



ECONOMIC ADAPTATION STRATEGY FOR PEDICAB RIDERS FACING MODERN COMPETITION IN THE CITY OF SOLO

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ABSTRACT

Modernization has impacted all aspects of life, including transportation. As technology advances, innovations in transportation increase, leading to more convenient options like motorbike taxis, traditional taxis, and online-based transportation. This progress negatively affects conventional vehicles, such as pedicabs. This research focuses on modernization's impact on pedicab drivers in Solo, examining their characteristics and economic adaptation strategies. Data were collected through questionnaires, interviews, and observations. The analysis revealed that age, education level, and address significantly influence drivers' decisions to take side jobs, while the number of dependents and monthly income do not. Pedicab drivers adapt economically by having part-time jobs, saving money, and receiving support from working family members.

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1. INTRODUCTION

Modernization is a life process that cannot be avoided and will always develop along with the development of human life processes (Rosana, 2015). Modernization can be interpreted as a human effort in facilitating his work (Rizal et al., 2021). Modernization has touched all aspects of people's lives, including in the field of transportation. Along with the continued development of technology and human desire to create convenience, innovation in the field of transportation continues to be developed. Including in Indonesia, Indonesian young people compete in creating new innovations that are not inferior to foreign countries in the field of transportation. What is currently booming is emergence start up such as Go-Jek and Grab which use gadget media and the internet as the main instruments in running a business.

Startups like Gojek and Grab have introduced a new experience in transportation. People find it easier to access transport, whether in urgent situations or simply due to a preference for online transportation. As Hardiansyah and Tricahyono (2019) noted, the emergence of startups such as Gojek and Grab has brought significant changes to social life in Indonesia, particularly in the transportation sector. These startups provide opportunities and convenience for individuals in carrying out their transportation-related activities.

However, this technological development also has a negative impact, especially for conventional vehicles, pedicabs are one of them. The existence of pedicabs is increasingly being eroded by other, more advanced means of transportation, such as motorbike taxis and taxis, and now online-based transportation has emerged which provides more alternative conveniences for humans (Furqan & Nurlaili, 2020).

Solo City is one of the cities with the most number of pedicabs in Indonesia. Along with the increasing emergence of online motorcycle taxis, the number of pedicabs in Solo continues to decrease (Sari et al., 2017). Based on information obtained from the Chairman of the Pedicab Association in Solo, Mr. Rusdi (51), the number of pedicabs in the city of Solo has decreased from year to year. In the 1980s, the number of pedicabs in Solo reached 17,000 units, then decreased when the tragedy occurred from 98 to 10,000 units, and continued to decrease as taxis became more widespread in 2010 to 7,000 units. The existence of pedicabs is increasingly squeezed by the emergence of online motorcycle taxis such as GoJek and Grab in Solo, and it was recorded that in 2018 the number of pedicabs remaining was 3,000 units.

The development of increasingly advanced and modern means of transportation has made pedicabs the number one means of transportation and not the first choice for humans. Today's humans demand jobs that are fast and efficient, whereas by using a pedicab, the travel time required is clearly longer compared to other means of transportation. This makes the pedicab increasingly eliminated by itself. Loneliness of passengers is not the only problem faced by pedicab drivers. The increasing price of basic necessities is another problem that adds to the burden on pedicab drivers in the city of Solo. That is why this research was conducted to examine the phenomenon of modernization and its impact on people's lives, particularly focusing on pedicab drivers in the city of Solo.

2. RESEARCH METHODS

The research was conducted by extracting information about the characteristics and life of pedicab drivers in the city of Solo from an economic perspective by looking at the realities that occur in the field. Sources of data processed in this study are primary data. Primary data is data obtained directly by the author through a field research process (Moleong & J, 2017). The data used is in the form of pedicab driver characteristics in Solo which were obtained through questionnaires, interviews and field observations.

The variables used in this study are the characteristics of pedicab drivers, namely age, education level, address, number of dependents and average income per month from pulling pedicabs. These five characteristics will become independent variables, namely variables that will influence other variables (Sugiyono, 2017). While the variable that is affected (dependent variable) used in this study is a part-time job done by pedicab drivers. The dependent variable is The decision of pedicab drivers to have part-time jobs. For the independent variables are 1) age, 2) education level, 3) address (whether they live in solo or outside solo), 4) number of dependents, and 5) average income per month. The term "number of dependents" refers to the number of people who rely on the pedicab driver for financial support.

The analytical tool used in this study was the SPSS 21 application. Meanwhile, data analysis was performed using 3 types of analysis: 1) Univariate analysis, aims to explain the characteristics of each variable, both the independent variable and the dependent variable by looking at their respective distributions, 2) Bivariate analysis, aims to determine whether there is a relationship between the independent variables and the dependent variable. the statistical test used in this study is the chi-square test, and 3) Descriptive analysis, aims to describe data that has been collected as it is without the aim of making general conclusions or generalizations (Ghozali, 2016).

3. RESULTS AND DISCUSSION

3.1. RESULTS

Univariate analysis

Table 1. Distribution of Pedicab Driver Respondents Characteristics in Solo

Variable	Frequency	Proportion
Age		
30 – 45 years old	34	11%
46 – 60 years old	192	62%
61 – 75 years old	83	27%
Total	309	100%
Last Education		
No formal education	10	3%
Did not complete elementary school	26	8%
Elementary school	195	63%
Did not complete junior high school	24	8%
Junior high school	43	14%
Did not complete senior high school	9	3%
Senior high school	2	1%
Total	309	100%
Address		
Solo	84	27%
Outside of Solo	225	73%
Total	309	100%
Dependents		
0	109	35%
1-3 Dependents	198	64%
>3	2	1%
Total	309	100%
Average Income as a Pedicab Driver		
<500thousands	80	26%
500rb-1mil/month	188	61%
1-2mil/month	41	13%
Total	309	100%

Source: Processed data, 2020

Based on the results of the analysis in table 1. it can be seen the distribution of respondents based on age, education level, address, number of dependents and average income per month. The age of the respondents was categorized into 3 groups, namely the group of respondents aged 30-45 years, 46-60 years and 61-75 years. Of the 309 respondents, it was found that 34 respondents (11%) were aged 30-45 years, 192 respondents (62%) were aged 46-60 years, and 83 respondents (27%) were aged 61-75 years.

The level of education was categorized into 6 groups, including not attending school, not completing elementary school, elementary school, not completing junior high school, junior high school, not completing high school and high school. Of the 309 respondents, there were 10 pedicab drivers (3%) who had no education at all, 26 pedicab drivers (8%) who only attended elementary school but did not graduate, 195 pedicab drivers (63%) graduated from elementary school, 24 pedicab drivers (8%) did not finish junior high school, 43 pedicab drivers (14%) graduated from junior high school, 9 pedicab drivers (3%) did not finish high school, and only 2 pedicab drivers (1%) graduated from high school.

Respondents' residences were categorized into two groups, namely groups living in Solo and outside Solo. Of the 309 respondents, there were 84 pedicab drivers (27%) living in Solo and the remaining 225 respondents (73%) were pedicab drivers from outside Solo.

The number of dependents of respondents was categorized into 3 groups, namely the first group which had no dependents as many as 109 respondents (35%), the second group which had 1-3 dependents as many as 198 respondents (64%), and the third group which had more than 3 dependents as many as 2 respondents (1%).

The average income per month is categorized into 3 groups, namely the group with income. In this study, respondents were divided into two groups, namely those who had part-time jobs to support their lives and those who did not have a side job other than driving pedicabs.

Table 2. Frequency Distribution of Pedicab Drivers Who Have Part-time Jobs

Variable	Frequency	Proportion
Respondents who have part-time jobs		
Got a side job (Yes)	192	62%
Don't have a side job (No)	117	38%
Total	309	100%

Source: Processed data, 2020

Based on the results of the analysis in table 2, it can be seen that out of 309 respondents, there were 192 respondents (62) who had part-time jobs and the remaining 117 respondents (38%) did not have part-time jobs.

Bivariate Analysis

Bivariate analysis is an analysis conducted to see if there is a relationship between two variables (Herawati et al., 2021), namely the dependent variable which consists of part time, and the independent variable which consists of age, education level, address, number of dependents and average income per month which are the characteristics of the respondents.

The statistical test carried out in this study is TestChi-Square. The degree of confidence used is 95% ($\alpha=0.05$). If the P-value is greater than α ($p > 0.05$), it means that there is no significant relationship between the independent variables and the dependent variable. If the P-value is less than α ($p < 0.05$), it means that there is a significant relationship between the independent variable and the dependent variable.

Table 3. Bivariate Results of Age, Education Level, Address, Number of Dependents, and Level of Income for Pedicab Driver Part-time Jobs

Variable	Part time				Total		PValue	OR
	Yes		No		n	%		
	n	%	n	%				
Age								
≤45 years old	28	82%	6	18%	34	100%	0,01	3,159
46 years - 75 years	164	60%	111	40%	275	100%		
Total	192	62%	117	38%	309	100%		

Level of education									
low	147	58%	108	42%	255	100%	0	0,272	
secondary	45	83%	9	17%	54	100%			
Total	192	62%	117	38%	309	100%			
Address									
Alone	40	48%	44	52%	84	100%	0,001	0,437	
Outside Solo	152	68%	73	32%	225	100%			
Total	192	62%	117	38%	309	100%			
The number of dependents									
have no responsibility	69	63%	40	37%	109	100%	0,755	1,08	
have dependents	123	61,50%	77	38,50%	200	100%			
Total	192	62%	117	38%	309	100%			
Average income to be a pedicab driver									
low	172	64%	96	36%	268	100%	0,058	1,881	
currently	20	49%	21	51%	41	100%			
Total	192	62%	117	38%	309	100%			

Source: Processed data, 2020

The results of the analysis of the relationship between age and part-time jobs carried out by pedicab drivers in table 3 show that of the 34 respondents aged 45 and under, there were 28 respondents (82%) who had a part-time job and the remaining 6 respondents (18%) did not have a part-time job other than pedicab pull. While of the 275 respondents aged over 45 years (46-75 years), there were 192 respondents (60%) who had part-time jobs and the remaining 111 respondents (40%) did not have part-time jobs.

Based on the results of statistical tests obtained Pvalue 0.010 which means that at α 5%, there is a significant relationship between age and part time work. The results of the analysis also obtained an OR value of 3.159, meaning that pedicab drivers aged ≤ 45 years have the possibility of doing a part-time job 3.159 times compared to pedicab drivers aged 46-75 years.

The results of the analysis of the relationship between education level and part-time work show that out of 255 respondents with low levels of education, that is, those who did not graduate from junior high school and below, there were 147 pedicab drivers (58%) who had a part-time job and 108 pedicab drivers (42%) who did not have a part-time job. . Meanwhile, of the 54 respondents with secondary education, namely pedicab drivers who graduated from junior high school to high school, 45 respondents (83%) had part-time jobs, and the remaining 9 respondents (17%) did not have part-time jobs.

Based on the results of statistical tests obtained Pvalue 0.000 at $\alpha=5\%$, meaning that there is a significant relationship between education level and part-time jobs. The results of the analysis also obtained an OR value of 0.272, meaning that pedicab drivers with low level of education have the possibility of doing part-time jobs 0.272 times compared to pedicab drivers with middle level education.

The results of the analysis of the relationship between address and part-time work show that of the 84 respondents whose address is Solo City, there are 40 respondents (48%) who have part-time jobs and 44 respondents (52%) who do not have part-time jobs. Meanwhile, of the 225 respondents who came from outside the city of Solo, there were 152 respondents (68%) who had part-time jobs, and 73 respondents (32%) who did not have part-time jobs.

Statistical test results obtained Pvalue 0.001, meaning that at $\alpha=5\%$ there is a significant relationship between address and part-time jobs. From the results of the analysis, the OR value was also 0.437, which means that pedicab drivers from Solo City have a 0.437 times chance compared to pedicab drivers from outside Solo City to have a part-time job.

The results of the analysis of the relationship between the number of dependents and part-time jobs show that of the 109 respondents who did not have dependents, 69 respondents (63%) had part-time jobs and 40 respondents (37%) did not have part-time jobs. While of the 200 respondents who have dependents, there are 123 respondents (61.5%) who have part-time jobs and the remaining 77 respondents (38.5%) who do not have part-time jobs.

Statistical test results obtained Pvalue 0.755, means that at $\alpha = 5\%$ there is no significant relationship between the number of dependents and part time jobs. The results of the analysis also obtained an OR value of 1.080, which means that pedicab drivers who do not have dependents are 1.080 times more likely to have a part-time job compared to pedicab drivers who have dependents.

The results of the analysis of the relationship between average monthly income and part-time jobs show that out of 268 pedicab drivers with low incomes, 172 respondents (64%) have part-time jobs, and 96 respondents (36%) do not have part-time jobs. Meanwhile, of the 41 pedicab drivers who have moderate income, there are 20 respondents (49%) who have part-time jobs, and the remaining 21 respondents (51%) do not have part-time jobs.

Statistical test results obtained Pvalue 0.058, which means that at $\alpha = 5\%$ there is no significant relationship between the average monthly income and part time jobs. The results of the analysis also obtained an OR value of 1.881, which means that a pedicab driver with a low income is 1.881 times more likely than a pedicab driver with a moderate income to have a part-time job.

Descriptive Analysis

Based on the results of research using field observation methods and interviews with selected respondents who were conducted at each pedicab base, it is known that one base with another base has more or less the same characteristics, where respondents are heterogeneous in almost all bases.

Table 4. Number of pedicab drivers in Solo based on starting point

No	Base Place	Number of workshops information	Number of pedicab drivers registered at field
1	East Entrance	15	9
	Tirtonadi Terminal		
2	West Entrance	3	1
	Tirtonadi Terminal		
3	St. Balapan	150	103
4	St. Purwosari	15	6
5	Grand Mall	4	2
6	District Court	3	3
7	Hotel Novotel, Ibis, Orchid	20	13
8	Hotel Sahid Kusuma	6	2
9	Bangjo Keprabon	6	6
10	Sami Luwes		11
11	East	5	5
12	Royal Surakarta Heritage Hotel	6	5
13	Gladag, PGS	20	16
14	Pasar Gedhe	40	33
15	Keraton	30	26
16	Klewer	100	63
17	Hotel Orange	5	5

Source: Processed data, 2020

During the research, it was found that there were 17 pedicab driver bases that have survived to this day, including the East Terminal starting point as many as 9 pedicab drivers, the West Door Terminal starting point only 1 respondent who could be recorded, St. Balapan as many as 103 pedicab drivers, St. Purwosari with 6 pedicab drivers, Grand Mall with 2 pedicab drivers, District Court with 3 pedicab drivers, Hotel Novotel, Hotel Ibis, and Hotel Orchid with 13 pedicab drivers, Hotel Sahid Kusuma with 2 pedicab drivers, Bangjo Keprabon with 6 pedicab drivers, Sami Luwes with 11 pedicab drivers, Timuran with 5 pedicab drivers, Royal Surakarta Heritage Hotel with 5 pedicab drivers, Gladag and PGS with 16 pedicab drivers, Pasar Gedhe with 33 pedicab drivers, Keraton with 26 pedicab drivers, Klewer with 63 pedicab drivers, and the Hotel Amarelo as many as 5 pedicab drivers. The total number of pedicab drivers recorded from 17 starting points was 309 respondents, all of whom were men with an age range of 30 years and over.

3.2. DISCUSSION

The characteristics of pedicab drivers according to their place of origin are grouped into five categories: age, last education, address, number of family dependents, and average income. Age is divided into 3 categories: young age group (30-45 years), medium age group (46-60 years), and old age group (61-75 years). The last education group is categorized into non-educated (no education at all), those who did not complete elementary school, elementary school graduates, those who did not complete junior high school, junior high school graduates, those who did not complete high school, and high school graduates. None of the pedicab drivers have higher education.

Pedicab drivers' addresses are categorized into Solo and Outside Solo residence statuses. The number of dependents is categorized as no dependents, 1-3 dependents, and more than 3 dependents. Dependents include children, spouse, and non-working or non-working parents. The average income is grouped into three categories: less than IDR 500,000 per month, IDR 500,000-IDR 1,000,000 per month, and IDR 1,000,000 - IDR 2,000,000 per month.

In fulfilling their daily needs, pedicab drivers use several strategies, including part-time jobs. The majority of pedicab drivers in Solo take on farming, as many come from areas like Sragen, Klaten, and Boyolali, which have available paddy fields. Usually, they return to their hometowns to work on their fields during harvest and planting seasons. In line with the research conducted by Rizal et al. (2021), pedicab drivers in Jember also engage in farming as a part-time job to supplement their income. Other common part-time jobs are construction work and odd jobs, predominantly done by younger drivers. Similarly, in Jember, drivers also take on construction work and participate in local events to attract more passengers (Rizal et al., 2021).

Pedicab drivers also make savings by reducing expenses. Often, their children attend school only up to SMA/SMK level to start working early and help meet the family's needs. This strategy is echoed in Dagmang & Cordero Jr.'s (2017) study, where drivers' children in Manila also forgo higher education to contribute to the household income. Government and community assistance can help save on expenses. Lastly, pedicab drivers rely on family members' income contributions.

Overall, respondents who continue as pedicab drivers are typically older and less educated. They lack the capital and skills for other professions, thus staying in the field despite low earnings. Apart from fulfilling their needs, another reason they stay in the profession is that pulling pedicabs serves as exercise, adding a personal dimension to their work that resonates with Dagmang and Cordero's findings on personal motivations and agency.

4. CONCLUSION

Based on the results of research on the economic adaptation strategy of pedicab drivers facing modern competition in the city of Solo, it can be concluded that: 1) The characteristics of the age, education level and address of the respondent significantly influence the respondent's decision to have a part-time job, while the characteristics of the number of dependents and average income average per month does not significantly influence the respondent's decision to have a part-time job; and 2) The economic adaptation strategy carried out by pedicab drivers in Solo is to have a part-time job outside of pulling pedicabs, apart from that they make savings and have working family members who can help meet daily needs.

5. REFERENCES

- Dagmang, F., & Cordero Jr., D. (2017). The Pedicab Drivers' Daily Transgressions: Struggles for Provision and Care. *MST Review*, 19(2), 78–103.
- Furqan, F., & Nurlaili, N. (2020). Dampak Keberadaan Alat Transportasi Online Terhadap Becak Konvensional di Kota Banda Aceh. *Jurnal Al-Ijtima'iyah: Media Kajian Pengembangan Masyarakat Islam*, 6(1), 107–131.
- Ghozali, I. (2016). *Aplikasi Analisis Multivariete dengan Program IBM SPSS 23, Edisi ke-8*. Semarang: Badan Penerbit Universitas Diponegoro.
- Hardiansyah, R., & Tricahyono, D. (2019). Identifikasi Faktor-Faktor Kesuksesan Start Up Digital di Kota Bandung. *Jurnal Ekonomi*, 27(2), 134–135.
- Herawati, F., Purwani, R., & Ratnasari, F. (2021). Hubungan Motivasi dengan Minat Belajar Bahasa Inggris Pada Siswa-Siswi di MA AL-Istiqomah Kabupaten Tangerang Tahun 2020. *Nusantara Hasana Journal*, 1(2), 46–55.
- Moleong, & J, L. (2017). *Metode Penelitian Kualitatif, cetakan ke-36, Bandung: PT. Remaja Rosdakarya Offset*.
- Rizal, A., Suharso, P., Hartanto, W., Sukidin, Ani, H. M., & Mardiyana, L. O. (2021). Adaptation strategies for pedicab drivers in their socio-economic life. *IOP Conference Series: Earth and Environmental Science*, 747(1). <https://doi.org/https://doi.org/10.1088/1755-1315/747/1/012100>
- Rosana, E. (2015). Modernisasi Dalam Perspektif Perubahan Sosial. *Al-Adyan: Jurnal Studi Lintas Agama*, 10(1), 67–82.
- Sari, W. A. W., Handayani, C. D., Putri, Y. R. L., & Dewa, R. T. (2017). A system to preserve pedicab as cultural heritage in Solo city, Indonesia. *AIP Conference Proceedings*, 1885(June 2017). <https://doi.org/https://doi.org/10.1063/1.4985504>
- Sugiyono. (2017). *Metode Penelitian Kombinasi (Mixed Methods)*. Bandung: CV Alfabeta.