

THE IMPACT OF PPKM IMPLEMENTATION AND TRAVEL BEHAVIOR CHARACTERISTICS ON THE TRANSPORTATION MODE SELECTION IN BEKASI CITY.

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Abstract: This study aims to determine the characteristics of travelers in choosing the mode of transportation used during the implementation of the PPKM policy to carry out daily activities. The existence of the Covid-19 pandemic has an impact on most sectors of the country in the world affected by the spread of this virus, including Indonesia. In addition, Indonesia has had an impact from the spread of this disease outbreak, especially the economic sector and one of the economic sectors that has a serious impact related to the spread of Covid-19 is the transportation sector. This research approach used a quantitative approach through the distribution of questionnaires to the people of Bekasi City as many as 200 respondents. The analytical method used in this study was binary logistic regression analysis by explaining descriptively. The results of this study are with a Sig value of $0.004 < 0.05$, this indicates that there is an influence of PPKM Implementation Policy and Travel Behavior Characteristics on the Selection of Transportation Modes and can be proven by using Binary Logistics Regression. The accuracy of prediction in this study was 70%.

Keywords: Covid-19 Pandemic, PPKM Implementation, Travel Behavior, Transportation Mode Selection, Logistic Regression Biner.

Introduction

The world is currently being hit by an outbreak of disease due to Coronavirus Disease (Covid-19) or the coronavirus which is very disturbing, even almost all countries in the world have been affected by the spread of this virus, including Indonesia. Covid-19 is one of the viruses that recently emerged with the first case in Wuhan City, Hubei Province, China. This virus has a high level of transmission that can be transmitted from human to human and has spread widely in China and has even spread starting from East Asian countries, Europe, the American continent to Southeast Asia, especially Indonesia. (Bilal & Dewi, 2021).

WHO (World Health Organization) has announced the Covid-19 pandemic on March 11, 2020. As of March 5, 2020, there have been 634,385 cases and 33,106 deaths worldwide. About a month later, on April 13, 2020, President Joko Widodo officially declared Covid-19 a national disaster. The Indonesian government has even designated this virus as a on-natural disaster Covid-19. (Sukur, Kurniadi, Haris, & N Faradillahisari, 2020).

As of October 4, 2020, there have been 35.4 million cases and 1.04 million deaths, while in Indonesia there have been 307,000 cases and 11,235 deaths. The impact of the spread of this disease drastically affects almost all sectors, especially the economy in every country. All aspects of life are constrained by this virus. So it has an impact on all aspects, such as aspects of the economy, politics, social, culture, tourism, defense, security, and community welfare and mobility in Indonesia have decreased drastically. (Pujaningsih & Sucitawathi, 2020).

To suppress the positive number of Covid-19, on March 31, 2020, the government issued a legal basis to accelerate the handling of the coronavirus. One of them is the Large-Scale Social Restrictions or PSBB which is regulated by PP number 21 of 2020.(Peraturan Menteri RI, 2020). Restrictions on community activities include closing schools and offices, restrictions on activities in crowded places or public facilities and other special restrictions related to security aspects of community welfare and mobility. Government has made several attempts to cease COVID-19 outbreak with one of them establishing large scale social distancing regulations (PSBB). Almost all of the major cities in Indonesia have applied large scale social distancing policies such as Jakarta and Bandung. (Ulhaq, Albayhaqi, Agusinta, & Fachrial, 2020).

In addition, the DKI Jakarta Provincial Government has tightened public transportation regulations by urging the public to maintain a distance between passengers. Seats between passengers are given a distance of one to two meters and the operating hours of public transportation are also limited, this is to prevent the spread of COVID-19. (Khairu Nissa et al., 2020).

Entering 2021, positive cases of the Covid-19 virus in Indonesia experienced ups and downs and did not indicate that conditions were starting to improve. so that the regulations regarding restrictions on community activities were revised by the government to become PPKM. The Indonesian government first implemented PPKM from January 11 to 25, 2021. The PPKM for two weeks was carried out based on the Instruction of the Minister of Home Affairs (Mendagri) Number 1 of 2021 and was implemented in the Java and Bali regions. Even though PPKM has been running or has been established, the fact is that the spread of Covid-19 continues to increase. And in July the government took the initiative to issue an Emergency PPKM effective from 3 to 20 July 2021. (Negeri, 2021).

The spread of Covid-19 has an impact on various sectors, especially the economic aspect, one of the economic sectors that have slumped related to the spread of Covid-19 is the transportation sector. With the call to stay at home and limiting activities and mobility outside the home, as well as strictly monitoring residents entering Bekasi City, the transportation business has stopped operating, which harms the transportation sector. (Bilal & Dewi, 2021).

The effect also makes all forms of mobility, be it the mobility of people, goods, or services that were previously used to be done, are now completely limited due to the COVID-19 pandemic. With the community's need to carry out daily activities or needs, in this case, Bekasi City also has people who need a mode of transportation to make movements from a location point to a destination point with a specific purpose. The choice of transportation modes provided to the community is quite varied, namely land transportation (roads and rails), water transportation (rivers, lakes, and seas), and air transportation. However, in their selection, travel agents/service users (community), must consider the purpose of the trip, distance traveled (time), costs, and the facilities provided by this mode of transportation. In addition, when viewed from the aspect of attitude/perception, several factors are the main of travelers in choosing the

mode of transportation with the facilities provided, desired, and perceived from the services provided by public transportation service providers.

Based on the above background, the authors are interested in researching more deeply about " THE IMPACT OF PPKM IMPELMANTATION AND TRAVEL BEHAVIOR CHARACTERISTICS ON THE TRANSPORTATION MODE SELECTION IN BEKASI CITY".

Method

In this study, the analytical method used was binary logistic regression analysis by explaining descriptively. The reason for choosing the binary logistic regression analysis method is that the data used in this study is non-metric on the dependent variable, while the independent variable is a mixture of continuous variables (metric data) and categorical (non-metric data). In addition, the researchers need to explain descriptively to describe the data that has been collected without the intention of making general conclusions or generalizations. Logistic regression aims to test whether the probability of occurrence of the dependent variable can be predicted with the independent variable (Ghozali, 2011). Logistics regression analysis conducted with the help of SPSS program.

The population in this study was the Bekasi city community, with a total of 2,464,719 people. (BPS Kota Bekasi, 2020). In this study, the authors set a research sample that is only the people of Bekasi city as many as 200 respondents. The data collection technique used in this study was through the distribution of questionnaires. In the methodology, the measurement of each variable in this study uses an ordinal scale and the response variable produces two categories worth 0 and 1. The main data are obtained from respondents who answer statements through questionnaires.

Discussion and Result

This study aims to analyze the impact of the implementation of PPKM policies and characteristics of travel behavior on the choice of transportation modes, especially in Bekasi City. The data in this study were

used as many as 200 respondents who carried out moving activities using transportation daily. The recapitulation data below is taken from the characteristics of the respondents based on the results of the questionnaire.

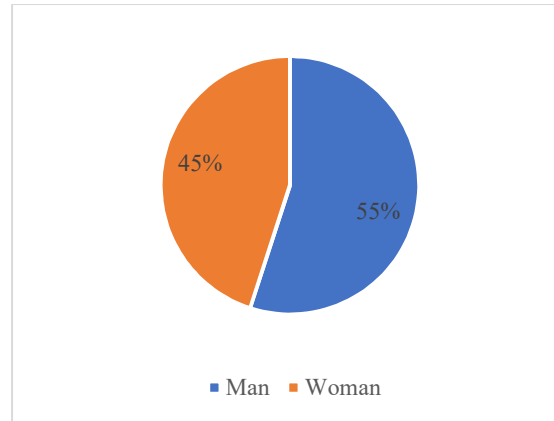


Figure 1. *Characteristics of Respondents by Gender*

Based on Figure 1, it can be seen that 45% (90 respondents) are woman. Furthermore, 55% (110 respondents) were man.

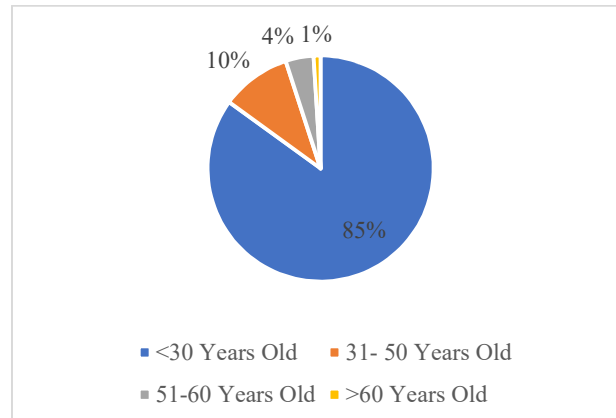


Figure 2. *Characteristics of Respondents by Age*

Based on Figure 2, it can be seen that most of the respondents who use transportation activities are residents aged <30 years with a percentage of 85% (170 respondents). There are 10% (20 respondents) aged 31-50 years. About 4% (8 respondents) are aged 51-60 years. 1% (2 respondents) aged >60 years.

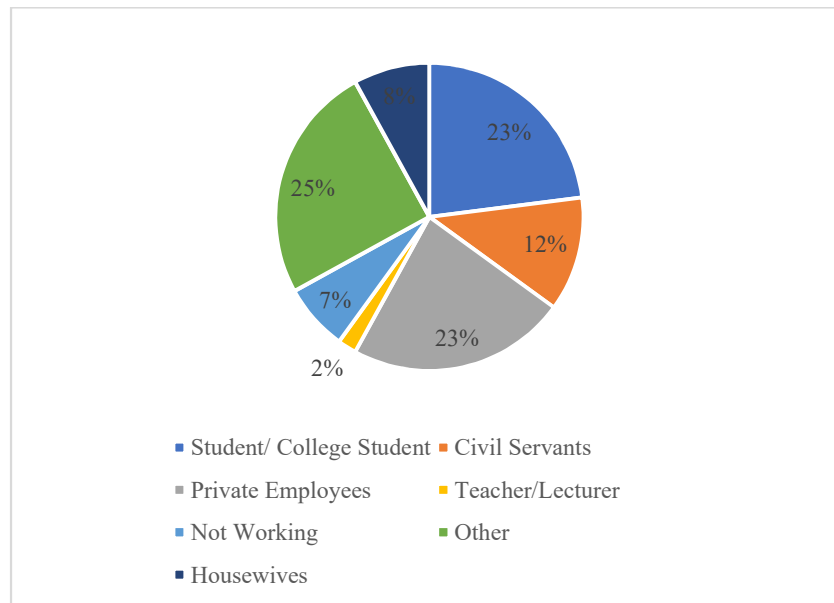


Figure 3. *Characteristics of Respondents Based on Occupation*

Based on Figure 3, it can be seen that the reasons for the majority of respondents who travel to carry out daily activities with another employment status such as Entrepreneur, Cook, Sailor, Barrista, Freelance, Online Taxi Driver, Medical/Nurse Personnel with a percentage of 25% (50 respondents). Meanwhile, students with a percentage of 23% (46 respondents), Private employees with a percentage of 23% (46 respondents), Civil Servants with a percentage of 12% (24 respondents), Housewives with a percentage of 8% (16 respondents), Not Working with a percentage of 7% (14 respondents) and Work Status as a Teacher/Lecturer with a percentage of 2% (4 respondents).

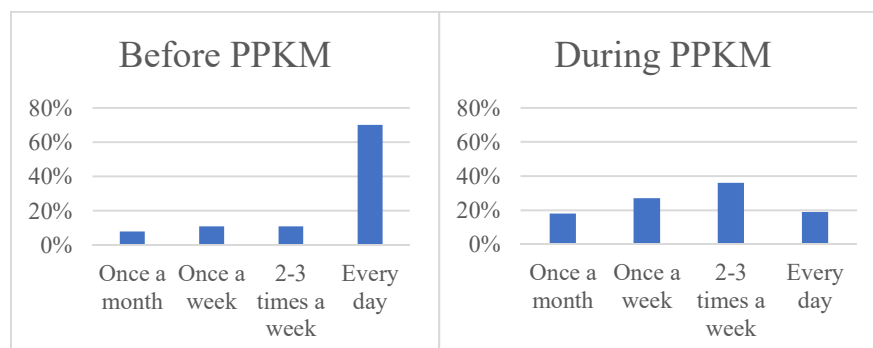


Figure 4. *Characteristics of Respondents Based on frequency*

Based on Figure 4, it can be seen that the frequency factor of respondents who use private vehicles or public transportation is the most who travel to carry out activities before PPKM with a percentage of 70% (140 respondents) admitting every day, 11% (22 respondents) admitting 2-3 times a week, 11 % (22 respondents) admitted once a week, 8% (16 respondents) admitted once a month. And when PPKM with a percentage of 19% (38 respondents) admitted every day, 36% (72 respondents) admitted 2-3 times a week, 27% (54 respondents) admitted once a week, and 18% (36 respondents) admitted once a month. Based on these data, when PPKM was implemented, community movements became very limited, this was because there was a policy that made community movements not intensely wrong, according to the researcher, who stated that WFH made this impact. (A, Delonique, Ade, & Prasidi, 2020).

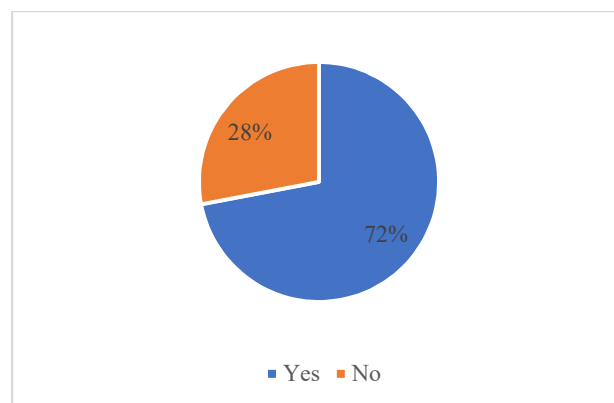


Figure 5. *Characteristics of Respondents Based on choice of mode transportation used*

Based on Figure 5, it can be seen that respondents stated that the Covid-19 pandemic changed their choice of using transportation with a percentage of 72% (144 respondents) answering Yes, 28% (56 respondents) answering No.

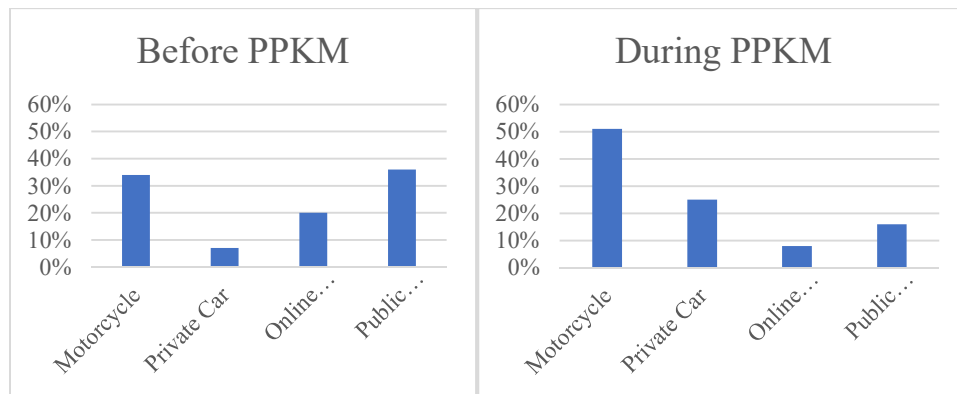


Figure 6. *Characteristics of Respondents Based on the mode of transportation used*

Based on Figure 6, it can be seen that the most frequently used modes are private vehicles and public transportation before PPKM with a percentage of 36% (72 respondents) claiming to often use public transportation, 20% (40 respondents) claiming to often use online cab/ojeg, 7% (14 respondents) admitted that they often use private cars, 34% (74 respondents) admitted that they often use motorcycle. And when PPKM with a percentage of 16% (32 respondents) admitted that they often use public transportation, 8% (16 respondents) claimed to often use online cab/ojeg, 25% (50 respondents) admitted to often using private cars, and 51% (102 respondents)) admitted that he often uses a motorcycle. In this data, people's decline to use online transportation is a change in travel behavior that changes due to adapting to new habits. (A et al., 2020).

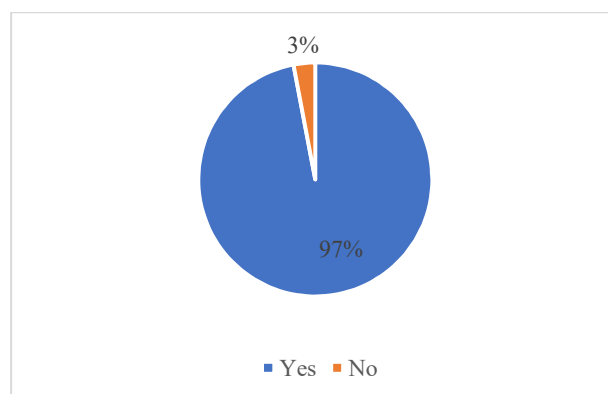


Figure 7. *Characteristics of Respondents Based on mobility barriers*

Based on Figure 7, it can be seen that respondents admitted that the movement of people using public transportation was limited and regulated by the government with a percentage of 97% (194 respondents) stating Yes, and 3% (6 respondents) stating No.

Tabel 1. Omnibus Test

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	10.817	2	.004
	Block	10.817	2	.004
	Model	10.817	2	.004

The joint correlation of X1 and X2 Y (compound correlation) with the Chi-Square technique obtained a Chi-Square value of 10,817 with a Sig value of $0.004 < 0.05$, meaning that it can be said together that the Research Variables on PPKM Policy Implementation (X1) and Travel Behavior Characteristics (X2) have significant effect on the Selection of Transportation Mode (Y).

Tabel 2. Coefficient of Determination Test

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	231.811 ^a	.053	.075
a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.			

The table above shows the determinant coefficient of the logistic regression, which is 0.075, so it can be said that the contribution of the PPKM Policy Implementation (X1) and Travel Behavior Characteristics (X2) variables to the Choice of Transportation Mode (Y) is 7.5%.

Tabel 3. Percentage Correct Classification

Classification Table ^a					
	Observed		Predicted		
			Choice of Transportation Mode		Percentage Correct
			No Effect	Effect	
Step 1	Choice of	No Effect	2	57	3.4
	Transportation Mode	Effect	4	137	97.2
	Overall Percentage				70
a. The cut value is .500					

The table above shows that the accuracy of prediction in this study is 70%.

Tabel 4. Partial Test and Model Building

Variables in the Equation									
		B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 ^a	PPKM	-.313	.139	5.054	1	.025	.732	.557	.961
	Travel Behavior	.227	.095	5.657	1	.017	1.254	1.041	1.512
	Constant	.733	.771	.903	1	.342	2.081		
a. Variable(s) entered on step 1: PPKM, Travel Behavior.									

The independent test turned out to be two significant variables because the X2 Sig value was $0.017 < 0.05$. And X1 Sig $0.025 > 0.05$ means that the two variables have a significant effect on Y.

Based on the results of the survey on the characteristics of travelers in choosing the mode of transportation during PPKM in Bekasi City, it is known that most of the respondents in this study are male with a percentage of 55% and 45% female. Characteristics of travelers based on age groups who use transportation activities are residents aged <30 years with a percentage of 85%. And it is known that the majority of the research population has a working status as an employee with a percentage of 23%, and a student/College student with a percentage of 23%. The

frequency/intensity of respondents who are dominated by students and employees who travel mostly to do activities before PPKM with a percentage of 70% admitting to it every day, and when PPKM has decreased with a percentage of 36% admitting 2-3 times a week. Due to barriers to community mobility regulated by the government with a percentage of 97% when doing activities using transportation and changing people's choices in using transportation with a percentage of 72%, the most choice of transportation modes used before PPKM was public transportation with a percentage of 36% and 34% admitted to frequent use a motorcycle, while when PPKM there is an increase in private vehicle users, namely private motorcycle with a percentage of 51% and a decrease in users of public transportation with a percentage of 16%.

Conclusion

Based on the results of this study, it can be said that the behavior of this PPKM greatly affects the characteristics of the trip in the selection of transportation modes. The result is illustrated by Figure 5 about the frequency of respondents using transportation during the PPKM policy. Before the PPKM policy started, it showed that users were still using public transportation as daily transportation because they were still allowed to do many activities outside the home. In contrast to the PPKM policy issued, this is done to prevent the possible spread of Covid-19. The use of public transportation has decreased compared to before the PPKM policy. Because of the movement of people using limited transportation and public transportation by the government, people change their choices in using transportation, the average use of transportation modes is the most when PPKM states they choose to use private vehicles, namely motorcycle for activities. This is because respondents still feel uncomfortable using public transportation facilities because of the COVID-19 virus outbreak.

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