HUMAN-CENTERED GOVERNANCE APPROACH IN THE APPLICATION OF LAYANAN TUNGGU DISDUKCAPIL PEKANBARU AS AN ONLINE PUBLIC SERVICE

Arya Luthfi Permadi*[1], Zaili Rusli[2],Harapan Tua Ricky Freddy Simanjuntak[3] TantriYazid[4]
[1234]Faculty of Social and Political Sciences, University of Riau Indonesia
Luthv99@yahoo.com

Abstract

User experience (UX) plays a crucial role in digital public services. Poor UX can cause confusion among the public and hamper the administrative process in public services. This research aims to explore the user experience of online-based public services in Pekanbaru City, specifically focusing on the application owned by the Population and Civil Registration Agency. The study employs an exploratory qualitative approach using secondary data. Guided by the theory of Human-Centered Governance, this research identifies significant shortcomings in the current application, highlighting the need for an in-depth study and redesign to enhance usability and achieve public goals.

Keywords: *User Experience (UX), Humen-Centered Governance, Application, Population andCivil Registration, Pekanbaru*

INTRODUCTION

The use of technology is already applied to public services by issuing digital ID systems, as well as creating digital tax processes, and providing access to information. Governments can also implement policies known as open data with the hope is that public services can be more transparent and people will be more easily connected to government services (Wijayanti 2020). Inorder to realize good governance, public services become a strategic and important part, includingcommunity involvement in it. In the context of public services, innovation is usually the result orfollow-up of the evaluation and improvement process for complaints, complaints, and input fromthe community as service users. This means that community participation greatly impacts the potential for innovation carried out by service providers (Achmadi 2021).

In realizing excellent public services, Disdukcapil Pekanbaru City has carried out a digitalization system in public services to provide convenience to the people of Pekanbaru in managing administrative affairs in accordance with the vision of the city of Pekanbaru "The Realization of Pekanbaru as a Madani Smart City". The meaning of smart city here is an urban concept that uses information technology in increasing the efficiency of city management and services to its residents. There are 6 main pillars in this concept; Smart

Government, Smart Economy, Smart Mobility, Smart People, Smart Living, and Smart Live. With this vision, Disdukcapil has launched several digital programs that can be used by the people of Pekanbaru such as SIWARGA (Integrated Population Service Information System), SIPINTAR PEDULI (Service System Completing the Identity of Displaced People), Scholars, Waiting Services (Lost and Damaged E-KTP), PANDAWA (Data Complaints Via Whatsapp), and Synopsis (Student KTP-el Record) (Disdukcapil Kota Pekanbaru 2020).

However, there are several problems that have arisen during implementation. Inadequate adherence to standards in implementation and responsibility has made it difficult for the residents of Pekanbaru City to use the available applications. This has hindered the progress of digital transformation, forcing a regression to manual systems. The failure of digital transformation can be attributed to various factors, such as lack of alignment with expected outcomes, organizational resistance to adopting technology, unresolved minor issues that accumulate over time, misallocation of funds to expensive yet non-functional goods, insufficient technical expertise, inadequate expert supervision, lack of technology training within the organization, fear of job displacement by technology, slow decision-making processes, and poor prioritization of technology development and services (Block 2022). This paper will discuss the importance of a human-centered governance approach in publicservice applications by looking at secondary data from the public on Google Play.

LITERATURE REVIEW

This concept is an adaptation of the concept of human-centered design (HCD) basically aims to create products or services that suit the needs and preferences of users. However, the HCDapproach has also received sharp criticism from some academics for failing to integrate considerations on macro political, ethical, and legal issues and should be part of the responsibilityof public sector governance. The main criticism of HCD is that it focuses too much on the micro level, i.e. the interaction between designers and individual users, without regard for broader systemic interconnectedness. In addition, HCD is more widely applied to meet basic human rightsand fundamental needs, which, although important, are not sufficient for the goal of emancipationand actualization of human potential as a whole. HCD is also often implemented withoutconsidering the unique sociocultural context in which the technology is applied (Sigfrids et al. 2023).

Therefore, a technology governance approach, especially user experience design (UX design), is needed that is much broader and human-centered in order to ensure social sustainability.Inclusive and comprehensive public governance is absolutely necessary by placing social, economic, and ecological impacts, as well as people's aspirations and values, as important factorsin the process of developing and adopting any technology (Wilson and van der Velden 2022). Thereare a number of design principles and criteria that need to be met in UX projects, especially thoseaimed at the public sector in order to provide maximum and sustainable benefits for all levels of society: Exploring the problem space, generating alternative scenarios, and enacting new practices (Bason and Austin 2022).

In designing a good user experience or UX, Bason and Austin suggest three main stages that designers must carry out. First, explore the problem thoroughly. At this stage, the designer should not be trapped in just one particular point of view or assumption. Designers must questionand retest initial assumptions about problems and user needs. More than that, designers are required to foster empathy, namely trying to really understand the root of the problem from the user's perspective. This is the key to gaining a complete understanding of the problem you want tosolve through UX design.

Second, generate as many alternative design scenarios as possible. At this stage, designers must be able to accommodate various input and points of view from various interested parties. There are times when input from one party conflicts with another party. Designers are required tobe wise in bridging these differences, and distilling the essence of these inputs to produce severalpotential alternative design concepts. The designer must also dare to explore uncertainty, that is, creatively experiment with various design possibilities without fear or anxiety. This is precisely where innovative design breakthroughs emerge.

Third, turning the selected design into a real practice that is beneficial for many parties. After going through concept evaluation and filtering, the best designs are then realized through making interactive prototypes, so that the design looks more concrete, not just an abstract idea. Most importantly, designers must insist on ensuring that the final design truly provides broad benefits to society or users, not only serves the interests of certain parties. By following these stages, the resulting UX design can bring real positive value to many people.

In 1993, a prominent psychologist and cognitive designer named Don Norman coined theterm "user experience" or UX while conducting research related to human interaction at

the AppleComputers company. Norman posits that user experience encompasses all aspects of how a person interacts with a system, including industrial design, graphic elements, interfaces, physical interactions, and user guides. In the business world, the concept of UX has been adopted by conducting research on users. In general, the term "user research" refers to an ongoing research process that helps understand users' needs and preferences, with the goal of creating services thatbetter suit their needs. The world's major companies are very serious about conducting user research, and they allocate significant budgets to user experience-related activities and studies (Peixoto, Kaiser, and Tran 2020).

This paper uses Systematic Literature Review (SLR) to observe and explore research updates based on previous scientific articles. This SLR paper is a combination of systematic reviewand meta-analyses (SR / MA).(Davis et al. 2014) Systematic review in exploring previous studiesis important in order to synthesize research results in more detail and neatly in finding and compiling all available information. Meta-analysis refers to a statistical technique used to combineinformation in a population of data to get an estimate of the desired outcome. Systematic reviewsand meta-analyses used together can help shed light on the state of the research field, find differentresults, and discover possible future studies as needed (Davis et al. 2014).

Like any other research design, SR/MA research questions must be feasible, interesting, new, ethical, and relevant. PICO Method *(Population or Problem, Intervention, Comparison, Outcome)* (Methley et al. 2014) which is often used for quantitative research that will be adapted into qualitative research into SPIDER *(Sample, Phenomenon of Interest, Design, Evaluation, Research type)* (Cooke, Smith, and Booth 2012). S (Sample) in this paper is Pekanbaru (as a locus).While PI (Phenomenon of Interest) is *User Experience* (UX) in public service. Next D (Design) this paper is interviews and secondary data. E (Evaluation) writing is a policy suggestion for the government. The last is R (Research Type) in the form of qualitative research. For more details can be seen in the following table.

TABLE 1. SEARCH TERMS USED FOR SPIDER SEARCH

SPIDER Tool	Search Terms
S	"Pekanbaru" OR "Local" OR "Goverment" OR "Country" OR "PublicService"
PI	"User Experience" OR "Human Centered" AND "Public Service" OR"Digital Governance" OR "Digital" OR "AI"
D	"Survey" OR "Interview" OR "Secondary" OR "Focus Group"
E	"View" OR "Opinion" OR "Suggest" OR "Policy"
R	"Qualitative"

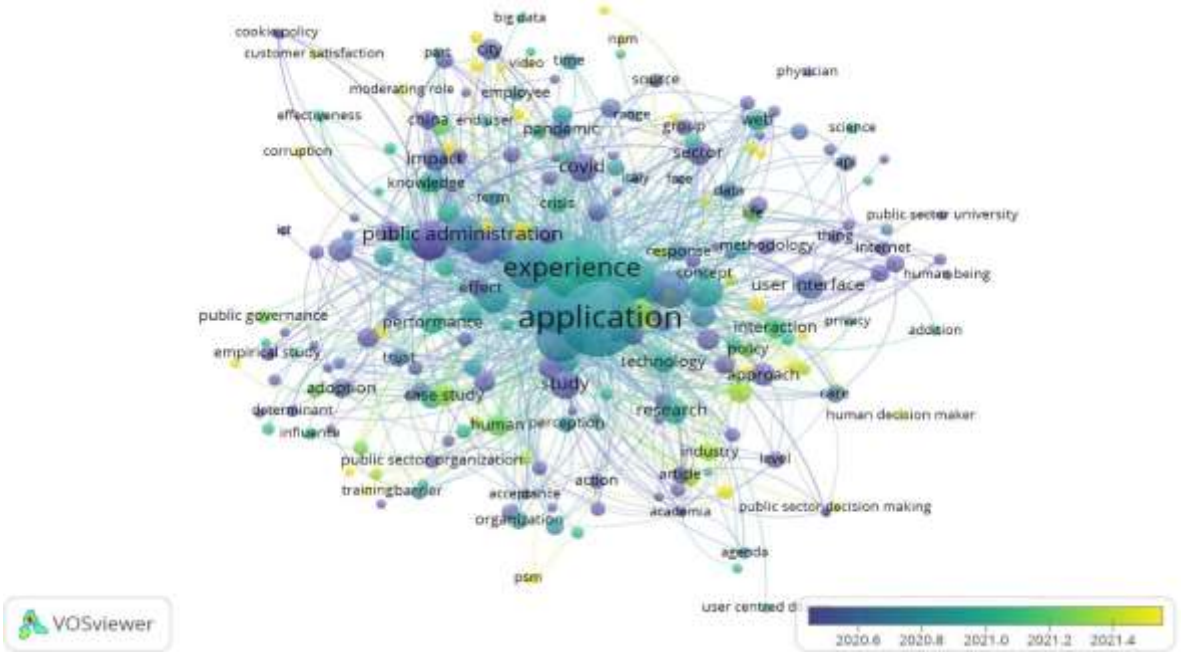
Source: Processed Author

The criteria for inclusion (feasible) and exclusion (not feasible) can be seen from the sample of scientific article data that are partly appropriate, some are not appropriate. For the topicthat the author chose, the author made inclusion criteria: (1*) user experience* (UX) on public services and (2) human-centered governance in public services. While the exclusion criteria are as follows: (1) designs involving programming languages (*coding*); (2) studies with data that cannot be extracted, duplicated, or overlapped data; (3) articles that only feature an abstract, thesis,or *author*'s review book; and (4) articles without full text available.

Total journals are limited to 200 journals with databases from Google Scholar and Scopus.Next, the VosViewer application displays the results of the analysis with clusters. The larger a cluster, the more similar studies there are. The yellow color is a marker of the latest journals published. The yellower the cluster, the newer the discussion. The results of VosViewer analysis can be seen below.

VosViewer processes articles that have been obtained from the database into a map of clusters of research that has been carried out. The larger the circle of a cluster, the more research has discussed it. the smaller the size of the circle, the fewer people discussing it. These circles areconnected by connection lines. The further the line is from the main cluster, the further the technical distance (additional connection/gap required). The main cluster tends to have close relationships with several nearby clusters which are marked by large circle sizes. This data processing also displays trends for the year in which it is discussed. The yellow color shows new research, while the purple color represents older research. VosViewer mapping allows researchers to see things that don't yet appear on the map or see the potential for small circles and those farfrom the main cluster to study for new research.

I. VOSVIEWER RESULT



METHODS

The author uses qualitative research to explain the phenomenon in this study. The focus of this research is the digital product Disdukcapil Kota Pekanbaru. Using qualitative, the author reconstructs existing findings (facts) related to *the phenomenon of user experience*. The determination of this focus is based on programs that have been implemented that involve supportfrom stakeholders. This study used secondary data. The existing data is only focused on *user experience* (UX), which is the limitation of this paper. The author uses secondary data in the formof previous studies from journals, books, to websites that have researched similar problems. The author will process existing data and analyze the data that will be developed in this paper.

The data collection process begins by compiling a list of problems that exist in society through Google Play. The reason for using secondary data from Google Play is because the data is valid obtained from the community (users) who provide input on the Pekanbaru Disdukcapil Waiting Service application. The data showed complaints that were deemed sufficient to act on as a study.

RESULTS

There are several product applications from Disdukcapil Kota Pekanbaru available on Google Play, namely Siwarga which is an application for making population documents; Waiting Service whichis an application for printing lost, damaged, and precarious ID cards; SYNOPSIS-Record Student KTP-el which is an information system for KTP registration services for students; and Detik- DriveThru Disdukcapil which is an application for submitting a drive thru service ID card. (Google Play,2023)

Two applications owned by Disdukcapil Kota Pekanbaru do not yet have a rating on Google Play.These applications are Siwarga and Detik- Drive Thru Disdukcapil. While the other two applications, namely Waiting Service and SYNOPSIS-Record Student ID Card-e, have poor ratings on the Goole Play scale. The Waiting Service application only obtained 3.1 out of 5 and the Student e-ID Card Record application only had 2.6 out of 5. Ratings from Google are intendedso that users know the performance of an application obtained from users who already use applications on Google Play. Reviews on Google Play can be an effective way to provide information and feedback to developers as well as potential other users. A scale of 1 means very bad and 5 is very good. (Google Play, 2023) Scores of 2.6 and 3.1 are not satisfactory numbers foran app available on Google Play. This study focused on the Pekanbaru Disdukcapil Waiting Service application which has a value of 3.1 with the following problems (table 2).

Table 2. Problems that Arise

No	Types of Issues	Rating	*Margin of Error*
1	Difficulty in using the application	1-5	Rating 5 is incorrect (error)
2	The application does not respond as it should	1-5	Rating 5 is incorrect (error)
3	Difficult networks and access	1-2	-
4	Digital but processed manually	1-2	-
5	Criticism of the absence of renewal	1-2	-

Souce: Google Play 2023

From the table above, the author groups into five main problems. There is a *margin of error* in grading. There are many users who give the wrong rating. These users gave a perfect rating (5) but the content was criticism that occurred regarding the use of the application. Thus, the actual ratingof existing applications can be much lower than what is currently stated. The problem is related to*user experience* (UX). This can happen if the preparation and development of the application doesnot involve a special designer who involves a human-centered approachment.

DISCUSSION

This study aims to see and investigate how human-centered governance in UX affects the course of an online-based public service. This is the main point of this study. To be fully implemented, online-based public services require a good UX design. Of course, the role of stakeholders in thiscase is that the government has a big role in determining the course of online-based *public services*considering that this is a picture of future public services that have become the vision and missionof Pekanbaru City. The author found that there is a role for each stakeholder in the development of online-based public services. Based on this analysis, the authors suggest the following:

Proposition 1: Online-based public services require *human-centered governance*

Online-based public services should consider and involve human-centered governance. The digital transformation of the public sector must always pay attention to the needs and preferences of the community from the perspective of the community itself. In embarking on a successful digital transformation, it requires not just modernization of technology, but also a deepunderstanding of how society will respond, use, and adopt it. Much of the transformation aims to make people's experience of accessing government services digitally more "human". Recent research highlights a clear opportunity for government institutions to bring humanity to these digital experiences. Research shows that one-third of people feel treated more like "numbers" thanhumans when receiving public services. Not only were these findings eye-opening, but 30% of respondents thought that government institutions often do not address their problemsempathetically. This figure is an increase compared to the survey in 2019 which was only 20%. The data indicates that there is still a low humanist side in the interaction between society and public institutions in the digital space. (Batra and Fouss 2023)

Therefore, policymakers and regulators need to encourage the creation of more empatheticdigital services and meet people's expectations for a more "human" quality of interaction in everytouch of the service point. This can be realized one of them through the application of user interaction design (user experience or UX design) that is human-centered and involves direct inputfrom users from the early stages of service development. Thus, it is expected that the digital transformation of the public sector can provide real added value for the quality of life of the widercommunity.

By involving *Human-centered¸ Built ideas (in this case public services) are not only sophisticated and modern, but also ready to be used by users. This happens because the design involves human-centered* will provide an understanding of people's needs, motivations, andconsiderations, but also make conformity more efficient, more flexible, and more economically efficient. (MacDonald et al. 2020) However, from the data we get, there is a challenge in addressingpublic services in a timely manner. *Online*. The problem is that the author presents as follows;

Proposition 2: International standards as a must

Stakeholder capacity building is urgently needed to support online-based public services. This is due to public demands that online public services can be accessed easily, in line with the characteristics of digital transformation. This process requires the readiness of competent stakeholders. If it does not adapt, there will be a gap between stakeholders and technology due tothe inability to operate the system that has been built. To overcome this problem, stakeholders mustapply international design standards in designing applications and online public services.

In making a design, stakeholders need to consider two sides: the user side and the manager side. If the system design is too difficult for the maintainers to understand even by the maintainers themselves, the system will not function properly. Therefore, adopting the ISO 9241-210 standardcan be a solution as it establishes at least six design criteria. First, the design must understand theuser, tasks, and operating environment. Second, user engagement throughout design and development. Third, the design is refined based on user-centered evaluation. Fourth, the iterative design process. Fifth, design encompasses the entire user experience. Sixth, a multidisciplinary design team. By implementing this standard, it is hoped that online public services can provide optimal benefits for the community. (Interaction Design Foundation 2016) To address this, policymakers must work to ensure changes in the

design, training and licensing of managing officers and public services. Based on this, it shows that;

Proposition 3: Disdukcapil's role in solving UX problems

The Disdukcapil Government of Pekanbaru City has its own role and problems in online- based public services. Based on reviews on the official Disdukcapil app on the Google Play Store,it found at least a few major issues. The main problem is the poor quality of unreliable applicationservices. This is the impact of not applying the UX approach during application development. It isnecessary to redesign the application by applying the principles of human-centered governance, namely by involving the community as the main focus from the planning stage. From the Disdukcapil Government side, UX is needed that makes it easier for administrators to follow up on public administration through applications. The ease of operation of the system will support thevision and mission of the Pekanbaru City Government in digital transformation. Furthermore, application developers need to adopt international design standards in developing Disdukcapil applications oriented to user needs and feedback.

By applying the principles of human-centered governance in UX, it is hoped that the Disdukcapilapplication service can provide optimal benefits and convenience for the people of Pekanbaru City.

Proposition 4: Regulation is needed in online-based public servants

Regulation is a matter that must be a special concern of the government in public administration reform towards digital-based services. There are several important considerations in the preparation of this regulation. First, the government needs to revise and update various related regulations to facilitate digital public administration. Old regulations that are not suitable must be adjusted to the needs of digitalization. Second, the drafting of regulations needs to consider potential disagreements with relevant stakeholders. As stakeholders, they can have different preferences and interests. Therefore, regulations must be able to bridge various interests so that policy implementation runs smoothly.

Third, the broad scale of public services should be a major consideration. Regulation reform mustnot be counterproductive to the main mission of public administration, which is to improve the quality and access to services for the wider community. Fourth, standardization of the competenceof digital public service managers is needed in order to operate according to established instructions and protocols. Finally, it is also necessary to consider global governance, such as dataprotection and privacy issues and foreign resource

competition. Thus, comprehensive regulationsand broad perspectives are needed so that the implementation of digital public services can run optimally, meet various interests, and provide benefits to the entire community.

CONCLUSION

In accordance with the vision and mission of Pekanbaru City in realizing digital transformation in public services, Disdukcapil Pekanbaru City issued a number of service-based products *Online* including some of the apps available on Google Play. In practice, these applications have a fairly high criticism from the public regarding difficult operational methods, poor access, not running as it should, to results that are not as expected. Disdukcapil as a stakeholder has a big role in solving UX problems for the creation of good public services. Thereare at least four prepositions that can be input in the future; (1) Public services based *Online* Need *human-centered governance;* (2) International standards as a must; (3) Disdukcapil's role in solving UX problems; (4) A regulation is needed that regulates public servant-based *Online.*

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