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Awareness, Perception, Acceptance, and Adoption of Malaysia's National Digital Identity (NDI) Initiatives from Service Providers' Perspective.

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Introduction

- The Malaysian government is working on a National Digital Identity (NDI) system to provide citizens with secure and convenient access to government and private sector services online.
- NDI initiatives are crucial for secure and streamlined online services in a digital age where digital interactions are becoming the norm.
- However, the success of the NDI system depends on service providers' willingness to adopt and integrate it into their operations.
- The COVID-19 pandemic has accelerated the importance of digital interactions and services, making it crucial to ensure authenticity in both digital and physical interactions.
- Understanding service provider perspectives and views is essential for identifying potential barriers and enablers of adoption, enabling the development of effective strategies to facilitate the successful implementation of the NDI system.

Introduction

Research Objectives:

a) To gauge the level of NDI **awareness and understanding** amongst service providers;

b) To identify the factors **promoting and hindering** the adoption of NDI amongst service providers;

c) To determine the level of **readiness** to take up and use NDI amongst service providers; and

d) Provide **recommendations to promote** awareness and adoption amongst specified service providers' categories.

Methodology

Sampling method	Purposive Sampling 6 sectors
Research design	Quantitative : Survey Questionnaires (5 sections) Qualitative : Personal Interviews
Data analysis	Descriptive statistics and thematic analysis (using NVIVO)
Pilot Test	Validity: MCMC experts Reliability: Cronbach's alpha and Kuder-Richardson Formula 20 (KR-20).

Table 1. Pilot Test Results

Section	Details	Items	Value
A	Socio-demography	-	-
B	Level of awareness and understanding	Dichotomous items	0.811
C	Level of perception	5-point Likert Scale	0.965
D	Level of acceptance	Dichotomous items	0.731
E	Open question	-	-

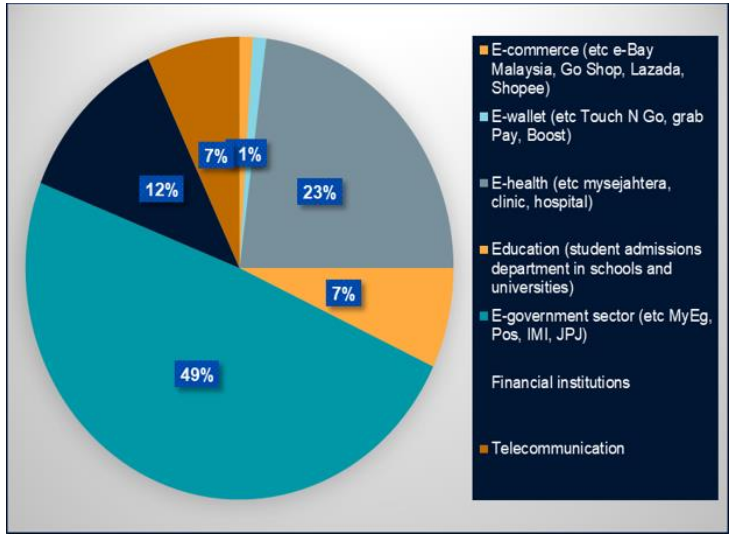

Figure 1: Section A. Demographic Data for sector

Key Findings RO1

To gauge the level of NDI **awareness and understanding** amongst service providers

- **75%** of the respondents reported **not having heard about NDI** before, indicating limited knowledge or utilization of NDI within the industry.
- **Age** had a **significant** relationship with NDI awareness and understanding.
  - Younger individuals were found to be more familiar with NDI compared to older individuals, suggesting the need for targeted interventions to improve NDI literacy among different age groups.
- **No significant** relationships were found between NDI awareness and understanding **on gender, sector, employment, state, ethnicity, or education.**
  - This suggests that individuals from different demographic backgrounds may have similar levels of NDI awareness and understanding.

Key Findings RO2

To identify the factors **promoting and hindering** the adoption of NDI amongst service providers

- Factors:
  - Public awareness through information dissemination, seminars, and training (19%).
  - Secure privacy and data protection (14%).
  - Proper enforcement of NDI implementation and enhanced digital identity protection (12%)
  - Availability of effective IT infrastructure and government transparency both represent 9%.
  - Ensuring accessibility, acquiring technical skills and seeking best practices, and improving service features are at 7% each
  - Concerns for good governance received the lowest percentage, at 4%.

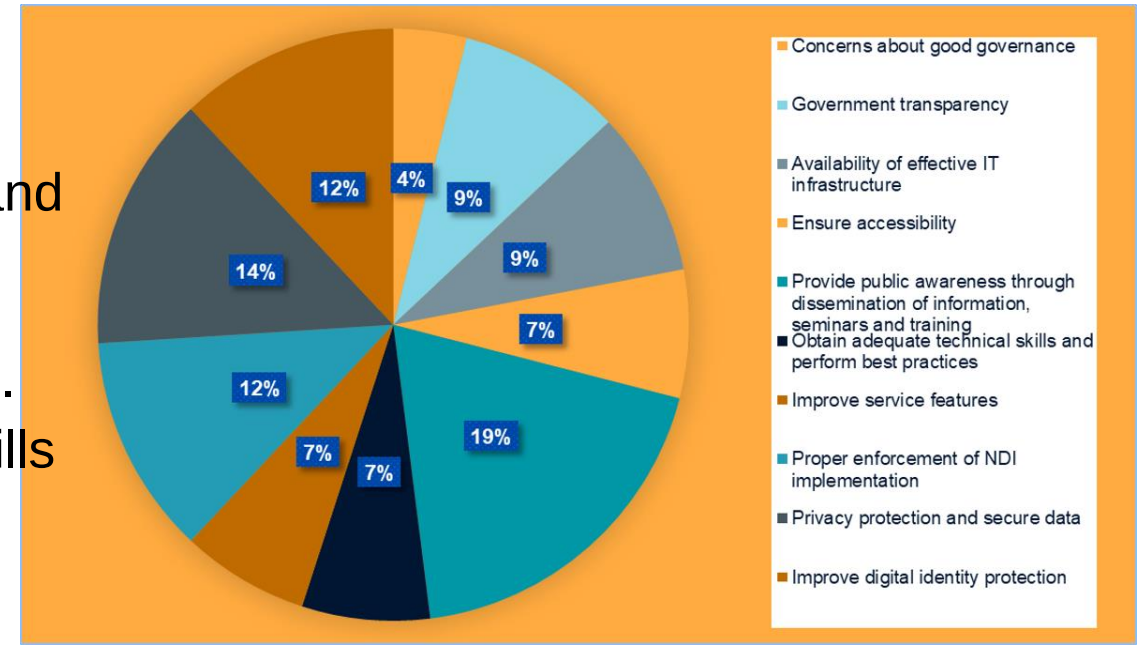

Figure 2: factors **promoting and hindering** the adoption of NDI

Key Findings RO3

To determine the level of **readiness** to take up and use NDI amongst service providers

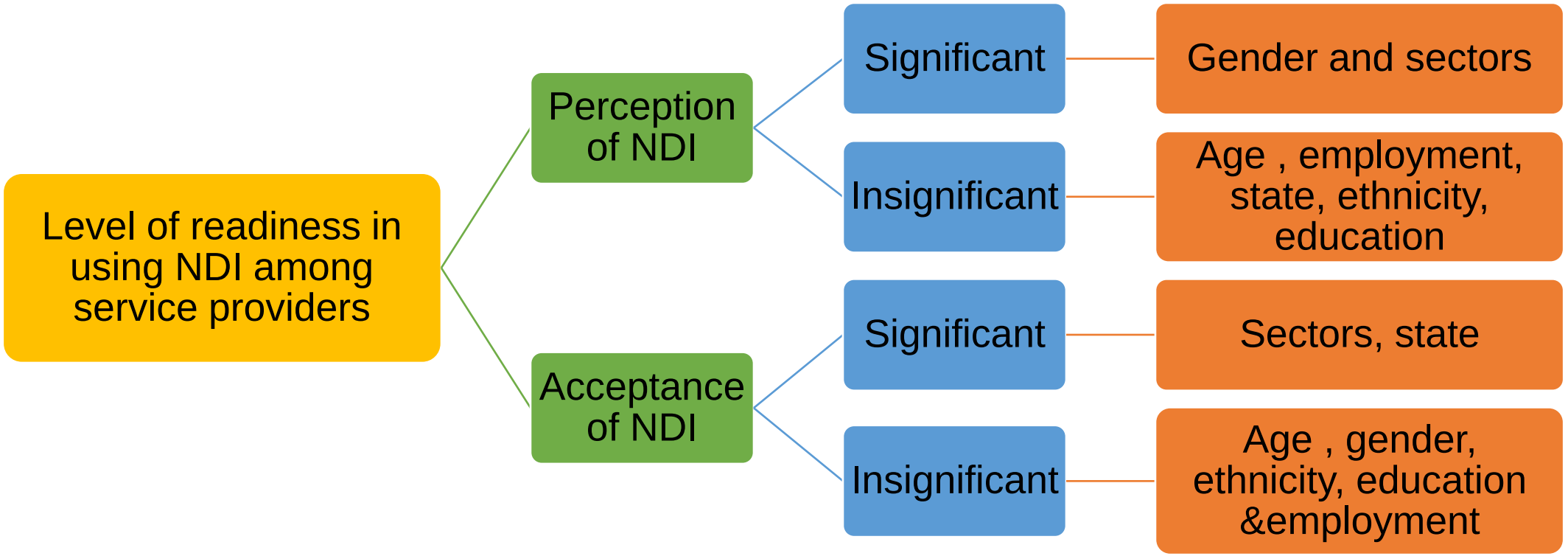

Figure 3: Level of readiness

Key Findings RO4

Q1: **How knowledgeable are you about NDI?**

- Mixed level of knowledge and understanding among the respondents regarding NDI
  - 42% of respondents reported that they do not know about NDI, suggesting a lack of awareness or interest in the topic.

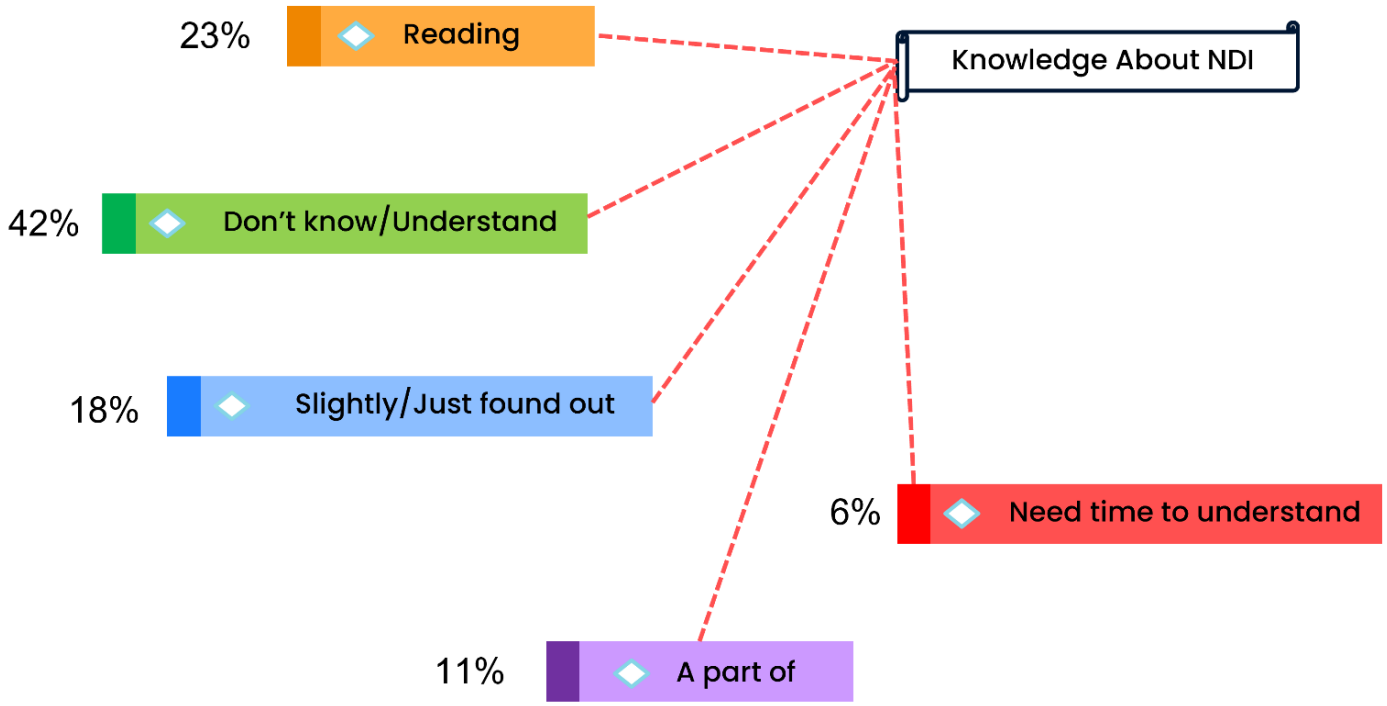

Figure 4: Themes of being knowledgeable about NDI

Key Findings RO4

- Q2: **What is your view on the implementation of NDI in your sector? What are your predictions regarding the expected outcome of NDI implementation?**

- NDI can bring significant benefits to various sectors.
- NDI can also pose several challenges
- Suggestions:
  - assess the cost-benefit of implementing NDI
  - to invest in the necessary infrastructure
  - provide sufficient training and support to users

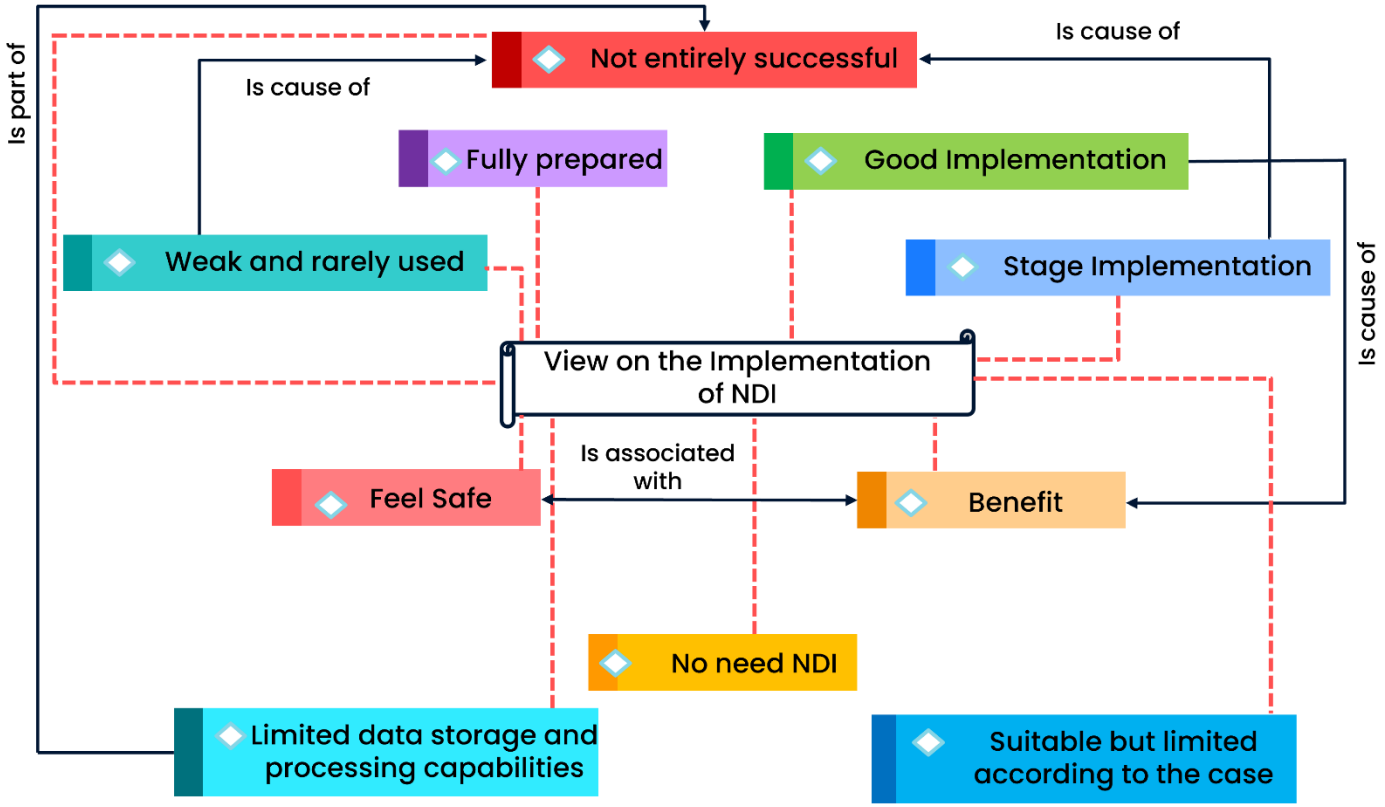

Figure 5: View on the implementation of NDI in the respective sector

Key Findings RO4

- Q3: **What do you think are the benefits of implementing NDI in certain aspects for your sector?**

- Improved efficiency
- Increased accuracy
- Better decision-making
- Enhanced customer service
- Cost savings
- Increased innovation

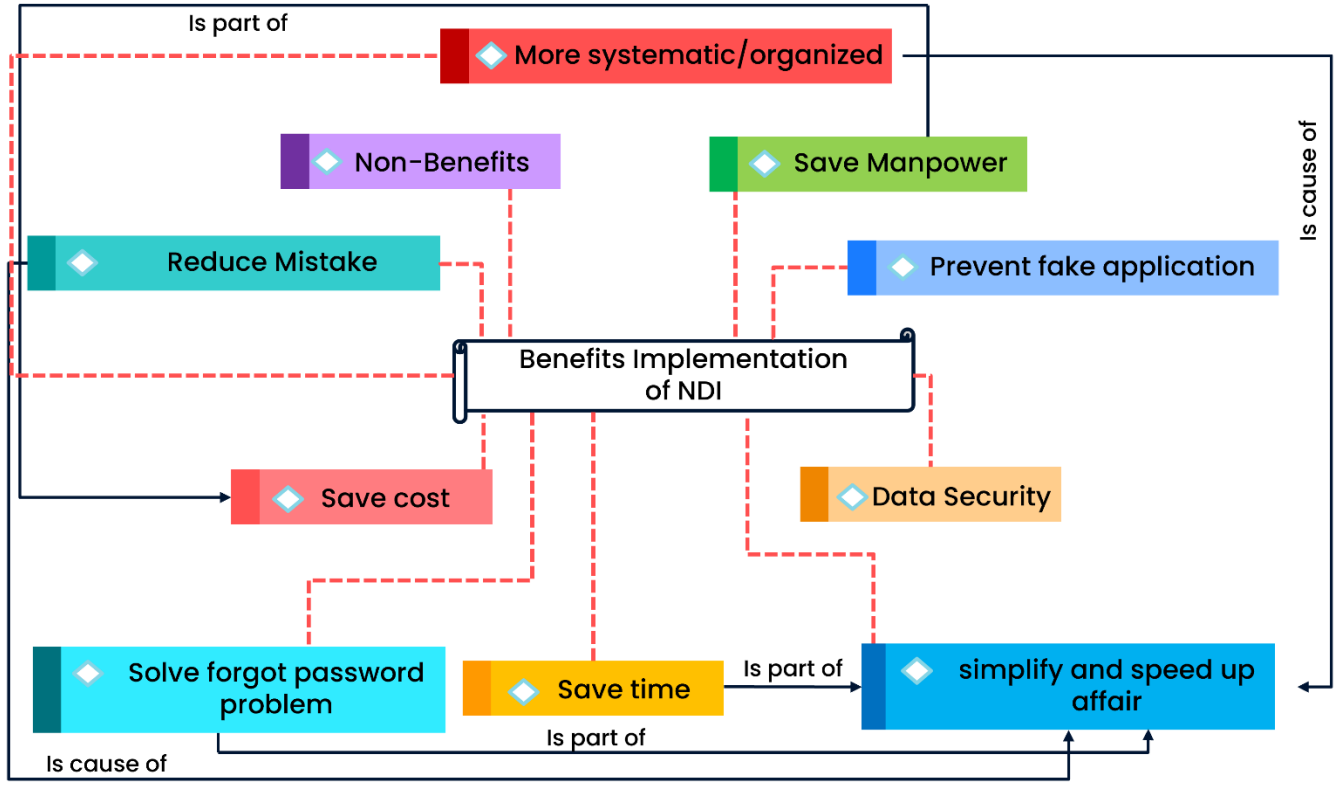

Figure 6: Benefits of implementing NDI in certain aspects of the sector

Key Findings RO4

- Q4: **What do you think are the challenges of implementing NDI in certain aspects of your sector?**

- Upgrading existing systems
- Integrating different technologies
- Cybersecurity

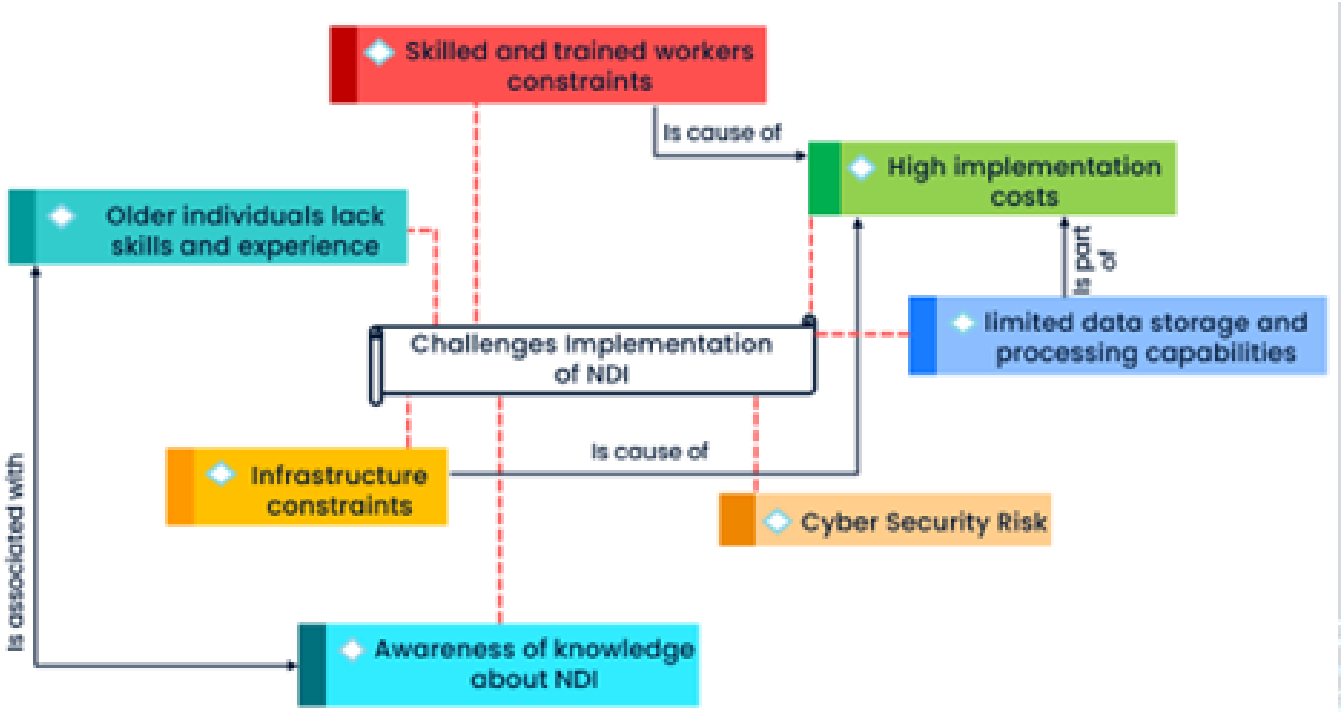

Figure 7: Challenges of implementing NDI in certain aspects of your sector

Key Findings RO4

- Q5: **Do you think your sector is ready to implement NDI in certain aspects taking into account infrastructure, personnel and so on?**

- Lack of knowledge or understanding
- Cost or resource concerns
- Technical issues
- Organisational culture
- Personal beliefs or attitudes towards NDI implementation

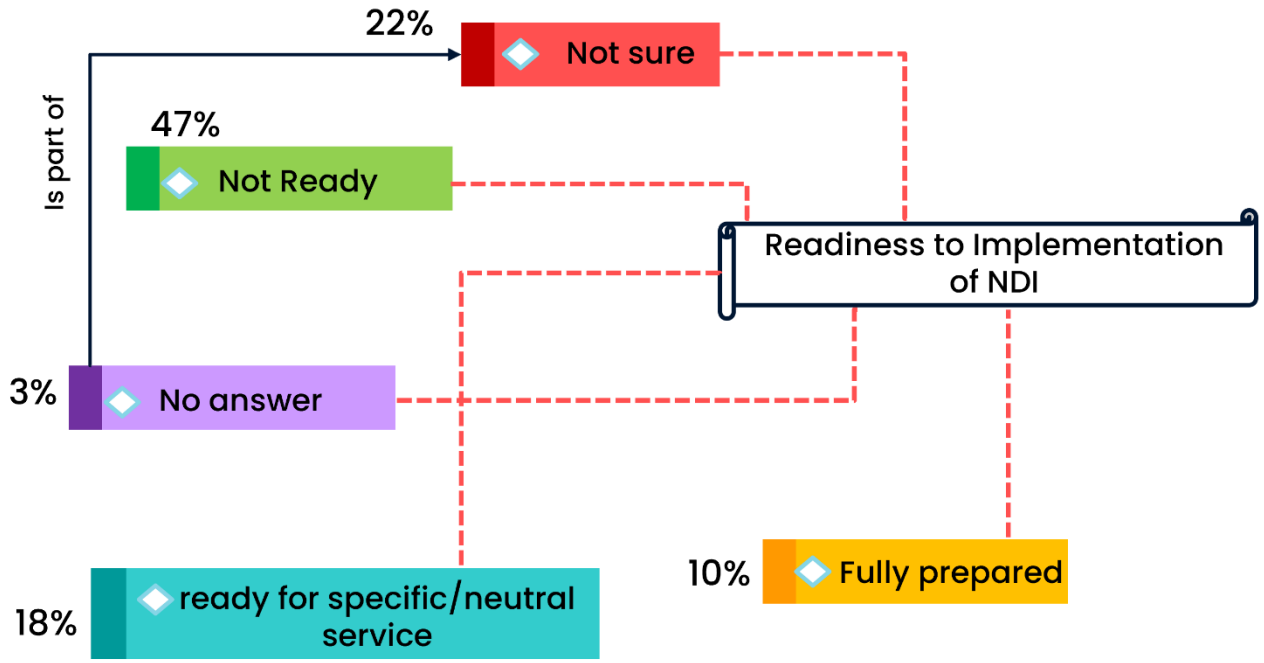

Figure 8: Themes of Readiness to implement NDI in certain aspects

Recommendations

Public Awareness Campaigns

- Targeting diverse population segments, emphasizing NDI initiatives' importance and benefits using clear language, visuals, and examples.

Educational Initiatives

- Workshops, seminars, and online modules, to bridge the literacy gap and promote NDI adoption.

Simplify User Interfaces

- User-friendliness, intuitiveness, and digital literacy, incorporating visual cues, guides, and interactive elements.

Multilingual Support

- Address linguistic diversity in Malaysia by providing multilingual support for NDI materials, websites, and user interfaces.

Partnerships with Community Organisations

- To provide targeted digital literacy and NDI support, ensuring accessibility and inclusivity for all segments.

Continuous Evaluation and Feedback

- To monitor awareness and literacy programs' effectiveness, assess impact, and adjust accordingly.

Conclusion

- Findings on NDI Awareness:
  - The research highlights age as a significant determining factor in NDI awareness, with younger individuals showing higher levels of familiarity and comprehension. Targeted interventions are essential to improve NDI literacy across all age groups and create an informed society.
- NDI Adoption Influencing Factors:
  - Public awareness and education are critical in promoting understanding and trust in NDI. Safeguarding privacy and data protection is crucial to maintain trust and prevent unauthorized access. Effective IT infrastructure, government transparency, and accountability are essential to minimize disruptions and skepticism.
- Comprehensive Interventions:
  - The research emphasizes the need for comprehensive interventions that address multiple factors beyond demographics. These interventions will foster NDI adoption, ensure a secure digital identity ecosystem, and bridge the digital divide.
- Inclusive Society:
  - Policymakers and organizations must consider tailored approaches to enhance NDI literacy and create an inclusive society that benefits all citizens.

Conclusion

- Broader Implications:
  - The research findings have broader implications for policymakers, stakeholders, and the digital identity ecosystem in Malaysia. They provide valuable insights to inform strategies for successful NDI implementation.
- Future Research:
  - Potential future research directions include investigating the long-term effects of NDI adoption on service providers and users, exploring the impact of emerging technologies on digital identity systems, and assessing the scalability and sustainability of the NDI framework.
- Stakeholder Engagement:
  - Ongoing engagement with diverse stakeholders, including government agencies, private sector entities, and citizens, is essential in refining and optimizing the NDI system based on real-world experiences and feedback.
- Continuous Improvement:
  - Continuous evaluation and improvement of the NDI system will be crucial to adapt to evolving technological, societal, and regulatory landscapes.

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