

MCMC RESEARCH SYMPOSIUM SERIES NO. 9:

SECURITY AND PRIVACY CHALLENGES OF BIG DATA ADOPTION: A CASE STUDY IN THE TELECOMMUNICATION INDUSTRY

LEAD RESEARCHER:

Dr. Syarulnaziah Anawar
Universiti Teknikal Malaysia Melaka
(UTeM)

TEAM MEMBERS:

1. Assoc. Prof. Dr. Siti Rahayu Selamat (UTeM)
2. Dr. Nur Fadzilah Othman (UTeM)
3. Dr. Norharyati Harum (UTeM)
4. Zakiah Ayop (UTeM)

Introduction

Motivation of Study

1. **Data Subjects:** Risk of privacy infringement, where:
 - Users will be left with no real option in data sharing and in turn undermining their autonomy
 - Carries an inherent risk of digital inequality.
2. **Data users:** Security and privacy challenges to the service provider and data users due to high volume, velocity, and variety of big data characteristics.

Significance of Study

1. Identify the perceived risk and implications big data adoption in telecommunication industry, and assess the reasonable mitigation strategies in the context of data sharing for big data purposes.
2. Serve as recommendations to the decision-makers and developers to design a secure and fully ethical compliant big data solution in the telecommunication industry.
3. Increase and maintain public trust with the government and telecommunication provider initiatives for the data-driven Government service delivery system under the Eleventh Malaysia Plan (11MP).

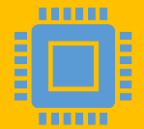
Research Objective



Investigate perspectives of telecommunications data users in addressing privacy and security issues. Perspectives sought shall include perceived risks and mitigation, industry and/or internal standards being applied process and modes of redress for data subjects, and compliance requirements.



Investigate perspectives of data subjects (telecommunication users and subscribers) on issues pertaining to privacy and security issues and correlation with take up and continued use of applications and services utilising Data Analytics



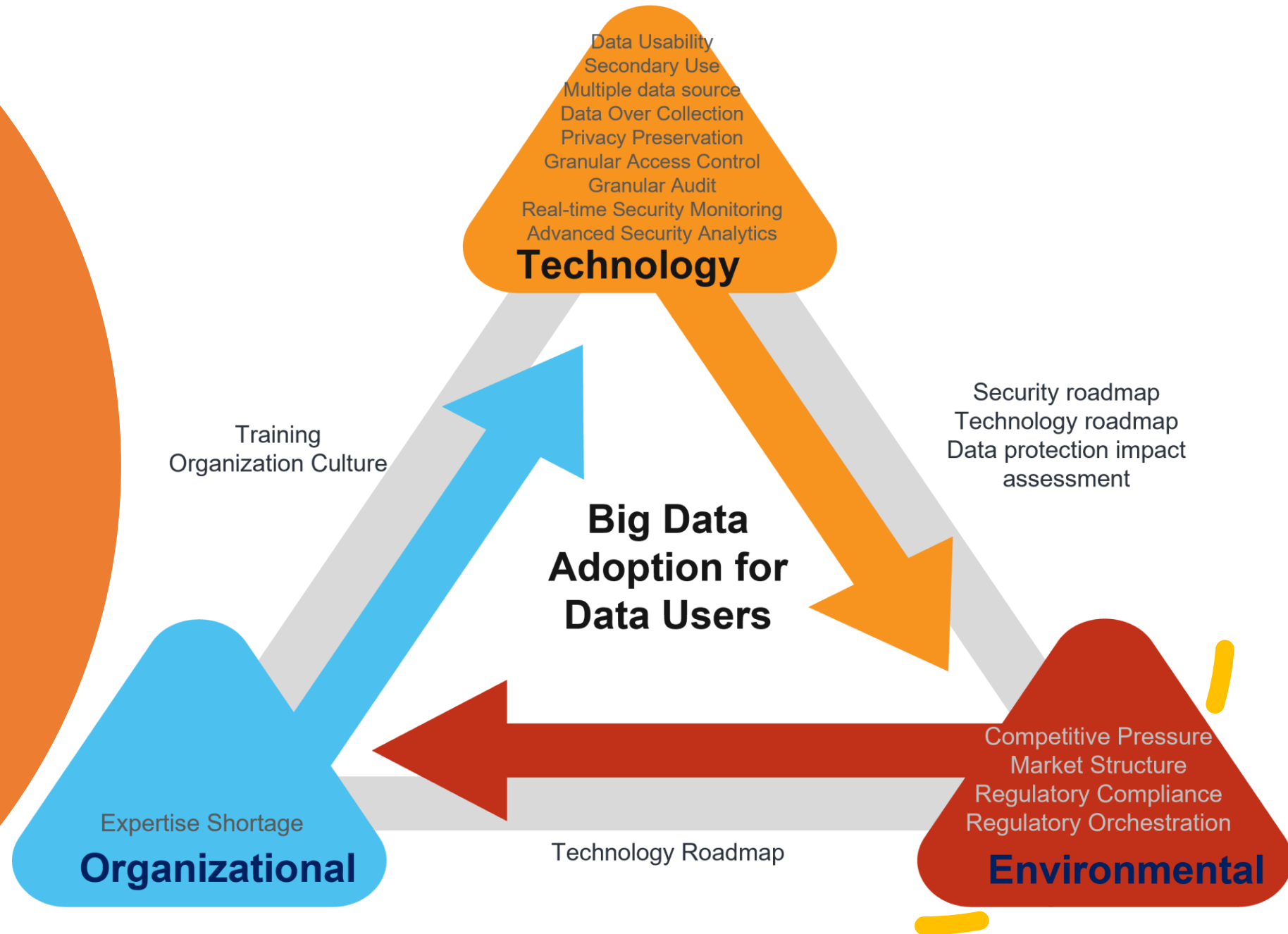
Comparative review of codes of practices and standards being used by local and international telecommunications providers and recommend potential areas for improvement and/or adoption.

Methodology

The proposed study will adopt a mixed-methodology. All phases are conducted in parallel

Research Phase	Research Activities	Research Objective	Research Deliverable
Phase 1: Qualitative Study	<ul style="list-style-type: none"> Literature review Interview instrument design Data collection (Interview) Data reduction Data display Conclusion drawing 	Objective 1	Deliverable 1 Big data adoption assessment for Data Users
Phase 2: Quantitative Study	<ul style="list-style-type: none"> Survey instrument design Content validation. Forward-backward translation. Pilot study. Perform data collection using proportional quota sampling Construct validation Descriptive analysis Regression analysis 	Objective 2	Deliverable 2 Big Data adoption assessment for Data Subjects
Phase 3: Systematic Review	<ul style="list-style-type: none"> Define eligibility criteria for studies. Perform a systematic search to identify studies. Assess the validity of the findings of the included studies. Perform data interpretation, and synthesis of findings to address the specified research questions. 	Objective 3	Deliverable 3 Privacy Notice Assessment for local and international telecommunication provider
Report writing	<ul style="list-style-type: none"> Prepare project report. 		

Research Objective 1: Security & privacy challenges for big data adoption- Data users' perspective



Research Objective 2: The influence of data subjects' security and privacy concern on big data adoption

