DEVELOPMENT OF DRIVING BEHAVIOR ASSESSMENT INSTRUMENT FOR DELIVERY DRIVER.

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ABSTRACT

This Study aims to safety and legal driving behavior of delivery driver in the government organizations and the private organizations, Bangkok Thailand.

The population of this study is delivery driver in the government organizations and the private organizations in Bangkok Thailand .The sample size is 400 of them.

SPSS is used for analyzing, and then the statistic tools were used to analysis the data or influence variables from questionnaire are descriptive statistic such as Frequency, Percentage, Mean, and Standard deviation.

The results were as follows:

1) The majority of the participants were aged 41–50 years of age, comprising approximately half of the total respondents.

2) There was not a roughly even distribution of men and women with 0.00 % for men and 100%.

3) Most of the respondents graduated Vocational Certificate & Diploma/High Vocational Certificate (59.00%).

4) The experience for driving in Organization reported at 1 -5 years (36.50%).

5) There was not a roughly even distribution of Have License and No Have License with 0.00 % for Have 100%.

6) The majority of participants on accident experience were accented 1-2 times (88.50%).

7) The most experience of driving participants is more than 10 years at 347 (86.80%).

8) Speed of Car driving (52.3%) of the respondents are at 81-100 km/hrs., while 0.00% are Less 60 km/hrs. and More than 120 km/hrs.

Almost Driver in organization was a man, The age about 31-60 years, No one graduated bachelor of degree, good experience for driving in organization and less accident, and the important was no speed of car driving moreover 120 120 km/hrs.

9) The level understanding and knowledge behaviors of participants regarding Traffic Law were overall at the Much level.

10) The level understanding and knowledge behaviors of participants regarding Traffic Symbols were overall at the Much level.

11) The level understanding and knowledge behaviors of participants regarding Safety Driving were at the Much level. And when considering to each questions of Traffic Symbol, it was found that the most level have had 4 questions, 12 for Much level, , 2 for The least , and 1 for Medium and Less . So this results explained that these drivers have had Safety Driving Behavior or have a good level of safety driving

The result of the study will bring to analysis for reducing items on questionnaire that was called Factor Analysis (FA) which consists of 1) Exploratory Factor Analysis (EFA) and 2) Confirmatory Factor tor Analysis (CFA), and the results will be brought to making quality driving behavior assessment instrument. Eventually, testing on delivery driver in the government organizations and the private organizations.

Keywords: Driving Behavior, Assessment Instrument, delivery driver

INTRODUCTION

In the present, we can see in every areas for many different driving behaviors of human, including, in capital city, local country and everywhere in this planet, such as, the driving behavior of respecting traffic rules and violation traffic rules, or safety driving and etc..

The past, there were the study and assessment on these driving behaviors by many different instruments, as we known, *the observation, interview*, *questionnaire, GPS* and etc., to know about the driving attitudes of drivers that is beginning of expressive behavior on the road.

And Often, these instruments are used repeatedly without proper, validity, modernization development, including technical and academic standard development, which causes the informations received to be inaccurate by fact.

therefore, the validity modernization and effective instruments for driving behavior measuring must be developed and passed the correct building process, testing of construct validity, trait, Index of Congruence (IOC) by the experts, statistic testing such as correlation, discrimination, reliability and finaly, *Exploratory Factor Analysis (EFA)and "Confirmatory Factor Analysis (CFA)"*.

That are all reasons to leads to a research study on "Development of Driving Behavior Assessment Instrument for Delivery Driver".

The first level of this research will start by study about the safety driving behavior of delivery drivers in Government organizations and the Private organizations, after that, the results would bring to analysis for b

OBJECTIVE

Study about the safety driving behavior of delivery drivers in Government organizations and the Private organizations, Bangkok, Thailand

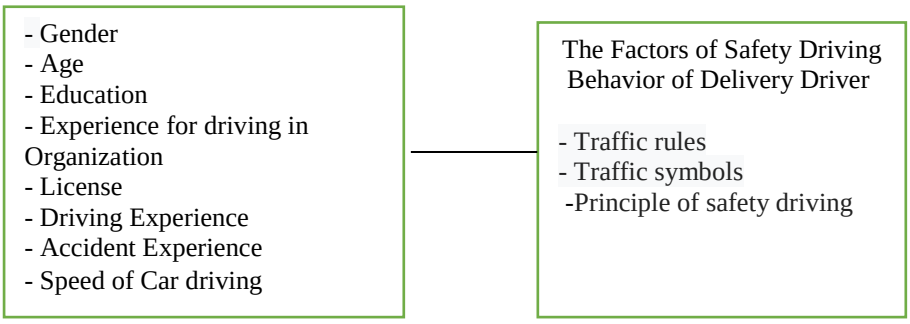
RESEARCH CONCEPT & THEORIES

1) Royal Thai Road Traffic Act, B.E.2522 (1979)

- Titlle1 Characteristics of Vehicle to be Use in the Ways
- Title 2 Traffic Signals and Traffic Signs
- Title 3 Use of Roadways
- Title 4 Use of Roadways with Traffic Lanes
- Title 5 Prescriptions of Speed of Vehicles
- Title 6 Driving through Junctions or Circles
- Title 7 Emergency Vehicle
- Title 8 Towing or Pulling Vehicles
- Title 9 Accidents
- Title 10 Bicycles
- Title 11 Passenger Vehicles
- Title 12 Taxis
- Title 13 Pedestrians
- Title 14 Animals and Articles in Ways
- Title 15 Horse-Drawn Carriages and Bullock Carts
- Title 16 Safety Zone
- Title 17 Miscellaneous
- Title 18 Power of the Traffic Officer and Competent Officer
- Title 19 Penalty Provisions

RESEARCH FRAMEWORK

The researcher reviewed relevant literature from thesis, academic documents, research reports and various electronic documents from the internet to use the information to synthesize research framework, including as a data for developing questionnaires



Picture 1 : Conceptual Framework 1

RESEARCH METHODOLOGY

Population and sample

The study of safety driving behavior of Public organization and Private organization delivery drivers was quantitative research, First, defining 400 peoples was the sample by Purposive Sampling

RESEARCH TOOLS /TOOL CHECKING

The instrument was questionnaire, close-end and open-end questions based on theory, separated on 3 parts, and after that researcher have brought questionnaires to experts for checking the validity of the content of the theory and language accuracy. By analyzing the Index of Objective Congruence Index (IOC) with an IOC of 1.

DATA ANALYSIS AND STATISTICS USED

The study of safety driving behavior of Public organization and Private organization delivery drivers was quantitative research, First, defining 400 peoples was the sample by Purposive Sampling

The instrument was questionnaire, close-end and open-end questions based on theory, separated on 3 parts, and after that researcher have brought questionnaires to experts for checking the validity of the content of the theory and language accuracy. By analyzing the Index of Objective Congruence Index (IOC) with an IOC of 1.

And including 5 level Rating Scale for question 2.1 and 2.2 in questionnaire (Traffic rules and Traffic Symbol) are

Level 5 means ‘The Most”
Level 4 means “Much”
Level 3 means “Medium”
Level 2 means “Less”
Level 1 means “Least”

And 5 level Rating Scale for question 2.3 (Safety Driving Behavior) are

Level 5 means ‘Always”
Level 4 means “Often”
Level 3 means “Sometimes”
Level 2 means “Not Often”
Level 1 means “Never”

Interpretation of average scores

Average	**Meaning**
4.21-5.00	Most
3.41-4.20	Much
2.61-3.40	Medium
1.81-2.60	Less
1.00-1.80	Least

The average value obtained compared with the interpretation criteria. By evaluating the magnitude of to level the average range

SPSS is used for analyzing, and then the statistic tools were used to analysis the data or influence variables from questionnaire are the Descriptive Statistic, such as Frequency, Percentage, Mean, and Standard deviation (S.D.). and after that, Conclusions Discussion and Suggestion.

RESEARCH RESULTS AND CONCLUSION

Research result

Table 1-8 : Demographic Characteristics of Respondents

A total of 400 delivery drivers were chosen from Public organization and Private Organization, Bangkok, Thailand. The findings of this study revealed that

Table 1: Gender

Gender	Frequency	Percent (%)
Men	400	100
Women	0	0
Total	400	100

Table 2: Age

Age	Frequency	Percent (%)
21- 30 years old	33	8.20
31- 40 years old	101	25.20
41- 50 years old	175	43.80
51- 60 years old	91	22.80
Total	400	100.00

Table 3: Education

Education	Frequency	Percent (%)
Primary School	12	3.00
High school	152	38.00
Vocational Certificate & Diploma/High Vocational Certificate	236	59.00
Bachelor degree	0	0.00
Total	400	100.00

Table 4: Experience for driving in Organization

Experience for driving in Organization	Frequency	Percent (%)
Less than 1 year	33	8.20
1 -5 years	146	36.50
6-10 years	100	25.00
More than 10 years	121	30.30
Total	400	100.00

Table 5: License

License	Frequency	Percent (%)
Have	400	100.00
No have	0	0.00
Total	400	100.00

Table 6: Driving Experience

Driving Experience	Frequency	Percent (%)
1 -5 years	25	6.20
6-10 years	28	7.00
More than 10 years	347	86.80
Total	400	100.00

Table 7: Accident Experience

Accident Experience	Frequency	Percent (%)
Never	0	0.00
1-2 times	354	88.50
3- 5 times	46	11.50
More than 5 times	0	0.00
Total	400	100.0

Table 8: Speed of Car driving

Speed of Car driving	Frequency	Percent (%)
Less 60 km/hrs.	0	0.00
61-80 km/hrs.	44	11.0
81-100 km/hrs.	209	52.3
101-120 km/hrs.	147	36.8
More than 120 km/hrs.	0	0.00
Total	400	100.0

Table 1- 8 Demographic Characteristics of Respondents

The majority of the participants were aged 41–50 years of age, comprising approximately half of the total respondents. There was not a roughly even distribution of men and women with 0.00 % for men and 100%. Most of the respondents graduated Vocational Certificate & Diploma/High Vocational Certificate (59.00%). The experience for driving in Organization reported at 1 -5 years (36.50%).

There was not a roughly even distribution of Have License and No Have License with 0.00 % for Have 100%. The most experience of driving participants is more than 10 years at 347 (86.80%). The majority of participants on accident experience were accented 1-2 times (88.50%) With regard to Speed of Car driving (52.3%) of the respondents are at 81-100 km/hrs., while 0.00% are Less 60 km/hrs. and More than 120 km/hrs.

Table 9:

No	Variables	Mean	S.D.	Level	Rank
1	Traffic Rules 1	4.07	0.715	Much	8
2	Traffic Rules 2	4.48	0.652	The Most	3
3	Traffic Rules 3	4.00	0.739	Much	9
4	Traffic Rules 4	4.51	0.656	Much	2
5	Traffic Rules 5	4.55	0.655	The Most	1
6	Traffic Rules 6	3.99	0.652	Much	10
7	Traffic Rules 7	4.15	0.711	Much	7
8	Traffic Rules 8	3.36	0.740	Medium	15
9	Traffic Rules 9	3.96	0.886	Much	11
10	Traffic Rules 10	4.46	0.711	The Most	4
11	Traffic Rules 11	4.42	0.718	The Most	6
12	Traffic Rules 12	3.58	0.864	Medium	12
13	Traffic Rules 13	3.37	0.947	Medium	14
14	Traffic Rules 14	4.43	0.772	The Most	5
15	Traffic Rules 15	3.42	0.775	Much	13
Total Average		4.05	0.746	Much	

Table 9: To presents understanding and knowledge participants on Traffic Rules, Road Traffic Act, B.E. 2522.

The results were found that the level of understanding and knowledge behaviors of participants regarding “Traffic Rules” were total average at the Much level (Mean = 4.05 and S.D. = 0.746).

The most of level for understanding and knowledge behaviors of participants about “Traffic Rules” was The Traffic Rules No.5 (The yellow Light) (Mean = 4.55 and S.D. = 0.655) and the secondary, The Traffic Rules No. 4 (Meaning of Traffic Signal) (Mean = 4.55and S.D. = 0.655) and the third, Traffic Rules No.2 (Meaning of Car) (Mean = 4.48 and S.D. = 0.652).

And finally, the least of level for understanding and knowledge behaviors of participants about “Traffic Rules” was The Traffic Rules No.8 (Handing Signal) (Mean = 3.36 and S.D. = 0.740).

Table 10:

No	Variables	Mean	S.D.	Level	Rank
1	Traffic Symbol 1	4.38	0.772	The Most	4
2	Traffic Symbol 2	3.80	0.924	Much	11
3	Traffic Symbol 3	4.38	0.759	The Most	4
4	Traffic Symbol 4	3.45	0.819	Much	13
5	Traffic Symbol 5	4.29	0.688	The Most	6

No	Variables	Mean	S.D.	Level	Rank
6	Traffic Symbol 6	4.22	0.996	The Most	7
7	Traffic Symbol 7	4.42	0.761	The Most	3
8	Traffic Symbol 8	3.34	0.848	Medium	14
9	Traffic Symbol 9	4.63	0.666	The Most	1
10	Traffic Symbol 10	2.62	0.753	Medium	17
11	Traffic Symbol 11	4.49	0.697	The Most	2
12	Traffic Symbol 12	2.82	0.671	Medium	16
13	Traffic Symbol 13	3.17	0.849	Medium	15
14	Traffic Symbol 14	3.87	0.897	Much	10
15	Traffic Symbol 15	3.98	1.109	Much	9
16	Traffic Symbol 16	4.33	0.770	The Most	5
17	Traffic Symbol 17	3.76	0.909	Much	12
18	Traffic Symbol 18	4.20	0.645	The Most	8
19	Traffic Symbol 19	2.61	0.836	Medium	18
20	Traffic Symbol 20	4.38	0.749	The Most	4
Total of average		3.88	0.806	Much	

Table 10: To presents understanding and knowledge participants on Traffic Symbol, Road Traffic Act, B.E. 2522.

The results were found that the level of understanding and knowledge behaviors of participants regarding “Traffic Symbol” were total average at the Much level (Mean = 3.88 and S.D. = 0.806).

The most of level for understanding and knowledge behaviors of participants about “Traffic Symbol” was The Traffic Symbol No.9 (No blowing of horn) (Mean = 4.63 and S.D. = 0.666) and the secondary, The Traffic Symbol 11 (School crossing) (Mean = 4.49 and S.D. = 0.697) and the third, Traffic Symbol No.7 (No waiting) (Mean = 4.42 and S.D. = 0.761).

And finally, the least of level for understanding and knowledge behaviors of participants about “Traffic Symbol” was The Traffic Symbol No.19 (No U-Turn and No Turn Left) (Mean = 2.61 and S.D. = 0.836).

Table 11

No.	Variables	Mean	S.D.	Level	Rank
1	Safety Driving Behavior 1	3.68	0.886	Much	14
2	Safety Driving Behavior 2	4.05	1.146	Much	10
3	Safety Driving Behavior 3	3.44	0.974	Much	16
4	Safety Driving Behavior 4	4.19	1.026	Much	5
5	Safety Driving Behavior 5	3.28	0.935	Medium	17
6	Safety Driving Behavior 6	2.17	1.152	Less	18
7	Safety Driving Behavior 7	1.77	0.833	The Least	19
8	Safety Driving Behavior 8	4.07	0.913	Much	9

No.	Variables	Mean	S.D.	Level	Rank
9	Safety Driving Behavior 9	3.98	1.117	Much	11
10	Safety Driving Behavior 10	3.72	1.048	Much	13
11	Safety Driving Behavior 11	4.18	1.177	Much	6
12	Safety Driving Behavior 12	4.37	0.758	The Most	2
13	Safety Driving Behavior 13	3.55	1.082	Much	15
14	Safety Driving Behavior 14	4.32	0.905	The Most	4
15	Safety Driving Behavior 15	4.56	0.709	The Most	1
16	Safety Driving Behavior 16	4.35	0.748	The Most	3
17	Safety Driving Behavior 17	1.68	0.845	The Least	20
18	Safety Driving Behavior 18	4.13	0.695	Much	8
19	Safety Driving Behavior 19	3.77	0.808	Much	12
20	Safety Driving Behavior 20	4.14	0.719	Much	7
Total of average		3.67	0.930		

The results were found that the level of understanding and knowledge behaviors of participants regarding “Safety Driving Behavior” were total average at the Much level (Mean = 3.67 and S.D. = 0.930).

The most of level for understanding and knowledge behaviors of participants about “Safety Driving Behavior” was SDB. No. 15 (No driving while Sleepy) (Mean = 4.56 and S.D. = 0.709), and the secondary, SDB. was No.12 (to respect the traffic symbols) (Mean = 4.37and S.D. = 0.758) and the third, SDB. No.16 (No Alcohol) (Mean = 4.35and S.D. = 0.748)

And finally, the least of level for understanding and knowledge behaviors of participants about “Safety Driving Behavior” was SDB. No.17 (Calling on cell phone) (Mean = 1.68 and S.D. = 0.845).

DISCUSSIONS

The results were as follows:

1) The majority of the participants were aged 41–50 years of age, comprising approximately half of the total respondents.

2) There was not a roughly even distribution of men and women with 0.00 % for men and 100%.

3) Most of the respondents graduated Vocational Certificate & Diploma/High Vocational Certificate (59.00%).

4) The experience for driving in Organization reported at 1 -5 years (36.50%).

5) There was not a roughly even distribution of Have License and No Have License with 0.00 % for Have 100%.

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8) Speed of Car driving (52.3%) of the respondents are at 81-100 km/hrs., while 0.00% are Less 60 km/hrs. and More than 120 km/hrs.

Almost Driver in organization was a man, The age about 31-60 years, No one graduated bachelor of degree, good experience for driving in organization and less accident, and the important was no speed of car driving moreover 120 120 km/hrs.

9) The level understanding and knowledge behaviors of participants regarding Traffic Law were overall at the Much level.

And when considering on each questions of The Traffic Rules, it was found that The Most level have had 5 questions, 7 for Much level, and 3 for Medium level. So this results explained that these drivers have had understanding and knowledge about The Traffic Rules or a good level of legal knowledge.

10) The level understanding and knowledge behaviors of participants regarding Traffic Symbols were overall at the Much level.

And when considering to each questions of Traffic Symbol, it was found that The Most level have had 10 questions, 6 for Much level, and 4 for Medium level. so this results explained that these drivers have had understanding and knowledge about The Traffic Symbol or a very good level of legal knowledge.

11) The level understanding and knowledge behaviors of participants regarding Safety Driving were at the Much level.

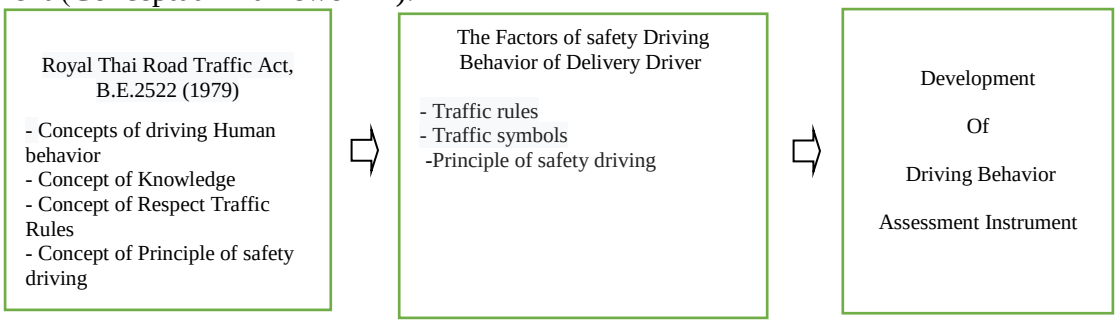
And when considering to each questions of Traffic Symbol, it was found that the most level have had 4 questions, 12 for Much level, , 2 for The Least , and 1 for Medium and Less . So this results explained that these drivers have had Safety Driving Behavior or have a good level of Safety Driving

The results of this research can compare with the research of (2018)[5], Pattaravis Yoowattana. (2018). Study the policy implications of supporting foreign workers in the ASEAN Community of Thailand, thesis, College of Innovation and Management, SuanSunandha Rajabhat University.

It was found that the result of the both researches will bring to development and improving the Public Policy and Public Law of Government, countr, and including Implementing Policy.

RESEARCH RECOMMENDATION

From the findings of this study, it could be used to analysis by Factor Analysis, (secondary objective), and the result of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) will be brought to making quality driving behavior assessment instrument (Conceptual Framework 2).



Picture 2: Conceptual Framework 2

Eventually, testing on delivery driver in the government organizations and the private organizations

ACKNOWLEDGEMENTS

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