Factors affecting the road safety level of drivers, College of Logistics and Supply Chain

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Abstract

This research aimed to study the factors related to the level of road safety of drivers at the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus, as well as to study the service behavior of van drivers at the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus. And study the suggestions to improve the standard safe service format and to enhance the safety of using van services within the College of Logistics and Supply Chain in a sustainable manner. The sample group used in the research was users of the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, including executives, lecturers, and staff, totaling 45 people. Quantitative data were collected. The research tools were questionnaires, which were processed using a computer program for social science research (Statistical Package for the Social Sciences: SPSS). Data were analyzed using statistical methods, frequency distribution, percentage, mean ($\bar{\times}$), and standard deviation (S.D.).

The research results found that from the data of the responses to the questionnaire on the opinions of van service users within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus, in terms of the behavior of van drivers that pose a risk to road safety levels, it is at a low level, indicating that the drivers have good behavior, drive according to traffic laws, use speeds not exceeding the legal limit, and have good driving manners.

Suggestions for improving and developing the quality of van services within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University found that most thought that the drivers were generally safe users.

Keywords : The road safety level of drivers, College of Logistics and Supply Chain, Suan Sunandha Rajabhat University

1. Introduction

Definitions of Road safety

Road traffic crashes are a major cause of death worldwide. Their impact has profound implications for economic, social and public health development. At the United Nations General Assembly, heads of state of several countries have endorsed the Sustainable Development Agenda. It aims to reduce the death and injury rates from road traffic accidents by half by 2020 by requiring countries to implement internationally recognized measures to

increase road safety. With the World Health Organization as the agency that monitors progress (Global Status Report on Road Safety, 2015). From the 2015 Global Status Report on Road Safety, Thailand, which was classified by the World Health Organization, is in the middle-income country group. It was found that in 2013, there were as many as 13,650 fatal road accidents in Thailand, which is 36.2 percent per 100,000 population. And when comparing the data of deaths from road accidents in specific groups in ASEAN, it was found that Thailand had the highest death rate (King Mongkut's Institute of Technology Ladkrabang, 2016).

Factors affecting the road safety

Unsafe driving behavior: A survey of employees in workplaces that drive vehicles in England found that drivers who are employees of workplaces are more likely to be exposed to risk factors that cause accidents than drivers who are not employees of workplaces. The risk factors that were exposed to were driving under pressure, fatigue from work, and excessive workload. In addition, from the in-depth analysis of the causes of accidents of drivers on the road, By analyzing car drivers, van drivers and truck drivers in establishments in England, it was found that there was a high rate of errors caused by drivers, especially at speed. It was also found that the group of employees made incorrect observations and there were also cases of driving vehicles in bad conditions that resulted in death (European Agency for Safety and Health at Work (EU- OSHA). In addition, a study in New Zealand found that speeding and driving at high speeds were responsible for 31 percent of deaths and 17 percent of injuries (Guangnan Zhang et al., 2014). In addition, driving vehicles at high speeds is also a major cause of serious accidents (Henriette wallen warner, 2006). The impact of driving speed on accident occurrence and severity has research results that if driving at speeds of 50 and 40 km/h, the distance required to stop the car is 13 and 8.5 meters, respectively. Therefore, if driving closely behind the car in front, it will increase the chance of a collision if the speed is increased by 1 km/h . And the violation of traffic signs and regulations is also an important cause that affects the occurrence of accidents (Dinesh Mohan., et al., 2006). Driving a vehicle by sudden acceleration, sudden braking, sudden turning. Sudden lane changes are a driving behavior that increases the risk of traffic accidents (Chalermpol Saiprasert., et al., 2014). Drowsy drivers are at increased risk of collisions (Eric R. Dahlen., et al., 2005). Seat belt non-use among youth is associated with a higher risk of serious driving accidents (J Zhang., et al., 1998). A study was conducted on the effect of seat belt wearing behavior on the severity after an accident. Seatbelt wearing was found to have a statistically significant effect on injury severity (Naveen Eluru., et al., 2007).

Research Objective

This research to study the factors that are related to the level of road safety, study service behavior and study suggestions to improve the service delivery model that is safe and standardized and to raise the level of safety in using van services within the College of Logistics and Supply Chain.

2. Methods

Population and sample groups

The population of this research was 45 executives, teachers, and staff of the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, fiscal year 2025. They were invited to evaluate their satisfaction in using van services through a questionnaire. The assessment forms were collected from Otober to December 2025 by the driver of the college, who distributed and gathered such assessment form. The response rate is 100%. The sample was not needed to be calculated due to the small size of population.

The research tools

The instrument used in this research was a questionnaire. The researchers created the original evaluation form and presented it to the experts to check for defects and to take corrective action. After that, the revised evaluation form was trialed with non-sample population and gathered back to fix additional imperfections before actually it was used. Questionnaire was divided into 3 parts: general information of respondents (Name of applicant), factors affecting the road safety level of drivers, and suggestions. The following six-point Likert scale was used in the questionnaire: very risk = 5, somewhat risk = 4, less risk = 3, least risk = 2 and none risk = 1. The mean was used as the criteria to interpret scores of road safety levels as follows: (Best and Kahn, 2009)

Very risk	= 4.01 - 5.00 points
Somewhat risk	= 3.01 - 4.00 points
Less risk	= 2.01 - 3.00 points
Least risk	= 1.01 - 2.00 points
None risk	= 0.00 - 1.00 points

Data analysis

To achieve the research objectives, the study used data analysis methods with following analytical statistics: Mean, Percentage, and Standard Deviation. The data gathered were processed using the Statistical Package for the Social Sciences (SPSS) as conceptualized by (Sinjaru 2008; Wanichbancha 2008). Data were analyzed using mean (μ) and standard deviation (S.D.) to indicate the road safety level of drivers in using the vans.

3. Results

From the survey of the van users the road safety within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Education Center, The researchers proposed the results of the analysis divided into 3 parts as follows:

Part 1 : General information of respondents
Part 2 : Behaviors that are related to road safety levels
Part 3 : Suggestions

Part 1 : General information of respondents

The study indicated that from total 45 respondents, most of them were female, 33 persons, representing 73 percent while 12 males, representing 27 percent. The respondents comprised 26 staff, representing 58%, and 19 teachers, representing 42%. Frequency of using van service: It was found that most users use vans occasionally, 32 persons, representing 71 percent and 1-2 days a week, 13 persons, representing 29 percent. The general information of respondents was shown in the Table 1.

Table 1. *Quantity and percentage of van service users within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Education Center*

General Information of Respondents	Quantity	Percentage
1. Gender		
1.1. Male	12	27
1.2. Female	33	73
2. Position		
2.1. Executive	-	-
2.2. Teacher	19	42
2.3. Staff	26	58
3. Frequency of service use		
3.1. Occasionally	32	71
3.2. 1-2 days per week	13	29
3.3. 3-4 days per week	-	-
3.4. everyday	-	-

Part 2 : Behaviors that are related to road safety levels

As shown in Table 2, it was found that in overall behaviors that are relates to road safety levels, van users within the college was least risk ($\mu = 1.33$, S.D = 0.35) in terms of driving speed.

As shown in Table 3, it was found that in overall behaviors that are relates to road safety levels, van users within the college least risk ($\mu = 1.16$, S.D = 0.24) in terms of general driving behavior.

As shown in Table 4, it was found that in overall behaviors that are relates to road safety levels, van users within the college least risk ($\mu = 1.26$, S.D = 0.30) in terms of personal behavior.

As shown in Table 5, it was found van users thought that the factor most related to road safety level was driving speed, 23 people, 51 percent.

As shown in Table 6, it was found suggestions and comments for improvement: Overall, 12 drivers are safe, or 60% of all suggestions.

Table 2. *The mean (μ) and standard deviation (S.D.) of van users within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Education Center*

Driving Speed	μ	S.D.	
1. Frequent use of high speed driving	1.87	0.88	
2. Driving at high speed in heavy traffic	1.27	0.44	
3. Driving faster than the legal speed limit	1.11	0.00	
4. Acceleration at intersections with traffic lights	1.20	0.40	
5. Acceleration increases when a car behind is about to overtake.	1.20	0.40	
Total	**1.33**	**0.35**	**Least risk**

Table 3. *The mean (μ) and standard deviation (S.D.) of van users within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Education Center*

General driving behavior	μ	S.D.	
1. Frequent lane changes while driving	1.51	0.62	
2. Stopping or overtaking at close range	1.13	0.34	
3. Tailgating or frequent use of the horn	1.09	0.28	
4. Driving on the shoulder (left/right) while stuck in traffic	1.04	0.21	
5. Illegal driving or traffic violations	1.04	0.21	
Total	**1.16**	**0.24**	**Least risk**

Table 4. *The mean (μ) and standard deviation (S.D.) of van users within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Education Center*

Personal behavior	μ	S.D.
1. Use of communication devices such as telephones	1.73	0.81
2. Lack of physical readiness, such as drowsiness	1.36	0.56
3. Feeling intoxicated and smelling of alcohol	1.00	0.00
4. Using impolite words	1.07	0.25

Personal behavior	μ	S.D.	
5. Ignorance of the route	1.16	0.47	
Total	**1.26**	**0.30**	**Least risk**

Table 5. *Factors affecting road safety level from van service users in the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus*

Personal behavior Factors affecting road safety level from van service	Quantity	Percentage
1. Driving speed	23	51
2. General driving behavior	8	18
3. Personal behavior	-	-
4. Condition of the car	-	-
5. Road conditions	14	31

Table 6. *Feedback from users of van services within the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus*

Improve and solve road safety issues	Quantity	Percentage
1. Overall it's safe.	12	60
2. On time/good timing	3	15
3. Driving quite fast/occasionally speeding	3	15
4. Study the route before operating.	1	5
5. Road conditions Prepare your body before traveling to the province.	1	5

4. Conclusion And Future Work

From the research results on factors related to the safety level of drivers. There should be concrete guidelines and policies for managing the safety of using the service, which can be put into practice, and appropriate rules, regulations, and regulations should be issued for providing the service/using the service. The establishment of a continuous quality assessment system should be carried out in conjunction with the assessment of service user satisfaction,

with reference to various policies and measures, including retroactive penalties for failure to comply, in order to improve service quality in the future.

In terms of factors affecting the level of road safety of service users, there should be a study of other personal factors that affect or are related to service usage behavior and satisfaction of service users, as well as personal factors of service users that are motivations. To obtain more comprehensive and clear information that can be used for planning or strategizing to achieve the set goals.

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