Young Generation's Perception and Buying Reasons of Electric Bicycles

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Abstract

Electric bicycles continue to develop and grow with new designs and technologies to attract customers. With the growth of the electric bicycle business as green products, the development of online marketplaces selling electric bicycles has also increased in Indonesia. People can buy electric bicycle products easily. The purpose of this study is to find out the reasons for the customer in the process of buying an electric bicycle. This study focuses on the interests and reasons for buying or not buying an electric bicycle on the online marketplace. This study involved 200 people from various cities in Indonesia and the respondents involved were from various backgrounds. This study uses a qualitative approach, using open-ended questions through an online survey. Data processing uses coding techniques, then qualitative data is quantified for cross-case analysis. The results of the study indicate that most respondents have an interest in electric bicycles. Environmentally friendly, practical, and low prices are the main reasons for customers to buy electric bicycles. Meanwhile, those who do not want to buy an electric bicycle have reasons such as aspects of convenience, electric power and price. This research is useful for developing theories related to marketing and the characteristics of electric bicycles. This research can also be useful for manufacturers and sellers of electric bicycles to understand market conditions.

Keywords
Electric bicycles, young generation, online, marketplace, green product

1. Introduction
A bicycle that is powered by a battery is referred to as an electric bicycle. Electric bicycles provide a number of advantages over conventional bicycles, despite the fact that they look like regular bicycles. Electric bicycles' key benefit is how simple it is to move them. Electric bicycles run on batteries and don't require much effort from the user, making them more convenient for daily commuting. Electric bicycles are significantly faster than conventional bicycles, making them more effective at covering greater distances.

Electric bicycles play an important role as environmentally friendly vehicles with benefits that can reduce carbon and become an important part of urban transportation (Fyhri and Sundfor, 2020; Philips et al. 2022). The use of electric bicycles not only benefits the environment, but also comfort and health when riding an electric bicycle (Mueller et al. 2018). There are so many types of bicycles, ranging from price ranges, technology support and other supporting components that make electric bicycles have several categories (Muetze and Tan, 2007).

Consumer needs for product attributes are one of the factors that influence consumers in deciding to purchase an electric bicycle. Starting from the features in electric bicycles, facilities to the broad impact on the environment (Bockarjova & Steg, 2014). Research is needed to complete the needs of how to use electric bicycles (Fishman and Cherry, 2015). The purpose of this study is to find out the reasons for the customer in the process of buying an electric

bicycle. This study focuses on the interests and reasons for buying or not buying an electric bicycle on the online marketplace.

2. Literature Review

The use of electric bicycles will have a good impact on reducing pollution and become sustainable transport (Cherry et al. 2009). In addition, from previous studies, the use of electric bicycles can improve the health of its users and help to transport from one place to another more easily (Oja et al. 2011). Having additional power assistance is one of the important things in electric bicycles because it helps reduce effort in pedaling and remains comfortable to use for those who want to ride a bicycle for exercise. These things make electric bicycle users excited to use them (Popovich et al. 2014; Van Cauwenberg et al. 2018).

The research data shows that there is a link between the use of electric bicycles and reduced car use, of course this has an impact on reducing pollution (Sun et al. 2020). However, in supporting the use of electric bicycles in the public, it is necessary to provide facilities and other technical needs so that people want to choose electric bicycles in their daily life. In addition, financial benefits can be one of the factors that determine consumer purchasing decisions (Zhang et al. 2013; Piatkowski et al. 2019). Therefore, producers and policy makers peril see perceptions of electric bicycles from the point of view of the community, or in this case the younger generation. By understanding the determinants of using electric bicycles, policy and product innovation can be developed.

3. Methodology

This study uses a qualitative approach to obtain the expected data analysis. The data was processed from 200 young people in various cities in Indonesia using open-ended questions via online. The qualitative data obtained was then processed using two stages of coding, first-cycle, and second-cycle coding. Theme data from coding results is quantified for the crosstab analysis with other variable data. Then the data is analyzed to search for new findings.

4. Data Collection

Data collection techniques carried out in this study used online forms which were distributed to 200 young generations from several cities in Indonesia. The data collected is qualitative data and there is data about the benefits of electric bicycles according to respondents. Scale 1 has no benefit and scale 5 is very useful. In addition, the data collected is the profile of respondents who are in the age range of 18-24, 25-30, and 31-35. In addition, data is collected based on working full time or part time, and also based on profession.

5. Results and Discussion

Table 1. Perceived Benefits of Electric Bicycles

Categories	Perceived Benefits of Electric Bicycles						
	5	4	3	2	1	SUM	N = Documents
Age (18-24)	22,7%	44,5%	20,9%	10,9%	0,9%	100,00	110
Age (25-30)	21,2%	50,0%	13,6%	12,1%	3,0%	100,00	66
Age (31-35)	20,8%	37,5%	12,5%	25,0%	4,2%	100,00	24
Working (part-time)	16,7%	50,0%	33,3%	0	0	100,00	6
Working (full-time), contract	21,2%	57,6%	9,1%	9,1%	3,0%	100,00	33
Working (full-time), permanent	24,3%	45,9%	18,9%	10,8%	0	100,00	37
Other types of paid work	0	20,0%	20,0%	60,0%	0	100,00	5
Active student	18,9%	43,4%	24,5%	13,2%	0	100,00	53
College student on leave	0	0	100,0%	0	0	100,00	1
High school	0	80,0%	20,0%	0	0	100,00	5
Business owner	23,1%	15,4%	30,8%	30,8%	0	100,00	13

Freelancer	28,6%	14,3%	14,3%	42,9%	0	100,00	7
Not working (housewife)	28,6%	57,1%	0	4,8%	9,5%	100,00	21
Not working (looking for work)	31,6%	47,4%	10,5%	5,3%	5,3%	100,00	19
Total	22,0%	45,5%	17,5%	13,0%	2,0%	100,00	800

The data shows that most respondents are aged 18-24 with 110 respondents, followed by ages 25-30 with 66 people and the age range 31-35 with 24 respondents. Likert scale data 1 to 5 shows the benefits of electric bicycles according to the perception of the respondents. The details are scale 1 has no benefit and scale 5 is very useful. From Table 1 the number of respondents who gave the number 4 (useful) with 57.1% and 5 (very useful) was 28.6%. Perceptions of the benefits of electric bicycles across all age ranges are relatively the same. If you look at the data based on their work, those who work feel that electric bicycles are very useful. The perceptions of business owners are different, quite balanced, some perceive it as useful, some perceive it as useless.

Table 2. Buying Reasons

Categories	Buying Reasons						
	Affordable price	Convenience of use	Health	Environmentally Friendly	Easy to use	SUM	N = Documents
Age (18-24)	13,1%	15,0%	3,7%	38,3%	29,9%	100,00	110
Age (25-30)	17,5%	15,9%	1,6%	46,0%	19,0%	100,00	66
Age (31-35)	30,4%	0	0	52,2%	17,4%	100,00	24
Working (part-time)	16,7%	33,3%	16,7%	16,7%	16,7%	100,00	6
Working (full-time), contract	21,9%	15,6%	0	46,9%	15,6%	100,00	33
Working (full-time), permanent	11,4%	8,6%	2,9%	42,9%	34,3%	100,00	37
Other types of paid work	33,3%	0	0	66,7%	0	100,00	5
Active student	9,4%	15,1%	5,7%	43,4%	26,4%	100,00	53
College student on leave	0	100,0%	0	0	0	100,00	1
High school	40,0%	0	0	40,0%	20,0%	100,00	5
Business owner	23,1%	7,7%	0	46,2%	23,1%	100,00	13
Freelancer	14,3%	28,6%	0	42,9%	14,3%	100,00	7
Not working (housewife)	30,0%	5,0%	0	45,0%	20,0%	100,00	21
Not working (looking for work)	11,1%	16,7%	0	33,3%	38,9%	100,00	19
Total	16,6%	13,5%	2,6%	42,5%	24,9%	100,00	800

Data Table 2 shows the reasons consumers buy electric bicycles. There are several factors that influence consumers in their decisions. The first is environmentally friendly with 42.5%. One of the respondents stated, "environmentally friendly and reduces pollution". Both are easy to use with 24.9%. One of the respondents said that the ease of use made them want to buy an electric bicycle. The third is an affordable price of 16.6%. The affordable price of electric bicycles on the market makes them an attractive choice for consumers among bicycles as well as motorbikes. There is also convenience in use which makes consumers want to choose and buy electric bicycles, the respondents who answered were around 13.5%.

Table 3. Not Buying Reasons

Categories	Not Buying Reasons				
	Convenience of use	Electricity power	Price	SUM	N = Documents
Age (18-24)	24,0%	32,0%	44,0%	100,00	110
Age (25-30)	22,9%	47,9%	29,2%	100,00	66

Age (31-35)	30,0%	45,0%	25,0%	100,00	24
Working (part-time)	0	20,0%	80,0%	100,00	6
Working (full-time), contract	25,0%	46,4%	28,6%	100,00	33
Working (full-time), permanent	41,9%	25,8%	32,3%	100,00	37
Other types of paid work	33,3%	0	66,7%	100,00	5
Active student	17,0%	38,3%	44,7%	100,00	53
College student on leave	0	0	100,0%	100,00	1
High school	0	100,0%	0	100,00	5
Business owner	41,7%	41,7%	16,7%	100,00	13
Freelancer	42,9%	14,3%	42,9%	100,00	7
Not working (housewife)	15,4%	53,8%	30,8%	100,00	21
Not working (looking for work)	11,8%	41,2%	47,1%	100,00	19
Total	24,4%	38,1%	37,5%	100,00	800

From the research results, Table 3 shows the reasons why consumers do not buy electric bicycle products. The first is electricity power with 38.1%. For respondents, this is due to the lack of adequate electricity power facilities to support the mobility of electric bicycles. In addition, there is a price of 37.5%. This is because the price is more expensive than bicycles, but some respondents choose motorcycles because the price is not much different. The third is convenience in use by 24.4%, respondents prefer motorbikes directly to get better speed than electric bicycles. The results of the study show that there are similarities in the reasons for buying or not buying an electric bicycle. There are 2 common factors, namely price and convenience in use. This indicates that these two factors are relative to consumers in perceiving electric bicycles both in terms of their function for health, or in terms of the performance of electric bicycles, such as the speed and weight of the electric bicycle.

This research has shown how people perceive, in this case the younger generation, the benefits of using electric bicycles. In addition, there are determining factors that are reasons for consumers to want to buy an electric bicycle. Another important thing is the existence of factors that hinder consumers to buy and use the product. The results confirm the results of research conducted by Bockarjova and Steg (2014) regarding consumer preferences for features and their impact on the use of electric bicycles.

6. Conclusion

From the research conducted, the data shows that most participants are interested in electric bicycles. Customers usually choose electric bicycles for three reasons: convenience, affordability, and environmental friendliness. People who choose not to buy an electric bicycle do so for many reasons, including cost, convenience, and electric power. This study is useful for generating theories about the marketing and characteristics of electric bicycles. E-bike manufacturers and covers can also benefit from understanding this market dynamics study. This study uses a qualitative approach, so that future research can be carried out qualitatively.

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