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# The Effect of Driver Performance on Income with Age as a Moderating Variable: Case Study of the Sukabumi Grab Bike Solidarity Community (SOGRABIS)

**Oki Rusmayadi[1], Anita Maharani[2], Muhammad Nur Fitroh[3], Gesi Mawarni[4]**
Management Department, Nusa Putra University[1,2,3,4]
Oki.rusmayadi_mn21@nusaputra.ac.id[1], anita.maharani_mn21@nusaputra.ac.id[2], Muhammad.fitroh_mn21@nusaputra.ac.id[3], gesi.mawarni_mn21@nusaputra.ac.id[4]

**ABSTRACT**
This study explores the relationship between performance and income in the field of app-based drivers, with a specific focus on the moderating role of age. Involving 100 respondents from the SOGRABIS population in Sukabumi, this research employs Moderated Regression Analysis (MRA) to analyze the impact of performance on income and how age moderates this relationship. The findings indicate that performance significantly and positively influences the income of drivers, and age plays a role in moderating this relationship by weakening the impact of performance on income. These results provide valuable insights for platform managers and field workers in enhancing working conditions and driver income.

**Keywords:** App-based drivers; Performance; Income; Age; Moderated Regression Analysis (MRA)

## INTRODUCTION

The thriving sector of online transportation, exemplified by ride-sharing and motorcycle taxis, owes its success to technological advancements. The integration of smartphones and dedicated applications has transformed traditional transportation, providing consumers with a seamless experience. Originating in Indonesia in 2014, online motorcycle taxis have witnessed rapid growth, attracting numerous startups and intensifying competition among companies like Gojek, Maxim, Anterin, Shopee Food, InDrive, and the prominent player Grab. Grab, offering diverse services, has implemented incentive policies to motivate and enhance the performance of its drivers.

Incentives, in the form of monetary rewards, are designed to acknowledge and reward drivers for their contributions. Initially, incentives were based on the quantity of trips, with drivers receiving bonuses upon meeting predefined targets. However, the company later shifted to a diamond-based system, where drivers accumulate diamonds to qualify for bonuses. This system is designed to encourage specific behaviors, such as accepting orders during busy hours or completing longer trips.

The flexible nature of online driver schedules contrasts with the existence of performance-related mechanisms. The allocation of orders is influenced by drivers' historical data, including acceptance and completion rates, proximity to customers, willingness to accept orders, and fulfilling all offered orders. In this performance-driven occupation, a higher work ethic corresponds to increased earnings. However, age emerges as a potential factor influencing driver performance. While productive age (14-65 years) is generally associated with better working efficiency, the varying factors introduced by age, maturity, and time availability may distinguish younger and older drivers.

The study seeks to explore whether a significant relationship exists between Grab Bike drivers' performance and their income in the Grab Bike Solidarity Community Sukabumi (SOGRABIS). Additionally, it aims to investigate whether the age of the driver moderates the relationship between Grab Bike drivers' performance and their income in SOGRABIS. The research intends to provide insights into the

extent to which the age variable moderates the relationship between Grab Bike drivers' performance and their income in the community.

The primary objectives are to understand the influence of driver performance, measured by proxies such as work quality, quantity, task execution, and responsibility, on their income. The study also aims to determine whether age strengthens or weakens the relationship between driver performance and income. The research contributes to knowledge development by unraveling the dynamics between Grab Bike drivers' performance, income, and age. Furthermore, it offers practical insights that can guide the formulation of effective policies and strategies. Ultimately, the study benefits Grab Bike drivers by providing actionable recommendations on how they can enhance their income based on their performance and age.

## Literature Review

### a. Work Performance

Performance is defined as the achievement or operational effectiveness of an organization and its employee members based on the attainment of predetermined goals and criteria. Moeheriono (2012) interprets performance as the results of individual or group work within an organization, measured quantitatively, in accordance with their respective authorities, tasks, and responsibilities. The purpose of performance is to achieve organizational targets in a lawful manner, without violating laws, and in accordance with moral or ethical standards. It refers to the level of task accomplishment that constitutes an employee's job. According to Simamora (2015), performance reflects the extent to which employees meet job requirements. Thus, performance can be seen as the results and work behavior demonstrated by an employee in accordance with their role in the organization over a specific period. Performance appraisal serves as a tool to measure this performance. It is an evaluation of an employee's execution of tasks compared to established standards, with the evaluation results communicated to the employee. Employee ranking is assigned through a process of review, evaluation, and performance assessment, often referred to as performance appraisal (Mathis and Jackson, 2016: 382). Performance appraisal is a managerial activity used to evaluate the high-performing behaviors of employees, followed by policy-making for the future. Aspects related to performance appraisal involve evaluating loyalty, honesty, leadership, teamwork, dedication, and participation (Hasibuan, 2014: 87). According to Mangkunegara, performance indicators consist of four aspects: work quality as the top priority, followed by work quantity, task execution, and responsibility (Mangkunegara, 2017, p. 75).

### b. Income

The income of online motorcycle taxi drivers can be considered as individual earnings. Personal income refers to the amount of income received by each individual in society, including income obtained without engaging in other activities (Yoshanda, 2020). The income received by online motorcycle taxi drivers is closely related to the high level of performance achieved by drivers as partners of PT. Grab Indonesia. The term "performance" refers to actual performance or work achievements produced by an individual. This concept encompasses observable and concretely measurable work outcomes in line with individual responsibilities (Mangkunegara, 2017, p. 129).

Crawford & Meng present a survival time model that reflects a situation where workers have the freedom to stop working at any time when they feel they have reached an adequate income from the received tariff. As the time spent by drivers

working progresses, the number of orders or points that drivers can accumulate will also increase, thereby enhancing their income (Crawford & Meng, 2011).

Being an online driver is not bound by specific time schedules; drivers have the freedom to determine their own working hours. Research conducted by Camerer and colleagues, Citrayani and Dedy, as well as Arifin and Wanda, indicates that variables such as working hours and work experience have a positive and significant influence on driver income. Findings from research by Muttaqiyathun show that performance can enhance income through improved service quality (Muttaqiyathun, 2018). Other research findings indicate that the service quality of drivers is a primary factor influencing the income of online motorcycle taxi drivers, accounting for 98.8%, while other factors only contribute to 1.2% (Perangin-angin, 2018).

**c. Age**

The occupation of being a driver places performance as a pivotal factor in generating income, with a direct correlation between a driver's work ethic and an increase in earnings (Barrington et al., 2019). On the other hand, Hasyim asserts that an individual's performance is closely linked to their age. Age can serve as a crucial parameter for evaluating an individual's work effectiveness. The diverse range of productive ages (14-65 years) allows individuals to achieve better and optimal performance in the workplace (Hasyim, 2016). This understanding can be derived from variations in factors arising from age differences. While mature age (30+) may exhibit advantages in terms of optimal energy compared to younger ages (14-29), most younger drivers tend to have more leisure time compared to their older counterparts. Thus, age can be considered a variable influencing the performance level of drivers, consequently impacting their income.

**d. Theoretical Framework**

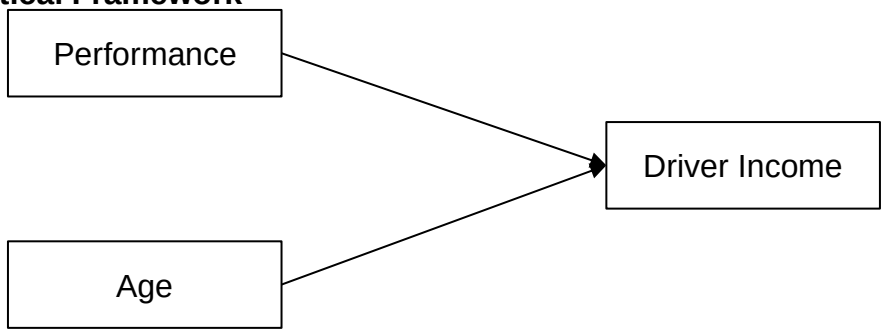


***Figure 1. Theoretical Framework***

Source: Literature Review, 2024

**Hypothesis**

H1 = There is a significant influence between Driver Performance and Income.

H2 = There is age moderation in the relationship between Driver Performance and Income.

## METHOD

### a. Study Approach

This study adopts a quantitative method, which is a research approach that emphasizes the analysis of numerical data processed using statistical methods. The quantitative approach is typically employed in inferential research, where hypotheses are tested, and conclusions are based on the probability of error in rejecting the null hypothesis.

### b. Population

The population, as the subject or target of the research, is a set of individuals who share similar characteristics. According to Anwar (2014:87), the population is the entire collection of elements that will exhibit specific characteristics that can be used to draw a conclusion. The depiction of the research population used in this study encompasses all members of the SOGRABIS Community.

### c. Sampling Technique

The sampling technique employed is purposive sampling. According to Sugiyono (2017: 82), purposive sampling is a method of sample selection based on specific considerations, where sample members are chosen in such a way that the formed sample can represent the characteristics of the population. The research sample is obtained from the Solidarity Community of Grab Bike Sukabumi (SOGRABIS) and involves 100 respondents. The criteria for determining the sample in this study are as follows:

a) Having an active status as a Grab Bike driver.
b) Being officially registered as a member in the Solidarity Community of Grab Bike Sukabumi (SOGRABIS).
c) The age range of the respondents spans from 19 to 60+ years.

### e. Data Collection

The data collection technique used in this study is a survey employing a questionnaire. A questionnaire is one of the most commonly used data collection techniques in social research. It consists of a series of questions posed to respondents to gather the necessary information for the researcher. In this study, the questionnaire is distributed to all members of the Solidarity Community of Grab Bike Sukabumi (SOGRABIS). The questionnaire includes questions related to driver performance, income, and driver age.

### f. Variables

The independent variable in this study is Performance (X), measured through several indicators, including Work Quality (X1.1), Work Quantity (X1.2), Task Execution (X1.3), and Responsibility (X1.4). Subsequently, the dependent variable in this study is Income (Y), measured by considering several indicators, such as Working Hours (Y1.1), Point Changes (Y1.2), and Work Experience (Y1.3). Lastly, the mediating variable in this study is age (Z), measured through specific indicators, namely age 19-40 (Z1.1), age 40-60 (Z1.2), and age 60+ (Z1.3).

### g. Data Analysis

The analysis technique in this research involves descriptive statistical analysis and utilizes Partial Least Square (PLS) with the Structural Equation Modeling (SEM) equation model. The use of PLS-SEM aims to measure and analyze the relationships between latent variables (prediction). According to Ghozali & Latan (2015), PLS-SEM is often employed to develop or build theories (prediction orientation). The data

analysis stages in this study include descriptive statistical tests, measurement model tests (outer model), structural model tests (inner model), and hypothesis testing.

## RESULTS AND DISCUSSION

### Validity and Reliability of Questionnaires

**Table 1.** Validity and Reliability Measurement

| Variabel | Code | Loading Factor | Cronbach Alpha | Composite Reliability | Average Variance Extracted |
|---|---|---|---|---|---|
| **Driver Performance** | DP.1 | 0,724 | | | |
| | DP.2 | 0,764 | | | |
| | DP.3 | 0,784 | 0,738 | 0,851 | 0,657 |
| | DP.4 | 0,714 | | | |
| | DP.5 | 0,724 | | | |
| **Performance*Age** | | 1,793 | 1,000 | 1,000 | 0,745 |
| **Driver Income** | DI.1 | 0,769 | | | |
| | DI.2 | 0,842 | 0,829 | 0,897 | 0,745 |
| | DI.3 | 0,758 | | | |
| **Age** | AG.1 | 0,775 | | | |
| | AG.2 | 0,765 | 1,000 | 1,000 | 1,000 |
| | AG.3 | 0,734 | | | |

Source: Data Analysis Result, 2024

Based on the table above, the outer loading values for all indicator variables X, Y, Z > 0.5, indicating that the indicators are valid. Additionally, the AVE values per variable are > 0.5, confirming that discriminant validity is fulfilled. From the figure above, it can be observed that Cronbach's Alpha, rho_A, and composite reliability meet the criteria as their cut-off values are > 0.7.

**Table 3.** Discriminant Validity

| | DP | P*A | DI | AG |
|---|---|---|---|---|
| Performance | | | | |
| Performance*Age | 0,666 | | | |
| Income | 0,681 | 0,375 | | |
| Age | 0,628 | 0,564 | 0,825 | |

Source: Processing data analysis, 2024

Building upon previous research and study outcomes, Henseler et al. (2015) recommend a threshold value of 0.90 for the heterotrait-monotrait (HTMT) ratio when the path model involves constructs that are conceptually very similar (e.g., affective satisfaction, cognitive satisfaction, and loyalty). In essence, an HTMT value exceeding 0.90 suggests a lack of discriminant validity. However, when the constructs in the path model are more conceptually distinct, a lower threshold value, and thus a more conservative approach, such as 0.85, appears to be warranted (Henseler et al., 2015).

### Inner Model

**Table 4.** Inner VIF Value between Variables

| Variable | VIF |
|---|---|
| DP.1 | 1,922 |
| DP.2 | 1,507 |
| DP.3 | 1,588 |
| DP.4 | 1,676 |
| DP.5 | 1,680 |
| Performance*Age | 1,000 |

| Variable | VIF |
|---|---|
| DI.1 | 1,476 |
| DI.2 | 1,669 |
| DI.3 | 1,250 |
| AG.1 | 1,232 |
| AG.2 | 1,294 |
| AG.3 | 1,214 |

Source: Data Analysis Result, 2024

The VIF values for all indicators in the table above indicate that the indicator variables are < 5. Therefore, at this stage, there is no collinearity among the measured indicator variables.

**Table 5.** Model FIt

| | Saturated Model | Estimated Model |
|---|---|---|
| SRMR | 0,099 | 0,109 |
| d_ULS | 0,644 | 0,681 |
| d_G | 0,225 | 0,230 |
| Chi Square | 131,662 | 136,814 |
| NFI | 0,641 | 0,627 |

Source: Data Analysis Result, 2024

The assessment of model fit indices reveals a favorable fit for the Saturated Model. The SMRM (Standardized Root Mean Square Residual) value of 0.099 indicates the model's effectiveness in predicting observed data patterns. Additionally, the d_ULS (Unweighted Least Squares discrepancy) value of 0.644 reflects a good fit, with lower values suggesting better alignment. The d_G (Bentler's Comparative Fit Index) value of 0.225 is indicative of a satisfactory fit, approaching 1. The Chi-Square value of 131.662, relatively low, signifies a good fit between the model and observed data. Furthermore, the NFI (Normed Fit Index) value of 0.641 demonstrates a favorable fit, with values closer to 1 indicating better concordance between the model and the data.

**Table 6**. Coefficient Determination

| | R Square | R Square Adjusted |
|---|---|---|
| **Driver Income** | 0,626 | 0,615 |

Source: Data Analysis Result, 2024

The R-square adjusted model of 0.626 indicates that the ability of variable X to explain variable Y is 62.6%, suggesting a strong explanatory power. Therefore, it can be concluded that the performance's capability to explain income is quite robust at 62.6%, with the remaining 37.4% attributed to the influence of other unmeasured independent variables in this study.

**Table 7.** Blindfolding Test

| Variabel | SSO | SSE | Q2(=1-SSE/SSO |
|---|---|---|---|
| **Driver Performance** | 500.000 | 500.000 | |
| **Moderating Effect 1** | 100.000 | 100.000 | |
| **Driver Income** | 300.000 | 234,684 | 0,218 |
| **Age** | 300.000 | 300.000 | |

Source: Data Analysis Result, 2024

If Q Square is greater than 0.05, it can be concluded that a construct model is relevant. This implies that the exogenous variables used to predict the endogenous variable are appropriate.

**Hypothesis Test**

**Table 8.** Hypothesis Test

| | Original Sample | Sample Mean | STD DEV | T Statistics | P Values | Result |
|---|---|---|---|---|---|---|
| DP -> DI | 0,408 | 0,411 | 0,089 | 4,561 | 0,000 | Support |
| Moderating Effect -> DI | -0,184 | -0,190 | 0,053 | 3,470 | 0,001 | Support |
| AG -> DI | 0,103 | 0,109 | 0,070 | 1,275 | 0,141 | Not Support |

Source: Data Analysis Result, 2024

The regression analysis results indicate that X -> Y has a positive coefficient of 0.408 with a p-value of 0.000, which is less than 0.05, signifying significance. Therefore, it can be concluded that variable X has a significant and positive influence on the dependent variable Y. This implies that changes in the value of variable X can be used as a predictor for proportionate changes in variable Y, and this relationship has a relatively high level of significance.

On the other hand, Z -> Y shows a positive coefficient of 0.103 with a p-value of 0.141, which is greater than 0.05, indicating non-significance. Consequently, it cannot be inferred that there is a significant influence of variable Z on the dependent variable Y. Although the positive coefficient suggests a positive relationship, the statistical evidence is insufficient to support the significance of this relationship.

Moving to moderated regression analysis, X*Z -> Y has a negative coefficient of -0.184 with a p-value of 0.001, which is less than 0.05, demonstrating significance. According to these results, it can be concluded that the interaction between variables X and Z significantly influences the dependent variable Y. In this context, the interaction has a negative effect, indicating that the combination of values for X and Z can weaken their impact on variable Y. This result is consistent with the negative coefficient of -0.184, signifying that age indeed moderates by weakening the influence of performance on income significantly.

## CONCLUSION

Being an online motorcycle taxi driver is a field-based physical job that can be performed at unspecified and unrestricted hours, enabling workers to compete to enhance their income. The earnings of these drivers heavily depend on their performance, and performance itself is closely related to age. Based on Moderated Regression Analysis (MRA) with a sample of 100 respondents from the entire population of SOGRAS in Sukabumi, this study provides significant findings.

The analysis conducted in this research yields noteworthy results. Overall, the validity of indicator variables (outer model) can be well-maintained, with outer loading values and Average Variance Extracted (AVE) meeting validity criteria. The reliability and consistency of variable constructs are also preserved, indicated by high values for Cronbach's Alpha, rho_A, and composite reliability. Discriminant validity of construct is obtained from the HTMT Ratio matrix, demonstrating that variables in this model can be clearly differentiated. There is no indication of collinearity issues among indicator variables, as evidenced by VIF values below the threshold. Model fit tests also indicate that this model effectively describes observed data patterns.

The model can explain as much as 62.6% of the variability in Income (Y), indicating a good fit with the data. Furthermore, blindfolding tests confirm the relevance of the tested construct model, and the exogenous variables used to predict the endogenous variable are appropriate. Hypothesis analysis reveals that the Performance variable (X) has a significant and positive impact on Income (Y), while the interaction between Performance (X) and Age (Z) moderates this relationship with a significant negative impact. However, the direct influence of Age (Z) on Income (Y) is not proven to be significant. With these findings, it can be concluded that the tested model meets standards of reliability, validity, and fit, supporting most of the hypotheses proposed in this study.

There are several gaps in this research, and the researcher personally identified various aspects that seem worthy of further exploration by future researchers. One notable point is that the age variable has been identified as a moderator that can attenuate the impact of performance on income. Behind age, it turns out that marital status also plays a role in motivating or providing time flexibility for drivers to enhance their performance. Therefore, it would be highly interesting if future research incorporates marital status as an observed variable, conducting the study in the SEM PLS modeling format with the inclusion of this new moderating variable.

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