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Investigating the Use of Digital Consumption for Responsible Ride-Hailing Services in Indonesia Younger Generations

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Abstract- This study thoroughly examined responsible consumption implemented in Indonesia's ride-hailing services. We employed a mixed-methods approach that integrated quantitative data from the Socially Responsible Purchase and Disposal (SRPD) questionnaire with qualitative insights derived from think-aloud protocols and interviews. Our objective was to examine data and identify discrepancies between attitudes and behaviors among young individuals aged 18-29 to provide directions for future research. The results of our study uncovered substantial disparities between the attitudes that participants expressed and their subsequent actions. Although individuals acknowledge the importance of responsible consumption, the testing shows that they rarely use features related to responsible consumption, such as carbon funds, electric vehicle options, and tipping. Several key factors they stated are increased cost, lack of awareness of the features of responsible consumption, lack of perceived trust, and transparency of funds. Based on the interview, the personal connection between participants and ride-hailing drivers encourages them to tip more. Our research highlights the critical gap between attitudes and actions in responsible ride-hailing services in Indonesia's younger generation, which can be solved by implementing proper digital nudges. This research emphasizes the importance of further research to bridge this gap and encourage more accountable digital consumption.

Keywords: responsible consumption, digital consumption, ride-hailing, digital nudge, user study

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1. Introduction

Responsible consumption plays an essential role in achieving sustainable development goals. Ulusoy [1] defined responsible consumption as "the consumption that has a less negative or more positive impact on the environment, society, the self, and the other beings." Recent research provides insight into how people think (their attitude) and act (their behavior) with sustainability issues in mind. Most find a gap between people's attitudes and behavior toward responsible consumption [2], [3], [4], [5]. There is an urgent need for a shift in human behavior to effectively address the ongoing environmental degradation and global warming phenomenon [6]. The significance of this urgency is heightened because the present generation can readily purchase and engage with digital services as an integral aspect of their everyday existence.

Nudge is employed by researchers, governmental entities, and corporations as a means to influence the behavioral patterns of their clientele. The term "nudge," made popular by [7], describes any feature of the decision architecture that consistently affects people's behavior without materially limiting their options or altering their financial incentives. As more software was used to implement the nudge theory and more digital services were used, nudge evolved into digital nudge. Previous studies have made attempts to classify digital nudging [8], [9], [10], [11], survey and detect its existence in well-known digital services [8], [12], and evaluate its capacity to change behavior [13]. Regarding responsible consumerism, [14] thinks digital nudging is a good way to persuade people to act sustainably for the environment. Numerous studies, like [15], have examined the digital nudges about climate change within online grocery stores in Nordic nations. Meanwhile, [16] showed digital nudges influence vegetarian choices in supermarket purchases. Finally, [17] provides substantial evidence for using behavioral strategies, including digital nudges, to influence the choice of a more sustainable delivery mode in online consumption.

Despite the recent rise in research about using digital nudges to increase responsible consumption behavior, more research is

needed in Indonesia. This is motivated by the cultural variance affecting the nudge design, which means what works in some places might not work in others [18]. Previous studies conducted in Indonesia were limited to the attitude aspect of using questionnaires [19], while most were researching non-digital markets such as sustainable food packaging [20], cruelty-free personal care products [21], or coffee shops [22]. Despite the increase of digital services use and transactions in Indonesia, e.g., ride-hailing services, online groceries, and online shopping, research about digital services consumers' attitudes and behavior toward responsible consumption still needs to be done. Although several studies have been conducted on the effectiveness of digital nudges for responsible consumption [23], [24], similar research hasn't been done in Indonesia. Our previous research surveyed digital nudges to foster responsible consumption behavior in Indonesia's digital services [25], which indicates a need for more implementation of digital nudges in Indonesia.

This research conducts a user study investigating digital consumption in responsible ride-hailing services in Indonesia. Ride-hailing services already provide several responsible consumption nudges, such as carbon offset, tree planting, and using electric vehicles. In this research, we combined a quantitative study using the Socially Responsible Purchase and Disposal (SRPD) questionnaire [26] to measure the participant's attitude towards responsible consumption and a qualitative study using a loud protocol [27] and interviews to observe the participant's behavior when using the ride-hailing services. The participant objectives of our study are individuals belonging to the young generation, namely within the age range of 18-29 years. This demographic is chosen due to their existing purchasing power and the potential long-term effects of the implemented nudges on their future. The data is used to analyze the disparity between user attitudes and behaviors regarding responsible digital consumption. Based on these data, we propose suggestions for further research and development in this research area.

2. Methods

This research was conducted through a method depicted in Figure 1. The method consists of instrument preparation, participant recruitment, user testing, interviews, distributing questionnaires, and analyzing the results. This section provides the detailed procedure of each process.

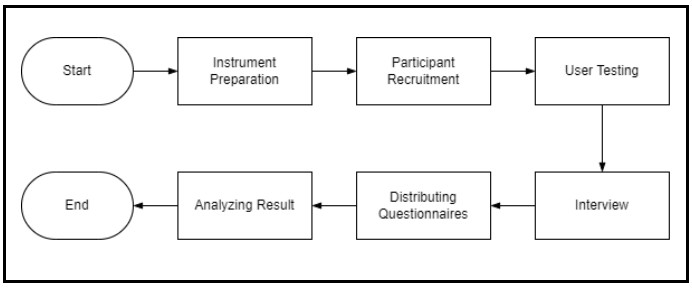

Figure 1. Flowchart of the Research Method

1. *Instrument Preparation*

In instrument preparation, we prepared a Socially Responsible Purchase and Disposal (SRPD) questionnaire. The SRPD (Socially Responsible Purchase and Disposal) Questionnaire is a metric for assessing responsible purchasing and disposal behaviors. This questionnaire is designed to gauge responsible consumer behavior and is frequently employed for customer segmentation, tracking consumer trends, identifying dimensions influencing purchases, and other related purposes [26]. The SRPD assesses purchases based on company social performance, engagement in recycling activities, adjustments to purchase criteria, and efforts towards environmental impact reduction [28]. In addition, the instruments prepared for the interview are a list of interview questions, an interview guide, and a consent form. A consent form was used to provide information related to the research and approve the interview data processing for participants. The consent form must be signed directly by the participant as proof of consent. Meanwhile, the interview questions and guidelines were used to make the interview process effective and efficient and to obtain the necessary information successfully.

2. *Participant Recruitment*

This study enlisted participants using a screener form. The recruitment process initiated demographic segmentation utilizing SurveyMonkey and incorporated questions related to digital behavior. The selection of respondents involved evaluating their interest in the survey topic, a criterion that needed to be perceived as reasonable from the perspective of the non-response unit [29]. The strategy above facilitates the early withdrawal of less motivated respondents (considered a positive dropout) and ensures the collected data's quality [30]. Students from IPB University in cohorts 56, 57, and 58 who use ride-hailing applications and express an interest in responsible consumption topics were recruited for subsequent interviews and user testing. This approach is implemented to preclude unit non-response from participating in the interview phase, ensuring results of higher quality, validity, and representativeness [29], [30]. In the recruitment, the participants also filled in a screener questionnaire presented in Table 1.

Table 1. Screener Questionnaire

No.	Multiple Choice Question
1.	What age range are you in?
2.	What is your highest qualification? (Education Qualification)
3.	What is your marriage status?
4.	What is your current job status?
5.	Which group does your annual household income fall into?
6.	Do you consider yourself a person with a disability?
7.	How many times do you order food online in a week?
8.	How often do you use digital services for food delivery?
9.	Would you rather order food online or eat at a restaurant?
10.	How often do you use digital services to book travel accommodations?
11.	What digital services do you use frequently for communication?
12.	How often do you play online games or other digital entertainment activities?
13.	Do you have certain habits or routines in using digital services?
14.	How often do you use digital services to access educational resources or courses?

3. *User Testing*

This study conducted a user testing experiment for each participant to understand their behaviors when using the mobile application to order ride-hailing services. The primary aim was to evaluate whether participants manifested behaviors targeted explicitly by the nudging process [9]. Both the Gojek and Grab applications were employed and tailored to the individual preferences of each participant. The user testing protocol included assigning tasks requiring participants to order a motorcycle from IPB Baranangsiang to IPB Dramaga, with explicit instructions not to finalize the process by pressing the "order" button. Furthermore, participants were guided to employ the Think Aloud method,

encouraging them to verbally articulate thoughts, reactions, feelings, and opinions that emerged during the testing process [31]. All screen activities of the mobile devices used in the testing were recorded through a screen recording application. Participant conversations and expressions were captured using the Zoom application on a laptop placed in front of each participant. With this setup, we can examine the participant's interaction with the application in-depth.

4. Interview

After finishing the user testing, the participant is invited into the interview session. At the beginning of the interview, we informed the participant about the recording and that their data would remain anonymous in data analysis and publication. The semi-structured interview is conducted with two questions: three context questions (Table 2) and seven main questions with their sub-questions (Table 3). The context questions explore the participant's typical use of ride-hailing applications and serve as a short session to make them comfortable with the interview. Meanwhile, the main questions are designed for a more extended in-depth interview in which the interviewer will explore participants' experiences with the responsible use of ride-hailing services. The fifth question of the main questions is designed to probe participant-specific experiences when interacting with a digital nudge to responsible consumption available in the application. Meanwhile, the sixth question explores the participant's familiarity with responsible consumption. The interviewer may ask probing questions outside of the prepared questions in Table 2 and Table 3.

5. Filling Out the SRPD Questionnaire

As mentioned earlier, participants were asked to complete the SRPD questionnaire [26]. The SRPD consists of 15 questions with multiple-choice and linear scale responses (Table 4). The answers from the SRPD will describe the participants' views and opinions on responsible purchasing and disposal.

6. Data Analysis

This research used data analysis[32] for both quantitative and qualitative data: participant demographic analysis, questionnaire validity analysis, user testing and interview analysis, and SRPD analysis. The demographic characteristics of each participant were analyzed to calculate the percentage of each demographic variable. The total percentage of all response options in the same question is 100%, providing a deeper understanding of the demographic data comparison among all participants involved in the study [33]. The validity of the questionnaire was assessed using Cronbach's Alpha through the SPSS software. Cronbach's Alpha measures the reliability of responses within a questionnaire, domain, instrument, or assessment evaluated by subjects. Specifically, it evaluates the internal consistency of the items in the questionnaire [34]. The analysis using Cronbach's Alpha provides insights into the extent to which the questionnaire questions are consistent, creating the necessary consistency in measurement [35]. The Cronbach's Alpha scale ranges from 0 to 1, where values closer to 1 indicate better reliability in measuring the same dimension. Conversely, if the value approaches 0, it suggests that some or all items may not be suitable for measuring the same dimension [36]. Formula 1 is used to calculate Cronbach's Alpha value, where k represents the number of question items, and s_i represents the variance of each question.

$$\alpha = \frac{k}{k-1}\left\{1 - \frac{\sum s_i^2}{s_t^2}\right\} \quad (1)$$

Analysis of user testing and interview. To understand participants' behavior toward responsible consumption, insights from interviews and user testing were gathered. Initially in audio and video recording format, these were converted into text transcripts. These transcripts aim to capture each participant's speech and serve as accurate records of conversations and experiments. Once transcriptions were completed, insights/key takeaways were identified from each participant's responses to each question. These insights were noted along with participant quotes representing them, providing a guide for more detailed analysis to be conducted later [37]

Analysis of SRPD Questionnaire Results: The analysis involves calculating the percentage of selected options for each answer. In this analytical framework, the total percentage of all response options in the same question is 100%. This percentage data provides a deeper understanding of participants' attitudes toward responsible consumption concepts.

Table 1. Context question

No.	Question
1.	When was the last time you used an online transportation application (the application that users use most often)?
2.	What is your purpose for using the app?
3.	Does the app fulfill your wishes when used?

Table 3. Main question

No	Question
1.	Can you tell us a bit about yourself? a. Do you live alone or together? b. What is your field of study?
2.	Can you describe your experience so far in using online ride-hailing applications? a. Which ride-hailing application do you use the most? b. How frequently do you use the ride-hailing app in one week? c. How much is the transaction fee that you often spend?
3.	Can you recount your perspective on the application? a. How do you think the app can help your life? b. What are the things that worry you while using the app? c. What do you think about the costs involved in using the app?
4.	Can you share one memorable experience when using an online ride-hailing application? a. Do you use the tips provided on the application? How do you utilize the tips? b. When you rate the driver, what things do you consider? c. What is your perspective on the welfare or income received by driver-partners?
5.	In your opinion, what environmental issues may arise from using online ride-hailing applications? a. How much do environmental issues such as emissions and waste affect you in using the application? b. Based on your knowledge, how well do online transportation service providers address these environmental issues? c. How do you react to the Tree Planting/Carbon Fund feature available on the application? d. How often do you activate the Carbon Fund feature? e. If you do not use the Carbon Fund feature, what are your reasons for not using the feature? f. What makes you use the feature? g. What do you think about driver-partners using electric motors?

	h. Will using electric motors increase your trust in the service provider?
6.	Can you explain to us what reduce, reuse, recycle (3Rs) means to you? a. What 3R-related activities do you do in your daily life? b. Do you understand the concept of responsible consumption in an environmental, social, and economic context?
7.	Is there anything else you would like to say about today's topic?

Table 4. SRPD Questionnaire

No.	Question
Multiple Choice	
1.	I decide to buy something based on product and service quality, price, and convenience. I don't care about the impact on the environment, employees and society, and I don't think about it when deciding what to buy.
2.	I believe that the impact on the environment, employees and society is important, but it is too difficult and time-consuming to decide what to buy based on that.
3.	If it were easy to do, I would use information about the impact on the environment, employees and society in making purchasing decisions.
4.	I strive to learn about issues related to the impact of purchasing and disposal on the environment, employees and society, and I am willing to pay more or sacrifice product quality to address these issues in my purchases.
Linear Scale	
5.	What I buy as a consumer has an impact on national environmental issues.
6.	Every consumer behavior can affect the way companies treat their employees.
7.	Since one consumer cannot influence the way a company behaves towards society, what I do alone will not change anything.
8.	Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies.
9.	Socially responsible behavior reduces a company's ability to provide the highest quality products.
10.	Socially responsible behavior is a drain on a company's resources.
11.	Socially responsible companies are likely to have higher prices than companies that are not socially responsible.
12.	A company can be both socially responsible and make products of high quality at a fair price.
13.	Working hard for the goals of a group, even if it does not result in personal recognition.
14.	Doing what is good for most of the people in the community, even at a personal cost.
15.	Helping others in the community who are in need.

3. Result

1. *Participant's Demography*

Thirty-two participants participated due to the selection using a screener form aligned with the research criteria. Among the 32 respondents involved in the study, 22 were female, while the remaining 10 were male. They were 18-29, either students or graduates of IPB University, and were unmarried. Most respondents had the highest educational qualification of high school, totaling 21 individuals, with the rest being university graduates. Regarding employment status, 2 were part-time workers, another two were unemployed, and the remaining 28 were students. Consequently, the household income of 15 out of 23 respondents was less than 3,000,000 rupiahs. Four had incomes ranging from 3,000,000 to 5,000,000 rupiahs, eight from 5,000,000 to 8,000,000 rupiahs, two from 8,000,000 to 12,000,000 rupiahs, and seven had incomes exceeding 12,000,000 rupiahs.

As the research aimed to investigate habits in using online ride-hailing, the selected respondents were users of online ride-hailing services. Eighteen users employed online ride-hailing several times a week, one used it daily, five once a week, and eight rarely used it. Additionally, information was obtained regarding the overall usage of digital services. Thirteen respondents used digital services at specific times, 14 used them in certain situations, and five felt they did not have a particular routine or habit in using digital services. Regarding usage preferences, 27 respondents were identified as favoring messaging apps as the most frequently used digital service for communication.

Furthermore, insights into digital entertainment activities revealed that 14 respondents engaged in these activities daily; five did so several times a week, four did it once a week, and nine rarely participated. Regarding the utilization for educational purposes, 10 respondents used digital services daily, 15 used them several times a week, six used them once a week, and one used them infrequently for educational access.

2. *Questionnaire Validity analysis with Cronbach's Alpha*

The internal validity analysis of the SRPD questionnaire using Cronbach alpha was conducted by calculating item-total statistics and reliability statistics through scale mean if the item was deleted, scale variance if the item was deleted, corrected item-total correlation, and Cronbach's Alpha if the item was deleted for each question. Here, the researcher only calculates Cronbach's value of questions using a linear scale answer type. The results of the calculations can be seen in Table 5.

Table 5. Cronbach's calculations

Q	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Cronbach's Alpha if Item Deleted
Q1	8.2%	7.3%	30.9%	29.1%
Q2	6.4%	6.4%	19.1%	42.7%
Q3	11.8%	30.9%	24.5%	19.1%
Q4	1.8%	4.5%	14.5%	42.7%
Q5	15.5%	38.2%	17.3%	15.5%
Q6	11.8%	27.3%	30.0%	21.8%
Q7	4.5%	8.2%	28.2%	36.4%
Q8	3.6%	3.6%	16.4%	37.3%
Q9	2.7%	9.1%	26.4%	31.8%
Q10	1.8%	6.4%	23.6%	45.5%
Q11	2.7%	3.6%	9.1%	23.6%

These results show that the Cronbach value, which shows internal consistency, is always above 0.7, and the Cronbach's Alpha value on reliability statistics reaches 0.813. This value indicates that the questions with linear scale answers used in the questionnaire consistently measure the desired concept. Values above 0.7 are generally good enough to measure a questionnaire's or scale's internal consistency. Therefore, the results of the questionnaire adaptation can be used for data collection on attitudes toward responsible consumption of digital services in this study.

3. *User Testing Data*

A user testing procedure was implemented involving 32 participants, consisting of 25 individuals utilizing the Gojek application as Go-Ride users and 7 participants using the Grab application as GrabBike users. The central objective of the user testing was to assess whether participants demonstrated behavior by predefined objectives, thereby indicating the use of responsible consumption features. The tabulated data in this research shows participants who engaged or did not engage with responsible consumption features within the Gojek or Grab applications. This research indicates that out of 25 Gojek users, only one person utilized the carbon fund feature, and none opted for the electric ride option. Similarly, among the 7 Grab users, only one person

engaged with the carbon fund feature, while the remaining 6 chose not to use it. Notably, Grab does not offer an electric ride option as it provides electric rides randomly. These findings suggest that most individuals prefer not to utilize responsible consumption features when using online ride-hailing applications. This finding shows that most individuals choose not to use responsible consumption features (carbon fund and electric ride) when using online vehicle booking applications. This means that most participants tend not to apply responsible consumption behavior by carbon fund and electric ride features for their ride-hailing services.

4. Questionnaire Data on SRPD

The data from the SRPD is displayed in Table 6-8 below, distributed to a cohort of 32 carefully chosen respondents who completed the screener form process. The results show that after answering multiple-choice questions about the impact of product consumption on the environment, society, and employees, most respondents indicated a fair understanding of the consequences of their consumption activities. Awareness of the importance of paying attention to such impacts is reflected, and they seek to understand more. However, due to the complexity and time investment required, they face challenges in taking actions that reflect responsibility for their consumption activities. Participants would be more inclined to take responsibility if measures were affordable and easy to implement.

Table 6. SRPD result (yes or no question)

Q	Yes - No	
	No	Yes
Q1	45.2%	54.8%
Q2	19.4%	80.6%
Q3	0%	100.0%
Q4	25.8%	74.2%

Table 7. SRPD result (agree-disagree)

Q	Scale (1 = Strongly Disagree ; 5 = Strongly Agree)				
	1	2	3	4	5
Q5	0%	9.7%	16.1%	41.9%	32.3%
Q6	0%	9.7%	9.7%	51.6%	29.0%
Q7	12.9%	25.8%	22.6%	25.8%	12.9%
Q8	0%	0%	9.7%	54.8%	35.5%
Q9	16.1%	48.4%	9.7%	19.4%	6.5%
Q10	3.2%	32.3%	32.3%	22.6%	9.7%
Q11	0%	3.2%	12.9%	51.6%	32.3%
Q12	0%	3.2%	9.7%	51.6%	35.5%

Table 8. SRPD result (degree of importance)

Q	Scale (1 = Very Important ; 5 = Very Unimportant)				
	1	2	3	4	5
Q13	0%	9.7%	38.7%	29.0%	22.6%
Q14	0%	12.9%	16.1%	51.6%	19.4%
Q15	0%	3.2%	0%	29.0%	67.7%

Similarly, the results of multiple-choice questions regarding respondents' understanding of responsible consumption and disposal indicate that most participants have good knowledge. They are aware of the factors influencing responsible consumption behavior, both from the perspective of companies and consumers. Although some participants still do not fully grasp the concept of corporate responsibility or the consequences of implementing responsible consumption for companies, as well as the impact of responsible consumption actions from an individual standpoint, overall, knowledge of responsible consumption and disposal is widespread among participants. This knowledge can encourage responsibility for what they consume and dispose of.

5. Discussion

The research findings revealed substantial disparities and inconsistencies between participants' attitudes, as captured in questionnaire responses and interviews, and their behaviors observed through user testing and interviews. This is consistent with previous research which is conducted in non-digital transaction [38]. Most participants believed in the significant value of responsible and collaborative consumption, stating a positive impact on environmental, economic, and social dimensions. However, in practice, the implementation of responsible consumption is sporadic, influenced by several underlying considerations. Three features linked to sustainable consumption were identified in the context of the examined online motorcycle ride-hailing applications. A notable misalignment or "gap" surfaced throughout the analysis between participants' attitudes and behaviors concerning each feature. Further elucidation of these findings will be provided in the subsequent section.

1. Carbon Fund

Based on qualitative data analysis, we identified divergent perspectives regarding the impact of using ride-hailing services. Some participants believed that online ride-hailing services contribute to increased air pollution production and do not yield significant reduction effects. Conversely, other participants thought that using online ride-hailing could minimize pollution impacts by adhering to the principles of the sharing economy. Nevertheless, it is understood that online motorcycle ride-hailing services still contribute to pollution [39]. Participants' awareness of the environmental hazards posed by pollution became evident, and they recognized the need for actions to address this issue, such as contributing to a carbon fund. Unfortunately, this feature is seldom utilized by the majority of participants. Various reasons were cited, including reluctance to incur additional costs, lack of awareness about the feature's existence, unappealing presentation of information, and a lack of trust in the transparency of fund allocation within the feature. Furthermore, a lack of awareness of environmental issues also plays a role in the minimal use of the carbon fund feature, despite participants being cognizant of the impact of pollution. The expressions and perspectives of the participants in more detailed and nuanced form can be found in Table 9 and Table 10.

Table 9. Statement and quotes related to the carbon fund nudge

Statement	Quotes
The majority of online ojek service users feel that online ojek services cause impacts on the environment such as air pollution.	• P1: "Gojek grab can increase pollution because, initially, people used to take private vehicles to go to campus only, after becoming online ride-hailing drivers, they often take vehicles, so they produce more pollution." • P2: "Online ride-hailing use their own vehicle owned by the driver, so the more vehicles, the more pollution, the worse traffic jams, the impact will be on global warming." • P13: "Air pollution, if it is associated with sharing, still adds to pollution because what was originally not frequent becomes frequent."

Some participants did not use carbon fund services because they did not know the information before.	• P10: "Just found out and it's cool but I don't know if it's really donating trees or not" • P9: "I haven't tried the feature yet, but judging from the name it seems useful, but I'm not sure if we donate trees or what" • P19: "I didn't know that feature existed, because I also didn't know and was confused about why I should use it"
Most participants were reluctant to use the carbon fund feature due to trust, income, cost, and lack of awareness.	• P18: "There is a tree planting feature, but i need to pay, so I'm too lazy to to use it" • P23: "Honestly, instead of giving it there, I'd rather give it to something certain like a tip to the driver" • P4: "I know there is a feature, it's said to preserve the environment, but I've never used it so I don't know what the benefits are for me" • P2: "The feature is good enough to protect the environment. But I use it when I have money left over at the end of the month" • P15: "Never used the carbon fund feature because my awareness is not too high, I still see what is necessary for me"
Participants felt that they needed information and an interesting presentation of this feature. In addition, it is supported by easy access and low costs.	• P1: "Make it attractive, not costing a lot of money, convenience." • P6: "Make the donated money transparent" • P10: "If you know how many emissions are spent in one trip" • P13: "Make it more interesting and easier to notice, for example, make it with gamification. Make more interesting visualization. Gamification makes you want to make it again" • P20: "I am a person who is easily influenced by campaigns, so yes, if the online motorcycle application is more vocal, holds an event once a year, and gives us proof. With what I know, I already know what the flow is and what the results are. Anyway, more persuasive"
Some other participants felt that online ride-hailing services could actually reduce the pollution produced.	• P2: "Online ride-hailing can also be said to not produce much pollution, because with the existence of online ojek it can reduce public transportation."" • P15: "Gojek is quite good at saving carbon because of sharing drives. We don't need to bring a private vehicle"
participants have begun to pay attention to environmental issues, although no action has been taken to reduce the impact of the use of online ojek services.	• P1: "I used to turn on the carbon fund but it was a while ago. Now I pay less attention" • P13: "I think about the environment when I drive, so sometimes I take public transportation that can accommodate many people. I also use the carbon fund feature but rarely" • P2: "I use it when I remember, if I forget, leave it alone, if I remember, I will think to use it"
Some participants are willing to donate to the carbon fund if there is an uneven amount of money in the e-wallet.	• P32: "It's just for fun and my ovo balance is rich in change" • P13: "If I know, it might be a consideration, for example to even out the costs incurred."
Most participants felt the carbon fund feature was good enough to address environmental issues.	• P2: "This feature is good enough to protect the environment with this feature" • P8: "In my opinion, this feature is very useful for reducing carbon emissions or pollution in the air and as a place to absorb water, especially for people who don't like gardening" • P24: "Good. It makes us care about the environment and be responsible for nature"

Table 10. Quantitative data about carbon fund

Items	Answers Results
Q5: Agreement that what you purchase as a consumer has an effect on the nation's environmental problems. Scale (1 = strongly disagree, 5 = strongly agree)	Scale 1: 0% Scale 2: 9.7% Scale 3: 16.1% Scale4: 41.49% Scale 5: 32.3%
Q14: Importance of doing what is good for most of the people in the community, even at a personal cost. (Scale 1 = very unimportant, 5= very important)	Scale 1: 0% Scale 2: 12.9% Scale 3: 16.1% Scale 4: 51.6% Scale 5: 19.4%
Q4: Agreement that participants try to learn and are willing to pay more to pay attention to carbon issues	Yes: 74.2% No: 25.8%

The findings show different views about the environmental impact of online ride-hailing services. Many participants say these services add to air pollution because they increase vehicle use. For example, one participant said, *"What was originally not frequent becomes frequent"* (P13), and another mentioned, *"The more vehicles, the more pollution"* (P2). However, some participants think these services can reduce pollution by lowering private vehicle use. One stated, *"Online ride-hailing can reduce public transportation use"* (P2). These mixed views show challenges and opportunities for reducing environmental impacts through ride-hailing. Participants gave several reasons for not using the carbon funds feature, such as lack of awareness and financial issues. One participant said, *"I didn't know that feature existed"* (P19), while another shared, *"I use it when I have money left over"* (P2). To increase use, participants suggest making the feature more engaging and transparent. For example, one suggested gamification, saying, *"Make it with gamification and interesting visualization"* (P13), and another asked for transparency, saying, *"Make the donated money transparent"* (P6). These points show the need for more precise information, affordable options, and engaging designs to attract more users. This implies that although there is an increasing awareness of the environment, there is still scope for enhancing the promotion of regular user engagement in carbon offset programs inside digital services.

The results show participants' perspectives on environmental responsibility and community welfare. Most participants (73.79%) agree that their consumer choices affect the nation's environmental problems, with 41.49% rating it as agree and 32.3% as strongly agree. Similarly, 71% of participants consider it essential to prioritize the community's well-being, even at a personal cost, with 51.6% agreeing and 19.4% strongly agreeing. Additionally, 74.2% of participants are willing to learn and pay more attention to carbon-related issues, while 25.8% are unwilling. These findings

indicate a general environmental and social responsibility awareness, though a minority remains less engaged.

There is a need to employ other nudging strategies to make these options more preferable in the user view. One strategy to nudge users to use the carbon fund feature is making it a default option, as suggested by [40]. Other nudging strategies, such as informational nudge and information mapping nudge, which are effective in the aeroplane booking system [41], can be adopted into ride-hailing services.

2. *Electric Ride*

Table 11 presents participants' perceptions of electric motorcycles in online ride-hailing services. Most participants view electric motorcycles as beneficial for reducing air pollution, with comments like "Electric motorcycles may be able to reduce carbon emissions" (P25) and "It doesn't produce pollution" (P18). Quiet operation is another advantage, as P7 noted, "Quiet, not noisy, but can't go faster." Additionally, many participants have not encountered electric motorcycles in ride-hailing services, as P6 remarked, "I have never gotten an electric motorcycle," suggesting regional unavailability as another barrier.

However, there are concerns about durability, cost, and practicality persist. P17 mentioned, "It only lasts 4-5 years, and the maintenance is very fussy," while others, like P23, cited long charging times as unsuitable for those in a hurry. Cost is a significant barrier to adoption. Most participants are unwilling to pay extra beyond 2000 rupiahs. For example, P13 states, "If the price is different, I prefer not to use it." Quantitative data (Table 12) confirm this reluctance, as 54.8% prioritize quality, price, and comfort over environmental concerns. Despite this, over 70% acknowledge that vehicle choice impacts ecological issues, and more than 80% believe socially responsible companies charge higher prices. These insights reflect a tension between environmental awareness and practical concerns, shaping participants' preferences.

Table 11. Statement and quotes qualitative data about electric ride

Statement	Quotes
The majority of users feel that electric motors are good enough to reduce air pollution.	• P12: "Electric motors don't use fuel (more friendly)." • P18: "Cool, because I've been using it. It doesn't produce pollution" • P25: "Electric motorcycles may be able to reduce carbon emissions because they don't use fuel." • P24: "I've seen electric motorcycles from online motorcycle taxis. It's good to minimize pollution, so I can see that the service is already aware of the environment."
The use of electric motors can increase user trust in service providers. But many also feel ordinary	• P7: "Yes, electric motorcycles are not noisy and calming." • P13: "Yes, because it adds new insight because it turns out that they pay attention to the environment." • P15: "Yes, it improves because it supports going green and cares more about the environment." • P31: "It's just normal if you make it; it's just out of curiosity." • P1: "Because it is rarely seen, there is no influence on trust."
Some participants do not know or rarely see electric motorcycles because they are unavailable in various places.	• P6: "I have never gotten an electric motorcycle" • P11: "I have never seen an online ride-hailing with an electric motor." • P26: "Never used and met a driver with an electric motorcycle."
Some participants are happy to use electric motors because they are environmentally friendly and quieter.	• P2: "It's safe. The first time I was picked up, I was surprised because there was no sound. It's better if I use an electric motorcycle." • P7: "Quiet, not noisy, but can't go faster. If you're not in a hurry, it's delicious" • P25: "It's delicious; I like it because it's not noisy. Even though I'm not used to it, it's very quiet."
Many participants felt that using an electric motorcycle made no difference or even gave them doubts.	• P3: "For electric motorcycles, we think that there is not much waste, but the manufacture of batteries also creates waste. Riders who use electric motorcycles are no different from gasoline motorcycles." • P5: "Electric motors and gasoline motors are the same. Electricity comes from coal too; coal produces emissions, so it's the same." • P16: "That's good, but I wonder what happens if the power runs out in the middle of the ride." • P17: "I think it's filling the market because it's not durable. I read that it only lasts 4-5 years, and the maintenance is also very fussy. It will become waste too; the waste changes from air pollution to garbage." • P23: "I think it's good, but electric motors take a long time, so it's unsuitable for people in a hurry."
Most participants refused to use electric vehicles if they needed to pay more (maximum 2000 rupiah).	• P13: "If the price is different, I prefer not to use it. But I might choose a regular motorcycle if the price difference is more than 2000-5000." • P16: "If it costs more, I would probably prefer to ride a normal bike, especially if the fare is already expensive because it is far away." • P12: "Willing to pay more if it's around 1000-2000" • P27: "I'm willing to pay more if the cost difference is not too far between ordinary and electric vehicles."

Table 12. Statement and quotes quantitative data about the electric ride

Items	Answers Results
Q5: Agreement that what you purchase as a consumer affects the nation's environmental problems. Scale (1 = strongly disagree, 5 = strongly agree)	Scale 1: 0% Scale 2: 9.7% Scale 3: 16.1% Scale4: 41.49% Scale 5: 32.3%
Q11: Agreement that socially responsible companies are likely to have higher prices than companies that are not socially responsible. Scale (1 = strongly disagree, 5 = strongly agree)	Scale 1: 0% Scale 2: 3.2% Scale 3: 12.9% Scale 4: 51.6% Scale 5: 32.3%
Q1: Agreement that participants base their purchase decisions on product and service quality, price, and convenience over environmental and social concerns.	Yes: 45.2% No: 54.8%

Several nudging strategies can be implemented to increase user preference for electrified vehicles with increased cost. Presenting more information might be helpful. For example, providing information on the costs of electric and petrol ride, air pollution impacts, and using compelling visuals and text may increase the

likelihood of choosing electric motorcycles [42]. The currently increased air quality awareness in Indonesia [43] might potentially increase electric ride options and the adoption of de-hailing digital services.

3. *Rating and Tips*

Table 13 and 14 highlights participants' attitudes toward tipping in online ride-hailing services. Most users prefer to tip for transportation services rather than food delivery, as they feel more familiar with drivers and their comfort is directly affected. For example, P14 mentioned, "I have given it when the driver is friendly, kind, and fast." In contrast, P16 stated, "If go food, I never give tips," reflecting a difference in how users perceive tipping in different service contexts. Many participants consider the tipping feature as a way to appreciate the driver's performance and support their welfare. P23 noted, "If you give tips, it will be 100% accepted by the driver." Similarly, P24 highlighted, "Sometimes buying food for the driver, giving ratings and reviews, or giving tips" as ways to contribute to the driver's well-being. Additionally, some participants tip when receiving discount vouchers; as P32 explained, "If I get a lot of vouchers, I give tips directly to the driver." However, financial circumstances also influence tipping, with P4 saying, "I rarely tip because I'm a boarding house student with a small budget." Lastly, regarding ratings, most participants avoid giving low ratings, with P18 stating, "If it's bad, I don't rate it," indicating that low ratings are rarely used, even for unsatisfactory services.

Table 13. Statements and quotes on rating and tips

Statement	Quotes
Most users prefer to tip online ride-hailing services for transportation rather than for buying food online because online ride-hailing for transportation makes them more familiar with users and affects their comfort.	• P14: "I rarely give tips. But I have given it when the driver is friendly, kind, and fast. Usually given using the existing features. If go food, I never give tips." • P16: "I have, but not via the app. usually because the change is 1k-2k. The consideration is based on the driver's service and visuals. If they are friendly, like to direct, respond well, they give tips (go ride). If go food, I never give tips."
The tipping feature is considered beneficial to appreciate the performance and attitude of the driver directly ', as well as the welfare of the driver.	• P23: "I think it's good because if you give tips, it will be 100% accepted by the driver, too, especially if you don't have cash." • P26: "Good. We are in a bit of trouble in some situations, so ask the driver to help. The tips can help us when we are in trouble." • P10: "If the driver is good, during the trip, they like to give us topics of conversation that are not personal; they like to give us tips." • P24: "To think about welfare, sometimes buying food for the driver, giving ratings and reviews, or giving tips. " • P6: "It depends on the driver, if they are friendly or if it's raining."
Some participants reasoned that they gave tips if they received discount vouchers for using the service	• P32: "Usually, if I get a lot of vouchers, I give tips directly to the driver. I also pay in cash." • P13: "If I get a big promo, I add a tip to the driver."
For the majority of participants, in addition to driver attitude and performance, financial condition also affects tipping.	• P4: "I rarely tip because I'm a boarding house student with a small budget." • P2: "I don't tip very often. I usually give 5000-10,000 depending on the driver's response and the remaining balance amount." • P17: "I give it when I have enough money and there is an important event in my life" • P19: "I never give tips to drivers; it's a waste of money"
Some participants chose not to give a rating or did not give a low rating (1 or 2) even though the service was not good. In other words, the majority of participants rarely gave a low rating.	• P18: "I always rate five; if it's bad, I don't rate it." • P21: "If the driver is irresponsible, I will give 4; it's impossible to give 3." • P5: "It depends on my mood, but on average I give 5. If I'm not in the mood and the driver is annoying, I can give 1. But rarely. I prefer to give five, then give suggestions in the comments column." • P15: "I never give below 4. I'm worried that the low rating will reduce their performance because it affects them. If you're not satisfied, four if you're satisfied, 5. if the service is bad, consider it a mistake."

Table 14. Statement and quotes quantitative data about rating and tip

Items	Answers Results
Q6: Agreement that each consumer's behavior can affect how companies treat their employees Scale (1 = strongly disagree, 5 = strongly agree)	Scale 1: 0% Scale 2: 9.7% Scale 3: 9.7% Scale4: 51.6% Scale 5: 29.0%
Q15: Helping others in the community who are in need. (Scale 1 = very unimportant, 5= very important)	Scale 1: 0% Scale 2: 3.2% Scale 3: 0% Scale 4: 29.0% Scale 5: 67.7%

6. Conclusion

This study examined responsible consumption in Indonesia's ride-hailing services. We used both surveys and interviews to gather data. We focused on how young people aged 18-29 think and act regarding these services. We found a gap between what participants said and what they did. While many recognized the need for responsible consumption, their actions did not always match. In our research, the Carbon Fund feature was rarely used due to concerns about cost, lack of awareness, and transparency. Financial factors influence electric vehicles preference. Participants preferred to tip and rate drivers for transportation but not for food delivery. However, financial limitations often prevented them from tipping. Overall, the study shows a disconnect between attitudes and actions in responsible consumption and suggests more research is needed to address this gap and improve environmental impact. Future research should focus on the possible nudging strategies to increase responsible consumption behaviour in the young generation, which includes redesigning the application and measuring its effectiveness.

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