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Public Awareness, Perception, and Acceptance of Malaysia's National Digital Identity Initiative

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Introduction



- Malaysia is **developing** a National Digital Identity for secure digital identity.
- **Need** : Evaluating public awareness, perception, and acceptance is crucial for NDI's success.
- **Public attitude** influenced by trust, benefits, risks, and demographics.
- Preliminary research to assess NDI awareness and acceptance in Malaysia.
- Findings to guide NDI design and implementation.

ROs & RQs



- Develop an online questionnaire for Malaysians' NDI awareness, perception, and acceptance. - What instrument assesses Malaysians' NDI awareness, perception, and acceptance?
- Gauge Malaysians' level of **awareness** and **understanding** of the NDI. - What is the level of awareness and understanding of the NDI among Malaysians?
- Identify factors **promoting** and **hindering** NDI **adoption** in Malaysia. - What factors encourage or discourage Malaysians from adopting the NDI?
- Determine Malaysians' readiness to use NDI. - How willing are Malaysians to embrace and use NDI?
- Provide recommendations to promote awareness and adoption among specific user categories. - How can awareness and adoption be increased among specific user categories in Malaysia?

Methodology



- Research Instrument
 - The research instrument is developed based on the proposed theoretical and conceptual framework.
 - The tool comprises four main sections: innovativeness, data management, personal safety information, and awareness, perception, and acceptance of NDI services.
- Sampling method:
 - The study targets Malaysian aged 15 years and above.
 - Probability sampling is used to select a representative sample from the target population.
- Data collection:
 - Data collectors conducted the online survey.
 - A total of 1,014 participants were included in the study.
- Data analysis for the final dataset:
 - Descriptive statistics
 - Cross Tabulation

Descriptive Statistics



- Innovativeness Section:
 - 58.9% of participants are early adopters of emerging technologies.
 - 61.0% of participants try to adopt new technologies when they hear about them.
 - 57.4% of participants enjoy trying out new technologies.
 - Most participants are receptive to new technologies and willing to try them out.
- Data Management Section:
 - Participants share their name, nationality, and pictures online, but not their IC number, bank details, and physical appearance.
 - Most participants are cautious about sharing personal data with anyone except for family members.
 - Participants are more cautious about sharing personal information for commercial purposes, but more willing for service improvement or security enhancement.
 - Many participants have significant concerns about online privacy and personal information security.
 - Most participants believe they can keep their online activities private, but some are uncomfortable giving personal information online due to security concerns.

Descriptive Statistics



- Personal Security Information Section:
 - Most respondents believe online security is their responsibility and expect protection from government and law enforcement agencies.
 - Many respondents take measures to protect their personal information and identity, such as reading privacy policies and using security software.
 - There is a high level of awareness regarding data privacy among participants.
 - Respondents suggest various effective ways to protect their online identity.
 - There is a need for improving personal data protection laws and identity protection options.
- Awareness, Perception and Acceptance of NDI Services Section:
 - High percentage of respondents are familiar with various identity systems.
 - Over 90% of respondents are concerned about risks associated with identification systems.
 - Most participants find identity systems useful for online services.
 - The availability of a single record motivates most respondents to use identification systems.
 - About 44.0% of respondents have heard of the NDI, and some have recommendations for its improvement.
 - Many participants expect to benefit from NDI services, especially regarding user-friendliness and security.
 - Various recommendations include regular updates, maximum security, user-friendliness, and awareness campaigns.

Cross Tabulation



- Demographic factors significantly influence technology adoption:
 - Females adopt and enjoy new technologies more than males.
 - Younger age groups are more inclined to adopt and enjoy new technologies.
 - Single individuals are more likely to be early adopters and try new technologies.
 - Malay ethnicity shows higher early adoption compared to other ethnicities.
 - Individuals in managerial and worker positions adopt and enjoy new technologies more.
 - Private sector employees are more likely to adopt and enjoy new technologies.
 - Higher education levels correlate with greater interest and adoption of new technologies.
 - Urban residents show higher rates of early adoption and technology enjoyment.
 - Higher-income households are more likely to adopt and enjoy new technologies.
 - East coast states and Sabah/Sarawak exhibit the highest positive attitudes towards new technologies.

Cross Tabulation



- Demographic factors influence data management behavior:
 - Gender: Females share more personal data and express higher concerns about risks.
 - Age: Younger people share more personal information but also show greater anxiety about online privacy.
 - Marital status: Married individuals are more uncertain about sharing personal data online.
 - Race/ethnicity: Malays share personal information more frequently but have higher concerns about risks.
 - Work status: Managerial workers show the highest concern about online privacy.
 - Employment sector: Government employees trust personal data protection more than private sector employees.
 - Education level: Higher education levels lead to greater willingness to share personal information online.
 - Place of living: Rural residents share more personal information online than urban residents.
 - Income level: Lower-income individuals share more personal information and trust unknown companies more.
 - Residence state: Privacy concerns vary across states, with Terengganu showing higher participation in online activities and privacy concerns.

Cross Tabulation



- Demographic factors impact perceptions of personal security information:
 - Gender: Females prioritize personal data protection and express higher concern about risks than males.
 - Age: Younger participants are more cautious about online privacy and security.
 - Marital status: Married individuals trust the police and courts for personal data protection.
 - Race/ethnicity: Malays are more trusting of government and companies with personal data.
 - Work status: Managerial workers are more likely to trust companies with personal information.
 - Employment sector: Private sector employees have higher trust in companies for personal data security.
 - Education level: Higher education levels influence beliefs about government and police/courts' roles.
 - Place of living: Urban and rural residents have similar views on personal data protection.
 - Income level: Lower-income individuals have higher agreement with personal data protection measures.
 - Residence state: Pahang has the highest positive responses in various categories.

Cross Tabulation



- Demographic factors influence awareness, perception, and acceptance of NDI services:
 - Identity system usage: RFID, biometrics, and e-signatures usage varied based on demographics, while age affected RFID and e-signatures usage.
 - Risk perception: Gender showed significance in the risk of unauthorized access to personal information.
 - Awareness of NDI: Gender, age, ethnicity/race, work status, employment sector, education level, income level, and residence state were linked to awareness.
 - Expected benefits: Demographics played a role in preferences for NDI benefits.
 - Factors attracting users: Ethnicity/race, work status, and income level had the greatest impact on NDI adoption.
 - Gender: Females exhibited higher familiarity with identity systems, expressed more concern about risks, and expected more benefits from NDI.

Cross Tabulation



- Demographic factors influence awareness, perception, and acceptance of NDI services:
 - Age: Younger age groups showed higher familiarity and concern about risks, with preferences for certain NDI benefits.
 - Marital status: Married individuals had the highest familiarity with identity systems and expressed more positive responses for benefits.
 - Race/ethnicity: Malays showed the highest familiarity, positive responses, and preferences for benefits.
 - Work status: Managerial respondents had the highest familiarity, concern about risks, and preferences for benefits.
 - Employment sector: The Private sector showed the highest familiarity, concern about risks, and positive responses for benefits.
 - Education level: Higher education levels correlated with familiarity, risk awareness, and positive responses for benefits.
 - Place of living: Rural residents showed more familiarity with biometrics and IP addresses, and rural and urban residents agreed on attracting users with certain benefits.
 - Income level: Higher-income individuals had higher familiarity, risk awareness, and positive responses for benefits.
 - Residence state: Passwords/PINs were popular across states, with Pahang having the highest usage and Kelantan showing the most positive responses.

Implications



- Targeted Awareness Campaigns: Tailor awareness efforts to specific demographic groups to maximize NDI initiative's reach and impact.
- Addressing Privacy and Security Concerns: Implement robust security measures and transparent data handling practices to build public trust in the NDI initiative.
- User-Friendly Design: Prioritize intuitive interfaces and streamlined processes to enhance user acceptance and adoption.
- Leveraging Biometrics: Consider incorporating biometric technologies for secure and user-friendly authentication methods.
- Policy and Legal Considerations: Review and strengthen personal data protection laws and identity protection options.
- Continuous Evaluation and Improvement: Establish feedback mechanisms and involve users in iterative development processes for long-term success.

Recommendations



- **Education and Awareness Campaigns:** Launch extensive education campaigns to inform people about the benefits and functioning of NDI. Tailor the messaging to specific demographic groups' needs and use various media channels for wider reach.
- **Inclusion and Accessibility:** Ensure the NDI initiative is inclusive and accessible to all, including people with disabilities and those less computer-literate. Provide user-friendly interfaces and assistance for those who need help.
- **Collaboration with the Private Sector:** Collaborate with private companies to implement NDI, leveraging their trust and expertise to enhance security and user experience, and potentially reduce implementation costs.
- **Incentives:** Offer incentives, such as tax breaks and discounts, to encourage adoption, especially among demographic groups that may be less inclined to adopt, like low-income households.
- **Clear Communication and Transparency:** Communicate clearly about the purpose, benefits, and risks of NDI. Ensure transparency in data use and protection, empowering citizens to control their data.
- **Partnership with Local Authorities:** Partner with local authorities to support people in rural and remote areas through mobile registration centers, trained local staff, and information in local languages.
- **Integration with Existing Services:** Integrate NDI with existing services like banking and healthcare to enhance convenience and efficiency.
- **Continuous Evaluation:** Continuously evaluate NDI adoption, analyze demographics, identify barriers, and make necessary adjustments to improve adoption.

Conclusion



- The study employed an online questionnaire to evaluate Malaysians' awareness, perception, and acceptance of the NDI initiative.
- Through its findings, the study sheds light on the extent of Malaysians' knowledge and comprehension of the NDI initiative.
- Identified in the study were several factors that influence Malaysians' willingness to adopt the NDI, encompassing demographic aspects, privacy apprehensions, and perceived advantages.
- Furthermore, the study gauged Malaysians' inclination to adopt and utilize the NDI.
- Drawing on the results, the study offers recommendations tailored to diverse user categories, aiming to foster awareness and encourage the adoption of the NDI initiative.



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