



The Perspective of Food Delivery Courier in Semarang Toward Safety Riding

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Abstract

The Economy creates many e-commerce that increase the number of couriers including food delivery couriers. This group has the potential to have near-miss crash accidents. This study explored the perceptions of food delivery couriers in Semarang about safety riding. In this study, 50 participants were chosen using the purposive sampling method. Web-based questionnaires were deployed to collect data. The questionnaire was to elicit about the participants' perceptions and work experience as well as the training. Data were analyzed using descriptive statistics. The result of the study revealed that the courier had a positive perception towards the use of safety riding. Most of them agree that they should obey the rules to make them safe and use safety riding equipment such as helmets, jackets, gloves, and shoes. However, some of them still had negative perceptions about the workload and the speed limit in riding. Some of them think that they can have a maximum speed at work although it will not be safe for them. Many couriers also think that it is OK to work in more than two workplaces. The recommendation is to give them training about safe riding.

Keywords *perception, e-commerce, courier, safety*

INTRODUCTION

Over time, there has been a development of work system relations between employers and workers. The current gig economy system is undoubtedly different from the traditional system. In this system, the relationship between employer and worker only lasts for a moment, and then there is no attachment. There are advantages and disadvantages to this system. One of the advantages is that this work can be done remotely. However, this system has many deficiencies, such as the welfare and safety of workers who are not given enough attention, and there is no certainty about the continuity of work. Evaluation in this system is critical. While it is necessary to control algorithms to keep the operation of online work platforms flexible, autonomous, varied in tasks, and complex, they can also result in low wages, social isolation, irregular and unsocial work schedules, burnout, sleep deprivation, and burnout. (Wood et al., 2019).

This Gig-economy system is very dependent on information technology. With the development of information technology, where internet access is getting easier, cell phones with sophisticated features and prices are increasingly competitive, and digital platforms are increasingly diverse, making e-commerce overgrow. The progress of e-commerce has had positive impacts, such as creating jobs and boosting the regional economy. Improvements in internet and mobile access,

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macroeconomic conditions, and the social situation of countries affect the level of online shopping in cities. However, an increase in online shopping in urban areas could hurt the environment. (Cheba et al., 2021)

This progress is inseparable from the impact as a result. The effects of job demands and resources on food delivery drivers' compliance with road safety regulations show that job demands and resources affect work stress, risk-taking attitude, and road safety compliance. In addition, control variables such as age, gender, and income also affect road safety compliance. These findings have implications for regulating the food delivery industry to minimize potentially adverse health consequences for motorists and achieve sustainable development goals in the global south. (Quy Nguyen-Phuoc et al., 2022).

The insecure labor in the "gig economy" also puts food delivery workers at a higher risk for road safety. Fatigue is the most significant predictor of unsafe driving behavior, followed by job resources and personal obligations. To stop unsafe driving behavior, organizational variables can be altered (Quy Nguyen-Phuoc et al., 2023b)). The Cargo two or three-wheeler group has a high road risk, consisting mainly of young men with less work and driving experience and an increased workload (He et al., 2021).

However, many workers are unaware of the importance of the risk of this accident. Therefore, this study aims to determine how these workers perceive the risk of road accidents that can befall them when working.

LITERATURE REVIEW

Food Delivery Trends in Semarang

Motorcycles play an important role in urban accessibility and mobility (de Oliveira et al., 2021) The number of motorbikes has the largest share throughout the country with 120 million vehicles (84.54%) compared to cars, trucks, and buses. The number of accidents in Indonesia over the past decade, between 2011 and 2021, has averaged 105,378 events per year, resulting in an average of 27,784 deaths each year (Badan Pusat Statistik, no date). The increasing growth of motorbike users has led to an increase in accidents.

One of the markets with the highest growth right now is the urban e-commerce market. (Cheba et al., 2021). The COVID-19 pandemic is to blame for the emergence of this tendency. This was followed in Indonesia by the growth of various e-commerce. Due to lockdowns and social withdrawal during the COVID-19 epidemic, meal delivery services grew popular (Gao et al., 2020). However, as there have been several accidents and unsafe behaviors by delivery riders, the rise in food delivery has also given rise to worries about road safety.

This study focuses on Semarang, one of the biggest cities in Indonesia. The popularity of online taxis and food delivery in Semarang is increasing. This is due to the lack of public transport di Semarang. The survey results say that limited public transport contributes to the development of the gig economy in Semarang. (Nugroho, Zusman and Nakano, 2020). Moreover, the safety of public transport also become a concern of people who use it. However, the increase in food delivery has also led to concerns about road safety, as there have been many accidents and risky behaviors among delivery riders.

As a developing nation in Southeast Asia, Indonesia become the most significant digital economy market in this region (Google, 2020). According to estimates (Google, 2020), the digital economy of Indonesia has increased five times since 2015 and is projected to continue snowballing, reaching 124 billion USD by 2025. E-commerce, which makes up roughly 50% of Indonesia's 2019 digital economy, is the most significant industry among those considered in the estimation. According to

(Google, 2020), this sector's contribution is anticipated to increase to more than 60% by 2025. Unfortunately, only 3% of Indonesia's retail transactions in 2019 had an e-commerce component, which is significantly less than the average for Asia-Pacific nations (PP Property, 2020). Indonesia is a very fascinating country to focus on in this study due to these circumstances.

Factor Contributing Motor Crash

More than 50% of crashes on the road involve motorcycles in Malaysia (Rusli et al., 2022), and they are now the main means of transportation in megacities that are still developing (Chu et al., 2019). However, low-income people's access to non-motorized transportation options may aid in decreasing motorcycle use and ownership (Tarko, 2018). Younger riders, singles, those with less knowledge or experience, and those without the right safety gear are more likely to engage in risky riding habits. According to (Ariansyah et al., 2021), drinking alcohol contributes to 7% of traffic accidents, making drink-driving enforcement a top issue for the country's road safety. (Cheba et al., 2021) said that cargo motorbike drivers confront a variety of risks, while (Bartel et al., 2019) noted that freight-related crashes frequently occur in urban areas and result in more injuries and fatalities than other types of crashes. To better comprehend motorcycles' role in urban mobility and integration with other forms of transportation, it is crucial to take their effect on health and safety into account.

Researchers have previously examined the causes of risky driving practices by food delivery riders, including using their phones while riding, running red lights, not wearing a helmet, and riding in motor lanes (Zhang et al., 2020; Qin et al., 2021). Additionally, they have examined the specifics of the collisions in which these riders have been engaged ((Shin, Byun and Jeong, 2019); da Silva et al., 2012). Recent studies have looked at how workers' working circumstances and how deliveries are made can influence how they drive on the road. For instance, one study discovered that delivery drivers who are under time pressure may speed or run red lights.

METHODOLOGY

Data

This research used qualitative and quantitative methods to investigate the perception of the courier service in safety riding. A purposive sampling technique was used in sample selection for this research. A questionnaire was developed to obtain data to construct the motorcycle couriers' profile and analyze their perception of safe riding during work. The questionnaire was structured in 3 blocks, which allowed data to be obtained about their profile, experience, and training, as well as perceptions of the motorcycle courier service. The questionnaire is a web-based one that is spread to the food delivery courier. The 50 couriers were invited to participate in this survey. The structure of the questionnaire is presented in the table below:

Table 3.1 The structure of the questionnaire

Block	Subject	Variable	Type of Response
1	Profile	Name	Document
		Telephone number	Document
		Age	<25 y, 26-35 y, >35 y
		Gender	M/F
		Education	Secondary/Higher/Diploma
		Marital Status	M/NM
		Driving License	Y/N
		Type of motorcycle	
2	Work experience Training	Duration	Document
		Having or not	Y/N
		Type of training	Document
3	Perception Attitude		SA/A/N/SD/D

Data Analysis

The questionnaire is divided into three blocks of questions. The three blocks—the courier's profile, experience and training, and perception and attitude—are examined using descriptive analysis. Measures of frequency were utilized in this study to calculate the percentage of job experience, training, and attitude toward safety riding. The ratings on the Likert scale showed the degrees of agreement with the statement. The Likert scale is the idea that a fundamental phenomenon may be assessed by adding up a person's feelings, attitudes, or perceptions concerning several statements or items. In this study, the results were divided into three categories: strongly disagree, disagree, neither agree nor disagree, Agree, and Strongly agree.

FINDINGS AND DISCUSSION

The development of the world of digital technology is currently giving birth to a variety of e-commerce which then makes the number of couriers including food couriers increase. From the questionnaire distributed, there were 50 couriers with the following data:

Table 4.1. The courier's profile

Category	Sub Category	Total	Frequency
Age	<25	16	30,8%
	26-35	27	54%
	>35	8	15,4%
Gender	Male	43	84,6%
	Female	7	15,4%
Work experience	<1 year	8	15,4 %
	1-3 year	20	38,5%
	>3 year	22	46,1%
Marriage	Married	27	53,6%
	Not married	23	46,2%
Driving license	Having	50	100%
Education	Higher School	31	61,5%
	Diploma	19	38,5%

Among them, 53.3% of the couriers experienced an accident, and 92.3% nearly did. This demonstrates how accident-prone this group is. The vulnerability of accidents occurring can be caused by bad road conditions or the fatigue factor. Road geometry, shoulder type, lane marking, location type, road type, area type, control type, traffic system, speed limit, light condition, hour, and state are some of the factors that contribute to accidents that occur (Zainuddin et al., 2023). Road fault, road condition, quality of surface, type of surface, condition of surface, weather, month, and day of the week were not major factors in the fatal HGV collision. The kind of road in the hierarchy, location, road geometry, posted speed limit, type of road marking, illumination, time of day, and weather conditions during the fatal crash are among the elements that are taken into account (Abdul Manan et al., 2018).

Table 4.2. Crash experience and training

Category	Sub Category	Total	Frequency
Crash experience	Never	27	53,6%
	Ever	23	46,2%
Number	<3 times	19	69,2%
	3 -5 times	8	30,8%
Almost crash experience	Never	46	92,3%
	Ever	4	7,7 %
Safety training	Ever	23	46,2%
	Never	27	53,8%

According to the poll results, just a small percentage of the couriers (46.2%) had training, while the majority did not. Driving safety and road signs are covered throughout the course. This has an impact on the frequent road accidents that they experience. According to structural equation

analysis, job demands such as time constraints, work/life imbalance, and working conditions, as well as workplace resources such as social support and feedback, have a direct and indirect impact on stress at work, risk-taking behavior, and adherence to driving safety regulations. Compliance with road safety laws was also influenced by control variables like age, gender, and wealth. To help the global South reach its sustainable development goals, this study has significant implications for the food distribution sector ((Quy Nguyen-Phuoc et al., 2022)). This is in line with data from ((Nugroho, Zusman and Nakano, 2020)) which says that the choice of Semarang people to use private taxis is because of the safety itself. This is ironic when you see that most of the riders have not received training on safety riding. The young group with inexperience and adequate training is the risky group in a crash accident. It is in line with the food delivery courier in Malaysia Young riders and full-time riders have odds ratios that are, respectively, 2.05 times and 1.79 times higher than being involved in auto accidents. Other characteristics that enhance the likelihood of being involved in traffic accidents include having more than two years of delivery experience, traveling more than 100 km on average per day, having previously worked in the food and grocery industry, and being unemployed (Rusli et al., 2022).

Table 4.3 The Courier's Perception

What do you feel about the following points?	SD	D	N	A	SA
Every rider must follow the rule of law and legislation	0	8%	0%	53,8%	38,2 %
Driving at high speed is one way to save time despite the potential for an accident	23,1%	23,1%	0%	30,8%	0%
Receiving orders via cell phone is fine while driving	5%	30,8%	20%	40%	4,2%
It is better to overtake vehicles from the right according to applicable regulations	3%	0%	7%	76,9%	13,1 %
The main lights of the motorbike do not need to be turned on for fear of wasting fuel	7,7%	69,2%	15%	10,1%	0%
When driving wear equipment such as helmets, jackets, masks, gloves, and shoes	0%	0%	15,4 %	53,8%	30,8 %
Vehicle check before leaving	0%	0%	16%	50%	34%
When you want to turn, turn, and turn, it is important to turn on the turn signal		0%	7,7%	61,5%	30,8 %
When driving somewhere you have to bring your STNK and SIM	0%	7,7%	7,7%	30,8%	53,8 %
Placing items with a wider size on the handlebars is fine because the most important thing is the rider's expertise	15,4%	53,8%	15,4 %	15,4%	0%
Safe driving training should be provided to couriers	0%	0%	20%	30%	50%
Enrolling as a food delivery clerk at 2 or more companies is a good achievement	0%	15,4%	30%	38,5%	15,4 %
Do you think that routine service should be done by everyone?	0%	0%	7,7%	46,2%	46,2 %
When the body condition is not healthy, it is still permissible to drive	30,8%	53,8%	7,7%	7,7%	0%

The drivers have a positive perception of driving, according to the couriers' view of safe driving. More than 50% of drivers concur that they must abide by all applicable laws and regulations, and more than 50% concur that they must pass other cars on the right by those rules. Additionally, they use protective gear when driving, such as helmets, coats, masks, gloves, and shoes. Similar rules apply to using motorcycle lights throughout the day. The majority of motorcyclists (69.2%) agreed to switch on their motorcycle lights. However, some couriers continue to believe that it is acceptable to travel at high speeds despite the possibility of accidents. Most couriers still regard receiving orders while driving and using a mobile as routine activities. They also concurred that they required training in safe driving practices.

There is a risk of an accident due to the way people who frequently drive while using their mobile think. This results in driving distractions. China experienced the same thing. To conduct business,

verify orders, view routes, and other tasks, food delivery drivers routinely consult their cell phones (Zhang et al., 2020). Due to pressure and weariness from gig work, several couriers were forced to drive too fast and use their phones while behind the wheel. Many acknowledged having collisions and near misses daily (Christie & Ward, 2019). Taking on too many jobs might also cause fatigue. Up to 38.5% of those surveyed admitted that they frequently accept work at two or more places.

CONCLUSION AND FURTHER RESEARCH

Regarding driver perception, more than 50 percent of food delivery couriers already have a positive perception of driving safety, obeying traffic signs, using lights during the day, and using safety equipment, namely helmets, jackets, gloves, and shoes. However, their awareness still needs to improve for using speed, using cell phones, and working in more than two places. This is probably what triggers the many cases of accidents and almost all accidents that occur. This group is very vulnerable to accidents. Therefore, it is necessary to provide training for driving safety for them. The e-commerce that employs them must provide training because few riders have ever had training. Further research needs to be carried out further research on aspects of their behavior that contribute to accidents.

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