===

Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani

Universitas Riau, Indonesia; Aisyah.nurterra7632@grad.unri.ac.id

Abstract

Electronic-Based Government System is a government administration that utilizes information and communication technology to provide services to SPBE users. The implementation of SPBE depends on the interoperability process used between agencies. Given the importance of the interoperability principle that must be owned by every SPBE architecture, the Government should promulgate laws related to interoperability. BAPENDA Pekanbaru City as an agency authorized to collect district / city local taxes in Pekanbaru City continues to make innovations to provide convenience and improve services for taxpayers (WP). The innovation carried out by BAPENDA Pekanbaru City is the provision of integrated services in accordance with Government Regulation Number 12 of 2019 concerning Regional Financial Management by Implementing an Electronic-Based Government System. Referring to the regulation, SPBE produces Electronification of Local Government Transactions (ETPD) through the Smart Tax Pekanbaru Application can only be used to pay restaurant tax, entertainment tax, hotel tax, and parking tax. This research method uses a qualitative method, with informants obtained by purposive sampling technique. From the research results, it was found that there are still obstacles to the use of smartphones in gaining access to the application due to server licensing, and software management.

Keywords: Local Government, Electronic Government, Tax Service, Interoperability.

Introduction

The development of Information and Communication Technology (ICT) is a phenomenon that is able to change the ecosystem of life very quickly. It is not only beneficial in the industrial world as a medium to improve production performance, but also affects the level of individual lifestyle. ICT is very helpful in solving problems more accurately, effectively, efficiently, and safely. The convenience obtained, makes ICT needs one of the things that must be considered, including in the government sector without exception. The increasing role of technology, information and communication (ICT) in business processes has made many institutions compete to implement ICT for integrated processes, one of which is through the development of e-government. The information and communication technology (ICT) revolution provides opportunities for the government to innovate. This is in line with Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems. Electronic-Based Government System (EBS) is the administration of government that utilizes information and communication technology to provide services to EBS users.

The implementation of SPBE depends on the interoperability process used between agencies, because interoperability is an urgent demand in the development of e-government due to the need for multi-sectoral data in order to make policies to overcome problems that involve data from related sectors. According to Presidential Regulation No. 95/2018 on

14

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

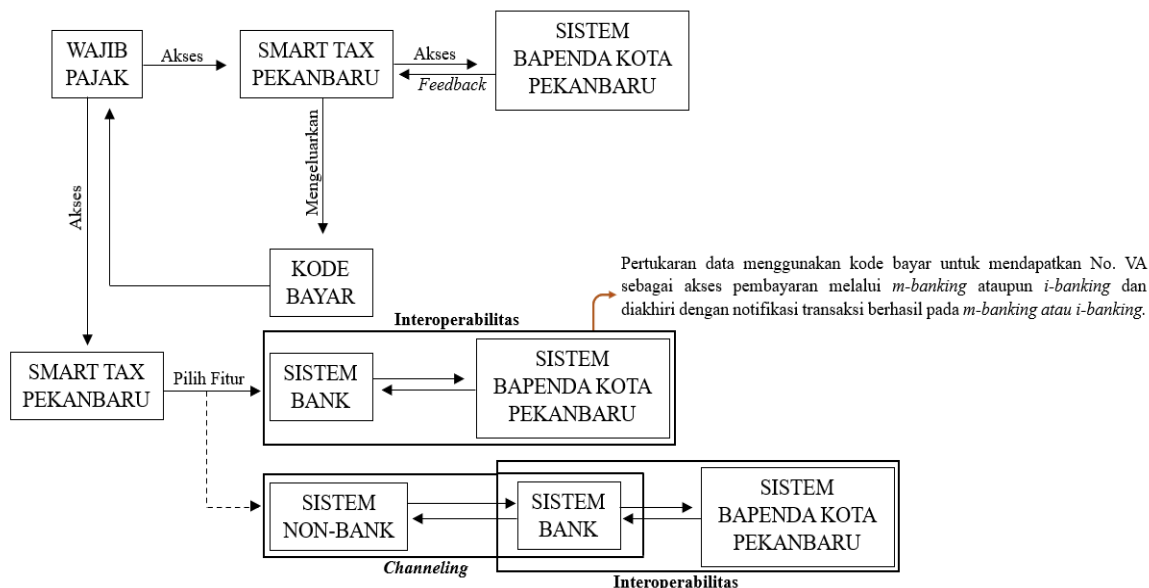==

Electronic-Based Government Systems, interoperability is coordination and collaboration between business processes and between electronic systems, in order to exchange data, information, or SPBE services. Given the importance of the interoperability principle that every SPBE architecture must have, the Government should enact a law related to interoperability. However, to date, the Government has only issued a draft Minister of Communication and Information Technology Regulation on Data Interoperability.

Digital government is a development of the e-government concept with more emphasis on community participation in data collection and utilization. In its implementation, digital government requires Big data, so in this case the Government of Indonesia implements a One Data system as stipulated in Presidential Regulation of the Republic of Indonesia Number 39 of 2019 concerning One Data. One Data in Indonesia must be carried out based on the principles of meeting data standards, having metadata, meeting data interoperability rules, and using reference codes and/or master data.

SPBE implementation is carried out in all agencies in Indonesia, including the Pekanbaru City Regional Revenue Agency (BAPENDA). BAPENDA Pekanbaru City as an agency authorized to collect district / city local taxes in Pekanbaru City continues to make innovations to provide convenience and improve services for taxpayers (WP). The innovation carried out by BAPENDA Pekanbaru City is the provision of integrated services in accordance with Government Regulation Number 12 of 2019 concerning Regional Financial Management by Implementing an Electronic-Based Government System. Then, this integrated service is also regulated in Pekanbaru Mayor Regulation Number 87 of 2019 concerning the Implementation of e-government through integrated applications within the Pekanbaru City Government.

Smart Tax Pekanbaru application can only be used to pay restaurant tax, entertainment tax, hotel tax, and parking tax. In 2022, the Pekanbaru City local tax service can already be accessed through the Smart Tax Pekanbaru application, and was officially used on February 11, 2022. Initially, the Smart Tax Pekanbaru application could only be used by android users. However, since 2022, taxpayers who use iOs devices can already use the Smart Tax Pekanbaru application. The types of taxes contained in the Smart Tax Pekanbaru application at this time, namely Urban Rural Land and Building Tax (PBB-P2), Fees for Acquisition of Land and Building Rights (BPTHB), Street Lighting Tax, Hotel Tax, Restaurant Tax, Entertainment Tax, Parking Tax, Swallow's Nest Tax, Billboard Tax, Non-Metal Mineral and Rock Tax, and Groundwater Tax.

Figure 1
Business Process Interoperability in Smart Tax Pekanbaru Application

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

===

Source: Processed by Researchers (2023)

Based on Figure 1, the interoperability business process in the Smart Tax Pekanbaru application is understood that when taxpayers make district / city local tax payments through the Smart Tax Pekanbaru application. Based on figure 1, the interoperability business process in the Smart Tax Pekanbaru application is understood that when taxpayers make payments of district / city local taxes through the Smart Tax Pekanbaru application, the business processes that work in it are as follows. First, taxpayers access the Smart Tax Pekanbaru Application to select the service features needed, then taxpayers input their identity in the selected service features. Then, BAPENDA Pekanbaru City provides feedback on the selected service, and produces a pay code output so that taxpayers can make local tax payments. Second, to make local tax payments, taxpayers can do so through the Smart Tax Pekanbaru application or directly through banking or non-banking applications that cooperate with Pekanbaru City BAPENDA. Third, if taxpayers make local tax payments through the Smart Tax Pekanbaru application, taxpayers will be directed to banking applications or non-banking applications. However, this feature can only be used by Android users. So, for iOs users, taxpayers directly access banking or non-banking applications only. Fourth, after completing the local tax payment, taxpayers will get proof of local tax payment in the form of a successful transaction.

Law No. 28/2009 on Regional Taxes and Retribution. Law No. 28/2009 states that district/city local taxes consist of Land and Building Tax for Urban Rural Areas (PBB-P2), Fees for Acquisition of Land and Building Rights (BPHTB), Street Lighting Tax, Hotel Tax, Entertainment Tax, Restaurant Tax, Parking Tax, Swallow's Nest Tax, Billboard Tax, Non-Metal Mineral and Rock Tax, and Groundwater Tax. However, on January 5, 2022, the Government issued Law No. 1 of 2022 on Financial Relations Between the Central Government and Regional Governments which regulates the types of provincial and district/city local taxes, local retributions, transfers to regions, and so on. In Law No. 1 of 2022, there are several changes in the types of district / city local taxes such as the unification of hotel tax, entertainment tax, parking tax, and restaurant tax into Specific Goods and Services Tax; the addition of Motor Vehicle Tax and Motor Vehicle Title Transfer Fee. Based on this background, researchers are interested in looking at "Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City".

16

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

==

Method

This research is a type of research that uses qualitative research methods that are explanatory in nature with a case study approach. Qualitative research is a method for exploring and understanding the meaning ascribed to social or humanitarian problems (J. W. Creswell 2021). This research was conducted at an agency that has the authority to collect district / city local tax services in Pekanbaru City, namely the Pekanbaru City Regional Revenue Agency. Researchers used research informants using the purposive method in addition to taking informants based on criteria or characteristics that are unique because they are appropriate and have capacity, meaning that the subject knows and is familiar with the problem and is willing to provide clear and accurate information related to the data needed in this study. The data the researcher gets is then analyzed which consists of primary data and secondary data.

Results And Discussion

Interoperability is very important in e-government development because e-government development requires multisectoral data in order to make policies to overcome problems that involve data from related sectors. E-government development needs to be carried out by every agency because the times demand fast and precise access but can be used anywhere and anytime. BAPENDA Pekanbaru City as the party authorized to collect district/city local taxes in Pekanbaru City has made innovations related to district/city local tax services, namely web-based PBB registration; web-based registration of other local taxes; web-based PBB bill printing; web-based PBB SPPT printing; web-based tax report (SPTPD); and web-based PBB SPPT tracking. However, these innovations are not in the same place or house. Thus, in April 2021, the Smart Tax Pekanbaru Application was inaugurated as a place for these innovations which are also equipped with electronic local tax payment features. In essence, both conventional and digital tax services, there is no significant change, but only digitalization. Because, taxpayers still have to register for local taxes and pay local taxes in 2 different places or applications. So, in other words, the smart tax pekanbaru application only acts as a container for applications that are innovations of BAPENDA Pekanbaru City in order to increase local tax revenue.
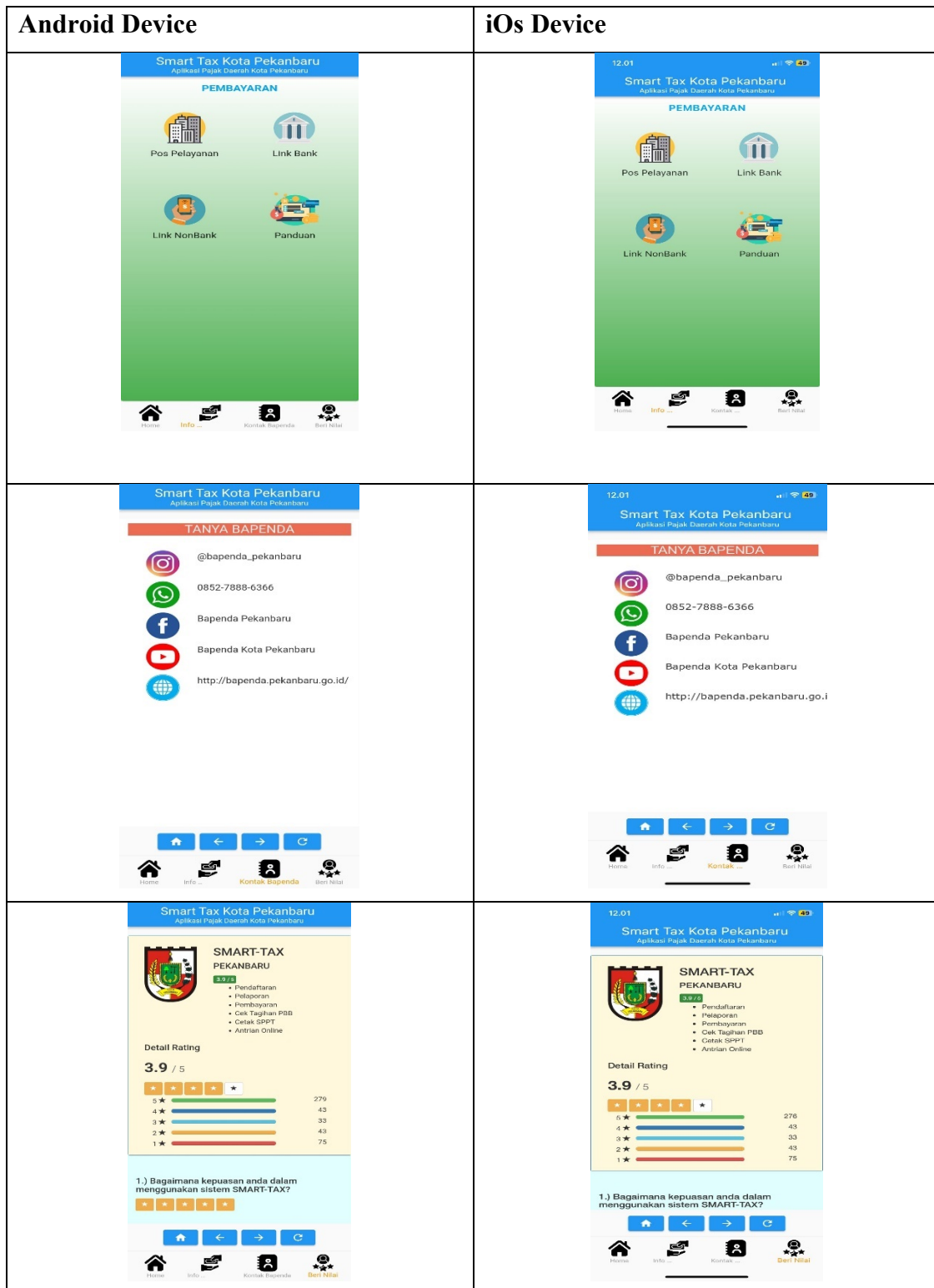
The existing condition of interoperability in local tax services in Pekanbaru City can be seen through the constituent dimensions of interoperability, namely technical interoperability, organizational interoperability, and semantic interoperability. In technical interoperability and semantic interoperability, coordination and collaboration between systems are carried out to connect heterogeneous systems and services in exchanging the required data and/or information. The ability to exchange different autonomous messages and data between systems is done by using the ETL (extract, transform, and load) process with JSON format using HTTP communication protocol and data transformation by processing data through scripts or programming codes. As for physical connectivity between systems, it is done using Intel Xeon RAM 8GB with PHP programming language, Laravel framework, while for iOs using Linux. . To connect data from the Pekanbaru City BAPENDA server to several web-based applications, Pekanbaru City BAPENDA uses the Internal API (application programming interface) with REST API architecture, then the interconnection service uses VPN (virtual private network) while still implementing a user friendly system, easy to read and understand.

Organizational interoperability looks at the extent to which organizations that use different work practices can communicate, so it is necessary to define the same activity

17

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

===

objectives. The smart tax pekanbaru application is an innovation created by BAPENDA Pekanbaru City as a forum for several applications based on the pekanbaru local tax service website, such as PBB registration, registration of other local taxes, printing PBB bills, printing PBB SPPT, reporting taxes (SPTPD), and tracking PBB SPPT. These local tax services are actually only local tax collection processes carried out by BAPENDA Pekanbaru City without local tax payments. To fulfill the local tax collection process, BAPENDA Pekanbaru City conducts further cooperation with banks to innovate and develop technology in local tax services. So that in the smart tax pekanbaru application there is a payment feature through banking and / or non-banking.

Figure 2
Local Tax Services Available on the Smart Tax Pekanbaru Application on Android and iOs Devices

Android Device	iOs Device

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

===

Android Device	iOs Device

Source: Processed by Authors (2023)

Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

The development and continuation of e-government in Indonesia over time illustrates that providing services with seamless information and service delivery requires a high level of complexity across several dimensions of e-government. The capabilities of e-government start

19

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

==

simply with a prefix that provides static, one-way information, but grow increasingly sophisticated and add interactive and transactional capabilities. BAPENDA Pekanbaru City as an agency that has the authority to collect local taxes does not escape the development and continuation of e-government. Initially, in 2020 BAPENDA Pekanbaru City innovated public services in the local tax sector by creating a web-based application for PBB-P2 registration services and PBB-P2 bill checks. Then in 2021, BAPENDA Pekanbaru City created a web-based application for the PBB SPPT printing service. Continued in 2022, BAPENDA Pekanbaru City created a web-based application for e-SPTPTD services.

Several web-based applications created by BAPENDA Pekanbaru City have the same drawback, namely that the web-based application makes it difficult for taxpayers to access it, because taxpayers must access the application separately. Thus, taxpayers prefer to do conventional tax reporting and payment at BAPENDA Pekanbaru City. However, in 2021, BAPENDA Pekanbaru City innovated services through the creation of the smart tax pekanbaru application based on android and / or iOs to make it easier for taxpayers to report and pay their local taxes.

The digitalization of government carried out by BAPENDA Pekanbaru City is the first step in digitizing BAPENDA Pekanbaru City to make it easier to touch all levels of society because it can be accessed anytime and anywhere, although not all local taxation services are available in the smart tax pekanbaru application, such as tax objection and appeal services; tax collection services, correction services, cancellation, reduction of assessments and elimination / reduction of tax administrative sanctions; and tax overpayment refund services..

Digital Government and Electronic Government cannot be separated from the principle of interoperability. Because the principle of interoperability has a function to coordinate and collaborate data and / or information owned by each associated institution. So, it is necessary to know the maturity levels of interoperability in local tax services in Pekanbaru City so that the Local Government can optimize and maximize the use of the smart tax pekanbaru application so that the PAD of Pekanbaru City can increase even better.

Level 1: Computer Interoperability

Coordinating and collaborating heterogeneous data and/or information requires hardware and software systems, physical connectivity, communication between systems, and the ability to exchange appropriate autonomous messages and data to communicate between each other. BAPENDA Pekanbaru City as a party that has the authority to collect local taxes has the right and authority to make innovations in order to increase PAD for Pekanbaru City, one of which is by creating a smart tax pekanbaru application.

The creation of the smart tax pekanbaru application is also a form of adaptation of BAPENDA Pekanbaru City to the times that are now in the digitalization period. To adapt, BAPENDA Pekanbaru City pays attention to vital things, such as the use of Intel Xeon with 8GB RAM to develop the smart tax pekanbaru application and use the PHP programming language with the laravel framework for android devices, and for iOs devices using software from Linux.

Then, for physical connectivity used in the smart tax pekanbaru application is to use the Internal API (application programming interface) with the REST API architecture because it is a type of architecture that is easy to develop. REST API uses the HTTP communication protocol and data transformation by processing data through scripts or programming codes. The use of REST API architecture is also because the REST API architecture separates the roles of client and server so that if there is an update on the client side, the update does not have an impact on the server side and vice versa. Because this interoperability serves to

20

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

===

"bridge" two or more different autonomous systems, it requires a VPN (virtual private network) for interconnection services, but still applies a user friendly system, easy to read and understand. However, the programming system still uses validation to come up with user input.

At this computer interoperability level, BAPENDA Pekanbaru City is able to provide and use hardware and software systems to create a smart tax pekanbaru application in the context of digitizing government in Pekanbaru City which can be seen from the use of the smart tax pekanbaru application on Android and / or iOs devices even though there are shortcomings in the inability to update the smart tax pekanbaru application system on iOs devices as a result of the inability of BAPENDA Pekanbaru City to meet the policies required by Apple and there are still features that cannot be accessed due to system improvements.

Level 2: Process Interoperability

The operation of the smart tax pekanbaru application from the side of BAPENDA Pekanbaru City and from the WP side requires a guide that serves as a guideline in accessing local tax services and in providing feedback on services accessed, so it is very necessary to align work processes in inter-operating organizations. The guidelines for using the smart tax pekanbaru application are divided into 2, namely from the side of the Pekanbaru City BAPENDA staff and from the WP side. It is also known that taxpayers can make local tax payments directly through the banking application of PT Bank Negara Indonesia (Persero) Tbk, without having to go through the smart tax pekanbaru application. The following is the payment flow of one of the local taxes, namely PBB-P2.

At this level, BAPENDA Pekanbaru City has harmonized standard operating procedures (SOPs) for banks and non-banking parties. This SOP alignment is carried out by creating guidelines for accessing local tax services and paying local taxes until successful through the smart tax pekanbaru application. However, although the concept of digitizing government aims to facilitate access to services and to be accessible to the public anywhere and anytime, the public is still required to understand and be able to change the pay code to a barcode or virtual account number. In fact, if the community makes conventional local tax payments, taxpayers only need to submit SPPD and the amount of money billed to the bank. And if the taxpayer does not succeed in changing the payment code, the taxpayer will still come to the banking location. Or when taxpayers have registered for tax and only make routine payments every month or year, taxpayers can report and pay local taxes through the bni bank m-banking application.

Level 3: Knowledge Interoperability

Collaborative relationships are forms and patterns of relationships carried out by two or more people or organizations that have common goals and agree to fully participate in each other, and mutually agree on actions that will be decided and/or carried out together by sharing benefits, sharing resources, sharing information, sharing resources, sharing responsibilities, sharing risks, or sharing problems - related - so as to create constructive coordination actions. The practice of collaborative relationships between Pekanbaru City BAPENDA and banking and non-banking parties is organized by providing banking services, managing local revenue, monitoring financial transactions, providing information and financial assistance, education and training, and technological innovation and development.

At this level, BAPENDA Pekanbaru City has built and maintained collaborative relationships with banking and non-banking parties to achieve the vision and mission of BAPENDA Pekanbaru City and efforts to increase PAD and APBD Pekanbaru City through the provision of banking services, regional revenue management, financial transaction

21

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

===

monitoring, provision of information and financial assistance, education and training, and innovation and technology development.

Level 4: Value Interoperability

Every operating organization has values that are understood and embraced. Thus, when two or more organizations that carry out cooperation and/or collaborative relationships must configure the values that are understood and embraced so that any positive impact obtained from the performance that has been mutually agreed upon can be felt by all parties.

The value configuration carried out by BAPENDA Pekanbaru City with banking and non-banking parties is aimed at increasing the local revenue of pekanbaru city through the use of information and communication technology (ICT). When viewed from the value chain, the creation of the smart tax pekanbaru application as a web-based local tax application service platform has a positive impact on local tax services because taxpayers can get tax services anywhere and anytime. When viewed from the value store, the creation of the smart tax pekanbaru application is the answer to BAPENDA Pekanbaru City's efforts to overcome tax non-compliance in previous years. So as to increase the level of tax compliance, BAPENDA Pekanbaru City provides local tax services that are collected in one place. Meanwhile, from the value network, the smart tax pekanbaru application provides convenience to taxpayers, BAPENDA Pekanbaru City, banks, and non-banks in obtaining and providing local tax services.

The creation of value networks for taxpayers can be seen from the ease of receiving local taxation services due to the digitalization of Pekanbaru City BAPENDA through the smart tax pekanbaru application. The creation of value networks at BAPENDA Pekanbaru City is the ease of providing local taxation services because service officers no longer need to archive the data and/or information provided by taxpayers in paper media because it has been stored properly and neatly by the Pekanbaru City BAPENDA system, so that the local taxation system in Pekanbaru City becomes more well organized. While the creation of value networks for banking and non-banking is that taxpayers can access local tax payment services through banking and non-banking features so that there is an increase in activity in the use of banking or non-banking applications. At this level, BAPENDA Pekanbaru City has been able to fulfill the objectives of value interoperability, namely the achievement of the values that BAPENDA Pekanbaru City has been striving to achieve which is also a form of BAPENDA Pekanbaru City's ability to adapt to changes and demands of the times.

Level 5: Goal Interoperability

Each organization has different goals, although when grouped in scope, these goals may or may not be the same. However, when several organizations apply the principle of interoperability to the service system provided, then these organizations must make common goals through organizational synergy. The synergy of BAPENDA Pekanbaru City with banking and non-banking parties is carried out through the development of financial services, provision of data and information, increasing tax revenue, and community empowerment. In developing financial services, the form of synergy is through cooperation carried out by BAPENDA Pekanbaru City with Bank Riau Kepri through the provision of BRKQris and channeling to non-banking parties such as LinkAja, Tokopedia, GoPay, Bukalapak, Indomaret, and Pos Pay. And the collaboration carried out with the West Java Bank through the provision of channeling to non-banking parties, namely Blibli.

The channeling process that occurs is that the Pekanbaru City BAPENDA system connects with Bank Riau Kepri or Bank Jawa Barat to send data and / or information related to WP who will make local tax payments through non-banking, then the bank sends data and /

22

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

==

or information received from BAPENDA Pekanbaru City to the non-banking system, which the data and / or information received is sent back to the banking system which is then forwarded to the Pekanbaru City BAPENDA system. At this level, BAPENDA Pekanbaru City together with banks and non-banking parties are able to synergize their organizations well so that they can achieve the goals set by their respective organizations. Which, the goal owned by BAPENDA Pekanbaru City is the accessibility of Pekanbaru City local taxation services anywhere and anytime by taxpayers, so that the PAD of Pekanbaru City can increase in number. While the purpose of the banking sector is the circulation of financial cash flow in each bank. And the purpose of non-banking parties is the occurrence of incoming and outgoing transactions and traffic using the application.

Maturity Levels Constraints on Interoperability in Local Tax Services

Conflict of Accountability and Jurisdiction

BAPENDA Pekanbaru City as a representation of the government that has the right and authority to collect taxes has its own duties and functions, and so do the banks and non-banking parties that cooperate with BAPENDA Pekanbaru City. Because of the different tasks and functions as a result of organizational differences, there are several conflicts that occur between BAPENDA Pekanbaru City and the banks in terms of jurisdiction and accountability. Jurisdiction is the right and authority possessed by an organization along with the responsibilities that follow. (Badan Pengembangan dan Pembinaan Bahasa 2016).

So, it can be interpreted that each organization has different rights, authorities and responsibilities even though they are in the same sector. Which, when cooperation is carried out between two or more organizations, there is a conflict of jurisdiction that surrounds it, especially when there is a problem related to the handling of a case. Jurisdictional and accountability conflicts that occur are inevitable from inter-organizational cooperation. However, to resolve these conflicts, good cooperation and communication between the two parties is needed so that effective coordination can be created in organizing and dividing tasks and ensuring compliance with applicable regulations and standards.

Fulfillment of Requirements

On android devices there is a new local tax service feature, namely PBB SPPT tracking (Asiap) and the elimination of the queue list and tax registration features. While on iOs devices there are still queue list and tax registration features. The difference in the availability of local taxation service features is due to requirements that cannot be met by BAPENDA Pekanbaru City against Apple as an application provider on iOs devices. The existence of requirements from Apple that cannot be met by BAPENDA Pekanbaru City has a negative impact on BAPENDA Pekanbaru City itself, namely the inability of BAPENDA Pekanbaru City to carry out government digitalization. Which, taxpayers who use iOs devices should also be able to feel the ease of access in local tax services.

Local Tax Service System

Basically, local tax government service implemented in conventional way by BAPENDA Pekanbaru City only organizes local tax collection. Local tax payment services are organized by banks or non-banks. However, if taxpayers make local tax payments through the smart tax pekanbaru application, taxpayers are expected to be able to change the pay code to a virtual account number. Because the pay code functions as a link between the Pekanbaru City BAPENDA system and the banking system and/or non-banking system.

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

==

Although the efforts to digitize the government carried out by BAPENDA Pekanbaru City always experience development and improvement, in fact the success of these efforts is inseparable from the quality of human resources (HR) owned by Pekanbaru City itself. This is because the quality of human resources - in this case, the use and utilization of ICT - which is sufficient and even high is needed to access local taxation services provided in the smart tax pekanbaru application. Because if the quality of existing human resources is not sufficient or not high, then the application cannot be said to be a successful innovation because it cannot be used and utilized properly by taxpayers.

Local Tax Service Types

There are still many types of local tax services that are not available in the smart tax pekanbaru application, such as tax determination services; installment services and requests for postponement of tax payments; tax accounting and reporting services; tax objection and appeal services; tax collection services, correction services, cancellation, reduction of assessments and elimination / reduction of tax administrative sanctions; and tax overpayment refund services.

The small number of local tax services provided by BAPENDA Pekanbaru City in the smart tax pekanbaru application is also part of BAPENDA Pekanbaru City's efforts to conduct orderly and obedient taxes to taxpayers. Because through face-to-face between taxpayers and the authorities, issues related to other tax services can be more easily resolved because the authorities need to get a direct explanation related to the selected tax service and need to explain directly about whether or not it can be granted, so that it does not cause misunderstanding. Because if done online, such misunderstandings are likely to occur as a result of network instability.

Conclusion

The suggestions that researchers can give to BAPENDA Pekanbaru City in order to improve the quality of local tax services in terms of functions and infrastructure, among others. BAPENDA Pekanbaru City is expected to fulfill the policies required by Apple so that the smart tax pekanbaru application can be used as it functions, as well as synchronizing the application name between android devices and iOs devices. BAPENDA Pekanbaru City is expected to be able to update or improve the smart tax pekanbaru application system so that taxpayers do not need to access many applications to complete local tax reporting and payment, the smart tax pekanbaru application can be more effective and efficient in providing local taxation services. BAPENDA Pekanbaru City is expected to perfect the function of the smart tax pekanbaru application so that the goal of digitizing the Pekanbaru City BAPENDA can be achieved perfectly, because there are still many local tax services that cannot be obtained or accessed through the smart tax pekanbaru application.

References

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

==

Agrawal, D., Bernstein, P., Bertino, E., Davidson, S., Dayal, U. (2011). Challenges and Opportunities with Big Data 2011-1. *Cyber Center Technical Reports*. Paper 1. http://docs.lib.purdue.edu/cctech/1

Chen, H. (2002). Digital Government : Technologies and Practices. *Decision Support Systems* 34: 223–27.

Chen, Z., Gangopadhyay, A., Karabatis, G., Holden, S., and McGuire, M. (2007). Semantic Integration of Government Data for Water Quality Management. *Government Information Quarterly* 24(4).

Creswell, J. W. (2021). *Research Design: Pendekatan Metode Kualitatif, Kuantitatif, Dan Campuran*. Yogyakarta: Pustaka Pelajar.

Creswell, J.W. (2007). *Qualitative Inquiry & Research Design: Choosing among Five Approaches*. Sage Publications, Inc

Destefani, J. (2005). Challenges and Opportunities. *Products Finishing (Cincinnati)* 70(1).

Drazin, R., and R. K. Kazanjian. (1989). An Empirical Test of A Stage of Growth Progression Model. *Management Science* 35(12).

Earl, M. J. (2000). Evolving the E-Business. *Business Strategy Review* 11(2).

George, G., Haas, M.R., Pentland, A. (2014). Big Data and Management. *Lifelong education: the XXI century* 57(2).

Gottschalk, P. (2009). Maturity Levels for Interoperability in Digital Government. *Government Information Quarterly* 26(1)

Irani, Z, Love, P.E.D., Montazemi, A. (2007). E-Government: Past, Present and Future. *European Journal of Information Systems* 16(2).

Melver, W.J., Elmagarmid, A.K. (2004). 107 Radiologia Medica *Advances in Digital Government: Technology, Human Factors, and Policy*. Boston: Kluwer Academic Publishers.

King, W.R., Teo, T.S.H. (1997). Integration between Business Planning and Information Systems Planning: Validating a Stage Hypothesis. *Decision Sciences* 28(2).

Kusumah, M.I, Syahtaria, I., Sianturi. (2022). Strategi Interoperabilitas Sistem Informasi Tni Guna Mendukung Komando Dan Pengendalian Operasi Pengamanan Perbatasan Di Laut Natuna Utara. *Jurnal Inovasi Penelitian* 2(8).

Kusumasari, D., Rafizan, O. (2018). Studi Implementasi Sistem Big Data Untuk Mendukung Kebijakan Komunikasi Dan Informatika. *Masyarakat Telematika Dan Informasi : Jurnal Penelitian Teknologi Informasi dan Komunikasi* 8(2).

Layne, K., Lee, J. (2001). Developing Fully Functional E-Government: A Four Stage Model. *Government Information Quarterly* 18(2).

Legner, C., B. Lebreton. (2007). Business Interoperability Research: Present Achievements and Upcoming Challenges. *Electronic Markets* 17(3).

Nolan, R. L. (1979). Managing the Crises in Data Processing. *Harvard Business Review*: 115–26.

Papazoglou, M.P., Ribbers, P.M.A. (2006). *E-Business: Organization and Technical Foundations*. UK: John Wiley & Sons.

25

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City

===

Scholl, H. J., Klischewski, R. (2007). E-Government Integration and Interoperability: Framing the Research Agenda." *International Journal of Public Administration* 30(8).

Silcock, R. (2001). Hansard Society for Parliamentary Government. *Parliamentary Affairs* 54: 88–101.

Sugiyono. (2021). *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D*. Bandung: Alfabeta.

Yin, R.K. (2018). *Case Study Research and Applications: Design and Methods*. 5Thousand Oaks, CA: Sage.

Zakariya, K.P., Prakoso, L.Y., Damayanti, R. (2019). Public Policy Analysis of Defense Areas and Defence Area Plan In Grati Pasuruan. *The 3th Indonesia International Defense Science Seminar* 2.

26

Aisyah Nurterra Miftah, Hasim As'ari, Nur Laila Meilani
Maturity Levels on Interoperability in Local Tax Services in Pekanbaru City