ESCALATING PUNISHMENT FOR HABITUAL DRUNK DRIVERS:

A Study on Legal Reforms and Data System Optimization

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INTRODUCTION

- Drunk driving remains a major global public safety threat, especially due to repeat offenders.
- Japan strengthened penalties in 2007, increasing the maximum punishment for DWI to 5 years imprisonment or a 1,000,000 yen fine.
- Repeat DWI offenders contribute significantly to road accidents and fatalities (Voas & Lacey, 2011).
- Thailand faces a serious drunk driving problem, ranking among countries with the highest road traffic death rates (WHO, 2023).
- In 2022, over 80,000 DWI offenders were placed under probation in Thailand (Department of Probation, 2023).
- Weak enforcement and fragmented tracking systems allow many repeat offenders to avoid strict legal consequences.

RESEARCH OBJECTIVES

Analyze the legal and technological challenges in addressing repeat DWI offenses in Thailand using a mixed -methods approach.

Assess public perceptions of existing penalties, deterrence effectiveness, and support for stricter DWI laws.

Investigate the feasibility and potential impact of an integrated DWI offender tracking system.

Examine enforcement challenges and policy implementation issues through insights from key stakeholders.

Compare and integrate quantitative public perceptions with qualitative expert insights to develop policy recommendations.

To formulate policy recommendations and identify practical applications based on the research findings, ensuring their effective dissemination and implementation among relevant stakeholders."

RESEARCH METHODOLOGY

This study employs a mixed-methods approach, integrating both quantitative and qualitative research methods to ensure a comprehensive analysis of the legal and technological challenges in addressing repeat DUI offenses in Thailand.

QUANTITATIVE STUDY

The quantitative component involves a survey targeting road users in Thailand, including drivers, pedestrians, and passengers.

QUALITATIVE STUDY

The Delphi Technique is a structured, iterative method for gathering expert opinions and achieving consensus on DUI recidivism challenges in Thailand. This study will use multiple survey rounds with experts—including law enforcement, policymakers, legal scholars, public health officials, and technology specialists—to assess legal, technological, and enforcement issues.

QUANTITATIVE STUDY

A nationwide survey of 1,500 road users across Thailand was conducted to examine factors influencing public support for stricter DWI enforcement. The data were analyzed using Structural Equation Modeling (SEM) with SmartPLS to test the relationships among legal awareness, perceived detection risk, trust in law enforcement, enforcement effectiveness, and support for graduated penalties.

SAMPLE

- 1,500 road users in Thailand
- 300 Participants/Region
- 5 Regions
  - North
  - Northeastern
  - East
  - South
  - Central

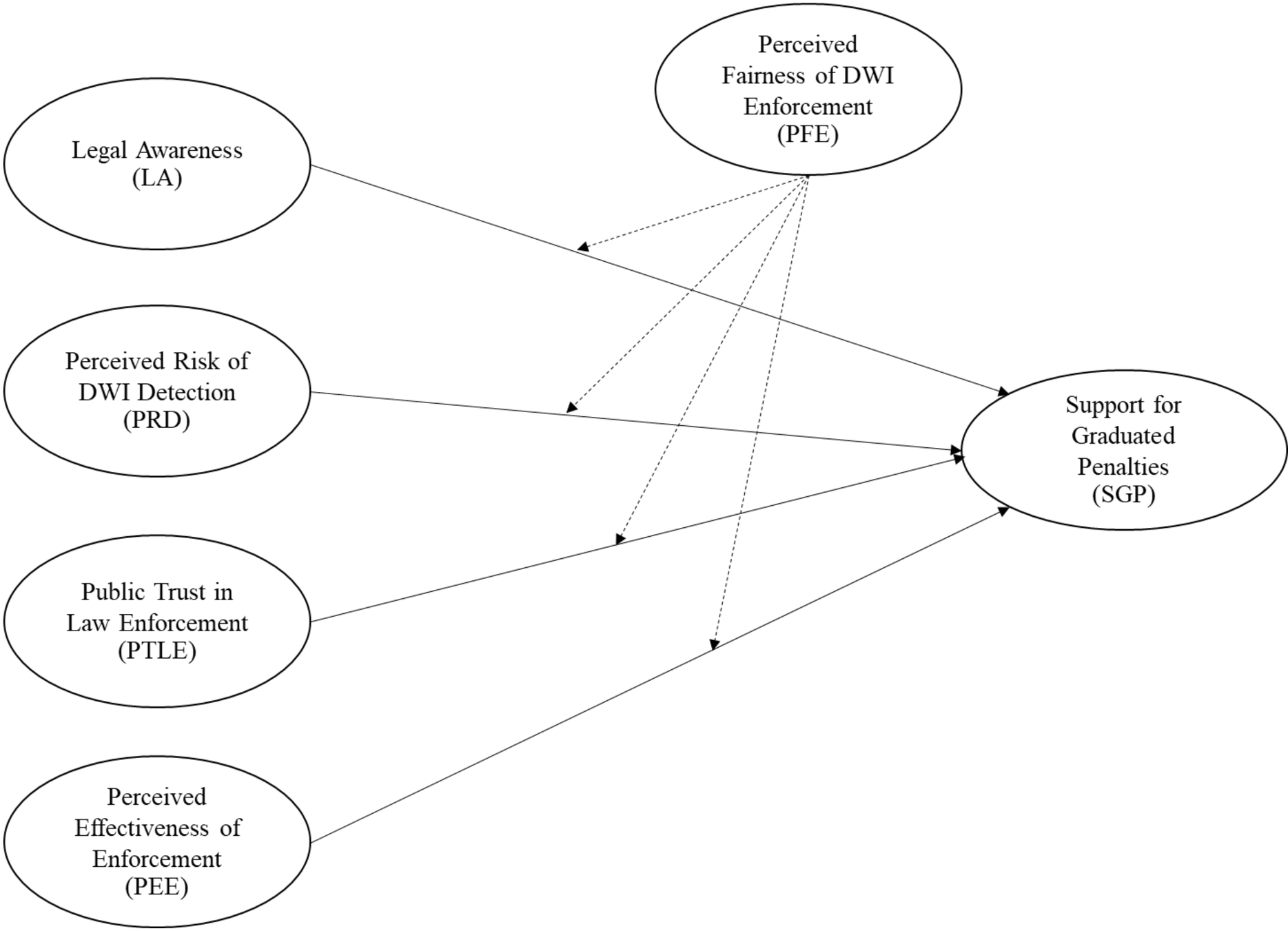
RESEARCH TOOL

Questionnaire
Measures
- Legal Awareness (LA) α = 0.89
- Perceived Risk of DUI Detection (PRD) α = 0.89
- Public Trust in Law Enforcement (PTLE) α = 0.94
- Perceived Effectiveness of Enforcement (PEE) α = 0.93
- Perceived Fairness of DUI Enforcement (PFE) α = 0.97
- Support for Graduated Penalties (SGP) α = 0.98)

DATA ANALYSIS

The data were analyzed using Structural Equation Modeling (SEM) with SmartPLS to examine direct and moderating relationships among the study variables.

The Structural Equation Model (SEM) examines public support for graduated DWI penalties by analyzing key influencing factors and moderating effects. Legal awareness, perceived risk of detection, and public trust in law enforcement are independent variables, while perceived fairness of enforcement moderates their effects on support for graduated penalties.



RESEARCH HYPOTHESES

Direct Effects

H1: Legal awareness positively influences support for graduated DWI penalties.

H2: Perceived risk of DWI detection positively influences support for graduated penalties.

H3: Public trust in law enforcement positively influences support for graduated penalties.

H4: Perceived effectiveness of law enforcement positively influences support for graduated penalties.

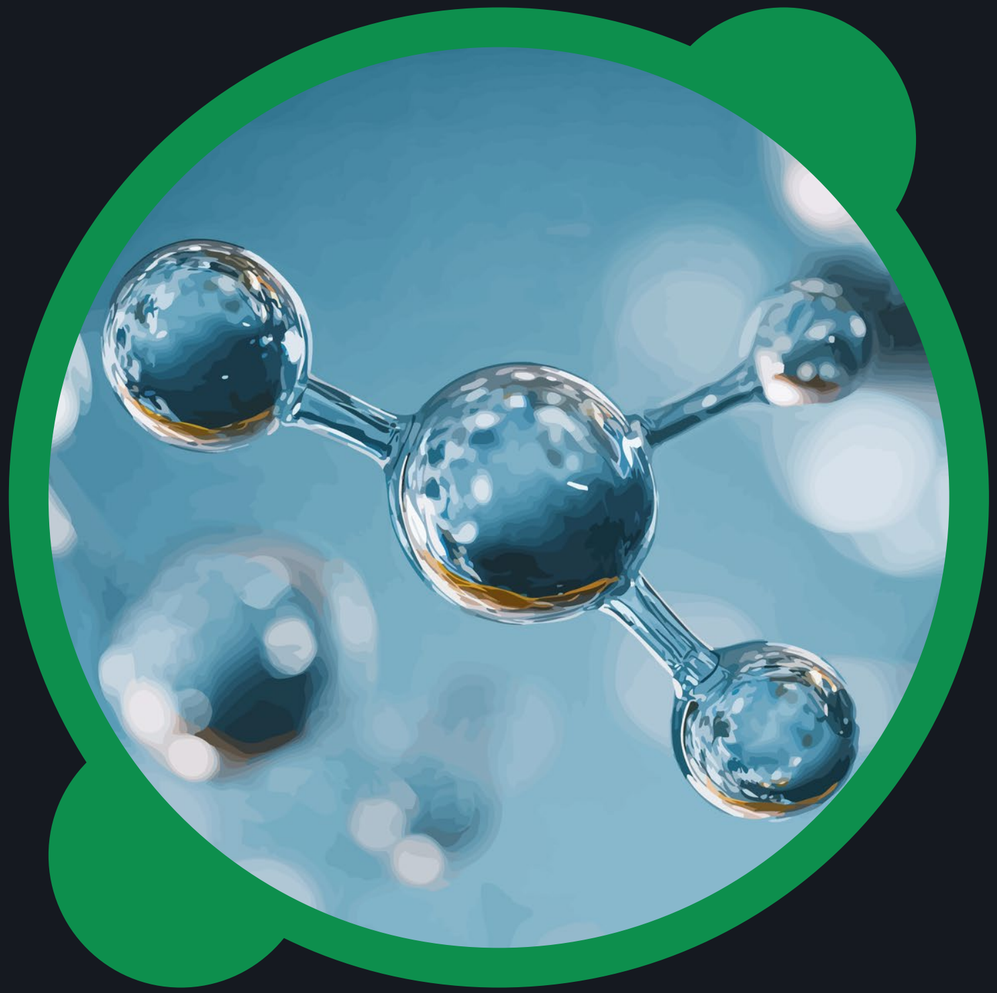
Moderating Effects

H5: Perceived fairness of DWI enforcement moderates the relationship between legal awareness and support for graduated penalties.

H6: Perceived fairness of DWI enforcement moderates the relationship between perceived risk of detection and support for graduated penalties.

H7: Perceived fairness of DWI enforcement moderates the relationship between public trust in law enforcement and support for graduated penalties.

H8: Perceived fairness of DWI enforcement moderates the relationship between perceived effectiveness of law enforcement and support for graduated penalties.



QUALITATIVE STUDY

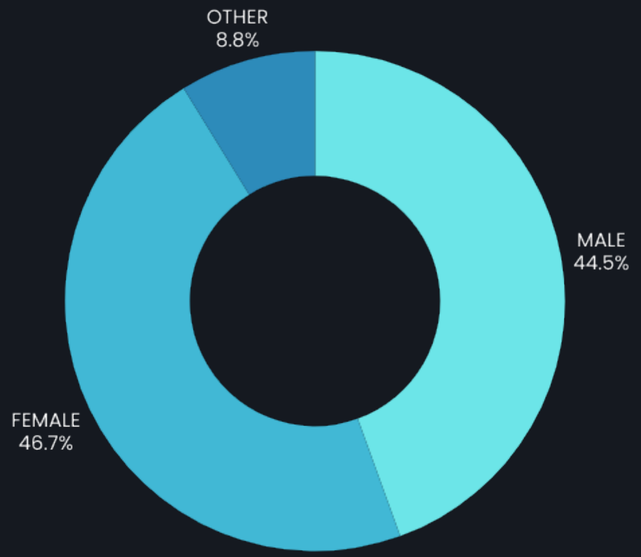
The qualitative component used the Delphi technique to gather insights from experts in law enforcement, policymaking, legal institutions, and road safety. Through multiple rounds of consultation, the study identified key enforcement challenges and policy strategies to strengthen DWI regulation and monitoring systems.

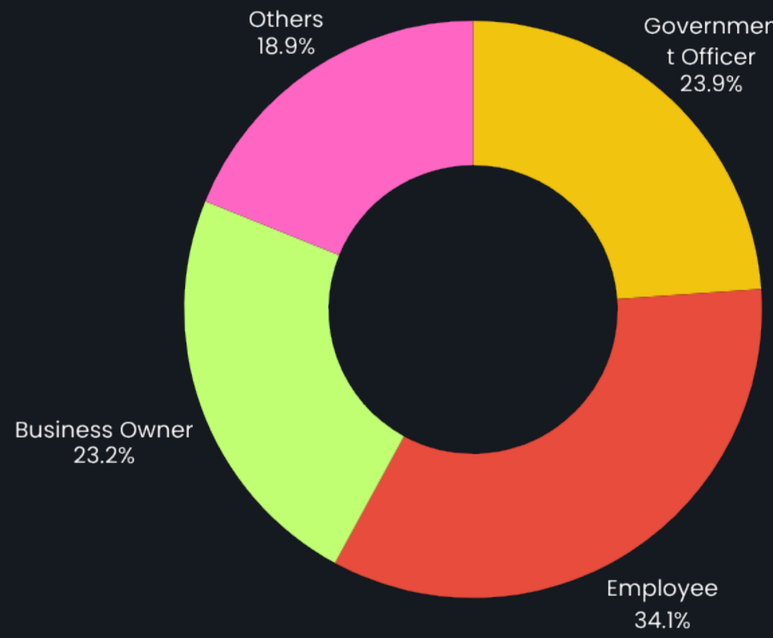
- **Expert Selection** – Identify and recruit experts in law enforcement, policymaking, legal studies, public health, and technology related to DUI recidivism.
- **Round 1:** Open-Ended Exploration – Collect qualitative insights from experts through open-ended questions on legal, technological, and enforcement challenges.
- **Round 2:** Thematic Refinement – Analyze responses, identify key themes, and develop a structured questionnaire for expert rating and ranking.
- **Round 3:** Consensus Building – Share aggregated responses, allowing experts to refine their perspectives and prioritize key policy recommendations.
- **Final Round:** Validation – Experts review the final results and reach consensus on policy strategies for DUI enforcement and prevention.
- Findings and Implementation – Synthesize results into actionable recommendations for policymakers and stakeholders.

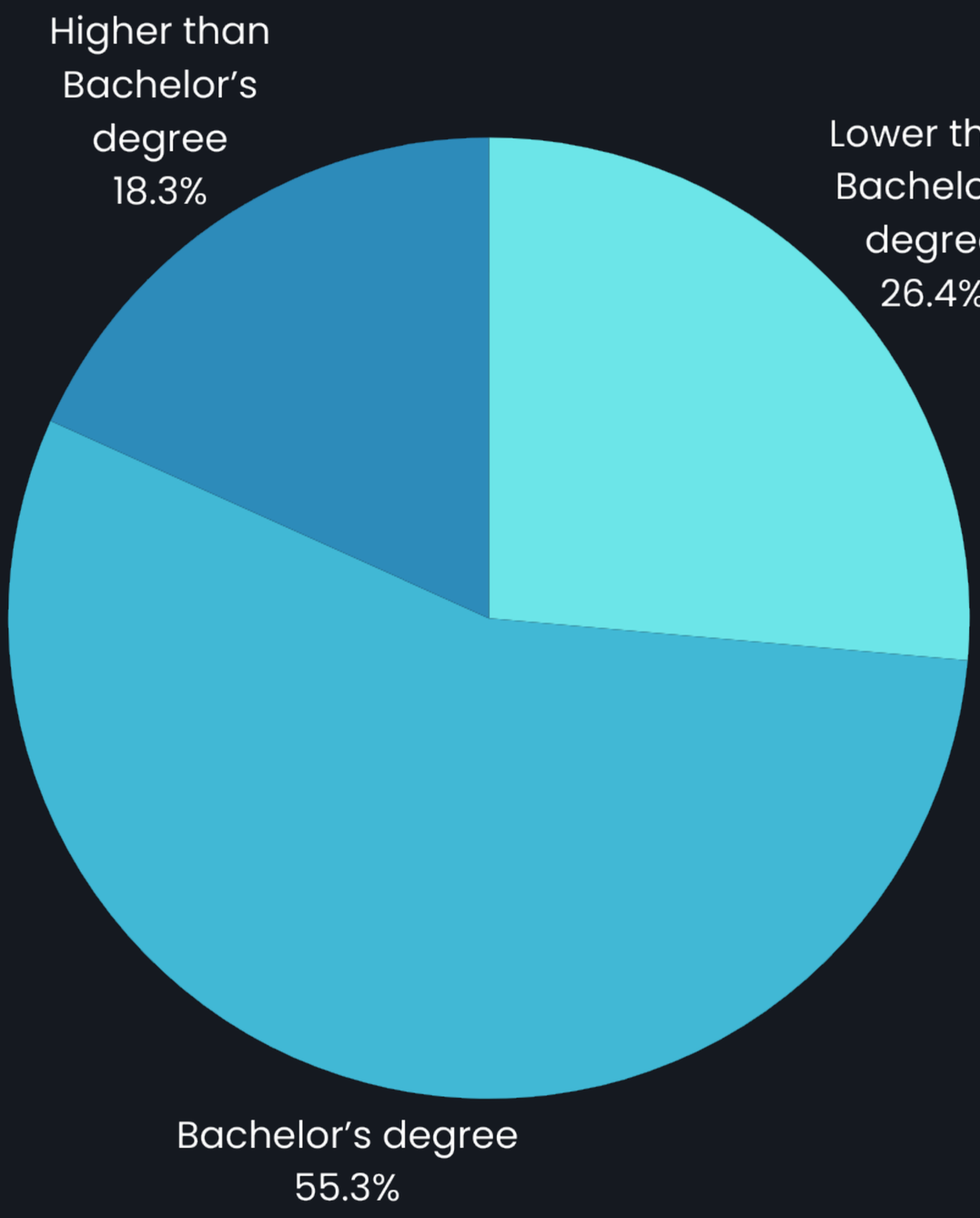
RESULTS

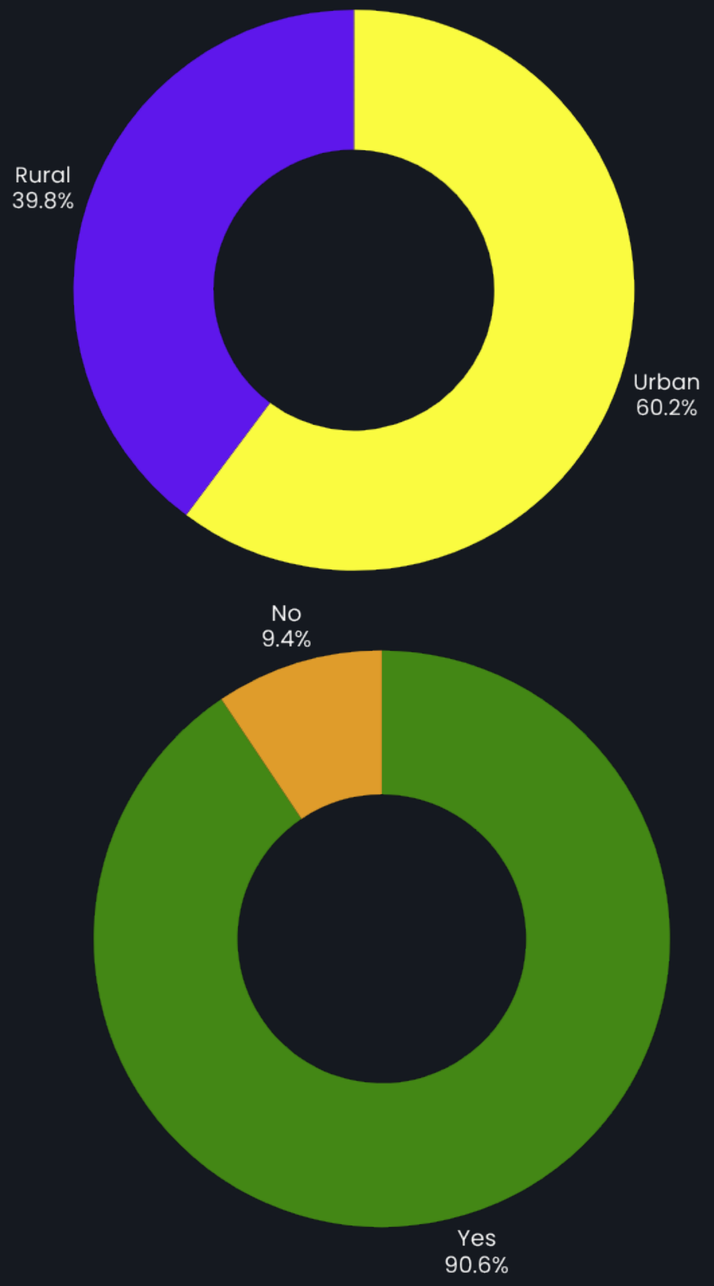

command
option
Receipts
Sales
Orders
SAMANTHA BLACK
sales director
EXPERIENCE
REFERENCES

QUANTITATIVE STUDY RESULTS

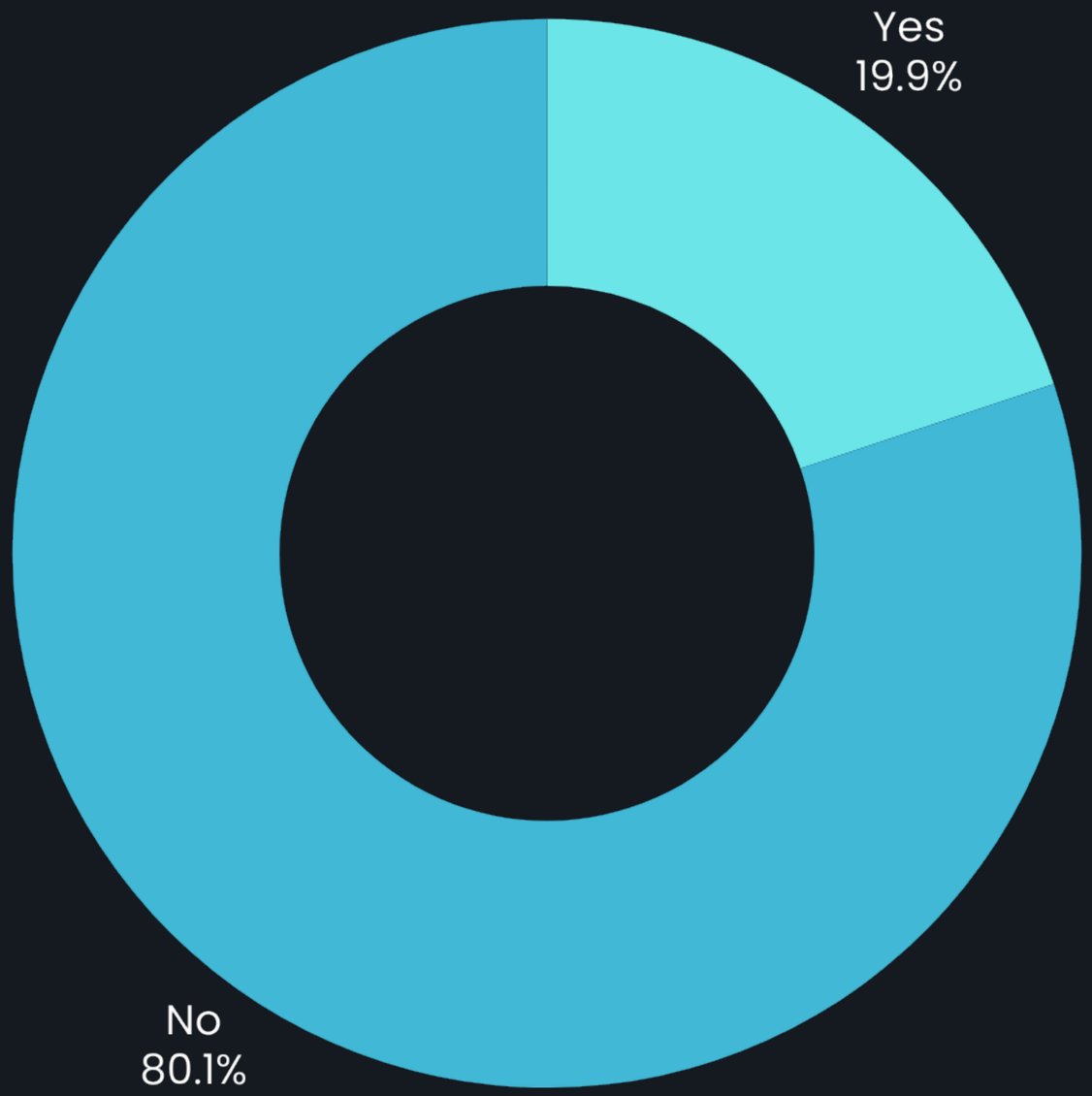

OTHER
8.8%
MALE
44.5%
FEMALE
46.7%


Others
18.9%
Governmen
t Officer
23.9%
Business Owner
23.2%
Employee
34.1%


Higher than
Bachelor's
degree
18.3%
Lower than
Bachelor's
degree
26.4%
Bachelor's degree
55.3%



Used Public Roads in Past 6 Months



Experience of DWI Violation

MEASUREMENT MODEL

ASSESSMENT

CONSTRUCT RELIABILITY AND VALIDITY

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
LA	0.879	0.880	0.879	**0.592**
PEE	0.876	0.877	0.876	**0.587**
PFE	0.871	0.873	0.870	**0.574**
PRD	0.864	0.865	0.863	**0.559**
PTLE	0.879	0.880	0.878	**0.592**
SGP	0.844	0.844	0.844	**0.520**

LA = Legal Awareness
PRD = Perceived Risk of DUI Detection
PTLE = Public Trust in Law Enforcement
PEE = Perceived Effectiveness of Enforcement
PFE = Perceived Fairness of DUI Enforcement
SGP = Support for Graduated Penalties

DISCRIMINANT VALIDITY

Heterotrait -monotrait ratio

	LA	PEE	PFE	PRD	PTLE	SGP	PFE x LA	PFE x PRD	PFE x PTLE	PFE x PEE
LA										
PEE	0.498									
PFE	0.437	0.459								
PRD	0.533	0.557	0.398							
PTLE	0.506	0.512	0.425	0.487						
SGP	0.631	0.596	0.446	0.604	0.591					
PFE x LA	0.105	0.070	0.079	0.058	0.088	0.244				
PFE x PRD	0.057	0.093	0.122	0.114	0.058	0.222	0.525			
PFE x PTLE	0.090	0.048	0.086	0.061	0.063	0.250	0.506	0.494		
PFE x PEE	0.070	0.094	0.121	0.094	0.046	0.275	0.517	0.537	0.502	

HTMT = Heterotrait-monotrait ratio of correlations (Should be <0.85)

DISCRIMINANT VALIDITY

Fornell -Larcker Criterion

	LA	PEE	PFE	PRD	PTLE	SGP
LA	**0.769**					
PEE	0.498	**0.766**				
PFE	0.438	0.460	**0.758**			
PRD	0.533	0.557	0.398	**0.748**		
PTLE	0.506	0.513	0.425	0.488	**0.769**	
SGP	0.632	0.596	0.447	0.605	0.592	**0.721**

Note: bold and green values are squared AVE values

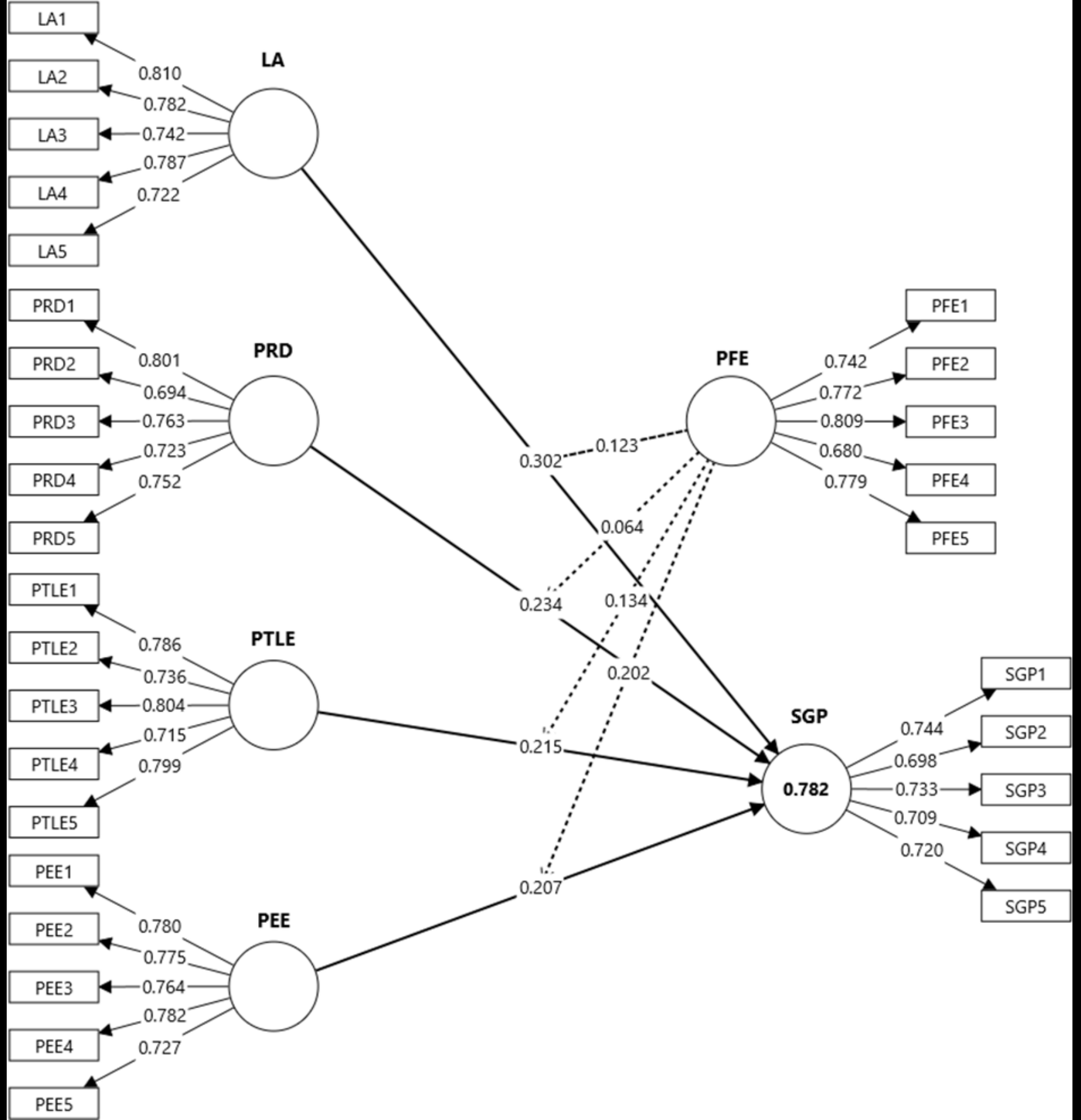
STRUCTURAL MODEL

ASSESSMENT

MODEL FIT

	Saturated model	Estimated model
SRMR	0.019	0.019
d_ULS	0.164	0.164
d_G	0.069	0.069
Chi-square	545.605	546.120
NFI	0.976	0.976

The model fit results indicate excellent fit. The SRMR value (0.019) is far below the 0.08 threshold, showing minimal residuals. Both d_ULS (0.164) and d_G (0.069) confirm low model discrepancy. The nearly identical chi -square values for the saturated and estimated models show strong model stability, and the high NFI (0.976) demonstrates that the model fits the data very well.


LA1
LA2
LA3
LA4
LA5
0.810
0.782
0.742
0.787
0.722
LA
PRD1
PRD2
PRD3
PRD4
PRD5
0.801
0.694
0.763
0.723
0.752
PRD
PTLE1
PTLE2
PTLE3
PTLE4
PTLE5
0.786
0.736
0.804
0.715
0.799
PTLE
PEE1
PEE2
PEE3
PEE4
PEE5
0.780
0.775
0.764
0.782
0.727
PEE
PFE1
PFE2
PFE3
PFE4
PFE5
0.742
0.772
0.809
0.680
0.779
PFE
0.302
0.123
0.064
0.234
0.134
0.202
0.215
0.207
SGP1
SGP2
SGP3
SGP4
SGP5
0.744
0.698
0.733
0.709
0.720
SGP
0.782

COEFFICIENTS

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
LA -> SGP	0.302	0.303	0.027	11.277	0.000
PEE -> SGP	0.207	0.207	0.027	7.591	0.000
PFE -> SGP	0.098	0.098	0.026	3.791	0.000
PFE x LA -> SGP	0.123	0.124	0.029	4.307	0.000
PFE x PEE -> SGP	0.202	0.202	0.029	6.949	0.000
PFE x PRD -> SGP	0.064	0.064	0.030	2.167	0.030
PFE x PTLE -> SGP	0.134	0.134	0.030	4.530	0.000
PRD -> SGP	0.234	0.233	0.028	8.469	0.000
PTLE -> SGP	0.215	0.215	0.026	8.305	0.000

KEY FINDINGS

Key Findings (Structural Model Results)

- Legal awareness (LA) significantly increases support for graduated DWI penalties ($\beta = 0.302, p < 0.001$), representing the strongest direct effect.
- Perceived risk of detection (PRD) also positively influences support for stricter penalties ($\beta = 0.234, p < 0.001$).
- Public trust in law enforcement (PTLE) significantly enhances support for graduated penalties ($\beta = 0.215, p < 0.001$).
- Perceived effectiveness of enforcement (PEE) positively affects support for graduated penalties ($\beta = 0.207, p < 0.001$).
- Perceived fairness of enforcement (PFE) directly increases support for graduated penalties ($\beta = 0.098, p < 0.001$).

KEY FINDINGS

Moderating Effects

- Fairness significantly strengthens all relationships between the independent variables and support for graduated penalties.
- The strongest moderation effect occurs between fairness and perceived effectiveness of enforcement ($\beta = 0.202, p < 0.001$).
- Fairness also significantly strengthens the effects of legal awareness ($\beta = 0.123$), trust in law enforcement ($\beta = 0.134$), and perceived risk of detection ($\beta = 0.064$) on policy support.

Overall Insight

- Public support for stricter DWI penalties is driven by legal awareness, enforcement visibility, institutional trust, and perceived effectiveness, while fairness in enforcement acts as a key amplifier of these effects.

QUANTITATIVE STUDY RESULTS

KEY FINDINGS

Current Enforcement Practices

- Critical challenges in enforcing DWI laws
- Factors behind inconsistent / ineffective enforcement
- Evaluation of sobriety checkpoint use and coverage

Fairness and Public Perception of Penalties

- Are current penalties perceived as fair?
- Views on graduated penalties for repeat offenders
- Influence of fairness on public support for stricter laws

Legal Reform Feasibility

- Legal/institutional barriers to structured sanctions
- Feasibility of mandatory rehabilitation / ignition interlocks
- Most influential stakeholders in shaping DWI legislation

Integrated Data Systems

- Challenges in developing a centralized DWI offender database
- How improved data integration could help sanctioning
- Role of inter-agency cooperation

Technological Interventions

- Assessment of ignition interlocks and ALPR
- Acceptability to public and frontline enforcers
- Legal and ethical concerns with tech-based enforcement

CURRENT ENFORCEMENT PRACTICE

1

Critical challenges in enforcing DWI laws

- Participants highlighted limited resources, uneven enforcement intensity, and informal interference as major challenges.
- Rural areas face shortages of trained staff and equipment, while urban areas struggle with high volume and political/social pressure.

“We don’t have enough breathalyzers or trained officers, especially upcountry. On Friday nights in Bangkok, the volume is overwhelming.” – Traffic enforcement officer

“Sometimes local influence or personal connections still affect who is actually penalized and who is ‘let go’.”– Judicial official

2

Factors behind inconsistent / ineffective enforcement

- Inconsistency was linked to discretionary decision-making, unclear standard operating procedures, and lack of follow -up on repeat offenders.
- Some respondents also pointed to variable commitment among officers and fatigue during long checkpoint shifts.

“Different stations use different criteria; some are strict, some are very relaxed. The public notices that.” – Public health expert

“We arrest the same people again and again because there is no systematic way to flag them across provinces.” – Traffic enforcement officer

3

Evaluation of sobriety checkpoint use and coverage

- Sobriety checkpoints were seen as effective but unevenly distributed, with better coverage in urban corridors than in rural or peri-urban areas.
- Checkpoints are often predictable, reducing their deterrent effect.

“In big cities we see checkpoints regularly, but in rural districts, enforcement is more ad hoc and depends on local leadership.” – Ministry of Justice representative

“Drivers know where the usual checkpoints are and simply change their route or time.” – Repeat DWI offender under probation

FAIRNESS AND PUBLIC PERCEPTION OF PENALTI

1 Are current penalties perceived as fair?

- Many participants believed penalties are perceived as either too lenient or unevenly applied, which undermines perceived fairness.
- Victims' groups and NGOs especially stressed the gap between harm caused and punishment.

"For many serious DWI crashes, the public feels the punishment does not match the damage done." – NGO representative

"People think the law is strict on paper, but in practice, some can negotiate or avoid serious consequences." – Judicial official

2 Views on graduated penalties for repeat offenders

- There was strong support for graduated penalties, combining increasing sanctions with rehabilitation and monitoring.
- Stakeholders agreed that first-time and repeat offenders should not be treated the same.

"Graduated penalties make sense — first offense for warning and education, second and third for stronger sanctions and restrictions." – Legislator

"As someone who reoffended, I can say a fine is not enough. Stronger steps earlier might have stopped me." – Repeat DWI offender

3 Influence of fairness on public support for stricter laws

- All groups emphasized that perceived fairness is crucial for gaining and maintaining public support for tougher DWI policies.
- If enforcement is viewed as biased or corrupt, even good laws lose legitimacy.

"People will only support stricter laws if they believe everyone—from rich to poor—is treated equally." – Civil society advocate

"Fair procedures are just as important as strict penalties. Without fairness, the public will resist rather than cooperate." – Public health and road safety expert

LEGAL REFORM FEASIBILITY

1

Legal/institutional barriers to structured sanctions

- Key barriers included fragmented legal provisions, bureaucratic complexity, and limited political will for comprehensive DWI reform.
- Coordination between agencies remains weak and slow.

“Our laws have been amended many times, but not always in a coherent framework. That makes structured sanctions harder to implement.” – Prosecutor

“Every agency has its own mandate and data system; aligning them requires high-level political commitment that is not always there.” – Ministry of Justice representative

2

Feasibility of mandatory rehabilitation / ignition interlocks

- Most respondents saw these as feasible but requiring pilot programs, clear legal basis, and budget allocation.
- Concerns centered on costs, infrastructure, and monitoring capacity, especially outside major cities.

“Rehabilitation programs and interlocks are feasible, but we need clear guidelines on who pays, who monitors, and how to enforce compliance.” – Judge

“In concept it’s good, but for rural offenders who use older vehicles, ignition interlocks may be difficult to implement.” – Traffic enforcement officer

3

Most influential stakeholders in shaping DWI legislation

- Legislators and senior Ministry of Justice officials were seen as primary agenda-setters.
- Royal Thai Police, public health experts, and NGOs were identified as influential in providing evidence and public pressure.

“Parliament and the Ministry lead the reform, but the police and civil society shape what is actually proposed.” – Legislator

“Victim groups and NGOs can bring real stories that push lawmakers to take DWI more seriously.” – NGO representative

INTEGRATED DATA SYSTEM

1

Challenges in developing a centralized DWI offender database

- Major challenges: siloed databases, incompatible IT systems, data privacy concerns, and limited technical capacity at local levels.

"Police, courts, and transport offices each have their own system. None of them talk to each other easily." – IT-savvy judicial official

"There is also fear about data misuse, so agencies are cautious about sharing offender information." – Ministry of Justice representative

2

How improved data integration could help sanctioning

- A centralized system would enable accurate identification of repeat offenders, consistent sentencing, and monitoring of compliance (e.g., license suspension, program attendance).

"If a judge could instantly see a person's full DWI history, it would be much easier to apply graduated penalties consistently." – Judge

"Integrated data would stop offenders from just moving to another province to escape their records." – Traffic enforcement officer

3

Role of inter-agency cooperation

- Inter-agency cooperation was seen as essential, not optional, for effective DWI enforcement and sanctioning.
- Respondents called for formal MOUs, joint protocols, and regular coordination meetings.

"If the police, courts, and Land Transport Department don't work together, any DWI policy will leak at the weakest point." – Public health expert

"We need institutionalized cooperation, not just personal networks between officers." – Civil society actor

TECHNOLOGICAL INTERVENTION

1

Assessment of ignition interlocks and ALPR

- Technologies like ignition interlocks and ALPR were regarded as promising tools, particularly for high-risk and repeat offenders.
- Experts stressed they are supplements, not substitutes, for human judgment and broader prevention.

“Interlocks and ALPR can be game-changers for repeat offenders, but they must be embedded in a broader system of monitoring and support.” – Road safety expert

“Technology helps us target resources more efficiently, especially in high-risk locations and times.” – Traffic enforcement officer

2

Acceptability to public and frontline enforcers

- Public acceptability was seen as conditional on fairness, transparency, and privacy safeguards.
- Frontline officers were generally positive if tools are user-friendly, properly maintained, and legally backed.

“If people see technology as neutral and fair, they are more likely to accept it than purely human discretion.” – NGO representative

“Officers will welcome these tools if they come with clear procedures and training, not just dumped on us.” – Traffic enforcement officer

3

Legal and ethical concerns with tech -based enforcement

- Concerns included privacy, data protection, potential profiling or misuse, and the risk of over-reliance on automated systems.
- Stakeholders emphasized the need for clear legal frameworks and oversight mechanisms.

“We must ensure any new technology respects privacy rights and is governed by clear, transparent regulations.” – Judicial official

“Without safeguards, people may feel they are constantly watched, which can backfire and reduce trust in the system.” – Public health expert

RECOMMENDATIONS

- **Standardize and Strengthen DWI Enforcement Nationwide**

Implement clear, uniform operating procedures for sobriety checkpoints, officer conduct, and evidence handling to reduce inconsistency, local discretion, and perceptions of unfairness.

- **Establish an Integrated, Cross-Agency DWI Offender Database**

Develop a centralized digital system linking police, courts, and transport offices to accurately identify repeat offenders, ensure consistent sentencing, and prevent offenders from circumventing sanctions across regions.

- **Adopt Graduated Penalties Paired with Mandatory Rehabilitation**

Introduce structured sanctions for first -time and repeat DWI offenders, including education programs, treatment referrals, and ignition interlock requirements, supported by clear legal authority and monitoring mechanisms.

- **Expand and Modernize Technology-Supported Enforcement**

Pilot and scale up tools such as ALPR and ignition interlocks, ensuring proper training, public communication, and privacy safeguards to increase deterrence while maintaining public trust.

- **Build Public Confidence through Fairness, Transparency, and Communication**

Enhance procedural fairness by ensuring equal treatment, independent oversight, and proactive public messaging that explains why and how enforcement processes are applied consistently across all regions and populations.

NEXT STEPS

OPERATIONAL SEMINAR &
INTEGRATION OF FINDINGS

20 MARCH 2026
SUKOSOL HOTEL, BANGKOK


International Association
of Traffic and Safety Sciences