Aoyama Gakuin University
Graduate School of Business
SMIPRP

Innovation Implementation Effectiveness:
the Role of Institutions and Organisational Independency
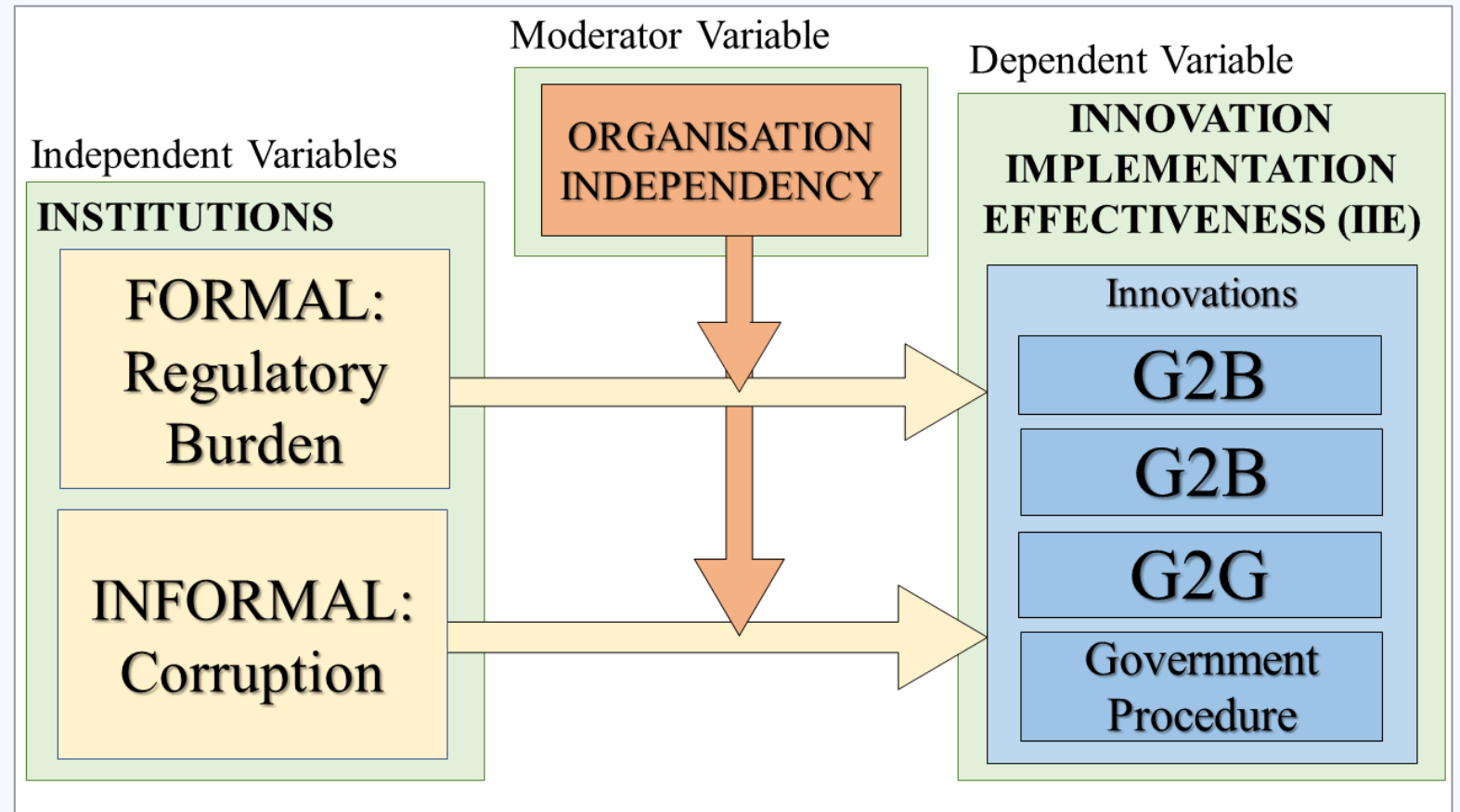## A Worldwide Customs Administrations' Study

JUENGE FILHO, ILMOR

OUTLINE

Aoyama Gakuin University
Graduate School of Business
SMIPRP

1. Conceptual Framework and Research Overview

2. Problem Statement

3. Research Questions

4. Literature Review

5. Research Design and Research Methods

6. Operationalised Conceptual Framework and Hypotheses

7. New Metric for IIE – 3S Metric

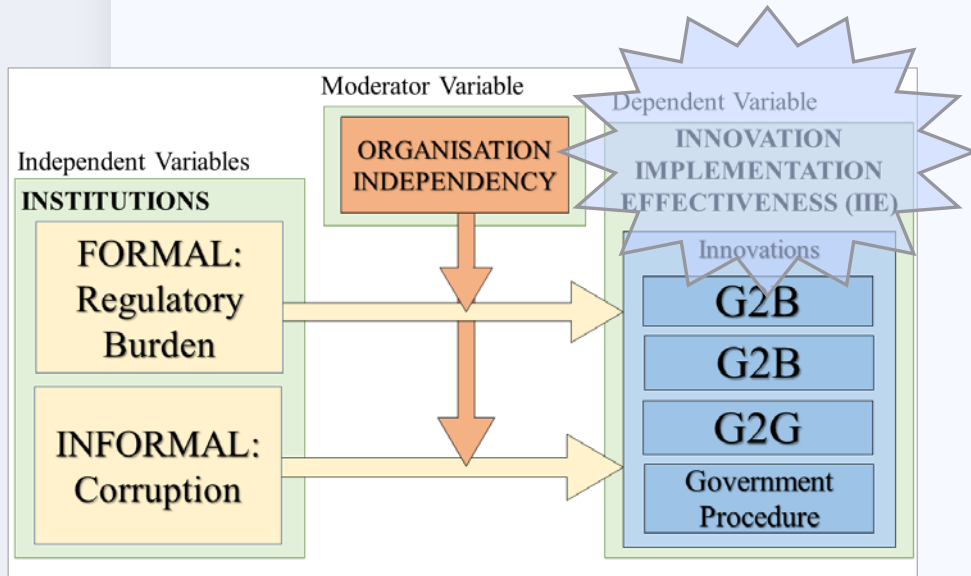8. Results, Findings and Recommendations

9. Future Research

CONCEPTUAL FRAMEWORK

Innovation Implementation Effectiveness: the Role of *Institutions* and *Organisational Independency*

RESEARCH OVERVIEW

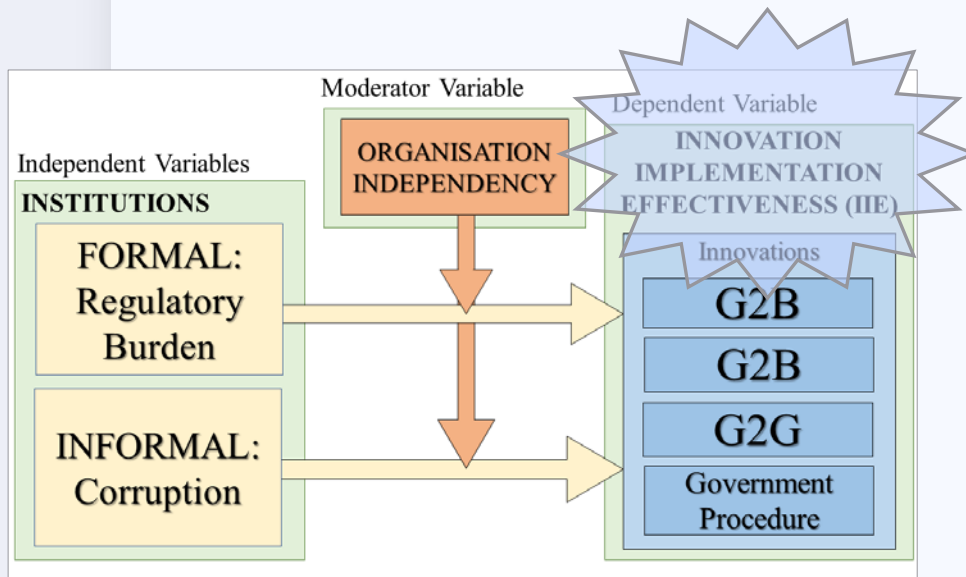This research is about Innovation Implementation Effectiveness (IIE).

CONCEPTUAL FRAMEWORK

.

RESEARCH OVERVIEW

This research is about **Innovation** Implementation Effectiveness (IIE).

CONCEPTUAL FRAMEWORK

Innovation: **idea, procedure, or object** perceived as new by the **unit of adoption.** *(Rogers, 2010)*

Unit of adoption: organisational level

RESEARCH OVERVIEW

This research is about Innovation Implementation Effectiveness (IIE).

➡️ ***It draws from the Institution-Based View (IBV; Peng et al., 2009) to explore the influence of institutional factors (if any) on public sector IIE.***
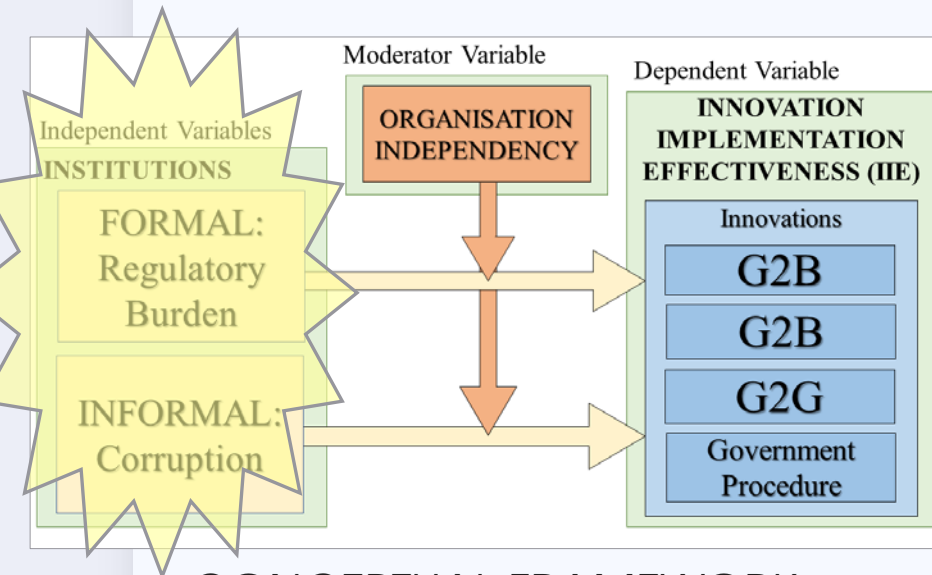

CONCEPTUAL FRAMEWORK

RESEARCH OVERVIEW

This research is about Innovation Implementation Effectiveness (IIE).

*It draws from the Institution-Based View (IBV; Peng et al., 2009) to explore the influence of **institutional factors** (if any) on public sector IIE.*
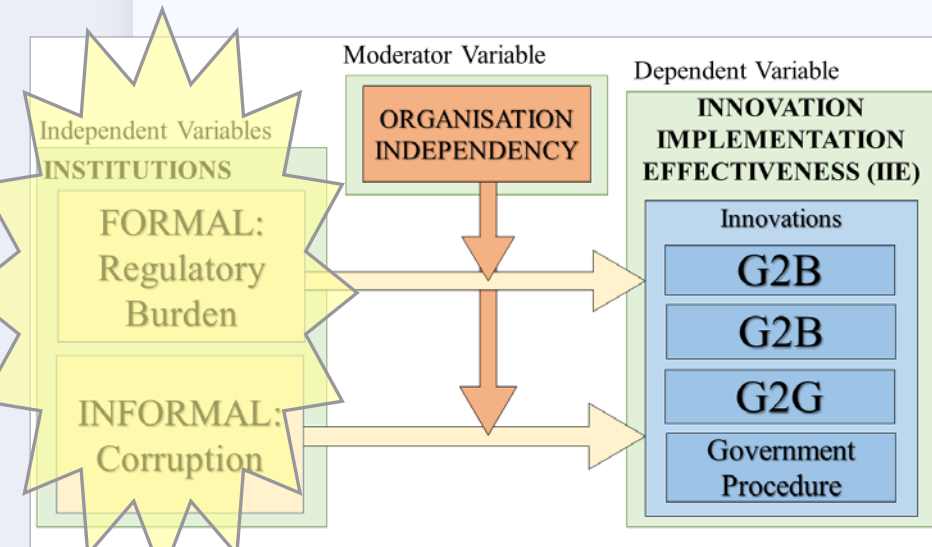
INSTITUTIONS: **society's rules of the game**
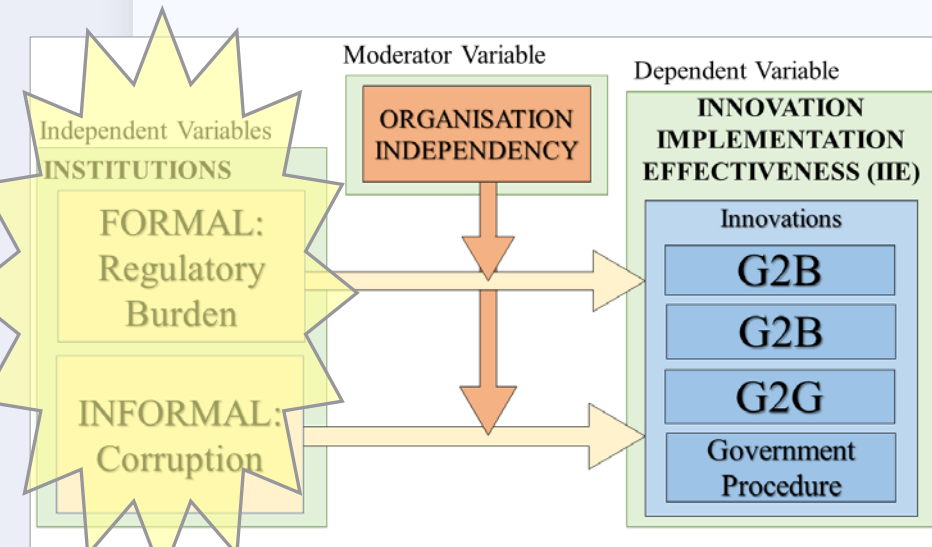
(Peng, 2002 cited North, 1990)

Formal institutions: the **written rules;** *legislation, law, contracts, court decisions (Peng, 2002 cited Scott, 1995)*
Informal institutions: **norms of behaviour** *incorporated in culture and ideology (Peng, 2002 cited Scott, 1995)*

CONCEPTUAL FRAMEWORK

RESEARCH OVERVIEW

Moderator Variable

ORGANISATION INDEPENDENCY

Dependent Variable

INNOVATION IMPLEMENTATION EFFECTIVENESS (IIE)

Independent Variables

INSTITUTIONS

FORMAL: Regulatory Burden

INFORMAL: Corruption

Innovations

G2B

G2B

G2G

Government Procedure

CONCEPTUAL FRAMEWORK

This research is about Innovation Implementation Effectiveness (IIE)

It draws from the Institution-Based View (IBV; Peng et al., 2009) to explore the influence of **_institutional factors_** *(if any) on public sector IIE.*

INSTITUTIONS: **society's rules of the game**

(Peng, 2002 cited North, 1990)

Formal institution: _Degree of Regulatory Burden_: the business regulations apparatus

Informal institution: _Degree of Corruption_: use of public power for private gain (Cuervo-Cazurra & Genc, 2008)

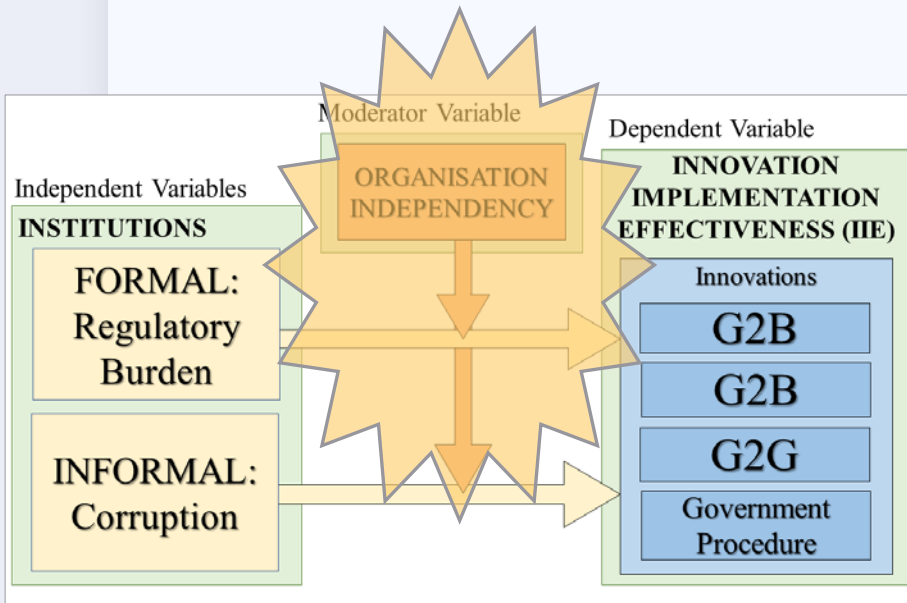# RESEARCH OVERVIEW

CONCEPTUAL FRAMEWORK

This research is about Innovation Implementation Effectiveness (IIE).

It draws from the Institution-Based View (IBV; Peng et al., 2009) to explore the influence of institutional factors (if any) on public sector IIE.

It also seeks to determine whether the Organisation Independency moderates the influence of institutions.
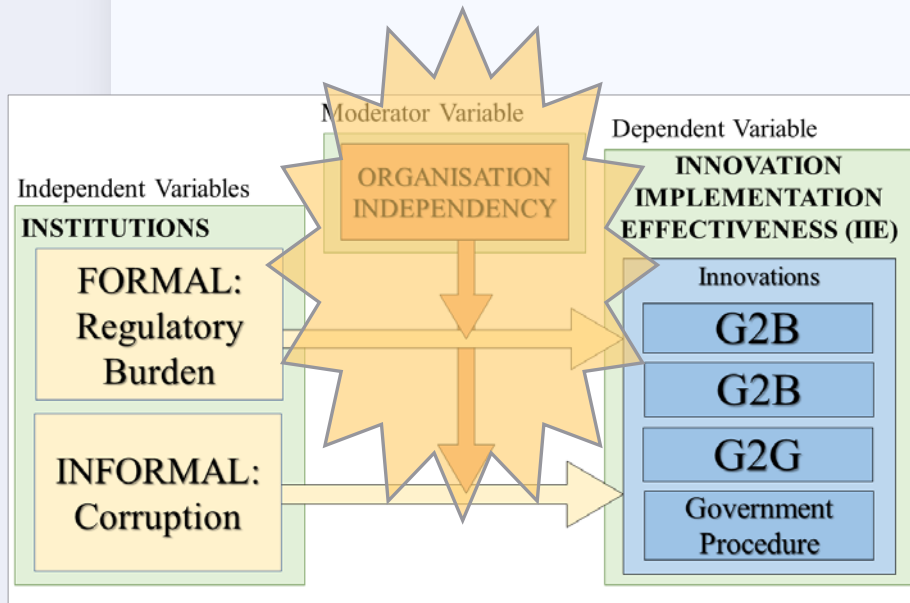
RESEARCH OVERVIEW

CONCEPTUAL FRAMEWORK

This research is about Innovation Implementation Effectiveness (IIE).

It draws from the Institution-Based View (IBV; Peng et al., 2009) to explore the influence of institutional factors (if any) on public sector IIE.

It also seeks to determine whether the **Organisation Independency** moderates the influence of institutions.

ORGANISATION INDEPENDENCY: is a Yes or No question, whether a public body is independent or not of the central administration or Ministry concerned, independents bodies are referred to as Agency *(Yasui, 2009;Yamamoto, 2006)*

RESEARCH OVERVIEW

CONCEPTUAL FRAMEWORK
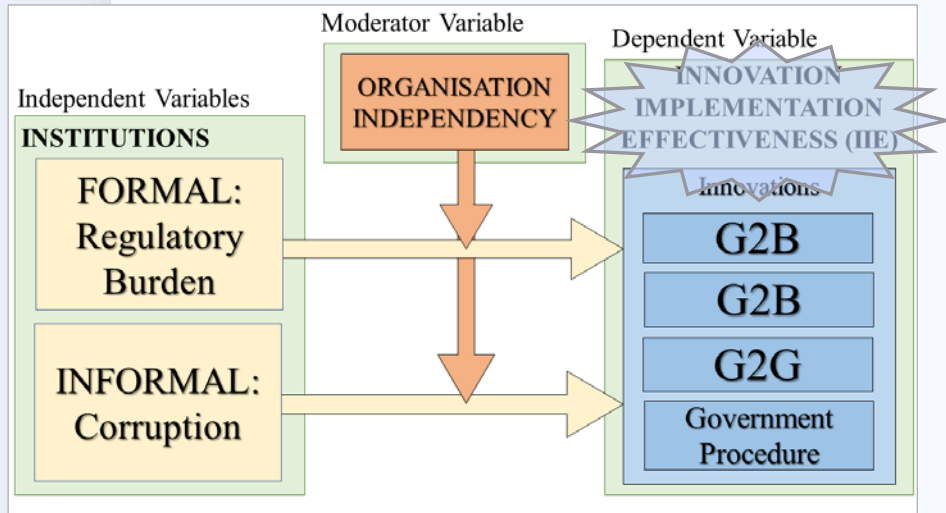
This research is about Innovation Implementation Effectiveness (IIE).

It draws from the Institution-Based View (IBV; Peng et al., 2009) to explore the influence of institutional factors (if any) on public sector IIE.
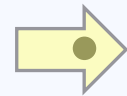
It also seeks to determine whether the Organisation Independency moderates the influence of institutions.

Finally, in this study a novel measure of IIE, named "3s metric", that combines the starting time, speed and the scope of the Innovation Implementation is defined and operationalised.
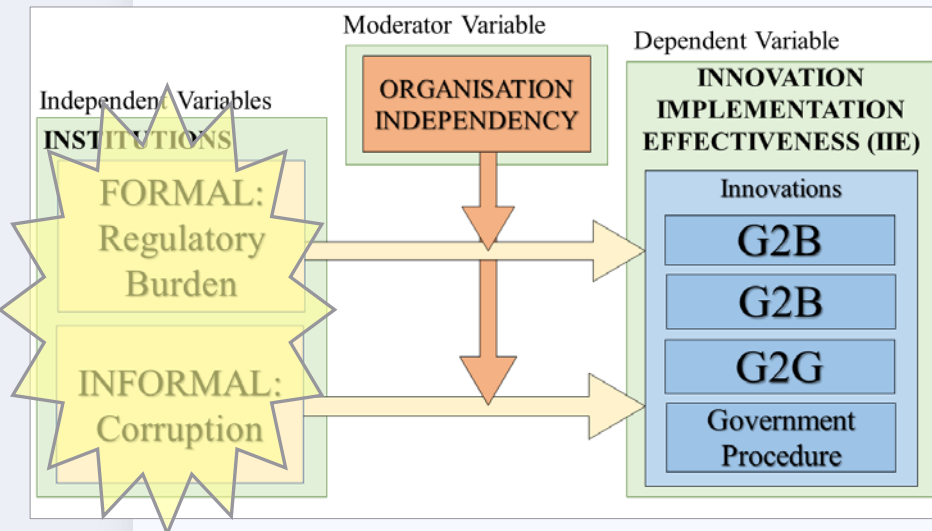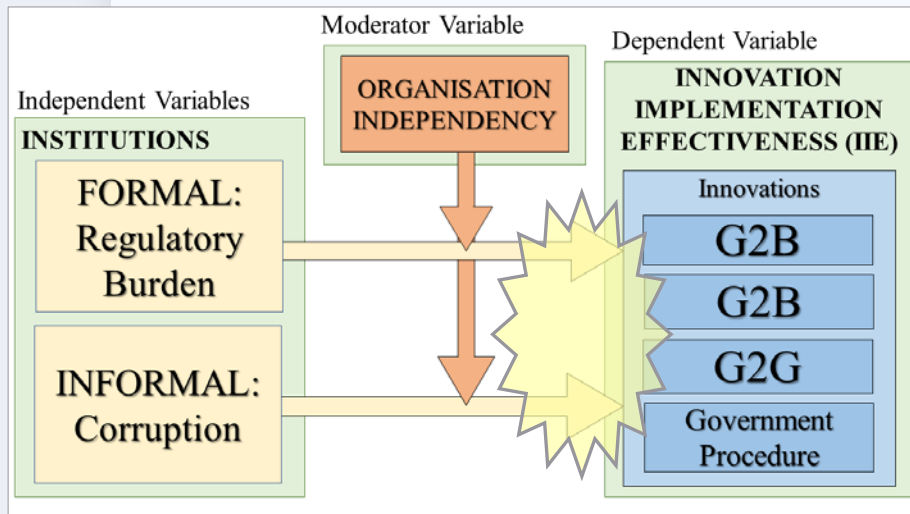
PROBLEM STATEMENT

CONCEPTUAL FRAMEWORK

Formal and Informal institutions play an essential role in the strategic decisions. However, are they also crucial for public sector IIE?

PROBLEM STATEMENT

- *Do institutions **matter** for public sector Innovation Implementation Effectiveness?*

CONCEPTUAL FRAMEWORK

PROBLEM STATEMENT

CONCEPTUAL FRAMEWORK

- *Do institutions matter for public sector Innovation Implementation Effectiveness?*

- ***Does Organisation Independency moderate the presumed influence of institutions on IIE?***

PROBLEM STATEMENT

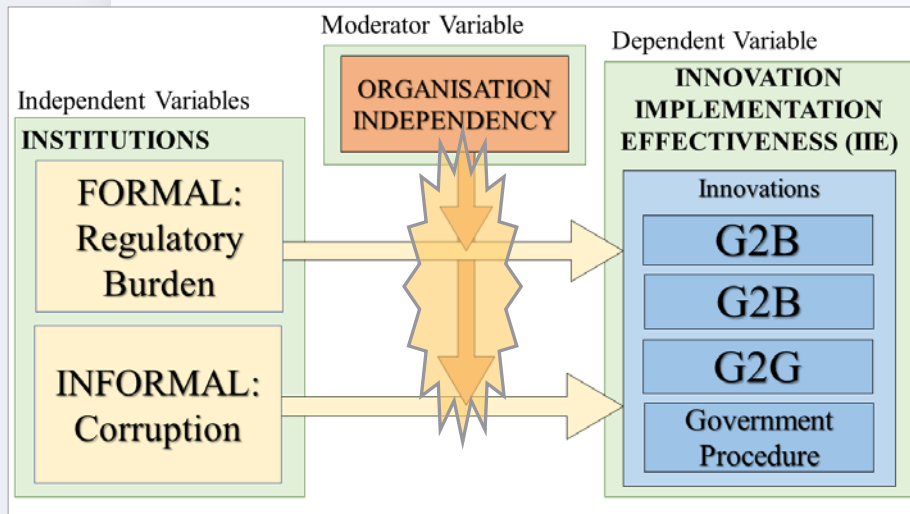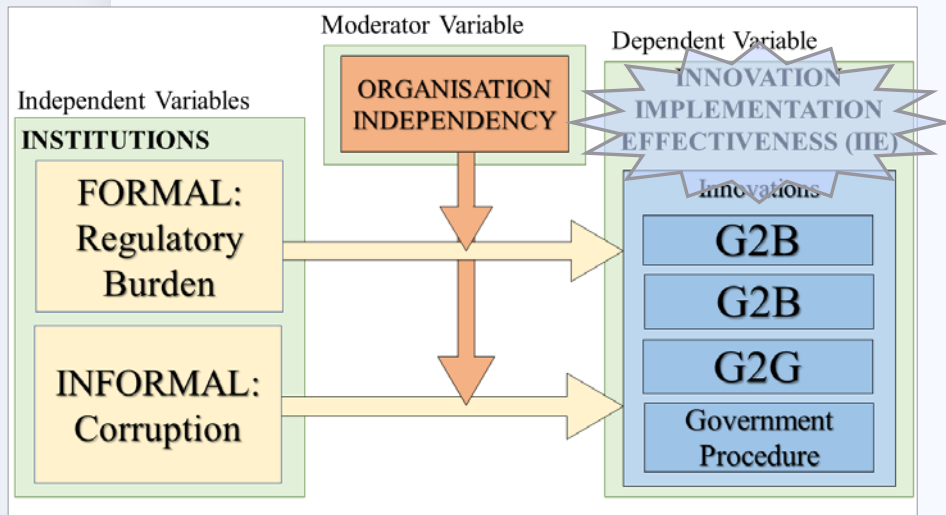

CONCEPTUAL FRAMEWORK

- *Do institutions **matter** for public sector Innovation Implementation Effectiveness?*

- *Does Organisation Independency **moderate** the presumed influence of institutions on IIE?*

- ***How to measure IIE using a combination of Starting time, Speed and Scope of implementation?***

RESEARCH QUESTIONS

⇨ **RQ #0:** *How might this research measure IIE capturing the Starting time, the Speed and the Scope?*
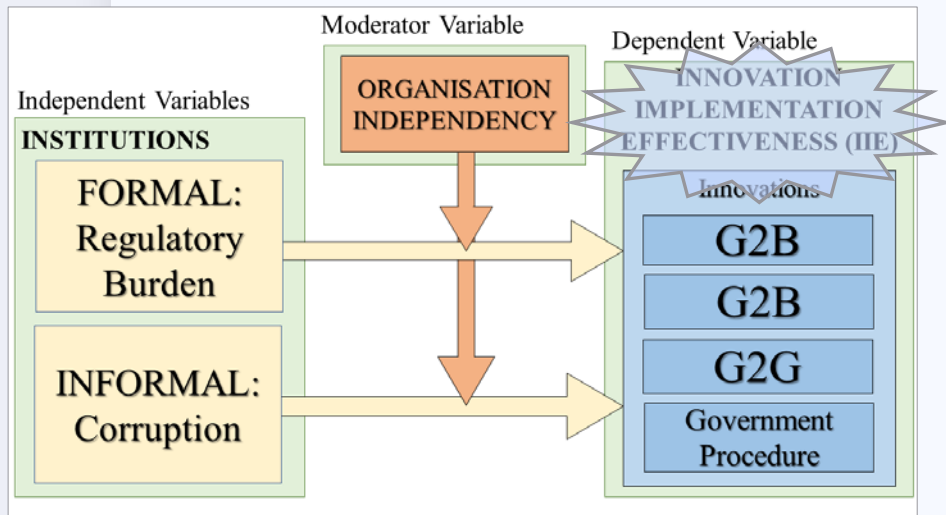
CONCEPTUAL FRAMEWORK

RESEARCH QUESTIONS

CONCEPTUAL FRAMEWORK

RQ #0: *How might this research measure IIE capturing the Starting time, the Speed and the Scope?*

RQ #1 and #2: *What is the **influence** of Regulatory Burden (1)and Corruption (2) on IIE?*

RESEARCH QUESTIONS
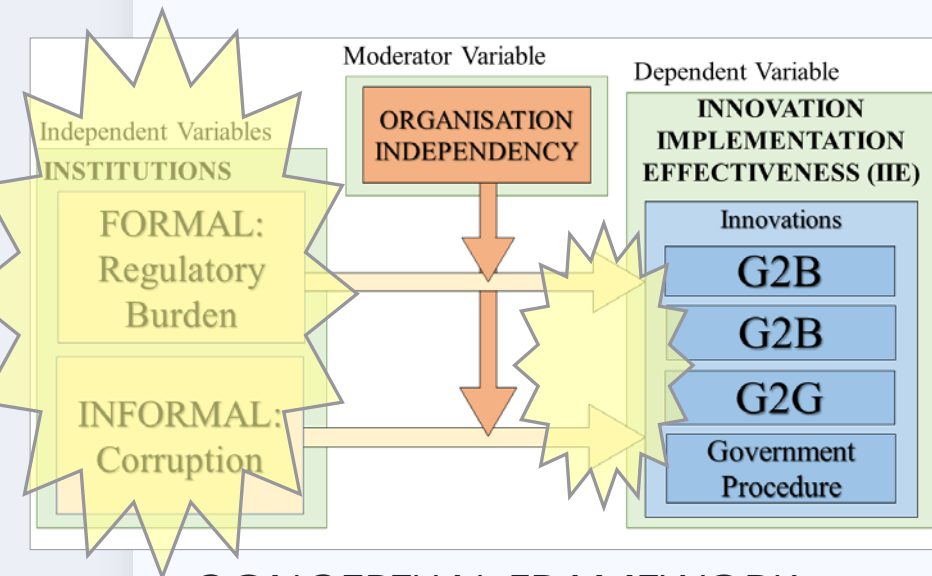

CONCEPTUAL FRAMEWORK

RQ #0: *How might this research measure IIE capturing the Starting time, the Speed and the Scope?*

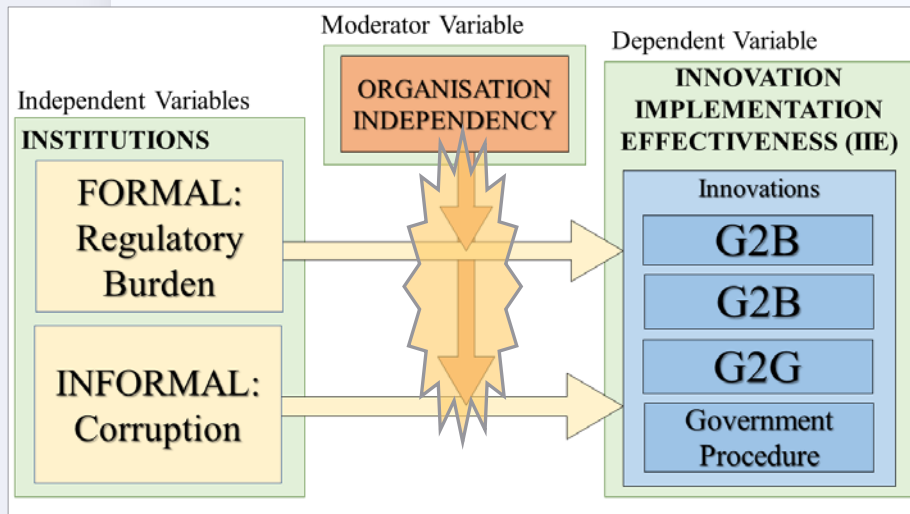*RQ #1 and #2:* *What is the influence of Regulatory Burden (1)and Corruption (2) on IIE?*

RQ #3a and #3b: *What is the impact of Organisation Independency on the influence of Regulatory Burden (3a) and Corruption (3b) on IIE?*

LITERATURE REVIEW

Institution-based view

Peng, M. W., Sun, S. L., Pinkham, B., & Chen, H. (2009). The institution-based view as a third leg for a strategy tripod.

New Public Management

Yamamoto, K. (2006). Performance of semi - autonomous public bodies: linkage between Autonomy and performance in Japanese agencies

Innovation Implementation

Klein, K. J., & Sorra, J. S. (1996). The challenge of innovation implementation.

Real, K., & Poole, M. S. (2005). Innovation implementation: Conceptualization and measurement in organizational research
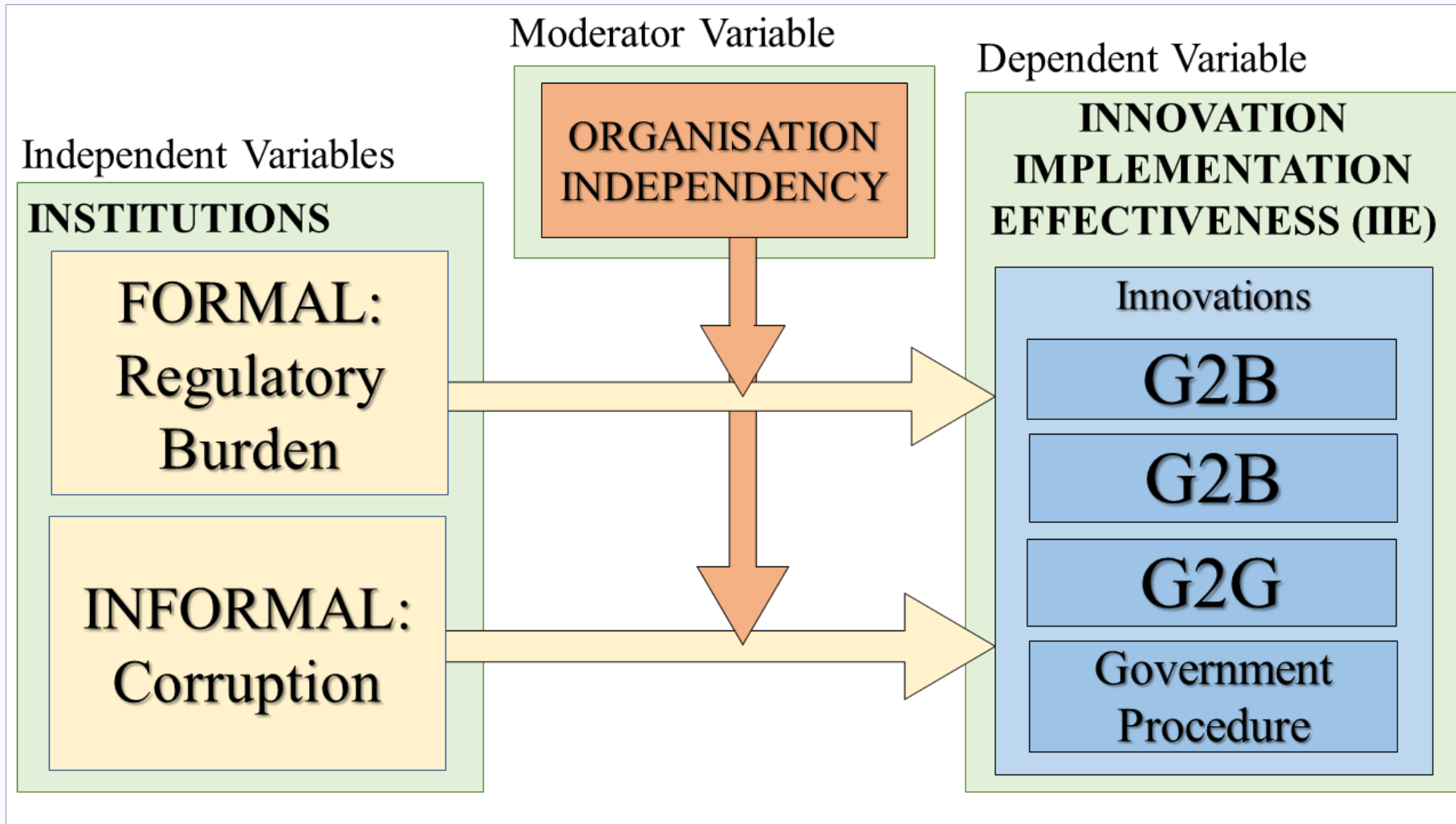
Conceptual Framework

Illustration of this Research's theories on the Conceptual Framework

INSTITUTION BASED VIEW

(Peng et al., 2009)

Independent
Variables

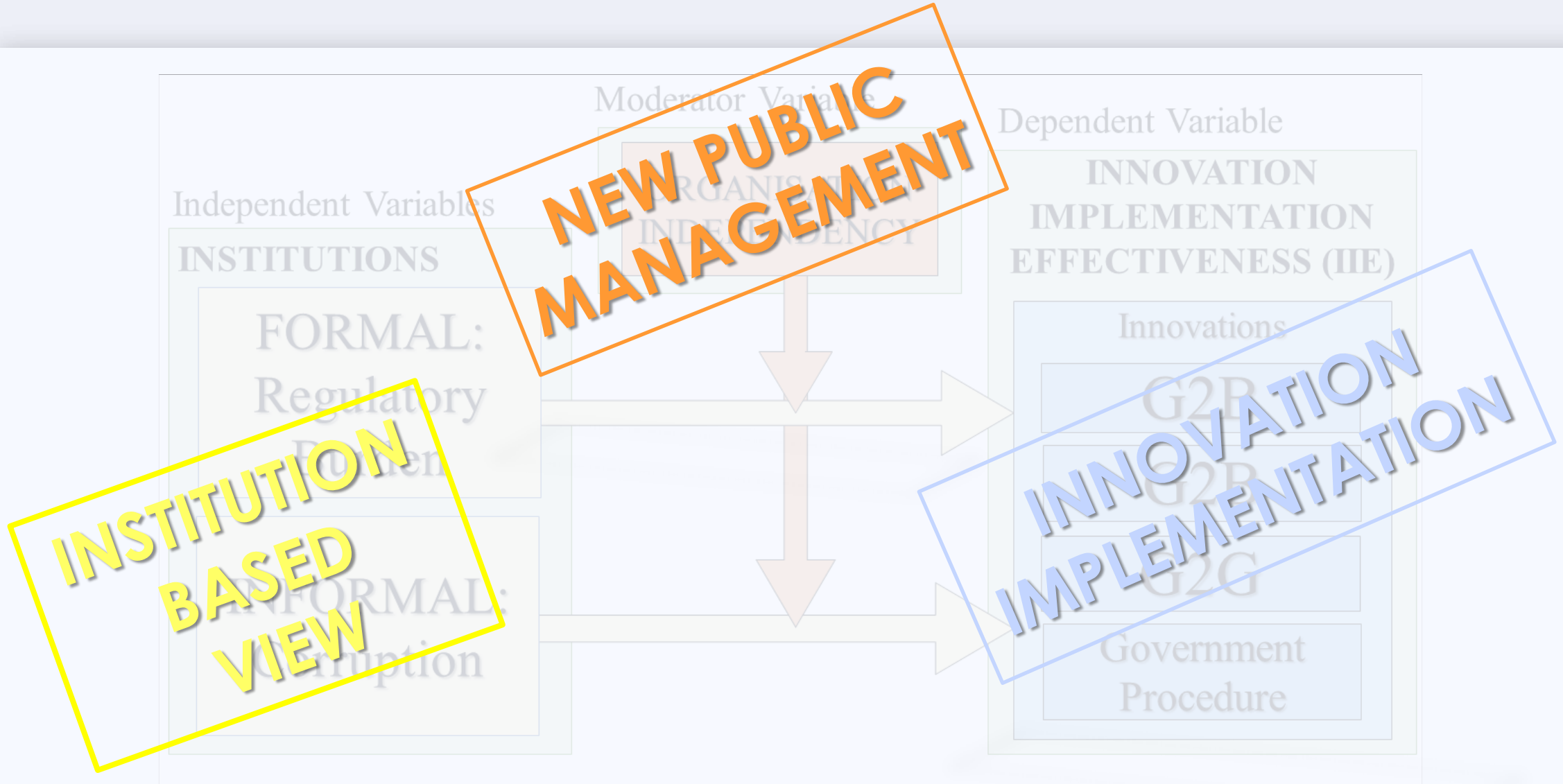- The main concept of the Institution-Based view is to treat the Institutions not only as the background to strategic decisions, but as one of the guiding conditions of the strategic decisions

- Allocate the Institutions as "independent variables"

NEW PUBLIC MANAGEMENT

(Yamamoto, 2006)

Moderator
Variable

- NPM is a theoretical construction that was the base of public sector reforms around the globe in 1990s.

- The agencification process is one of the guidelines of NPM.

- Agencification: creation of smaller units independent of central administration.

- The principle is to give more Autonomy to public bodies in return for performance

INNOVATION IMPLEMENTATION

(Klein & Sorra, 1996)

INNOVATION IMPLEMENTATION MEASUREMENT

(Real & Poole, 2005)
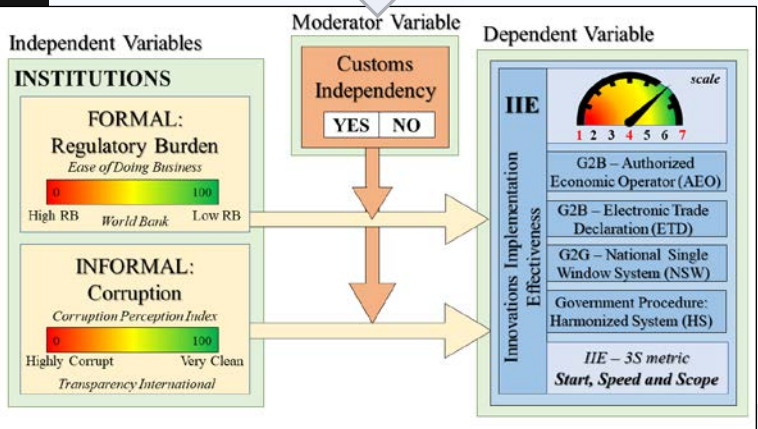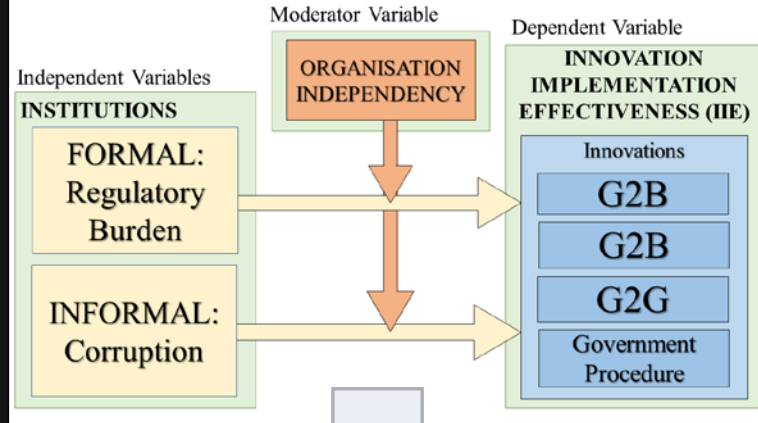
Dependent
Variable

- II is a complex process

- II is product of multiple factors with influence from different levels

- It is critical to pursue a sound, valid and accurate implementation measurement for the Innovation object of study

- There is a need for models and metrics for determining the degree to which an innovation has been implemented and the effectiveness of implementation

RESEARCH DESIGN AND RESEARCH METHODS

Conceptual Framework

Theoretical Level

Research Questions		Theories
Do institutions influence IIE?	Institution-Based view	
Does Organisation Independency moderate the influence?	New Public Management	
How measure IIE combining Starting time, Speed and the Scope?	IIE, Innovation and Change Management	

The realm for theoreticians, forecasts and academics

Research Design - STRATEGY:
Nonexperimental correlational design

Research Methods – TACTICS:
Quantitative Method
- Data Collection: secondary sources
  - Data Organisation
  - Data Operationalisation
- Data Analysis: Linear Regression

Connecting the Theoretical and Phenomenological levels via Research Design and Methods

Phenomenological Level

Concern	
Do Corruption and Regulatory Burden influence Customs IIE?	
Can the Customs Independency from the Ministry concerned moderate this influence ?	

The realm for practitioners ands managers

Operationalised Conceptual Framework

Adapted from Professor Sean M. Hackett, PhD

OPERATIONALISED CONCEPTUAL FRAMEWORK

CUSTOMS ENVIRONMENT

Independent Variables

INSTITUTIONS

FORMAL: Regulatory Burden
Ease of Doing Business

0 — 100

High RB   *World Bank*   Low RB

INFORMAL: Corruption
Corruption Perception Index

0 — 100

Highly Corrupt   Very Clean

Transparency International

Moderator Variable

Customs Independency

| YES | NO |

Dependent Variable

IIE

scale
1 2 3 **4** 5 6 **7**

Innovations Implementation Effectiveness

G2B – Authorized Economic Operator (AEO)

G2B – Electronic Trade Declaration (ETD)

G2G – National Single Window System (NSW)

Government Procedure: Harmonized System (HS)

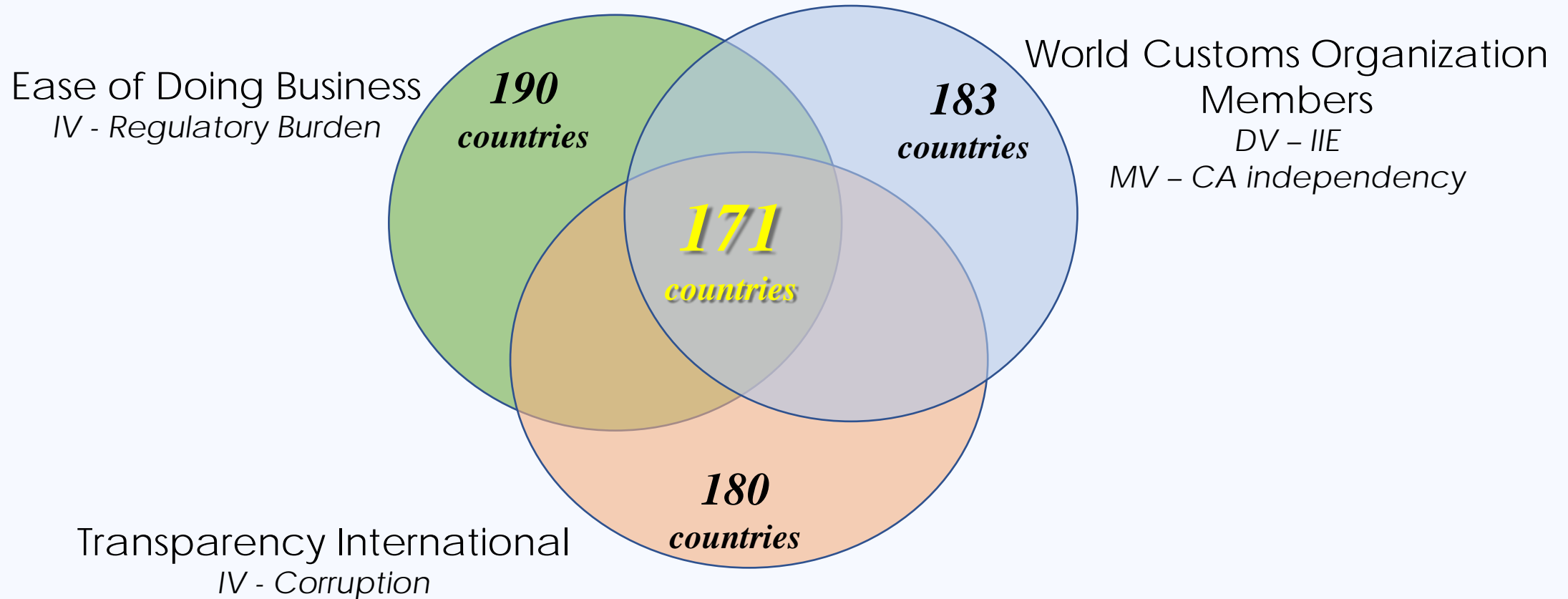*IIE – 3S metric*
Start, Speed and Scope

IVs: Institutions – Degrees of Regulatory Burden (Formal) and Corruption (Informal) in a country
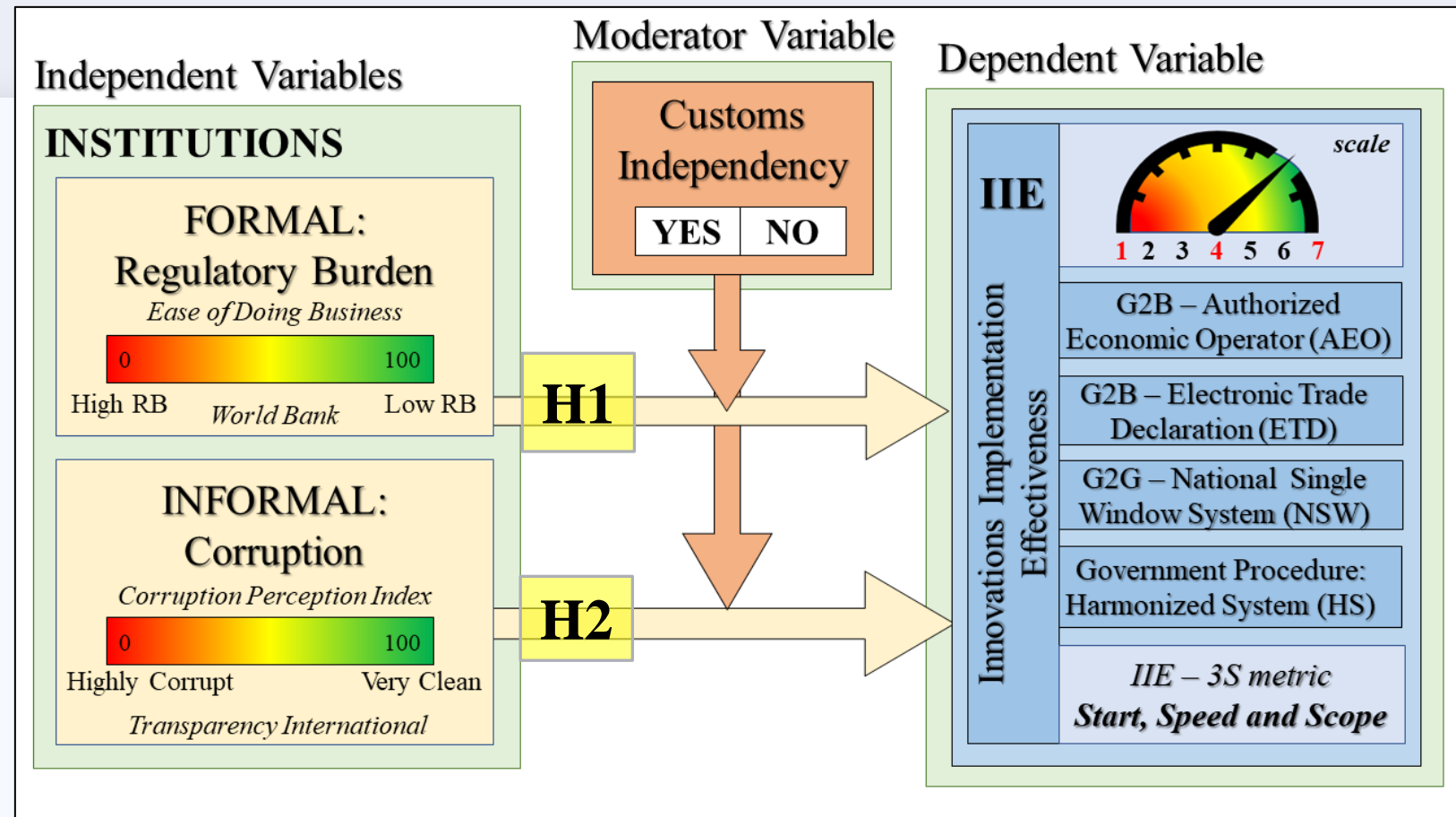MV: Customs Administration Independency from Ministry concerned
DV: IIIE Score of four Customs Innovations (Instruments and Tools)

DATA COLLECTION – DATABASE CONSTRUCTION
## POPULATION AND SAMPLE

Ease of Doing Business
IV - Regulatory Burden

190
countries

World Customs Organization Members
DV – IIE
MV – CA independency

183
countries

171
countries

180
countries

Transparency International
IV - Corruption

HYPOTHESES

H1: *There is a* ***positive linear*** *relationship between Regulatory Burden in a country and IIE*

H2: *There is a* ***positive linear*** *relationship between Corruption in a country and IIE*
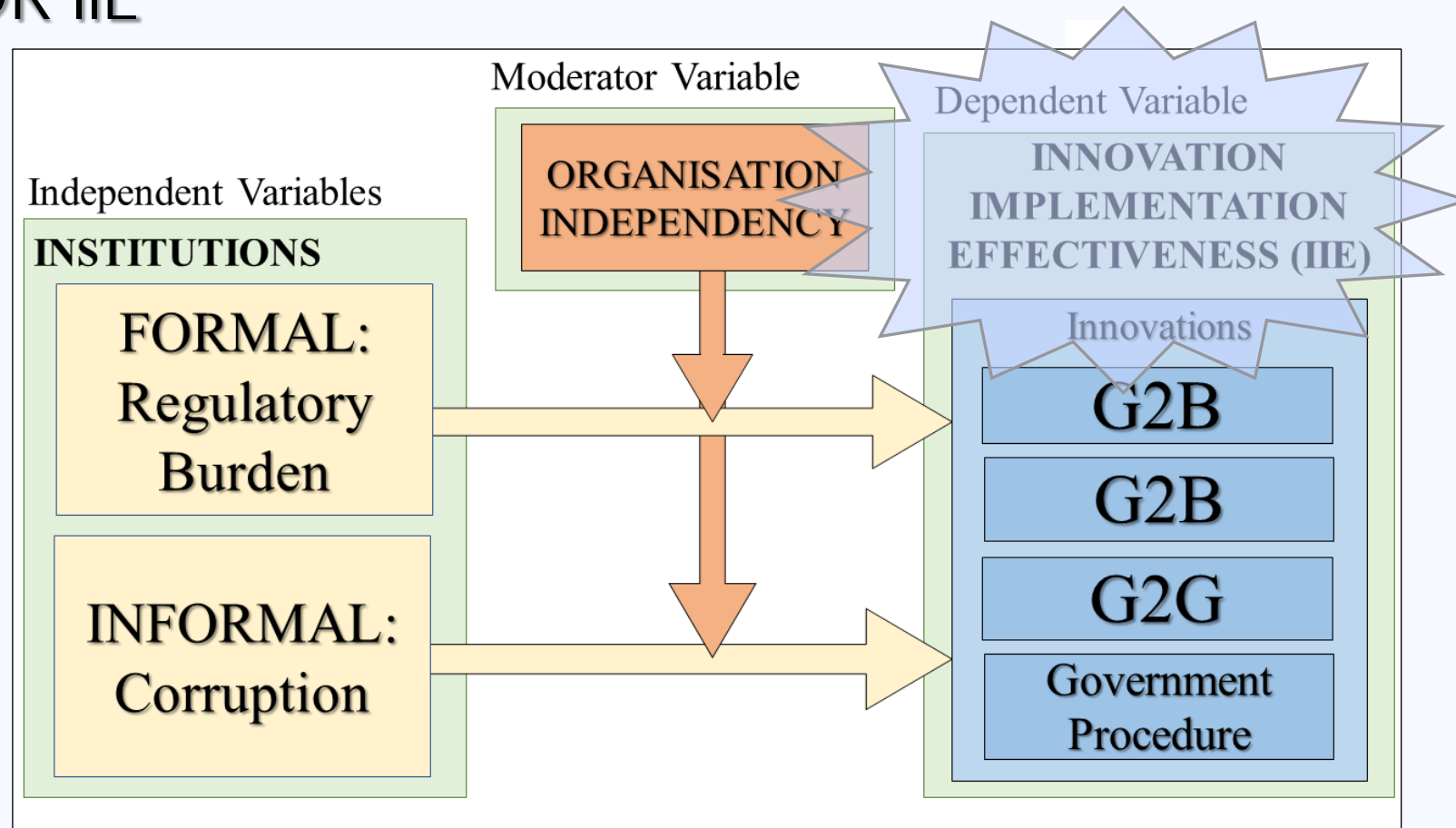
HYPOTHESES
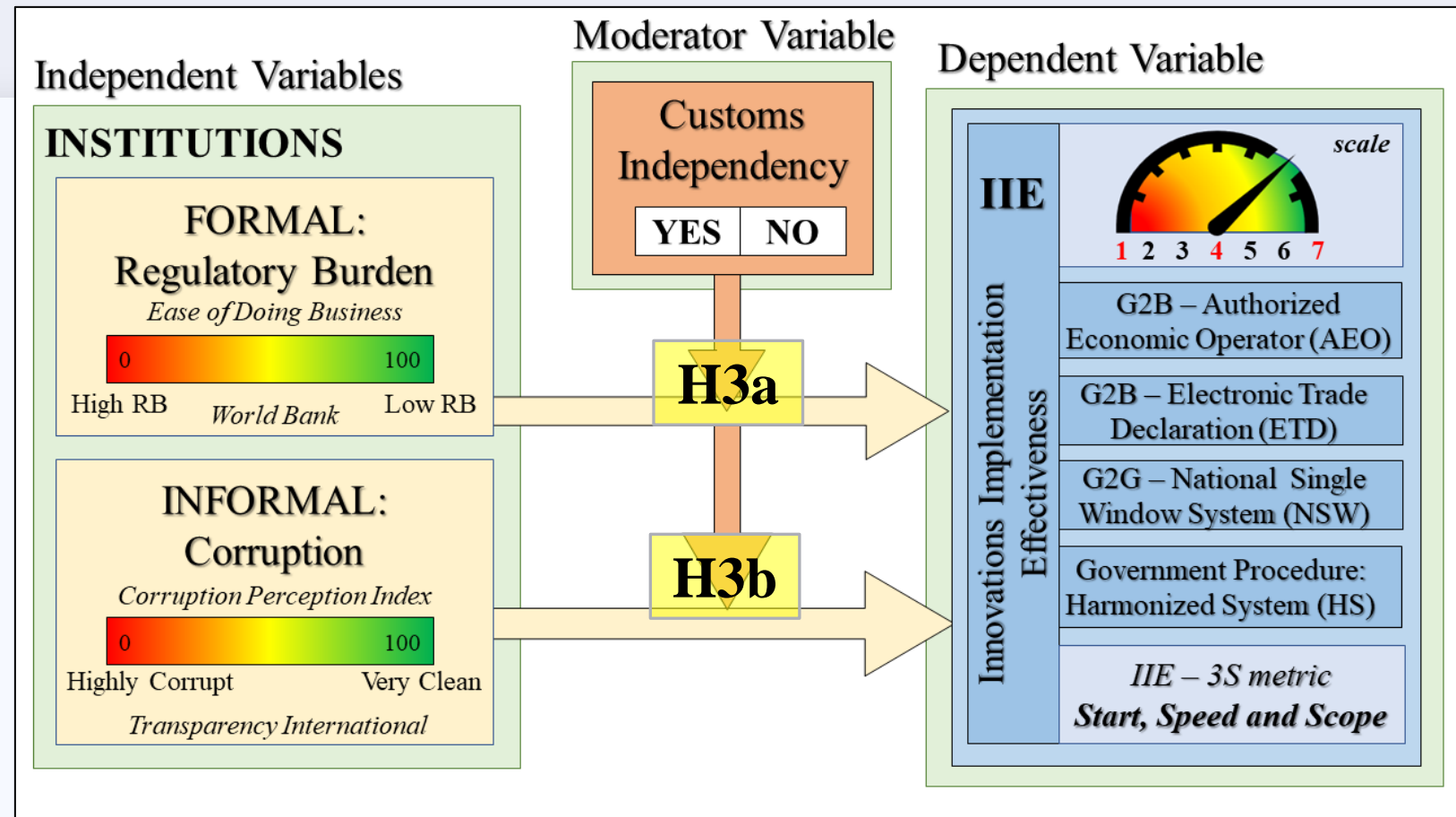
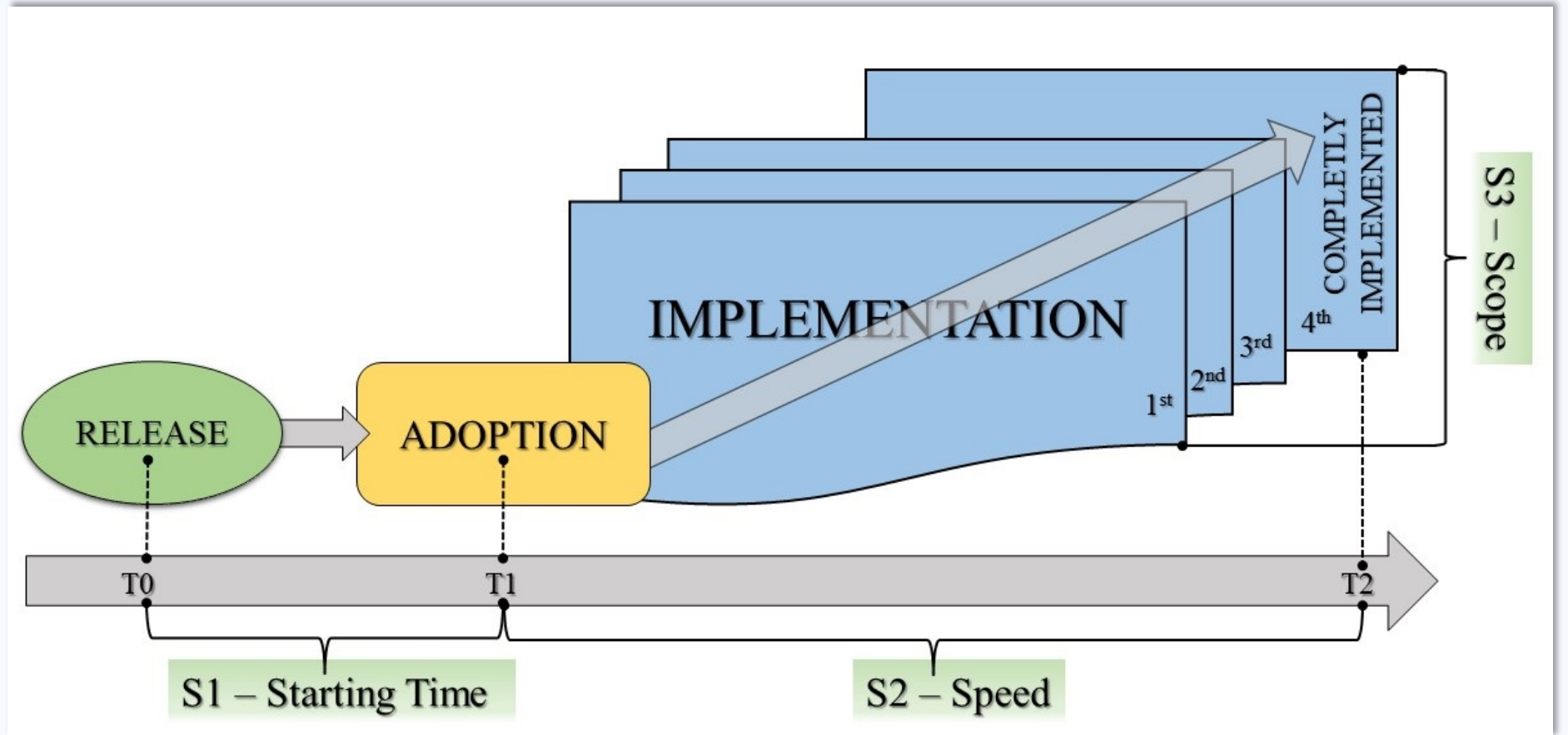**H3a:** *Organisation Independency **moderates** the relationship between Regulatory Burden and the IIE*

H3b: *Organisation Independency **moderates** the relationship between Corruption and the IIE*

RQ#0:
METRIC FOR IIE

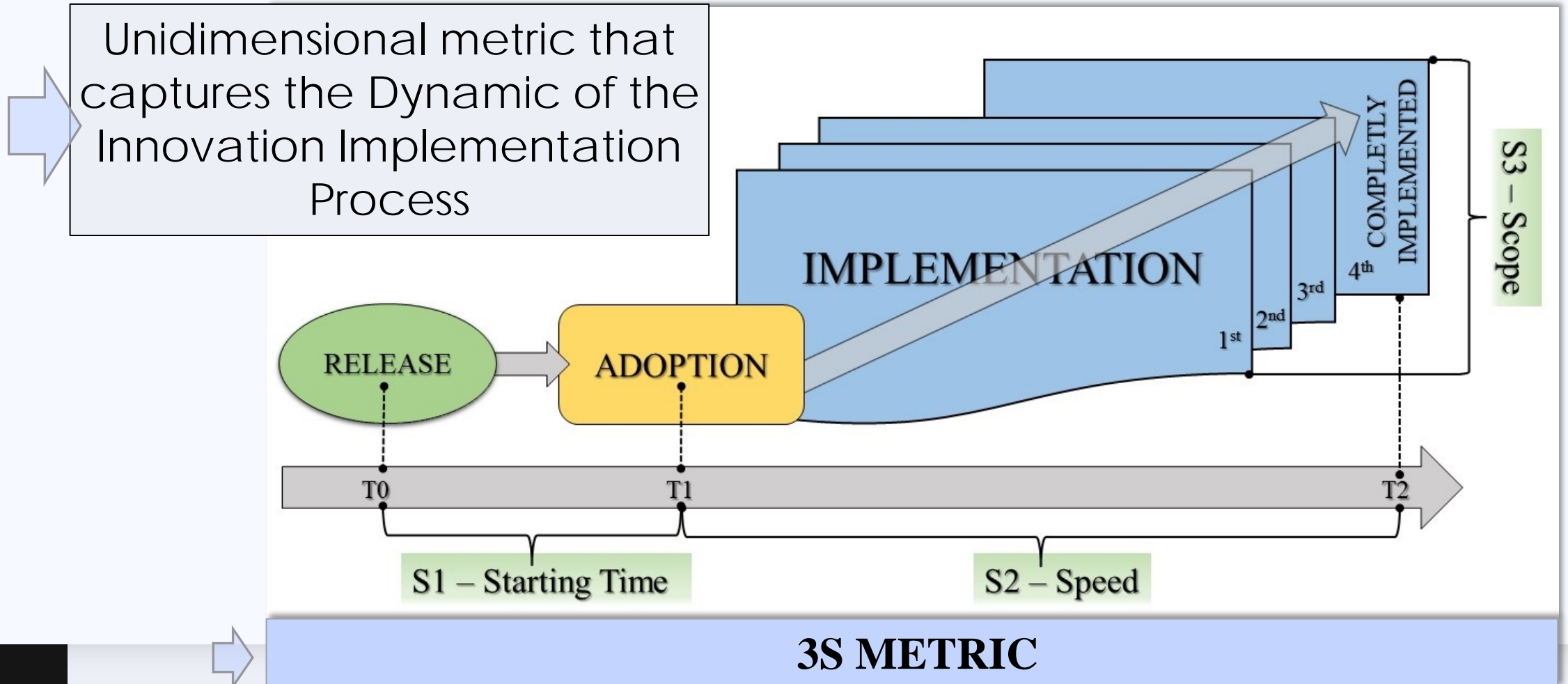# RQ#0: METRIC FOR IIE
3S METRIC
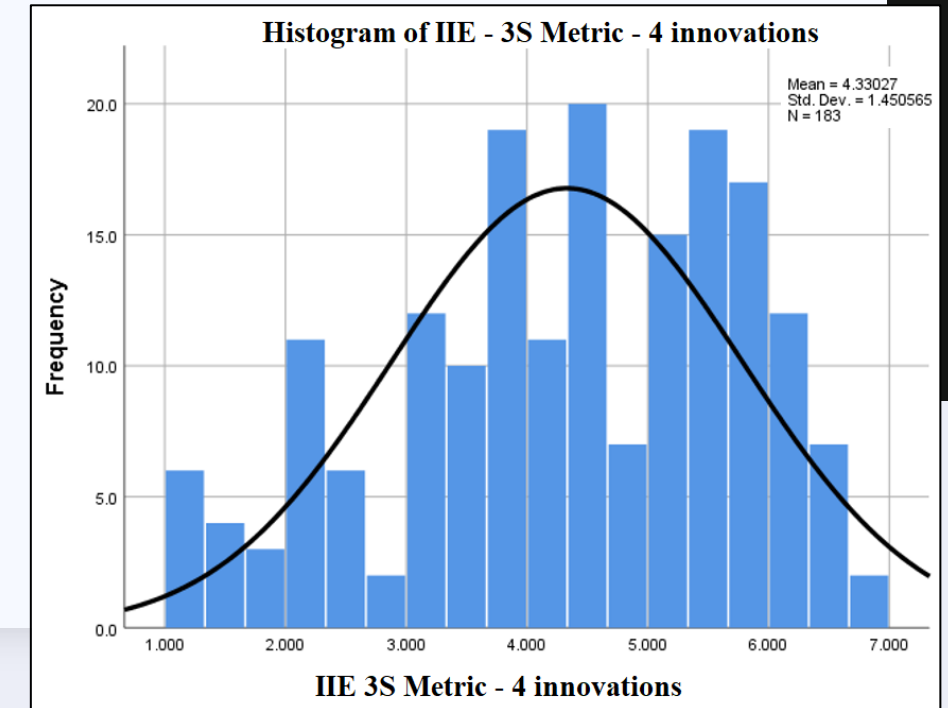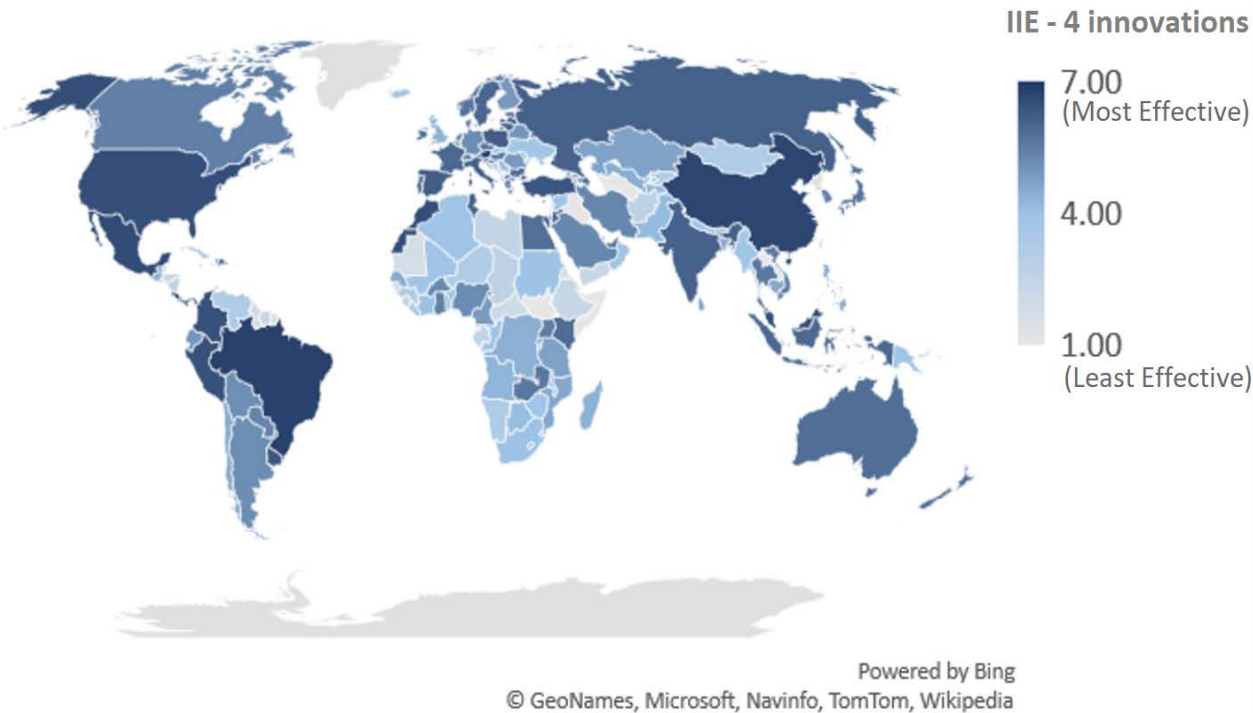
$$IIE = k + w1.S1 + w2.S2 + w3.S3$$

RQ#0: METRIC FOR IIE
3S METRIC

$$IIE = k + w1.S1 + w2.S2 + w3.S3$$

Unidimensional metric that captures the Dynamic of the Innovation Implementation Process

3S METRIC

RQ#0: 3S METRIC IN USE MEASUREMENT OF CUSTOMS IIE

- The metric successfully measured Customs IIE (N=183)
- Visual inspection for normality offers support for using the measurement
- Enable to proceed to run the statistical tests of the model

Customs IIE - Filled Map (N=183)

IIE - 4 innovations

7.00 (Most Effective)

4.00

1.00 (Least Effective)

Powered by Bing
© GeoNames, Microsoft, Navinfo, TomTom, Wikipedia

Histogram of IIE - 3S Metric - 4 innovations

Mean = 4.33027
Std. Dev. = 1.450565
N = 183

IIE 3S Metric - 4 innovations
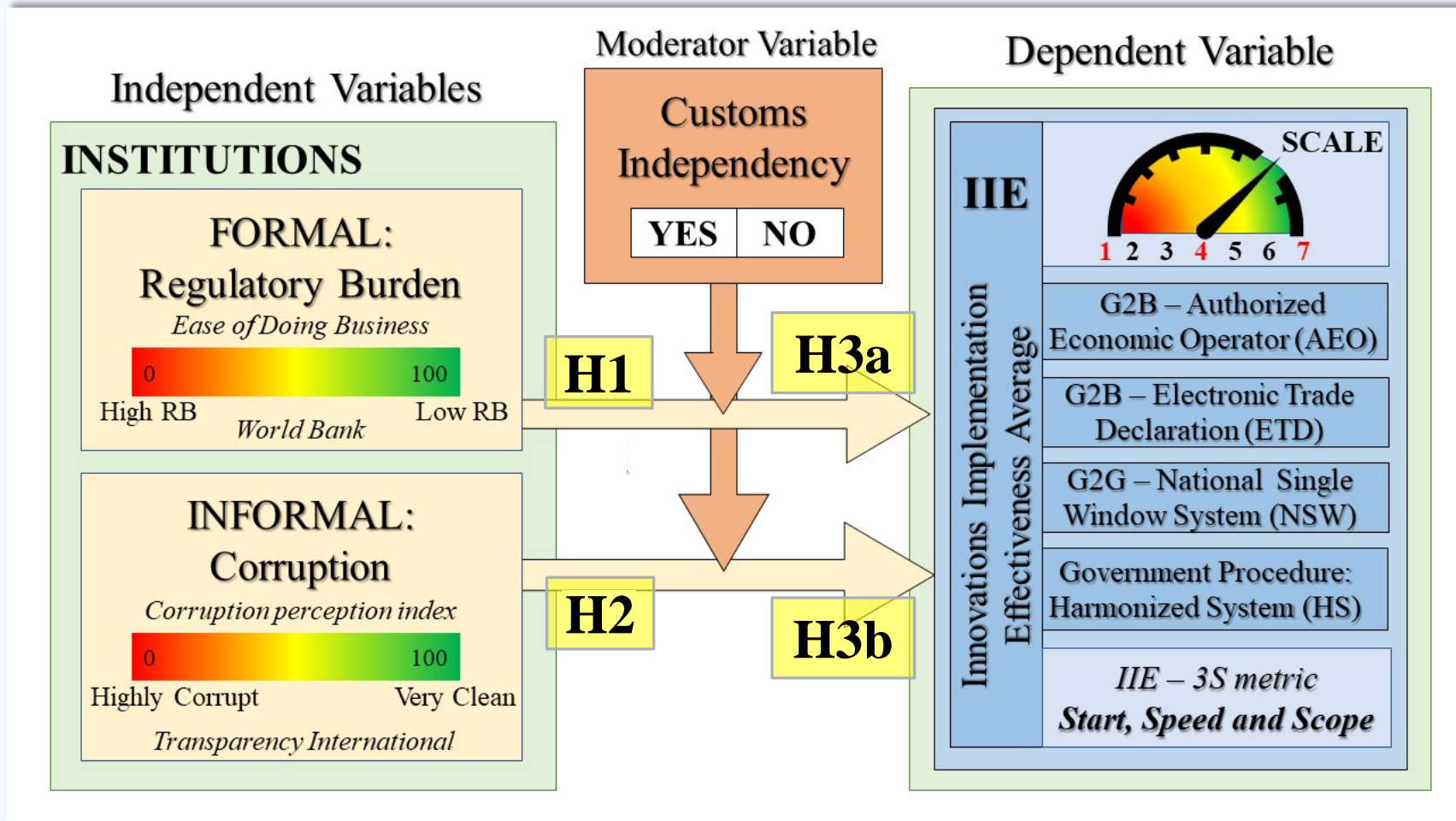
DATA ANALYSIS – LINEAR REGRESSION TO TEST THE MODEL

H1, H2:
Multiple
Linear
Regression
(MLR)

H3a, H3b:
Moderator
Multiple
Linear
Regression
(MMR)

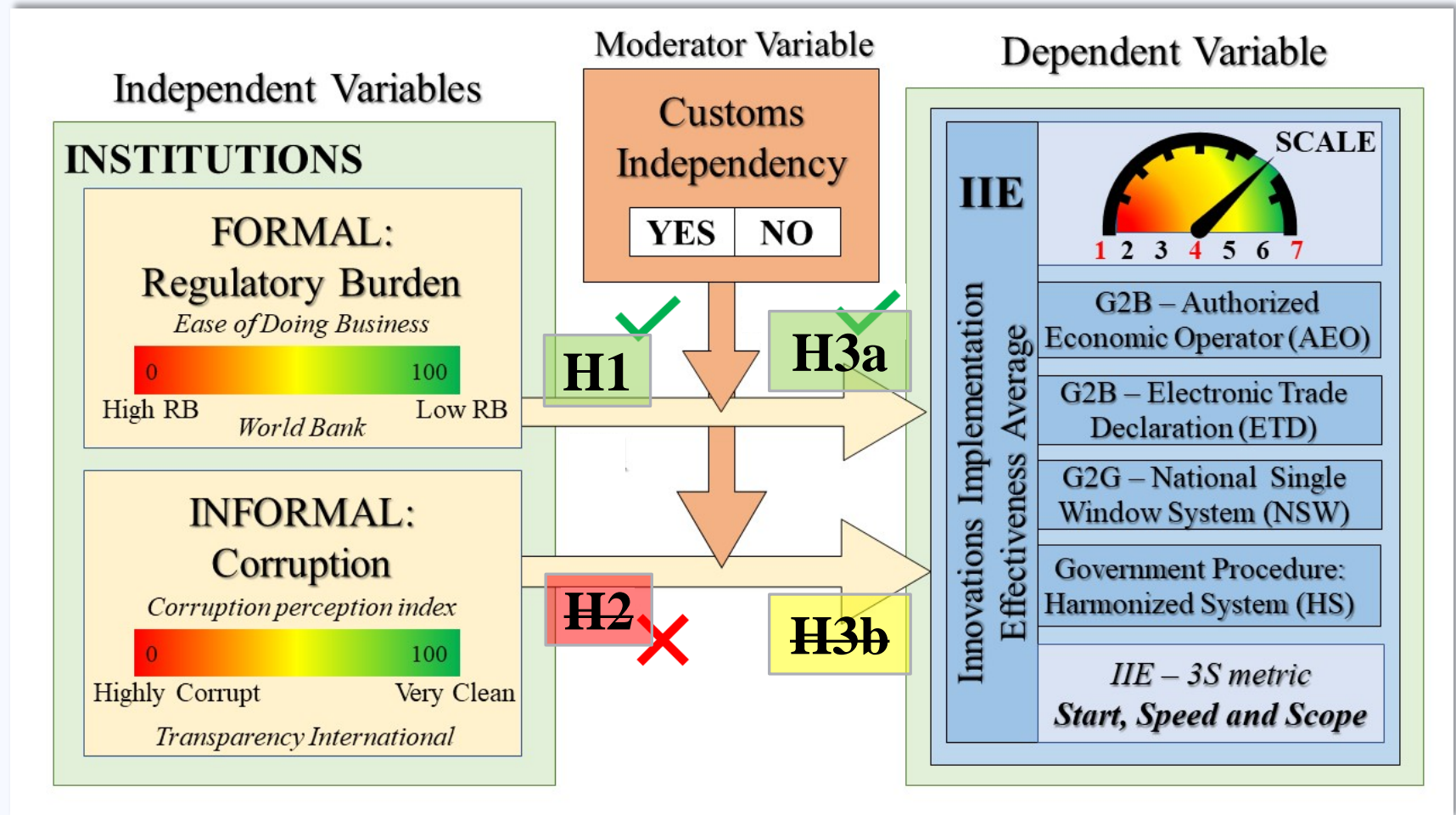*Operationalised Conceptual Framework*

RESULTS

H1: positive linear relationship supported (rejected the H1 null)

H2: H2 null no rejected

H3a: moderator effect supported (rejected the H3a null)

H3b: Not tested

Operationalised Conceptual Framework

RQ#1 and RQ#2: FINDINGS

H1/RQ1: The lower is the Regulatory Burden in a country, the more effective the Customs Innovations are implemented.

H2/RQ2: The relationship is not important; that is, besides having no statistical significance, Corruption has a lower magnitude of influence
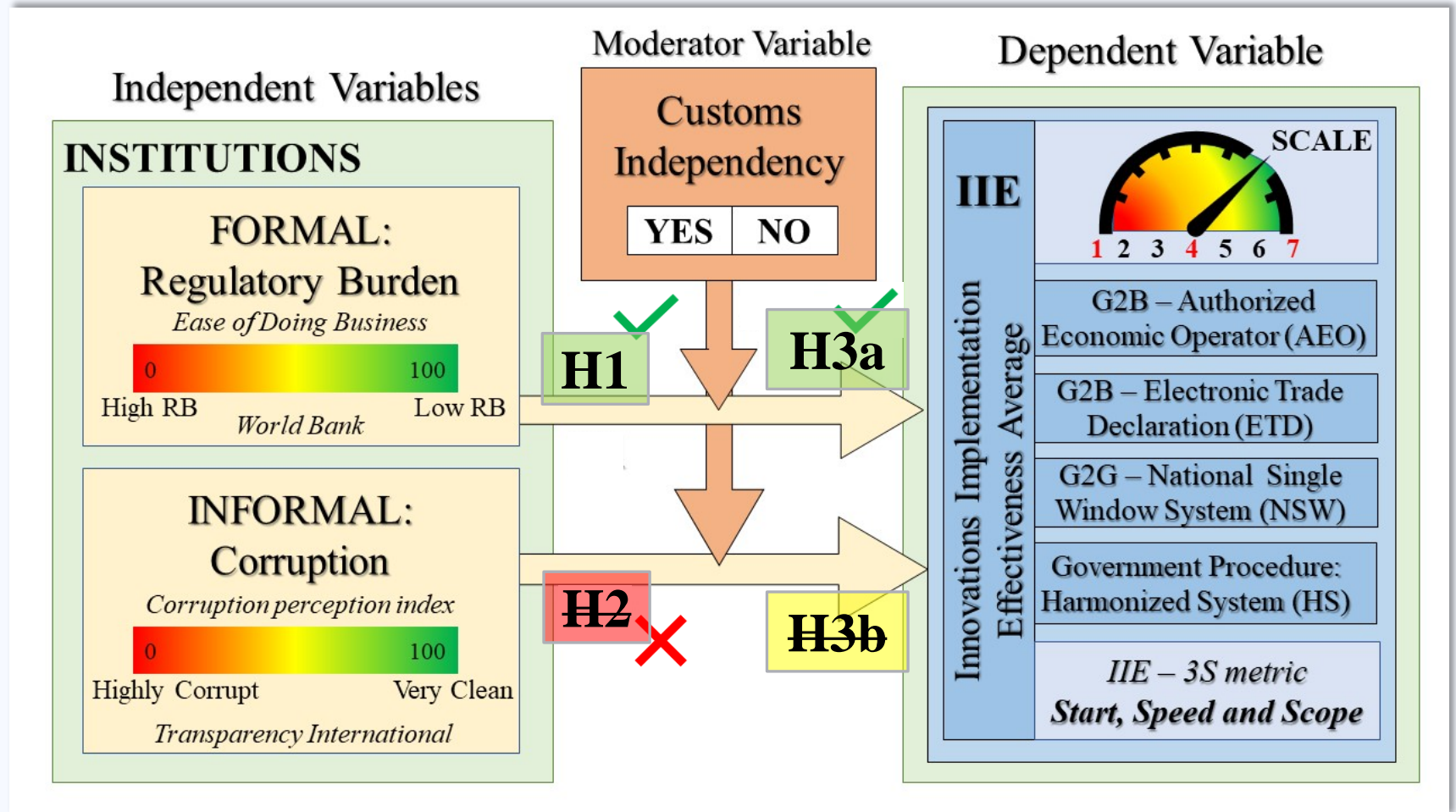
Operationalised Conceptual Framework

RQ#1: FINDINGS – REGULATORY BURDEN

IIE score predicted for different levels of Regulatory Burden using the model obtained by the linear regression

Independent Variable

FORMAL INSTITUTION Regulatory Burden (RB)

scale

0   100

High RB   Low RB

LOW LEVEL (RB Index = 75)

MEDIUM LEVEL (RB Index = 50)

HIGH LEVEL (RB Index = 25)

Dependent Variable

INNOVATION IMPLEMENTATION EFFECTIVENESS (IIE)

scale
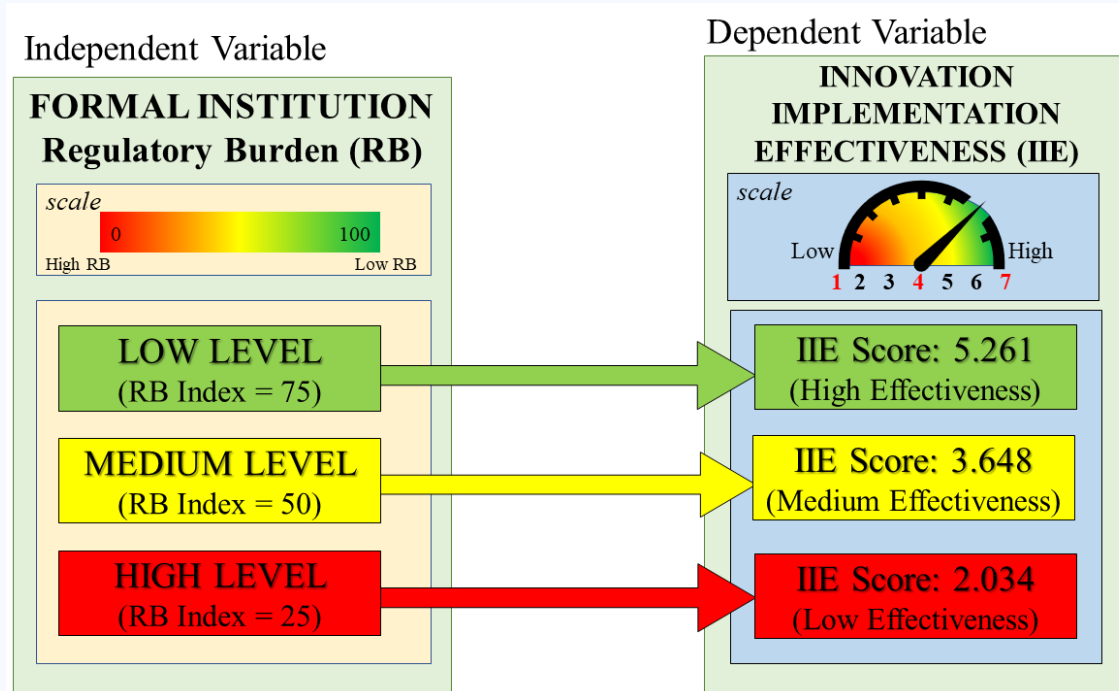
Low   High
1 2 3 4 5 6 7

IIE Score: 5.261 (High Effectiveness)

IIE Score: 3.648 (Medium Effectiveness)

IIE Score: 2.034 (Low Effectiveness)

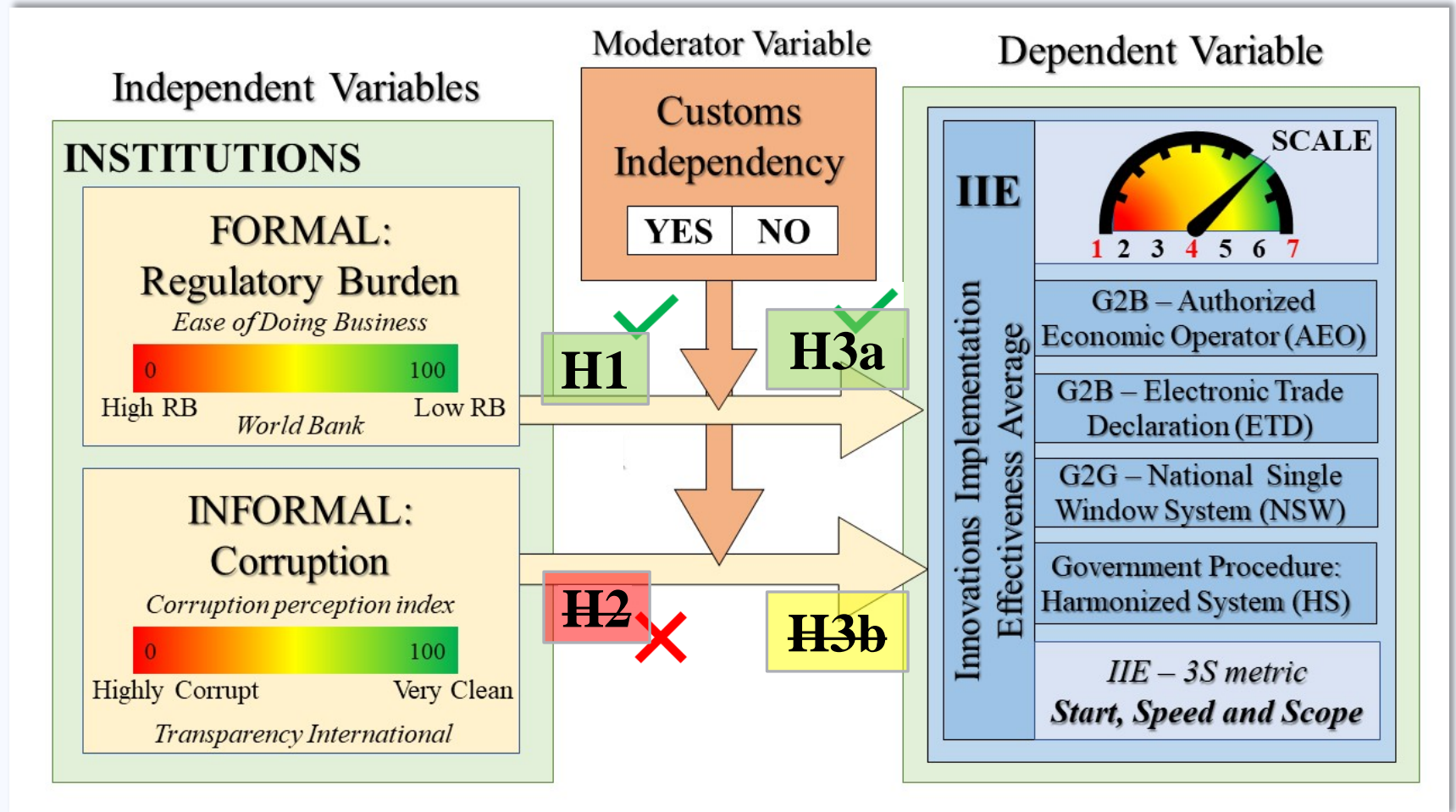# RQ#1: RECOMMENDATIONS – REGULATORY BURDEN

If policy officials in countries with a high level of Regulatory Burden <u>work to lower the level of Regulatory Burden</u>, then they can reasonably expect to <u>increase IIE</u>, that is, a more effective implementation of the Innovations

RQ#3a and RQ#3b: FINDINGS

H3a/RQ3a:
The independency of Customs Administration moderates the influence of the Regulatory Burden influence on IIE, that is, Independent Organisations are less sensitive to changes in the Regulatory Burden

H3b/RQ3b: Not tested. No support to the influence of Corruption on IIE (H2)

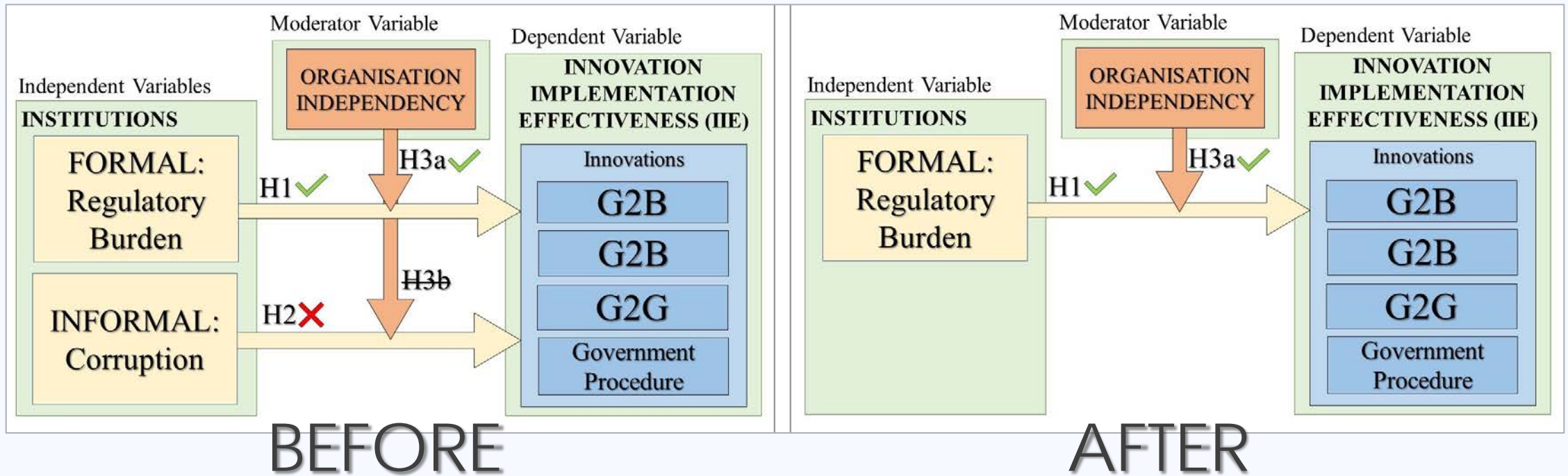*Operationalised Conceptual Framework*

RQ#3a: RECOMMENDATION – MODERATOR EFFECT
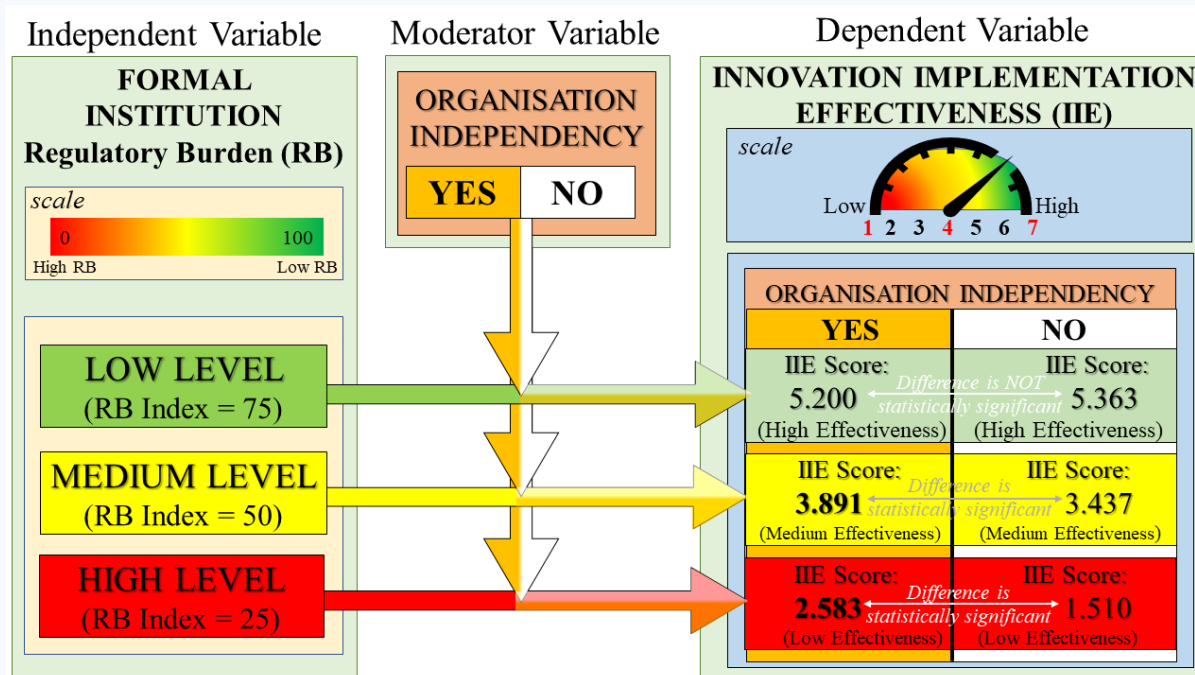
If policy officials in countries with a high level of Regulatory Burden alternatively create independent organisations (Agencies), then they can reasonably expect to achieve a higher IIE for these organisations, that is, a more effective implementation of the Innovations in comparison to the non-independent counterparts

CONCEPTUAL FRAMEWORK

BEFORE

AFTER

FUTURE RESEARCH

❖ Explore Corruption using a more diverse organisations profile;

❖ Test moderator effect in different conceptual framework for a better understanding of how it operates;

❖ Replication of this research in other (non-Customs) contexts;

❖ The new metric developed to measure the IIE, as operationalised in this study, could be improved and have its <u>nomological validity tested</u>;

REFERENCES

Cuervo-Cazurra, A., & Genc, M. (2008). Transforming disadvantages into advantages: Developing-country MNEs in the least developed countries. *Journal of international business studies, 39*(6), 957-979

Klein, K. J., & Sorra, J. S. (1996). The challenge of innovation implementation. *Academy of management review, 21*(4), 1055-1080.

Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four stage model. *Government information quarterly, 18*(2), 122-136.

Peng, M. W. (2002). Towards an institution-based view of business strategy. *Asia Pacific Journal of Management, 19*(2-3), 251-267.

Peng, M. W., Sun, S. L., Pinkham, B., & Chen, H. (2009). The institution-based view as a third leg for a strategy tripod. *Academy of Management Perspectives, 23*(3), 63-81

Real, K., & Poole, M. S. (2005). Innovation implementation: Conceptualization and measurement in organizational research. In Research in organizational change and development. Emerald Group Publishing Limited.

Rogers, E. M. (2010). Diffusion of innovations. Simon and Schuster.

Yamamoto, K. (2006). Performance of semi - autonomous public bodies: linkage between Autonomy and performance in Japanese agencies. *Public Administration and Development: The International Journal of Management Research and Practice, 26*(1), 35-44.

Yasui, T., (2009, December). Cooperation between Customs and Tax Administrations: Lessons learned from Revenue Authorities (WCO Research Paper No.5).

Aoyama Gakuin University
Graduate School of Business
SMIPRP

ありがとう

EMAIL
ILMORJF@GMAIL.COM