The Success of Policy Implementation against Drunk Driving in Bangkok: A Structural Equation Modeling

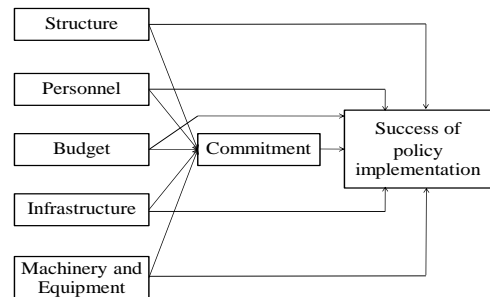**Police Major Waiphot KULACHAI**
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Introduction

- Traffic accidents become major problems causing a great number of deaths and injuries in Bangkok
- Many accidents were alcohol related
- Alcohol breath testing was firstly administered in Thailand on the 16th of December 1997
- Policy implementation against drunk driving was highly concerned in 2003 when the government pays high attention on road traffic accidents
- There was only a research conducted by focusing on policy implementation against drunk driving
- It did not examine what factors are the most influential factors affecting the success of policy implementation against drunk driving

Objectives of the Study

- To examine the success of policy implementation against drunk driving in Bangkok based on the perceived success of the policemen directly responsible for the policy implementation
- To examine the factors directly and indirectly affecting the success of policy implementation against drunk driving in Bangkok
- To examine whether the developed LISREL model fit to the empirical data or not
- To find out appropriate guidelines that can contribute to the success of policy implementation against drunk driving in Bangkok.

Proposed Model

Research Design

- This research is a quantitative research using survey-research method to gather data
- The quantitative techniques employed in this study is a structural equation modeling (SEM)
- The units of analysis in the study are individuals, which are traffic police officers involved in policy implementation against drunk driving in Bangkok Metropolis
- 250 participants are randomly selected from 1,674 police officers of the Traffic Police Division
- Questionnaires and in-depth interview were employed

Quality of Measurements

- **Validity**
  - Questionnaire structure is sent to 4 experts who specialize in public administration and public policy to examine
  - Each item is assessed by giving the item rating of 1 for clearly measuring, -1 for clearly not measuring, and 0 for unclear measuring
  - Then, the index of congruence (IOC) values are calculated using the formula developed by Rovinelli and Hambleton for each item of the questionnaire
  - The IOC values are ranging from 0.75 – 1.00 which indicate that all items are judged to be valid

Quality of Measurements (Con't)

- **Reliability**
  - The reliability of the measurement, measure of internal consistency, is examined by Cronbach's alpha coefficient

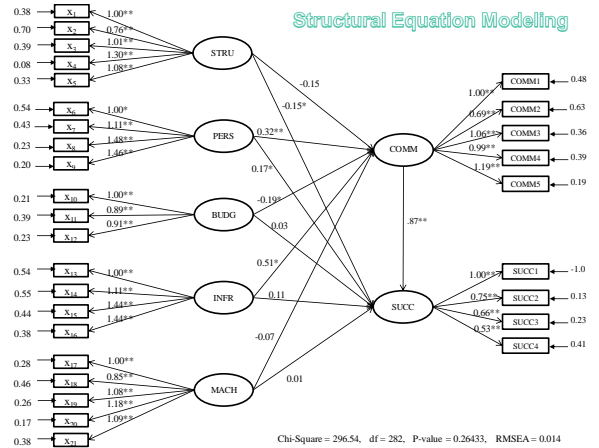| Measurements	Items	Cronbach's Alpha
1. Structure	5	.848
2. Personnel	4	.810
3. Budget	3	.802
4. Infrastructure	4	.864
5. Machinery and equipment	5	.883
6. Commitment	5	.840
7. Success of policy implementation	4	.754

Data Analysis

- After the quality of measurements was examined, the questionnaires were sent to the sample
- The data was collected during 10 March – 12 April, 2011
- Structural equation modeling analysis is employed using LISREL Version 8.53

Descriptive Analysis

- Among 250 respondents , about 83.20 percent are male
- Approximately 76.80 percent of the respondents are married
- 52.40 percent hold bachelor's degree
- Approximately 89.20 percent of the total respondents are non-commissioned police officer
- Most of them or about 59.60 percent have net income between 20,001-30,000 Baht per month
- Their average age and tenure are 43 and 20 years respectively

Structural Equation Modeling

0.38	x_1	1.00**
0.70	x_2	0.76**
0.39	x_3	1.01**
0.08	x_4	1.30**
0.33	x_5	1.08**

STRU

0.54	x_6	1.00*
0.43	x_7	1.11**
0.23	x_8	1.48**
0.20	x_9	1.46**

PERS

0.21	x_{10}	1.00**
0.39	x_{11}	0.89**
0.23	x_{12}	0.91**

BUDG

0.54	x_{13}	1.00**
0.55	x_{14}	1.11**
0.44	x_{15}	1.44**
0.38	x_{16}	1.44**

INFR

0.28	x_{17}	1.00**
0.46	x_{18}	0.85**
0.26	x_{19}	1.08**
0.17	x_{20}	1.18**
0.38	x_{21}	1.09**

MACH

COMM: −0.15, −0.15*, 0.32**, 0.17*, −0.19*, 0.03, 0.51*, 0.11, −0.07, 0.01, .87**

COMM
- 1.00* → COMM1 = 0.48
- 0.69** → COMM2 = 0.63
- 1.06** → COMM3 = 0.36
- 0.99** → COMM4 = 0.39
- 1.19** → COMM5 = 0.19

SUCC
- 1.00** → SUCC1 = −1.0
- 0.75** → SUCC2 = 0.13
- 0.66** → SUCC3 = 0.23
- 0.53** → SUCC4 = 0.41

Chi-Square = 296.54, df = 282, P-value = 0.26433, RMSEA = 0.014

Dependent Variables	R²	Effect	Independent Variables					
			STRU	PERS	BUDG	INFR	MACH	COMM
COMM	0.15	DE	-0.15	0.32**	-0.19*	0.51*	-0.07	-
		IE	-	-	-	-	-	-
		TE	-0.15	0.32**	-0.19*	0.51*	-0.07	-
SUCC	0.25	DE	-0.15*	0.17*	0.03	0.11	0.01	0.87**
		IE	-0.13	0.28**	-0.17*	0.44*	-0.06	-
		TE	-0.28**	0.45**	-0.14	0.55*	-0.05	0.87**

DE = Direct effect, IE = Indirect effect, TE = Total effect
* p<.05, **p< .01

- The success of policy implementation against drunk driving in Bangkok model is fit to the empirical data (Chi-square = 296.54, P-value = 0.26433, df = 282, RMSEA = 0.014, GFI = 0.93, AGFI = 0.88, and RMR = 0.055)
- There are four most important factors affecting the success of policy implementation against drunk driving in Bangkok;
  1. Commitment
  2. Infrastructure
  3. Personnel
  4. Structure of organization

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Recommendations

- **Policy Makers and Related Agencies**
  - Policy commitment among traffic police officers should be raised
  - Governance committee to examine and monitor the implementation of the policy should be maintained
  - Performance appraisal of the enforcement agency should be improved and must be a merit-based system
  - The incentive system should be improved
  - The government should provide an incentive for private companies and related public agencies to encourage them to pay more concern on social responsibility
  - Special training on enforcement against drunk driving, such as, policy information, technical skills (e.g. breathalyzer operation, random check-point operation) as well as administrative skills should be provided
  - Providing enough manpower
  - Budget allocation should be carefully monitored

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Recommendations

- **Future Research**
  - Researchers interested in similar topic should pay more attention on the context of their study
  - Researchers should study more in-depth detail about the relationship between budgeting and the success of a policy implementation
  - future research should be conducted not only on the perspectives of policy implementer but also on the perspectives of other stakeholders

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Q & A

Thank You
for Your Kind Attention !