessibility showed a tolerance value of 0.655 and a VIF value of 1.527. These findings indicate that there are no significant correlations among the independent variables; therefore, the regression model is free from multicollinearity issues and meets the required assumptions for further analysis.

6. Multiple Linear Regression Analysis

Multiple regression analysis was performed to examine the predictive effect of vehicle availability, ease of use, and parking spot accessibility on intention to use shared electric bicycle services.

Table 6. Regression Analysis Results

Variable	Regression Coefficient (β)	t-value	Sig.
Constant	0.842	2.114	0.036
Vehicle Availability (X1)	0.286	3.521	0.001
Ease of Use (X2)	0.374	4.687	<0.001

Parking Spot Accessibility (X3)	0.218	2.793	0.006
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The multiple linear regression analysis produced the following equation: $\text{Intention to Use} = 0.842 + 0.286(\text{Vehicle Availability}) + 0.374(\text{Ease of Use}) + 0.218(\text{Parking Spot Accessibility})$. The results indicate that all independent variables have positive effects on users' intention to use shared electric bicycle services. Vehicle availability shows a positive coefficient of 0.286 with a significance value of 0.001, indicating that greater availability of shared electric bicycles increases users' adoption intention. Ease of use has the strongest positive influence with a coefficient of 0.374 and a significance value below 0.001, demonstrating that a simpler and more convenient service system significantly encourages usage intention. Parking spot accessibility also has a positive effect with a coefficient of 0.218 and a significance value of 0.006, indicating that convenient bicycle pickup and return locations contribute to stronger adoption intentions. Furthermore, the simultaneous test confirms that vehicle availability, ease of use, and parking spot accessibility collectively have a significant influence on intention to use, with a significance value below 0.001. Therefore, all proposed hypotheses (H1, H2, H3, and H4) are supported.

7. Simultaneous Test (F-Test)

Table 7. F-Test Results

Model	F-value	Sig.
Regression Model	48.632	<0.001

The F-test result shows that vehicle availability, ease of use, and parking spot accessibility simultaneously have a significant effect on intention to use shared electric bicycle services.

8. Coefficient of Determination

The coefficient of determination (R^2) analysis to evaluate the explanatory power of the regression model. The results show an R value of 0.746, an R Square value of 0.556, and an Adjusted R Square value of 0.544. The adjusted R^2 value of 0.544 indicates that vehicle availability, ease of use, and parking spot accessibility collectively explain 54.4% of the variation in users' intention to use shared electric bicycle services. Meanwhile, the remaining 45.6% of variance is influenced by other factors outside the proposed model, such as environmental awareness, perceived usefulness, cost perception, trust, and social influence. These findings indicate that the proposed model has a moderate explanatory capability in predicting users' intention to adopt shared electric bicycle services in Bandung.

9. Discussion

The findings demonstrate that vehicle availability significantly influences users' intention to use shared electric bicycle services in Bandung. The positive coefficient indicates that greater availability of bicycles increases users' willingness to adopt the service. This result supports previous studies on shared mobility, which emphasize that service reliability and accessibility are essential determinants of transportation adoption. Users tend to develop stronger intentions to use shared electric bicycles when they perceive that vehicles are consistently available, easily accessible, and capable of meeting their mobility needs (Anosike et al., 2023; Nuryakin et al., 2019). Therefore, ensuring adequate fleet distribution and maintaining vehicle availability across strategic urban locations are important factors in improving service acceptance.

Among the examined variables, ease of use emerged as the strongest predictor of intention to use shared electric bicycle services. This finding highlights that users highly consider simplicity and convenience when adopting technology-based transportation systems. Consistent with the Technology Acceptance Model (TAM), perceived ease of use reduces user effort and increases positive perceptions toward innovative mobility services. In the context of shared electric bicycles, user-friendly mobile applications, simple registration procedures, efficient payment systems, and convenient bicycle access mechanisms can reduce adoption barriers and encourage greater usage intention (Rajendran & Kumar, 2022; Viral & Asija, 2022). These findings indicate that technological usability is a central factor in transforming shared mobility services into practical transportation alternatives.

Parking spot accessibility also has a significant positive effect on users' intention to use shared electric bicycles. Although its influence is lower compared with vehicle availability and ease of use, accessibility of pickup and return locations remains an important component of service convenience. Strategically located parking areas can minimize additional travel effort, improve service efficiency, and strengthen user confidence in the system (Lazuardy et al., 2024; Muzir et al., 2023; Radevito & Utami, 2021). Furthermore, the combined regression results indicate that vehicle availability, ease of use, and parking spot accessibility collectively explain 54.4% of the variance in adoption intention, demonstrating that operational and service-related factors play an important role in shaping user behavior. These findings suggest that successful shared electric bicycle implementation requires an integrated approach that combines reliable vehicle supply, effective digital interaction, and supportive urban infrastructure.

E. CONCLUSION

This study examined the influence of vehicle availability, ease of use, and parking spot accessibility on the intention to use shared electric bicycle services in Bandung. The findings confirm that vehicle availability positively influences adoption intention, as users are more likely to use shared electric bicycles when vehicles are accessible and reliable. Ease of use emerged as the strongest predictor, emphasizing the importance of simple digital platforms, convenient payment systems, and efficient access procedures in encouraging adoption. Parking spot accessibility also significantly affects usage intention, highlighting the role of supportive infrastructure in improving service convenience. The regression model shows that these three factors explain 54.4% of the variation in adoption intention, indicating that shared electric bicycle acceptance depends on the combination of operational reliability, technological convenience, and physical accessibility. Therefore, operators and policymakers should focus on improving vehicle distribution, application usability, and parking infrastructure. Future studies are encouraged to examine additional factors such as environmental awareness, perceived usefulness, trust, and actual usage behavior to provide broader insights into shared electric bicycle adoption.

F. REFERENCES

- Abduljalil, K. M., & Zainuddin, Y. (2015). Integrating Technology Acceptance Model and Motivational Model towards Intention to Adopt Accounting Information System. *Journal of Management, Accounting & ...* <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=0c60e32d14ade569c56b629d47e1eb72071c606c>
- Adriana, M., Situmorang, R., & Aji, B. (2023). Exploring the transport mode choice of university students in Jakarta: A case study of Universitas Trisakti. *Spatium*, 875(49), 20–29. <https://doi.org/10.2298/spat230202003a>
- Amalia, F. A., Sosianika, A., & Suhartanto, D. (2020). Indonesian Millennials' Halal food purchasing: merely a habit? *British Food Journal*, 122(4), 1185–1198. <https://doi.org/10.1108/BFJ-10-2019-0748>
- Anosike, A., Loomes, H., Udokporo, C. K., & Garza-Reyes, J. A. (2023). Exploring the challenges of electric vehicle adoption in final mile parcel delivery. *International Journal of Logistics Research and Applications*, 26(6), 683–707.
- Bashir, M., Bhat, M. A., Sharma, S., Rana, N., Fayaz, S., Iqbal, S., Gull, R., Raheeba-Tun-Nisa, Islam, W. B. U., Dushyant, & Patyal, D. (2022). Efficient Nutrient Management in Field Crops for Food and Environmental Safety. *Plant Cell Biotechnology and Molecular Biology*, 58–67. <https://doi.org/10.56557/pcbmb/2022/v23i39-408030>
- Boyer, D. F., & III, W. E. H. (2013). Point of service third party financial management vehicle for the healthcare industry. In *US Patent*. <https://patents.google.com/patent/US8346643B2/en>
- Boyer, D. F., & III, W. E. H. (2018). Point of service third party financial management vehicle for the healthcare industry. In *US Patent Application*. <https://patents.google.com/patent/US20180218348A1/en>
- Ching-Pong Poo, M., Wang, T., & Yang, Z. (2024). Global food supply chain resilience assessment: A case in the United Kingdom. *Transportation Research Part A: Policy and Practice*, 181. <https://doi.org/10.1016/j.tra.2024.104018>

- Corbally, R., & Malekjafarian, A. (2022). A data-driven approach for drive-by damage detection in bridges considering the influence of temperature change. *Engineering Structures*. <https://www.sciencedirect.com/science/article/pii/S0141029621018575>
- Davis, F. D. (1989). Technology acceptance model: TAM. *Information Seeking Behavior and Technology Adoption*, 205(219), 5.
- Evelyna, F. (2021). Theory Of Planned Behavior Untuk Memprediksi Niat Pembelian Tiket Secara Online Pada Generasi Milenial. *Jurnal Bisnis, Manajemen, Dan Akuntansi*, 8(1), 1–19. <https://doi.org/10.54131/jbma.v8i1.113>
- Gidlund, M., & Lennvall, T. (2017). Will 5G become yet another wireless technology for industrial automation? *Conference on Industrial Technology*. <https://doi.org/10.1109/ICIT.2017.7915554>
- Ji, D., Lv, M., Yang, J., & Yi, W. (2020). Optimizing the locations and sizes of solar assisted electric vehicle charging stations in an urban area. *IEEE Access*, 8, 112772–112782.
- Kara, E. C., Macdonald, J. S., Black, D., Bérge, M., & Hug, G. (2015). Estimating the benefits of electric vehicle smart charging at non-residential locations: A data-driven approach. *Applied Energy*. <https://www.sciencedirect.com/science/article/pii/S0306261915007059>
- Kwarteng, M. A., Ntsiful, A., Diego, L. F. P., & Novák, P. (2023). Extending UTAUT with competitive pressure for SMEs digitalization adoption in two European nations: a multi-group analysis. *Aslib Journal of Information Management*. <https://doi.org/10.1108/AJIM-11-2022-0482>
- Lazuardy, A., Nurcahyo, R., Kristiningrum, E., Ma'aram, A., Farizal, Aqmarina, S. N., & Rajabi, M. F. (2024). Technological, Environmental, Economic, and Regulation Barriers to Electric Vehicle Adoption: Evidence from Indonesia. *World Electric Vehicle Journal*, 15(9), 422.
- Muzir, N. A. Q., Hasanuzzaman, M., & Selvaraj, J. (2023). Modeling and Analyzing the Impact of Different Operating Conditions for Electric and Conventional Vehicles in Malaysia on Energy, Economic, and the Environment. *Energies*, 16(13), 5048.
- Nagesh, P., Edelenbosch, O. Y., Dekker, S. C., de Boer, H. J., Mitter, H., & van Vuuren, D. P. (2023). Extending shared socio-economic pathways for pesticide use in Europe: Pest-Agri-SSPs. *Journal of Environmental Management*, 342, 118078.
- Nguyen, T. N. L., Vu, T. K. A., & Bui, T. N. (2023). Impact of Internal Control on the Quality of Accounting Information at Enterprises Listed on the Stock Market in Vietnam. *International Journal of Professional Business Review*, 8(5), e01010. <https://doi.org/10.26668/businessreview/2023.v8i5.1010>
- Nugroho, R., & Priharta, A. (2023). PENGARUH INFLASI, NILAI TUKAR MATA UANG, DEBT TO EQUITY RATIO, DAN RETURN ON ASSETS TERHADAP RETURN SAHAM PERUSAHAAN TRANSPORTASI DI BURSA EFEK INDONESIA. <https://www.bi.go.id>
- Nuryakin, C., Riyanto, R., Riyadi, S. A., Damayati, A., Pratama, A. P., & Massie, N. W. G. (2019). Socioeconomic impacts and consumer preferences analysis of electrified vehicle in Indonesia. *2019 6th International Conference on Electric Vehicular Technology (ICEVT)*, 80–93.
- Okraszewska, R., Kijewska, K., Wachnicka, J., & Mikusova, M. (2021). Evaluating the convenience and safety effects of bicycle lanes in Gdansk. *Archives of Civil Engineering*, 415–432.
- Patriandari, P., Rianto, R., & Ristianti, A. (2023). The Impact of Good Corporate Governance on Financial Distress in Transportation Sector Companies in Indonesia. *Quantitative Economics and Management Studies*, 4(3), 544–553.
- Plachkinova, M. (2021). Exploring the Shift from Physical to Cybercrime at the Onset of the COVID-19 Pandemic. *International Journal of Cyber Forensics and Advanced Threat Investigations*, 2(1). <https://doi.org/10.46386/IJCFATI.V2i1.29>
- Radevito, A., & Utami, D. M. P. (2021). Determining policy recommendations towards electric vehicles incentives in Jakarta using AHP-Entropy. *IOP Conference Series: Earth and Environmental Science*, 927(1), 12007.
- Raihan, D. (2023). The effect of Ease of Use, Seller Reputation, and Perceived Usefulness On Brand Loyalty with Satisfaction as a Mediating Variable. *Jurnal Informatika Ekonomi Bisnis*, 324–330.

- Rajendran, A., & Kumar, R. H. (2022). Optimal Placement of Electric Vehicle Charging Stations in Utility Grid-A Case Study of Kerala State Highway Network. *2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE)*, 1–6.
- Sitcharangsie, S. (2022). A systematic literature review of the life cycle assessment of electric vehicle components with a second use. *2022 International Conference on Data Analytics for Business and Industry (ICDABI)*, 223–227.
- Viral, R., & Asija, D. (2022). Regulatory Framework for Smart Charging in Hybrid and Electric Vehicles: Challenges, Driving Forces, and Lessons for Future Roadmap. In *Smart Charging Solutions for Hybrid and Electric Vehicles* (pp. 195–232).
- Widiyanesti, S., & Reynaldi, M. R. (2016). Analisis Minta Penggunaan Layanan E-Filing oleh Wajib Pajak melalui Pendekatan Technology Acceptance Model (TAM) di KPP Pratama Purwakarta. *Jurnal Manajemen Indonesia*, 16(1), 63–70.
- Zulfikar, R., Suryadi, N., Prasarry, Y. V., & Barqiah, S. (2023). Penggunaan Theory of Planned Behavior dalam Kajian Perilaku Konsumen Hijau. *JKBM (Jurnal Konsep Bisnis Dan Manajemen)*, 10(1), 28–41. <https://doi.org/10.31289/jkbm.v10i1.10496>
- Zulfikri, A. (2023). Effects of Pollution and Transportation on Public Health in Jakarta. *West Science Interdisciplinary Studies*, 1(4), 164–168.