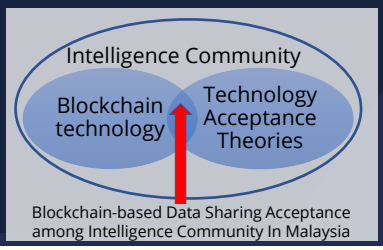
DSDS24, Cranfield Defence and Security Doctoral Symposia 2024, 13-14 November 2024, STEAM Museum, Swindon, UK

Blockchain-Based Data-Sharing Acceptance Among Intelligence Community

Wan Nurhidayat bin Wan Muhamad,
National Defence University of Malaysia

Research on **factors influencing the acceptance** of blockchain-based data sharing among the intelligence community in Malaysia



1. Introduction

- Data sharing is vital for intelligence community decision-making and national security, but it's complicated by confidentiality and risks of unauthorized access.
- Blockchain offers a secure solution, but **user acceptance is uncertain.**
- This research **aims** to **identify factors influencing acceptance and evaluate the readiness for blockchain-based data sharing** in Malaysia's intelligence community, using the **Technology Acceptance Model 3** and **Technology Readiness Index 2.0.**

2. Methods

- The **research process design** is as per Fig 1.
- **Quantitative research** using a **survey questionnaire** of data from 210 respondents from the intelligence communities.
- Descriptive and demographic data analysis using IBM SPSS software was used in this study.
- The acceptance model is analysed and verified using **PLS-SEM method** by using **SmartPLS** (Fig 2).

3. Findings

- **10 out of 12 hypotheses is accepted** and the **acceptance is below moderate level**.

Hypothesis	Result
H1: Job relevance has a positive influence on the perceived usefulness of the blockchain-based data-sharing.	Supported
H2: Optimism has a positive influence on the perceived usefulness of the blockchain-based data-sharing.	Supported
H3: Innovativeness has a positive influence on the perceived usefulness of the blockchain-based data-sharing.	Not supported
H4: Insecurity has a negative influence on the perceived ease of use of the blockchain-based data-sharing.	Supported
H5: Discomfort has a negative influence on the perceived ease of use of the blockchain-based data-sharing.	Supported
H6: Computer self-efficacy has a positive influence on the perceived ease of use of the blockchain-based data-sharing.	Supported
H7: Blockchain anxiety has a negative influence on the perceived ease of use of the blockchain-based data-sharing.	Not supported
H8: Perception of external control has a positive influence on the perceived ease of use of the blockchain-based data-sharing.	Supported
H9: Perceived ease of use has a positive influence on the perceived usefulness of the blockchain-based data-sharing.	Supported
H10: Perceived usefulness has a positive influence on the behavioural intention to use the blockchain-based data-sharing.	Supported
H11: Perceived ease of use has a positive influence on the behavioural intention to use the blockchain-based data-sharing.	Supported
H12: Perceived usefulness mediates the significant relationship between perceived ease of use and behavioural intention.	Supported

- **Personality traits and feeling influenced the acceptance** of the blockchain-based data-sharing system.

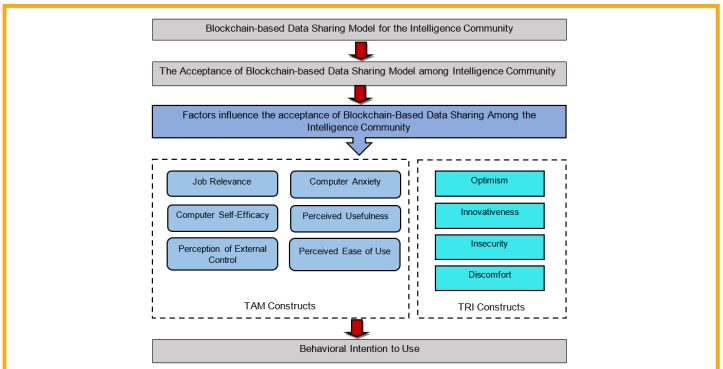


Figure 1. Research process design

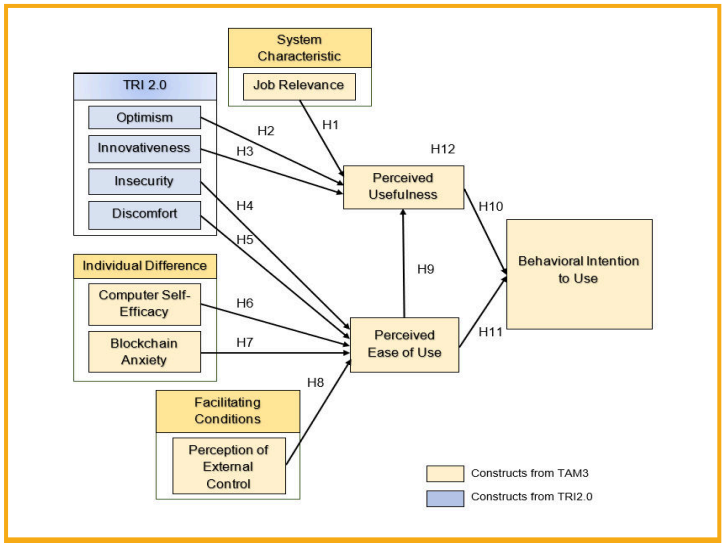


Figure 2. The acceptance model to evaluate factors affecting the acceptance of blockhain-based data sharing as adapted from Wook et. al. (2015)

4. Contributions

Managerial and Administration Level

- Allows the intelligence organizations to predict the acceptance level of system and technology implementation.
- Assist the decision-maker to decide and manage the blockchain technology implementation process.

System Developer and Designer

- Provides system and architecture requirement in developing blockchain-based data sharing system for the use of the intelligence community.
- System developer can design the system based on the factors recognized as factors which will influence the intention to use the system.

Main references

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Supervisor:
Assoc. Prof. Ts. Dr. Noor Afiza Mat Razali

Co supervisors:
Ts. Dr. Nor Asiakin Hasbullah
Mrs. Norulzahrah Mohd Zainudin

Faculty of Science & Defence Technology
National Defence University of Malaysia,
Sungai Besi Camp,
57000 Sungai Besi, Kuala Lumpur,
MALAYSIA

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