KREATE A REGIONAL DESIGN & EDUCATION JOURNAL ON CULTURE, FUTURE-MAKING & SOCIAL DESIGN

Volume 01, Issue 01, pp 1-5

Title: Usability and Accessibility of Malaysian Government Websites: A Case Study on Enhancing Citizen-Centred Digital Experiences

Author(s): Melvin Yung Khun Yew

Affiliation: The Design School, Faculty of Innovation & Technology, Taylor's University

Email address (to coincide with author's name): melvinkhunyew.yung@sd.taylors.edu.my

Abstract (200 words): While a government website can provide essential government support to citizens at any time and anywhere, its user interface (UI) and user experience (UX) design can impact how people interact with the information on their website. From this research, the author investigates the prevalent issues in Malaysian e-government services on the Internet and compares them with more recognised government websites such as the United Kingdom and Denmark according to the ranking of the 2024 E-Government Development Index (EDGI). Several focus points are determined to better deduce the difference between Malaysian and the higher ranking countries for example: usability, accessibility, citizen-centred design and user acceptance. With those focus points, an analytical comparison using an online questionnaire is conducted to collect observational data on user interactions, preferences and common pain points by a diverse range of users in Malaysia, which enables the research for a thorough examination of user feedback on specific UI and UX elements, including ease of navigation, visual appeal, clarity of information, and accessibility features for individuals with varied needs. The research can help in visualizing how the government has to make changes in its e-government services website to provide a top-tier browsing experience for the users.

Introduction (200 words): UI and UX design always play a pivotal role in shaping the usability and efficiency of digital platforms, particularly e-government websites in this research. As UI and UX design is defined as the visual, interactive, and functional components of a system (Nielsen, 1994), effective UI/UX design ensures accessible and smooth online experiences for users of varying digital proficiency (Martin et al., 2020). As mentioned by Chatfield and Reddick (2018), a well-crafted government website can enhance citizen engagement, improve service access, and boost user satisfaction. Otherwise, a poor UI UX design can frustrate users, reduce service efficacy and fail to meet the inclusivity goals that online platforms are meant to fulfil (Lazar, Feng & Hochheiser, 2017).

However, government websites globally still face challenges in creating a fully user-centred design, with issues such as accessibility, navigation and information clarity as backed up by González et al. (2019). In this case, Malaysia's current e-government services websites reflected the same shortcomings with the deteriorating EDGI rank from 53rd to 57th during the 2022 to 2024 period (United Nations E-Government Knowledgebase, 2024). This decline in ranking points out the need for targeted efforts in improving the UI/UX design of their government websites.

Problem Statement (200–300 words): Nowadays with citizens starting to merge into the digital world, there are all sorts of tasks that require government services, which are turning to online methods instead of face-to-face services. Currently, Malaysian government websites are packed with information that offers various sections for government services, news, announcements and resources, However, not all websites are treated with good care, as some of them suffer from outdated UI design and information clutter, where the users will find it had to navigate the results they seek.

To further clarify, the layout of the e-services description needs to be more user-centric, and the websites often present excessive information at once, like sections that are densely populated with texts and links to the users who seek simple answers, making the information overwhelming. This, users will find it difficult to locate specific services or information quickly. Given the diversity of users with various conditions, the cluttered information may lead to a poor user experience for citizens and visitors, potentially affecting the country's image.

Therefore, this research explores certain critical questions including how a well-designed UI/UX can enhance the user experience, the impact of information clutter on the user's browsing behaviour, and lastly the optimal amount of

content for an effective service delivery. These questions aim to help establish a more intuitive and inclusive framework for Malaysian e-government websites.

Methodology (300–500 words): The purpose of this research is to investigate the UI and UX challenges in Malaysian e-government websites to enhance citizen usability and accessibility. As digital access becomes more integrated into daily life, e-government platforms must be functional and accessible to diverse users. Thus, a research method has been decided and conducted for research purposes, which is to create an online questionnaire using Google Forms as a medium for the effective capture of diverse user experiences. In this study, an online questionnaire is a versatile and accessible tool for a quick and efficient gathering of both qualitative and quantitative data from a large sample group (Groves, 2009), which is Malaysia's diverse age and ethnicity. The participants can also provide detailed feedback through open-ended questions.

The researcher hosted a variety of question types such as Likert scales, multiple-choice and open-ended questions for a structured comprehensive approach to investigate the participants' engagement with Malaysian e-government websites. The questions can be divided into six sections which are user demographics, usage of e-government websites, user experience, UI and UX design, comparative analysis and finally additional open-ended feedback, each necessarily targeting the problem statement and tailored to the research objectives.

For more information, the user demographics section in the questionnaire collects age, gender and ethnicity to ensure a representative sample and explore demographic influences on user experience. The second section will assess participants' familiarity and usage frequency of e-government websites, where screenshots of Malaysian and Danish government websites as references are provided to facilitate visual comparisons, helping the participants to pinpoint the areas for improvements. Targeting the user experience of the website, feedbacks are gathered from experienced users on the ease of navigation, task completion, and overall website satisfaction, which aids in identifying how well the current design meets user needs. Not only that, participants' overall perception towards the user interface and user experience design of Malaysian government websites, which are the visual appeal, usability, and functionality using screenshots references for detailed user feedback. The participants are asked to compare Malaysian and Danish websites side-by-side, evaluating the simplicity, visual appeal and information clarity.

While the method chosen can be effective at collecting data, there are some limitations arising from the fact that participants provide superficial responses or struggle to understand the criteria and questions due to limited experience with Malaysian e-government websites. Despite these limitations, this method remains the most practical during the research period for collecting extensive data within a short timeframe.

Findings and Discussion (500 words): The results of the online survey indicate that 62.8% of the respondents have utilized the Malaysian government websites with the remaining 37.2% have not done so. Among users, 48.8% of the participants indicated that they infrequently visit such sites while 33.7% have never visited such sites and only 17.5% of the participants reported that they visit such sites frequently, either daily or weekly. As for the user experience, 53.7% of the participants responded that their experience was average or quite mediocre; the main reasons for the use of the website were to access government services (48. 1%), renew licenses (44.4%), and find information from the government (42.6%).

In the area of UI and UX design, 52.3% of the respondents complained of difficulties in using the websites while 45.3% said the websites had an average visual appeal. Also, 44.2 % of the information given was estimated to be average in terms of clarity and 74.4 % of the participants identified cluttered content as a challenge. The amount of content on the pages also created problems where 41.9% sometimes and 30.2% often felt that they were being overwhelmed by the information presented to them.

When compared with the Malaysian government websites, 89.5% of the respondents said that the Danish government websites were easier to use while 79.1% preferred the look of the Danish government websites and 91.9% said that the Danish government websites were easier to understand. The participants suggested that the Malaysian government websites can be enhanced in terms of adding more visuals, streamlining the presentation of information, improving the navigation, increasing the accessibility, increasing the number of digital services and incorporating multi-language options to suit the diverse population.

From those findings, this study highlights significant usability and accessibility issues in Malaysian e-government

websites, aligning with findings from Aldrees & Gračanin (2023) on the importance of user-centred design. Survey responses revealed difficulties with navigation, visual appeal, and accessibility, compounded by distracting banners and poorly optimized screen dimensions. In contrast, Danish websites demonstrate effective use of white space and cleaner design, enhancing usability. Malaysian websites also lack intuitive navigation, as observed in tasks like tax payments or license renewals, echoing Agrawal et al.'s (2021) findings on the importance of clear navigational aids. While some navigation features exist, more effort is needed to simplify access to specific services.

Information clutter was a key concern, with poorly structured content overwhelming users and increasing task completion time. This mirrors Benaida's (2023) findings on information overload in e-government platforms. Malaysian websites often fail to distinguish essential information, lacking effective hierarchy and white spaces, which reduces readability and visual organization. These issues emphasize the need for streamlined layouts, efficient navigation flows, and features like information filters to enhance user experience.

Respondents favoured Danish websites for their visually appealing, intuitive designs, supporting Elsafty and Ramadan's (2023) emphasis on balanced text and visuals. Danish websites maintain white space, concise text, and well-structured visuals, catering to diverse user preferences. Adopting such strategies in Malaysia could improve accessibility, inclusivity, and overall user satisfaction, aligning with global best practices.

The study's reliance on limited visual references and an online survey constrained participants' ability to evaluate design elements comprehensively. Future research could incorporate interactive elements, qualitative methods like interviews, and observational studies to provide deeper insights and address biases inherent in self-reported data.

Conclusion (200–500 words): This study highlights significant usability and accessibility challenges faced by Malaysian e-government websites, particularly in how UI/UX design elements impact user experience and engagement. Findings indicate that disorganized content layouts, poor navigation structures, and visual distractions like oversized banners significantly hinder user satisfaction and efficiency. Such design flaws complicate essential processes like tax payments, license renewals, and loan applications, emphasizing the need for simpler, distraction-free interfaces that prioritize usability and accessibility.

The study underscores the detrimental impact of information clutter, where poorly structured content and lack of clear hierarchies create barriers for users attempting to locate essential information. Incorporating well-organized layouts with appropriate white spaces could enhance readability, improve visual structure, and facilitate efficient information absorption. Additionally, implementing filtering mechanisms and better content hierarchy would reduce cognitive load, making interactions more intuitive and user-friendly for diverse user groups.

A comparison with Danish e-government websites reveals the benefits of adopting a minimalist and visually balanced design approach. Danish platforms excel in combining concise text with visuals, maintaining ample white space, and creating an intuitive interface, which contributes to a seamless user experience. Malaysian e-government websites could greatly improve by incorporating similar design principles, such as reducing text-heavy content and prioritizing visual clarity. Transitioning to a user-centered design would not only enhance accessibility for users with varying levels of digital literacy but also create an inclusive digital environment catering to a diverse population.

In conclusion, while Malaysian e-government websites offer essential digital services, their current design and functionality fail to meet user expectations. Addressing these issues through improved navigation, visual appeal, and information clarity could significantly enhance user satisfaction and engagement. By adopting global best practices in UI/UX design, Malaysian e-government platforms could deliver more effective digital services, strengthen public confidence, and bolster Malaysia's reputation in the realm of e-government services.

Reference (APA format):

Aldrees, A., & Gračanin, D. (2023). UX in e-Government Services for Citizens: A Systematic Literature review. Literature Review - JUX. JUX - the Journal of User Experience. https://uxpajournal.org/wp-content/uploads/sites/7/pdf/IUX Aldrees May2023.pdf

Benaida, M. (2023). e-Government Usability Evaluation: A Comparison between Algeria and the UK. International Journal of Advanced Computer Science and Applications, 14(1). https://doi.org/10.14569/ijacsa.2023.0140175

Agrawal, G., Kumar, D., & Singh, M. (2021). Assessing the usability, accessibility, and mobile readiness of e-government websites: a case study in India. Universal Access in the Information Society, 21(3), 737–748. https://doi.org/10.1007/s10209-021-00800-8

Elsafty, A., & Ramadan, E. (2023). How user acceptance can affect government website efficiency. 11 Int'l J. Soc. Sci. Stud. 13 (2023), Vol. 11, No. 2(2324–8033). https://doi.org/10.11114/ijsss.v11i2.5948

EGOVKB | United Nations > About > Overview > E-Government Development Index. (n.d.). https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index

EGOVKB | United Nations > Data > Country Information. (n.d.). https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/103-Malaysia/dataYear/2022

EGOVKB | United Nations > Data > Country Information. (n.d.). https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/103-Malaysia/dataYear/2024

MyGOV - the government of Malaysia's official portal. (n.d.). https://www.malaysia.gov.my/portal/index

Welcome to Denmark. (n.d.). Denmark.dk. https://denmark.dk/