ANALYSIS OF LOCAL GOVERNMENT MOBILE GOVERNMENT APPLICATION MAPPING IN EAST JAVA PROVINCE

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ABSTRACT

Currently, e-government has migrated to m-government. During the COVID-19 pandemic, mobile government is more popular with the public where the recommendations for maintaining distance and staying at home can be implemented while being able to access public services. This study presents the mapping of local government applications and identifies the categorization conditions for the mapping of local government applications in the province of East Java. Researchers used a quantitative approach. Data collection uses secondary data where application data is obtained from the Android smartphone play store. After the data was collected, the researcher used descriptive statistical analysis to map the quantity of applications made by the regional government of East Java province. Then, classify application categories based on Ganapati (2015), namely enterprise-focused apps and citizen-focused apps. This mapping research and application category classification is intended to be a reference for other local governments in the development of m-government. In public administration, this study is useful in the development of m-government science. The results found are regional governments throughout East Java Province have a total of 362 m-governance applications. The majority of applications (86%) are focused on community service and the rest are business-oriented. The highest category in productivity applications and applications for communication. Meanwhile, 14% of applications focus on business activities.

Keyword: *m-government, application, local government,mapping*

A. INTRODUCTION

The implementation of e-government in Indonesia has increased. Based on the results of the e-Government Development Index (EGDI) survey conducted by the United Nations (UN) Department of Economics and Social Relations (DESA) on its member countries, it shows that Indonesia is ranked 88th out of 193

countries in 2020 (United Nations, 2020). Indonesia has risen 19 places since 2018. This increase is due to the use of online or online-based public services.

Public services during the pandemic have shifted from conventional to online. Many central and regional governments are competing to create applications for smart cellular phones (cell phones) to facilitate the running of public services. Although e-government initially used websites, now many agencies are creating mobile applications that can be accessed directly through their respective mobile phones.

The migration of public services to smartphones is not without reason. More than 90 percent of the population now owns a cell phone, and three-quarters of it is a smartphone. Since their introduction in 2008, mobile phone applications have become an important tool for commercial services, such as music, weather, and shopping. In fact, the average smartphone user has around 40 applications on their device (Ganapati, 2015).

Applications are increasingly becoming an important tool for people to interact with the government (Ganapati, 2015). Government-developed mobile apps offer various opportunities to provide services, such as finding parking spaces and paying for them, as well as engaging citizens in co-production services, such as reporting potholes and broken street lights. Local governments continue to develop applications that facilitate government services.

As the new coronavirus continues to spread around the world, more and more governments are relying on mobile operator data to track everything from patients who need to be isolated to how obedient people are to social distancing (lyons, 2020). South Korea uses location data to create a public map of patients infected with the coronavirus. The country is rated most aggressively by using apps to determine whether they have been in contact with someone who has been infected with the new coronavirus. As a result on 29 February 2021, the BBC reported that the country recorded 64 new cases in the last 24 hours, down from a peak of 909 cases (lyons, 2020). Massive use of the application can increase public awareness so as to reduce infected cases due to accurate data. This has also been done by the Indonesian government in mapping positive patients through the PeduliLindung application.

Previous research still discusses the implementation of e-government with the website (Yunita & Aprianto, 2018)*;* e-government success factors Rozikin et al., 2020); the process of making software for the government (Fuadi, 2018); effectiveness of m-governance (Ramganesh et al., 2017); accessibility of e-governance-based mobile applications (Balaji & Kuppusamy, 2016); and studies on m-governance (Pandey & Sekhar, 2011). There has been no research on mapping and categorization of applications used by the government, especially Indonesia.

Looking at the current mobile era, there is an urgent need to transform e-governance services into m-Governance, to bring the vision of "anywhere-anytime-anyone" e-government services one step closer. For this reason, it is necessary to map the m-governance application of the regional government of East Java Province. The researcher tries to provide an overview of the mapping m-governance applications in East Java.

B. LITERATURE REVIEW

Mobile Phone Apps

Apps are programs designed specifically for mobile devices such as smartphones, tablets and wearables. With the explosive growth of mobile devices, apps have become commonplace since Apple introduced them for the iPhone in 2008. There are nearly 4 million apps available through major gateways such as the App Store (for Apple iOS devices) and Google Play (for Android devices). The app economy has grown rapidly with billions of downloads. Nearly 90 percent of mobile users' time is spent on apps (Klalaf, 2015). This research is limited to the application of the local government of East Java Province through the play store.

M-Government

Mobile Government abbreviated m-government, is the extension of e-Government to mobile platforms, as well as the strategic use of government services and applications that is only possible using cellular/cellular phones, laptop computers, personal digital assistants (PDAs) and wireless internet infrastructure (Pandey & Sekhar, 2011). In addition, m-government is a better choice than eGovernment in delivering public services and information to the public due to its availability anywhere, anytime, and from any internet-enabled device. M-government is not intended as a substitute for e-government but to be a complement to e-government.

According to Ganapati (2015) there are two types of government applications, namely (1) Enterprise-focused applications, especially for internal use in public organizations. They are only accessible to employees and operate within a secure firewall set up by the organization. (2) Citizen-oriented apps are intended for external use. They can be accessed by anyone who wants to use government services. Researchers will categorize applications into 2 types, namely the category of business-oriented applications and the category of community-oriented applications.

C. METHOD

This study uses a quantitative approach, because this study aims to map the applications of the local government of East Java Province so that a map of the distribution of applications will be available in the form of quantity and type of applications provided by the local government; and researchers analyzed the conditions of application categorization based on the mapping of local government applications in the play store so that the categories of applications for the local government of East Java Province could be known. Measurements are carried out with predetermined and number-based measurements. This is in accordance with the opinion of Sugiyono (2008) who stated that quantitative research is a scientific approach that views a reality that can be classified, concrete, observable and measurable, the relationship between variables is causal where the research data is in the form of numbers and the analysis uses statistics.

The selection of research locations is adjusted to the objectives and research problems (Satori, 2010:56). The author determines the exact location of the

research, namely the entire regional government of East Java Province. The total regional government of East Java Province is 38 regencies/cities. Researchers will analyze all applications that have been created by the local government of East Java Province and installed on the Android smartphone play store. As confirmation data, researchers chose the local government of Blitar City and Bojonegoro Regency. The consideration for choosing these two areas is that Blitar City has a high Android-based government application and Bojonegoro Regency has a low number of Android-based government applications.

The population in this study are all applications that have been created by the local government and installed on the Android smartphone play store. The sample of this research is all applications that have been created by the local government and installed on the Android smartphone play store.

The data collection technique in this study used a documentation study. During a pandemic, documentation studies are very necessary due to limited space and time constraints.

Based on the information collected, the analysis used is a descriptive quantitative analysis technique with a frequency distribution table to analyze the mapping of the m-government application categories of the East Java Provincial Government.

In the analysis technique that will be used later, the author uses a frequency distribution, namely the percentage (%) in each sector questioned in the questionnaire. The next step is to analyze and process the data which is then matched with a rating scale that becomes the standard in a study.

The description of the percentage processed by means of frequency divided by the number of respondents multiplied by 100 percent, as stated by Sudjana (2001:129) is as follows.

$P = (f / N) \times 100\ \%$

Information:

P : presentation

f : frequency

N : number of respondents

100% : fixed number (constant)

After analyzing each item, interpretation is carried out using the following categories.

Table 1. Hartini's Questionnaire Percentage Criteria (Mulyadi, 2010:55)

Amswer Presentation	Category
P=0	Nobody
0<P<25	Fraction
25<=P<50	Almost Half
P=50	half
50<P<75	Most of the
75<=P<100	Almost All
P=100	all

D. EXPLANATION

Mapping of Local Government Applications in East Java

This study conducted a mapping of applications created and used by 38 districts/cities in East Java. Researchers listed all applications used by local governments in East Java to assist with the main tasks and functions of their position. The results of the listing are as follows.

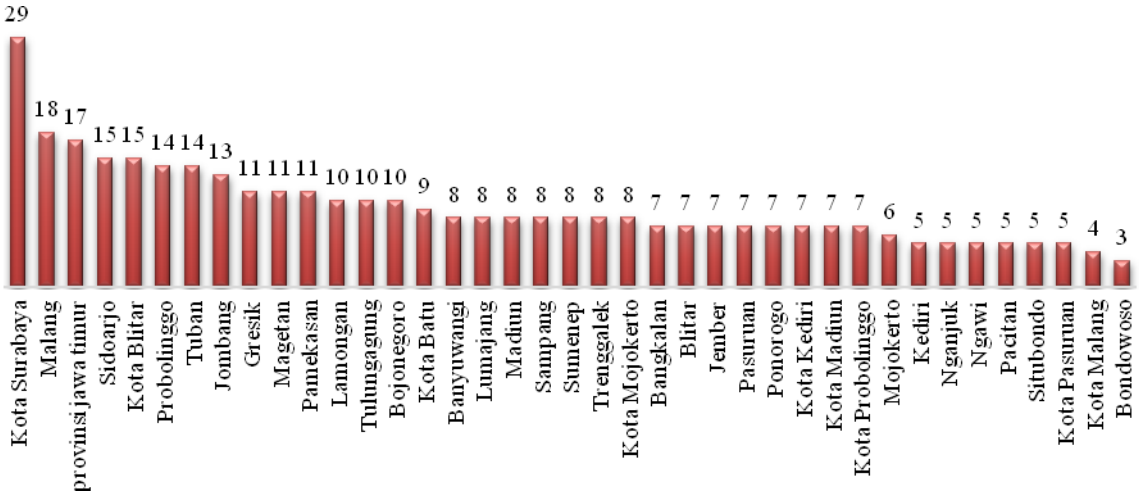
Table 2 Number of Local Government Applications in East Java

No.	District	Number of applications	%
1	Kota Surabaya	29	8.01
2	Malang	18	4.97
3	provinsi jawa timur	17	4.70
4	Sidoarjo	15	4.14
5	Kota Blitar	15	4.14
6	Probolinggo	14	3.87
7	Tuban	14	3.87
8	Jombang	13	3.59
9	Gresik	11	3.04
10	Magetan	11	3.04
11	Pamekasan	11	3.04
12	Lamongan	10	2.76
13	Tulungagung	10	2.76
39	Bojonegoro	10	2.76
14	Kota Batu	9	2.49
15	Banyuwangi	8	2.21
16	Lumajang	8	2.21
17	Madiun	8	2.21
18	Sampang	8	2.21
19	Sumenep	8	2.21
20	Trenggalek	8	2.21
21	Kota Mojokerto	8	2.21
22	Bangkalan	7	1.93
23	Blitar	7	1.93
24	Jember	7	1.93
25	Pasuruan	7	1.93
26	Ponorogo	7	1.93
27	Kota Kediri	7	1.93
28	Kota Madiun	7	1.93
29	Kota Probolinggo	7	1.93
30	Mojokerto	6	1.66
31	Kediri	5	1.38

No.	District	Number of applications	%
32	Nganjuk	5	1.38
33	Ngawi	5	1.38
34	Pacitan	5	1.38
35	Situbondo	5	1.38
36	Kota Pasuruan	5	1.38
37	Kota Malang	4	1.10
38	Bondowoso	3	0.83

Resource : Google Play Store, 2021

Based on the results of the listing, it is known that the city of Surabaya is the city with the most m-gov applications in assisting its government activities. Applications owned by the City of Surabaya reached 29 applications. Then followed by Malang City as many as 18 applications. Then the Regional Government of East Java Province ranks 3rd (three) with a total of 17 applications. Sidoarjo Regency ranks 4th. When viewed from the top 4 rankings, the highest order is occupied by regencies/cities that have a high level of activity or are called big cities.



Resource: *Google Play Store, 2021*

Figure 1. *The Largest to Smallest Number of m-gov Applications in East Java Province*

When viewed from the number of Android-based m-government applications, local governments are still not optimal in providing digital-based public services. On the other hand, President Joko Widodo gave instructions to accelerate digital transformation, one of which was in the government sector. This urges local governments to achieve the target indicators of the bureaucratic reform index, one of which is digital services.

People need fast, cheap, and quality services. It can be organized with the help of digital. At this time, many local governments have implemented applications for public services using both websites and smartphones. The urgency of digital services has been felt by the Surabaya City Government, Malang Regency Government, Sidoarjo Regency, and other cities / counties. The urgency of digital services is an absolute thing that must be lived, because of technological changes that have developed in the development of information systems. This can be seen in the amount of regional income compared to the number of applications owned.

M-gov Category Mapping Based on Playstore

Mobile government uploaded in the playstore already has its own categories according to the application's usability group. The categories in the google play store are productivity, communication, tools, books and references, social, education, business, travel & local, news & magazine, finance, maps & navigation, medical, health & fitness, auto & vehicles, personalize , shopping, entertainment, weathers, video players & editors, and events.

The listings for the Android-based m-government category are as follows.

Table 3
Categorization of Android-based Local Government Applications in East Java

No.	Nama Pemda	Produc tivity	Commu nication	tools	social	Edu cation	book	Bus siness	travel	Finance	Person nalize	Health	video	news	Enter taiment	shoping	Medical	Auto& Vihicles	Map	Wea ther	Event
1	Prov. Jatim	7	2	1	1	4	1	1													
2	Bangkalan	3	2	2	1																
3	Banyuwangi	3	2		1				1	1											
4	Blitar	3	1		1		1				1										
5	Bojonegoro	3		1			2					1					1		2		
6	Bondowoso		1	1			1														
7	Gresik	1	2	2	2			1				1	1	1							
8	Jember		2	3			1										1				
9	Jombang	4	2	2	2	1	1					1									
10	Kediri			1	1			1						1	1						
11	Lamongan	2		2		2	2	1	1												
12	Lumajang	1	1	2		1	1	1											1		

No.	Nama Pemda	Productivity	Communication	tools	social	Education	book	Business	travel	Finance	Personalize	Health	video	news	Entertaiment	shoping	Medical	Auto& Vihicles	Map	Weather	Event
13	Madiun	1	1	1	1		2		1							1					
14	Magetan	4	1	2		1	1	1								1					
15	Malang	3	3		1	1	1	2	1			1		2			1	1			
16	Mojokerto	1	1			1											1		1	1	
17	Nganjuk	3					1							1							
18	Ngawi	2				1			2												
19	Pacitan						2	1						1			1				
20	Pamekasan	1	1	2	3		2										1		1		
21	Pasuruan			2		1			2			1							1		
22	Ponorogo	3	2		1						1										
23	Probolinggo	3	2	1			3	1		2				2							
24	Sampang	1	2	3				1											1		
25	Sidoarjo	6	1	2	4											1			1		

No.	Nama Pemda	Productivity	Communication	tools	social	Education	book	Business	travel	Finance	Personalize	Health	video	news	Entertaiment	shoping	Medical	Auto& Vihicles	Map	Weather	Event
26	Situbondo		1	1	1	1	1														
27	Sumenep	2		1		2	1	1							1						
28	Trenggalek	2			1	1	1		1	1	1										
29	Tuban	3	7	1						1							1			1	
30	Tulungagung	1	1			1	3		1	1							1	1			
31	**Kota Batu**	1			1		3		2					2							
32	Kota Blitar	4	1	1	1	2	1			2		1		1						1	
33	Kota Kediri	3		1			1	1			1										
34	Kota Madiun	4		2										1							
35	Kota Malang	2		1	1																
36	Kota Mojokerto	3	1	3	1																
37	Kota Pasuruan		1	1	1													1	1		
38	Kota Probolinggo	2					1		1	1				1				1			

No.	Nama Pemda	Produc tivity	Commu nication	tools	social	Edu cation	book	Bus siness	travel	Finance	Person nalize	Health	video	news	Enter taiment	shoping	Medical	Auto& Vihicles	Map	Wea ther	Event
39	Kota Surabaya	4	5	4	1	1	1	5		1					1	1		1	3		1
	Total Aplikasi	**86**	**46**	**46**	**27**	**21**	**35**	**18**	**13**	**10**	**4**	**6**	**1**	**13**	**3**	**4**	**8**	**5**	**12**	**3**	**1**

Resource: *Google Play Store, processed*

Based on table 4.1 above, the highest category is applications to support productivity of 84 applications. The other highest order is communication as many as 46 applications, tools as many as 45 applications, social applications as many as 27, books and references as many as 34 applications.

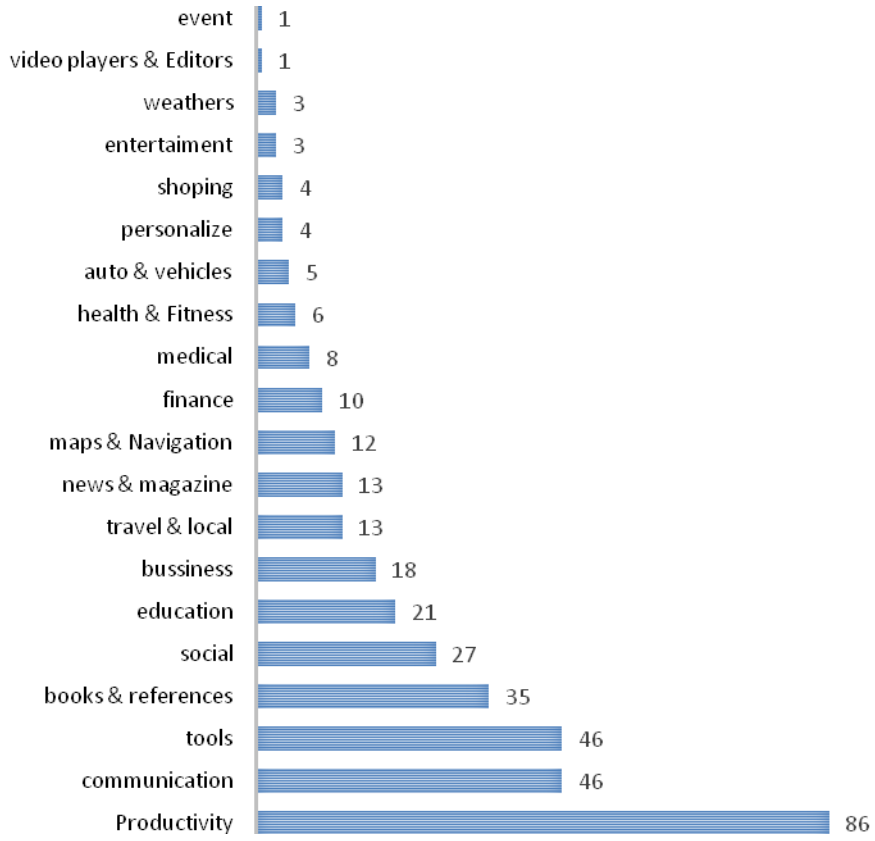


Figure 2. *Category of local government applications based on google play store category*
Resource: *Google Play Store, processed*

E. CONCLUSION

The local government in East Java Province has a total of 362 m-governance applications. When viewed from the number of Android-based m-government applications, local governments are still not optimal in providing digital-based public services.

The majority of m-governance categories fall into the category of community service-based applications. The highest category is applications to support productivity of 86 applications. The other highest order is communication with 46 applications. Only about 14% focus on business matters such as business, travel, finance, shopping, entertainment categories

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