

Digital Transformation in Public Sector: Case Study on Licensing Services to Start a Business in Pekalongan City

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Abstract

This study had two formulated objectives. First, this study wanted to evaluate the achievements of the digital transformation process in licensing services to start a business in Pekalongan City, Central Java, Indonesia. Second, this study also expected to identify the factors that influenced the achievement of the digital transformation process in licensing services to start a business in Pekalongan City. This study used qualitative approach to answer the problem formulation through a case study. Data and information were analyzed using chronological time series analysis techniques. The informants of this research were selected through the snowball method. The results of data and information analysis showed that Pekalongan City was at the e-government stage. Three reasons that justified that the achievement was not at the digital government stage. First, users or citizens had not voiced demand in the digital transformation process. Second, the transformation of internal work processes had not yet taken place. Third, there had not been a shared database sharing process between related agencies either within the Pekalongan City government environment or with central government agencies. The analysis also showed that five factors that influenced the process of digital transformation in licensing services to start a business in Pekalongan City, those were: strategic factors, digital cultural factors, leadership factors, human resource capacity factors, and the role factor of central government organizations.

Keywords: Information Technology, Public Sector, Public Services.

A. INTRODUCTION

Indonesia's has lowest achievement of doing business, as it appeared on the 2019 ease of doing business index, especially on enforcing contracts (146) and starting a business (134). Regarding achievements in the aspect of starting a business, in the past five years, Indonesia had ranked above 130. The low achievement of starting a business becomes ironic amid the government's efforts to bring up new businesses to absorb the Indonesian workforce. Licensing to start a business was important, especially for SMEs to develop their business.

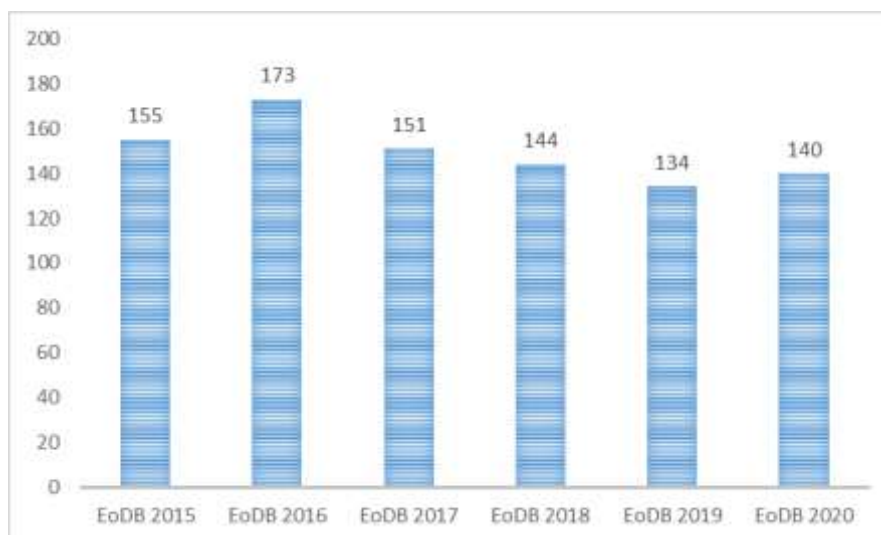


Figure 1. EoDB Achievement in Starting a Business in Indonesia 2015-2020

Source: (World Bank, 2014, 2015, 2016, 2017, 2019)

Starting a business was one aspect of the ease of doing business index issued by the World Bank each year. This aspect assessed all official procedures required for entrepreneurs to start and operate a commercial business. Jakarta and Surabaya were the sample areas of the World Bank in determining the achievement of licensing services to start a business in Indonesia. However, the Center for Administrative Reform Studies - National Institute for Public Administration also conducted a study by conducting case studies in Bandung City, Yogyakarta City, Karimun Regency, Serang City, and South Tangerang City in 2016. The identification results showed that there were 13 licenses to start a business that was included in the domain of regional government authority and outside the regional government (NIPA, 2016).

Indonesia made licensing starting a business easier by introducing an online platform. In 2016, there were already 61% of one-stop integrated service units (PTSP) in regions that used electronic-based systems (Riyatno, 2016), even some regions such as Bandung City, Bogor City, Surabaya City, Jakarta City, Bekasi City, and Pekalongan City had created online-based licensing services.

Table 1. Examples of Local Governments that have Online Based Systems

No	City/Regency	Website
1	Bandung	https://dpmptsp.bandung.go.id/izin/index.php/ijinmasuk/
2	Bogor	https://perizinan.kotabogor.go.id/izin2/index.php/account/igin
3	Surabaya	https://ssw.surabaya.go.id/
4	Jakarta	https://pelayanan.jakarta.go.id/user/registration/register
5	Bekasi	http://silat.bekasikota.go.id/silat_v2/
6	Pekalongan	https://sakupore.pekalongankota.go.id/front/izin

Source: processed from various sources

The system developed by the Pekalongan City government even won the Top 99 Public Service Innovation award 2019 by the Ministry of Administrative and Bureaucratic Reform. A website-based application called "SAKPORE" (*Sistem Aplikasi Perizinan Online Ringkas dan Ekonomis*) was launched in December 2017. Previously,

the Pekalongan city government also received the same award in 2015 for the SMS gateway application.

The achievements of the Pekalongan City government and several regions in creating online-based licensing services did not meet the expectations of the central government. This could be seen from the launch of the online single submission system (OSS) conducted by the central government. The emergence of OSS then created turbulence for the Pekalongan City government and several other regions that had developed online-based systems. SIUP and TDP which were the end of licensing services starting a business were currently issued by BKPM through the OSS system. Since 2019, SAKPORE developed by the Pekalongan City government has only issued an approval letter of the fulfilment of commitments which was a marker of permit documents issued by OSS that could be used effectively.

The question then is: "how was the achievement of digital transformation in licensing services to start a business carried out by Pekalongan City and other local governments?". Why did the central government decide to create an OSS system that replaced the systems that already existed?, even though several awards had been won by the local government such as Pekalongan City. This study had two objectives that were formulated. First, to evaluate the achievements of the digital transformation process in licensing services to start a business in Pekalongan City. Second, to identify the factors that influenced the achievement of the digital transformation process in licensing services to start a business in Pekalongan City.

B. LITERATURE REVIEW

Research on e-government implementation was found more than research on digital transformation, especially in the context of the public sector. Research conducted by Eggers and Bellman (2015), Martin and Goggins (2016), Benjamin and Potts (2018), Mergel et al (2019), and Jonathan (2019) were studies that focus on digital transformation in the public sector. Publications issued by Norris and Reddick (2013), Shakya (2017), Krishnan et al (2013), Petrakaki (2018), Plesner et al (2018), Siddiquee (2016), Moon and Bretschneider(2002), Welch and Pandey (2007), Basyal and Jin (2018), Suhardi et al (2015), Welch and Pandey (2005), Mantovani (1994), Akesson et al (2008), Knox and Janenova (2019) focused on the impact of e-government on bureaucracy and public services, while Al-Wazir & Zheng (2012), Asogwa (2013), Manoharan (2013), Manoharan & Ingrams(2018), Lee (2011), Susanto dan Aljoza (2015), Kumar dan Mukherjee (2018), Al-Shbail dan Aman(2018), Moon dan Bretschneider (2002), Welch dan Pandey (2007) published a paper explaining the factors that influenced the implementation of e-government.

Research conducted by Martin and Goggin (2016) focused on the impact of digital transformation in the public sector, while Eggers and Bellman (2015), Benjamin and Potts (2018), Mergel et al (2019), and Jonathan (Jonathan, 2019) focused on analyzing the factors that influenced the process of digital transformation. The results of the study can be seen in table 2.

Table 2. Factors Influencing the Digital Transformation Process

No	Researcher	Factor
1	Eggers & Bellman (2015)	1) Strategy 2) HR capacity 3) Digital culture 4) Leadership 5) <i>User focus</i>
2	Benjamin & Potts (2018)	Progressive Leadership
3	Mergel et al. (2019)	External pressure consisted of business groups, society, politics, and technological change
4	Jonathan (2019)	1) Managerial and organizational factors a. change management; b. organizational culture; c. business IT alignment; d. leadership engagement; e. skills development programe 2) Information technology factors a. data security; b. IT architecture; c. Interoperability; d. Data driven agility 3) Environmental factor a. Funding b. Political stability c. Society participation d. Regulatory framework e. Telecommunications service quality

C. METHOD

This research used a qualitative approach through a case study strategy. The case study in this study used a single case design that was a case of digital transformation in licensing services for starting a business in Pekalongan City. Five main components in this study, those were: (1) research questions; (2) Proposition; (3) Unit of analysis; (4) the logic that links data to the proposition; (5) criteria for interpreting findings. The case study design adopted the opinion of Yin (2014).

This study used theoretical propositions to make it easier to interpret research data and information. The proposition is an important element in case study research. The propositions in this study were based on theoretical propositions. Each proposition directs the researcher's attention to something that must be investigated (2014). The propositions in this study explain two things, those were (1) the definition of digital transformation, and (2) the factors that influence the digital transformation.

Mergel et. al. (2019) and OECD (2016) explained the definition of digital transformation, while the results of Eggers and Bellman's (2015) research help researchers in interpreting data and information about the factors that influenced the achievement of the digital transformation process.

Mergel et al (2019) described digital transformation as an holistic effort to revise core processes and services of government beyond the traditional digitization efforts. It evolves along a continuum of transition from analog to digital to a full stack review of policies, current processes, and user needs and results in a complete revision of the existing and the creation of new digital services. The outcome of digital transformation efforts focuses among others on the satisfaction of user needs, new forms of service delivery, and the expansion of the user.

The above definition looked abstract and not operational. OECD (2016) described the process of digital transformation which was more operational, namely as a process of change from digitization to electronic government (e-government), to the digital government (digital government). Theoretically, this study suspects several factors that influenced the process of digital transformation, those were strategy factor, leadership factor, HR capacity factor, digital culture factor, and user focus factor. The factors were consistent with the results of research conducted by Eggers and Bellman (2015).

The unit of analysis in this study was the Pekalongan City government organization associated with licensing services for starting a business. Interviews were conducted with sixteen informants selected by the snowball method consisting of the official of Indonesian Chambers of Commerce and Industry in the Pekalongan City area, users of licensing services for starting a business (period 2014-2019), the official of a one-stop service office in Pekalongan City (DPM-PTSP), notary employees, business associations, and local government officials related to licensing for starting a business.

This research used chronological time series data analysis techniques. The main basis for using this technique was that events must always occur before other events. This research tried to arrange events into certain chronologies. The influence was detected if the emergence of these factors produced output that was contributing to changes in the use of information technology.

D. RESULT AND DISCUSSION

1. Achievements of the Digital Transformation Process

A description of the progressive achievements of digital transformation in licensing services for starting a business in Pekalongan City would be explained in five periods. First, the manual period that occurred before 2007. Second, the period of using the integrated service management information system (SIMPADU) (2007-2014). Third, SIMPADU + period (2015-November 2017). Fourth, SAKPORE period (December 2017-August 2018). Fifth, SAKPORE + period (September 2018- June 2020).

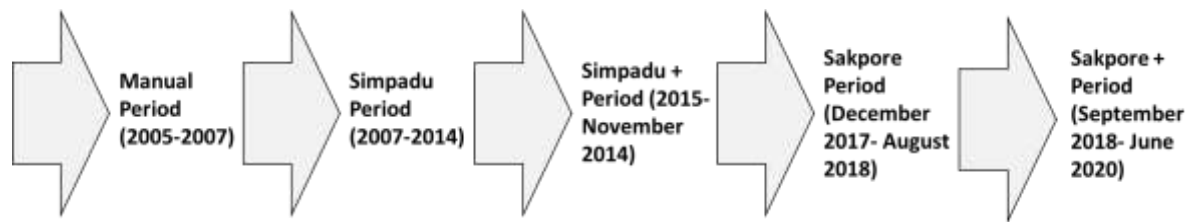


Figure 2. Digital Transformation Process Period in Licensing Services for Starting a Business

Source: Various Data

The SAKPORE and SAKPORE + periods were the most progressive in the use of information technology. There were sixteen differences in the use of information technology between periods in the process of digital transformation in licensing services to start a business in Pekalongan City. In detail, these differences could be seen in table 4.

The manual period (before 2007) occurred at the beginning of the pioneering of a one-stop service implemented in Pekalongan City. At that time, all licensing services activities did not utilize a system based on information technology.

The SIMPADU period (2007-2014) was when the licensing service for starting a business used the "SIMPADU" application which was an intranet and electronic-based service system developed by the Pekalongan City government. Typing activities in the licensing service for starting a business replaced by computerized. Communication between hierarchies in the service process started an electronic-based business without using hard file documents. Communication between hierarchies in the service process started electronically without using hard file document. The use of technology and information in licensing services for starting a business in this period was still focused on the efficiency and productivity of service work. Service personnel were increasingly facilitated by the "SIMPADU" system because it was electronic-based, therefore "SIUP licence" can be completed within three days which previously required more than three days. IT system development was a "government-centre" perspective in SIMPADU period. Society as a user was passive in providing services. Service standardization had begun in the SIMPADU period. The standard included verification procedures between layers in the hierarchy, the length of time required, and the legal basis in the service process. The standard in bureaucracy was known as SOP (standard operational procedure).

System of SIMPADU period (2015-November 2017) was supported by the SMS Gateway feature during SIMPADU + period. SMS Gateway functioned in providing notifications to service users related to the progress of the service delivery process. However, regarding to the information technology use and service procedures, the SIMPADU and SIMPADU + periods have no significant difference.

The SAKPORE period (December 2017-August 2018) was a period of online-based licensing services. The SAKPORE system was equipped with complete information technology features and provided user service convenience. There were several features in the SAKPORE system those were, online permit application, online tracking system, online cost simulation, QR Code, online complaint, online

satisfaction survey, SI-KAREP (integrated service regulation codification information system), GIS (geographic information system), e-signature, and filtering permit data. The digital licensing queue system was also developed on SAKPORE period. Licensing services could even be accessed via a smartphone whose application can be downloaded at Playstore. The SAKPORE system could be integrated with population data in Pekalongan City, which was owned by the Population and Civil Registry Office.

The SAKPORE system not only provided benefits for the efficiency and productivity of services, but also the efficiency of stakeholder resources. DPM-PTSP di Kota Pekalongan could complete the licensing process within two days or one day faster than before because there were application facilities that made it easy for officers to run the job. Verifiers could do their job wherever they were by an internet network. The applicant no longer needed to come to DPM-PTSP office, therefore could save transportation costs, time, and energy. The QR-Code feature also made it easy for banks because they did not need to come to the DPM-PTSP office, and just checked the legality of permits through an online system.

Table 3. Changes in the Use of Information Technology

No	Aspects	Period				
		MANUAL	SIMPADU	SIMPADU +	SAKPORE	SAKPORE +
1	Processing of submission file	Type Manual	Electronic	Electronic	Electronic	Electronic
2	Website	Available	Available	Available	Available	Available
3	Service Progress Notification			SMS Gateway	SMS Gateway	SMS Gateway
4	Application for permission	Offline	Offline	Offline	Online	Online
5	Monitoring the permit process	Not Available	Not Available	Not Available	Online tracking	Online tracking
6	Cost simulation	Not Available	Not Available	Not Available	Online	Online
7	Checking the legality of the permit	Manual	Manual	Manual	By QR	QR Code
8	Complaint system	Offline	Offline	Offline	Online	Online
9	User Satisfaction Survey	Offline	Offline	Offline	Online	Online
10	Basic legal information	Not Available	Not Available	Not Available	Online system (SIKAREP)	Online system (SIKAREP)
11	Geospatial information system	Not Available	Not Available	Not Available	By GIS	By GIS
12	Legality	Manual	Manual	Manual	<i>E-Signature</i>	Manual
13	Queue system	Manual	Manual	Manual	Electronic	Electronic
14	Licensing data filtering system	Not Available	Not Available	Not Available	Available	Available
15	Mobile phone based application	Not Available	Not Available	Not Available	Available	Available
16	Data integration	Not Integrated	Not Integrated	Not Integrated	Integrated	Integrated

Source: various sources

The use of information technology in the SAKPORE period was user-centre. The needs of service users were central to develop information technology. Users were also not passive in SAKPORE period, because they could register for licensing to start a business through an online-based system independently. Users filled in data information and uploaded requirements independently. They could also track the progress of the licensing process. Population data integration made it easier for service users, although it was still limited to data held by local governments.

SAKPORE (September 2018–December 2019) which had been developed by the Pekalongan City Government must adapt to the OSS system which developed by the central government. This was after the issuance of Government Regulation Number 24 the Year 2018 regarding business licensing services by electronic integration based. The technological features of the SAKPORE and SAKPORE + periods were same, except for the e-signature application which must be stopped. Internal standards in the processing of licensing services also did not change significantly. The hierarchical layers had slightly changed with the presence of a control and investment development unit in the processing of licensing services to start a business.


The description of periodization in the changing use of information technology showed a digital transformation process. This study adopted the concept of OECD (2016) in analyzing the achievements of digital transformation through three aspects, namely the use of technology, administrative service activities related to core functions, and individual services directly.

The SIMPADU + and SIMPADU + periods were the digitization phase. When viewed from the technology used, SIMPADU which was an intranet system focused on the efficiency and effectiveness of internal organizations. Technology development adhered to the principle of "government-centre" and the applicant was passive because did not participate in the licensing process. When viewed from administrative service activities that were the core functions of DPM-PTSP, there had been an improvement in the internal service process. In this period, communication between layers had begun to use information technology. In addition, an information system for the applicant's individual database had also been developed. Standard operating procedures (SOP) could be implemented in the SIMPADU and SIMPADU+ period.

The characteristics of the e-government stages were found in the SAKPORE and SAKPORE + periods. The use of technology not only focused on the efficiency and effectiveness of the organization but also adapted to individual needs. The tracking system allowed the applicant to monitor the progress of the licensing process. The cost simulation feature helped the applicant estimated the costs. In essence, the approach to use technology is "user / citizen-centre" and the applicant was given space to participate in licensing services. The applicant had started uploading and filling in the licensing service requirements data into the SAKPORE application. Innovations had been made on several internal processes, such as the GIS feature that made it easier for the technical team to locate the applicant's business location or the e-signature feature that converted from manual into electronics based. Online service activities

had also been integrated with population data and information, although limited to data held by local governments.

Table 4. Digital Transformation of Licensing Services to Start a Business in Pekalongan City

Change Aspect	SIMPADU & SIMPADU +	SAKPORE & SAKPORE +
Use of Technology		
Changes in technology usage	Efficiency and productivity	Efficiency and productivity in providing services tailored to individual needs
	Government centered Users as passive recipients of service	<ul style="list-style-type: none"> • User/citizen centered • The user participates in the service delivery process
Public Service Activities		
Internal administration services as a core-function	Improve internal governance processes	Innovative changes in internal processes
Direct service to individuals	<ul style="list-style-type: none"> • Individual database information system • Standardization of service delivery • Standardization of services 	<ul style="list-style-type: none"> • Online services • Integration with other offices (KTP)
	Digitalization	E-government
Digital Transformation		

Source: Various Sources

2. Factors Influencing the Achievement of the Digital Transformation Process

Every change in the use of information technology in licensing services to start a business in Pekalongan City was certainly influenced by several factors. The information behind the changes in the use of technology in each period became the main basis in determining the factors that influenced these changes. Research data and information indicated five factors that influenced the achievement of the digital transformation process in licensing services to start a business in Pekalongan City, namely leadership, human resource capacity, strategy, digital culture, and the role of central government organizations. This study did not find any data and information that showed the influence of user focus factors, but data and information showed the

influence of new factors which was not mentioned by Eggers and Bellman (2015) in their research, namely the role of the central government organization.

The strategy of developing information technology in the City of Pekalongan could be seen from the roadmap 2016-2020 that was the beginning of the development of an online-based system. The roadmap contained the direction of developing IT systems for five years as well as the allocation of needed resources.

The influence of the IT development roadmap in achieving digital transformation could be seen from the output produced. The output was the budget allocation support from Development Planning Agency at Sub-National Level (Bappeda) so that it could continue to support the continued development of IT systems. The roadmap then submitted to Bappeda and caused the consequences of budget approval for implementation. The one-stop service unit (DPMPTSP) in Pekalongan City only got not more than one hundred million rupiahs for a budget before the existence of the roadmap, so it was not possible for IT development. The information was disclosed by "JK" which was also confirmed by "DY".

Digital cultural factors in licensing services to start a business could be seen by the presence of two indicators, namely: (1) willingness to experiment and take a risk approach and (2) efforts to develop an innovative culture in DPM-PTSP in Pekalongan City. The indicator could be seen in the process of building and developing SAKPORE applications. SAKPORE application development by internal human resources independently was the output of digital culture. For almost ten years (2007-2016), DPM-PTSP had always entrusted the development of IT systems to their partners which turned out to be less than optimal results. "YSR" and "MRS" were two staff members who were allowed to develop SAKPORE. Innovation culture which was developed by giving awards to innovative staff or officials raises output in the form of information technology-based innovation products. All staff in DPM-PTSP in Pekalongan City were encouraged to innovate. The digital queuing system was one of the innovative products which emerged and initiated by "YSR".

Leadership was one of the factors influenced the process of digital transformation. Leadership itself was defined differently by experts, nevertheless, Yulk (2010) revealed that most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organization.

Data and information about the influence of leadership in achieving digital transformation in licensing services to start a business in the Pekalongan city were tracked through events accompanied changes in the use of information technology. The series of events accompanied the change in the use of technology information could be seen in table 5.

Table 5. The Events That Accompanied The Digital Transformation Process

No	Period	Event	Output	Influential Leaders
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1	SIMPADU + (2015-August 2017)	1) Development of SMS Gateway	SMS Gateway Application	"DY" (Head of Allowance Service Section 2015-2016)
		2) Preparation of the Roadmap for IT system development in 2015	IT system development roadmap 2016-2020	"DY" (Head of Allowance Service Section 2015-2016)
		3) Termination of work contracts with partners in 2017	Development of an online-based application independently	SPR (Head of DPM-PTSP in Pekalongan City 2017-now)
		4) Benchmarking to Bogor City in 2017	The emergence of networks and the transfer of knowledge	a. SPR (Head of DPM-PTSP in Pekalongan City 2017-now) b. "BMB" (Head of Allowance Service Section 2017-2019)
		5) Encouraged internal IT staff to experiment and develop online system	Development of SAKPORE application independently without a partners help	SPR (Head of DPM-PTSP in Pekalongan City 2017-now)
2	SAKPORE (December 2017-August 2018)	Development of Innovation Culture	IT innovation products from staff (example: digital queues)	SPR (Head of DPM-PTSP in Pekalongan City 2017-now)

Source: Various Sources

The findings showed an influential leader in the process of digital transformation in licensing services to start a business in Pekalongan City, namely the head of DPM-PTSP office (echelon 2) and the head of allowance service section (echelon 3).

Using the innovation leadership typology introduced by Bason (2010), the data and information showed that the type of leader that looked influential was "knowledge engineer" or "institutional head" and "360-degree innovators" or "mid-

level managers". "Knowledge engineer" or "institutional head" in the context of Pekalongan City government was a head of office, while 360-degree innovators or mid-level manager was a head of the section. Mayor of Pekalongan City as "the visionary" and regional secretary as "the enabler" or "top executive" were absent in the process of digital transformation.

Research data and information also showed that leaders did not always use their command and power to make changes in the use of information technology. Leaders tried to find knowledge, network, take risks, strategize, and concentrated on followership. The step was taken in order to influence the process of digital transformation in business licensing services. This study concluded that there were some leadership characteristics that could be seen in this influence, namely: (1) leadership who had knowledge about digital technology trends, (2) networked leadership, (3) leadership that was concerned about followership, (4) leadership who was willing to take risks, and (5) leadership which had a directed strategy.

Two indicators detected user focus factor in this study, namely: (1) involvement of individuals or groups of users of licensing services to start a business in the development of digital transformation designs, and (2) involvement of individuals or groups of users of licensing services to start businesses in the execution of digital transformation designs. There was no data and information in this study that showed the influence of user focus in licensing services to start a business. The service user community was only used as an object of the socialization process of digital transformation.

The service user community was only used as an object of the socialization process of digital transformation. HR capacity was the ability of employees in the Pekalongan City government environment in executing IT development strategies in licensing services to start a business. The influence was seen when the beginning of the SAKPORE development process, precisely after the DPM-PTSP of Pekalongan City severed the working relationship with partners that had existed for years. "YSR" and "MRS" were two staff recruited and then allowed to develop online applications independently. The online system was successfully launched in December 2017 and named SAKPORE, after ten years SIMPADU (2007-2016) had no significant development. The information was disclosed by "JK" and "DY" when developing the SMS Gateway.

The problems of human resources in DPM-PTSP in Pekalongan City were due to two things, those was (1) the placement of employees who was not in accordance with their needs and (2) the existence of political intervention and legacy of past human resources that were not professionally recruited. They only received the results of the placement from the Team for Position and Rank Consideration (baperjakat).

The research found new factors that influenced the process of digital transformation, namely the role of central government organizations. Theoretical propositions based on the results of Eggers and Bellman's study could not explain the existence of the role factor of central government organizations. Central government

organizations appeared to influence the process of digital transformation in licensing services start businesses in Pekalongan City including : Corruption Eradication Commission (KPK), National Institute for Public Administration (LAN), Ministry of Administrative and Bureaucratic Reform (Kementerian PAN dan RB), Ministry of Communication and Informatics (Kemenkominfo), Coordinating Minister for the Economy (Kemenko Ekonomi), National Cyber and State Codes Board (BSSN), Indonesian Investment Coordinating Board (BKPM).

The influence of the role of the central government organization was marked by the output that contributed to the digital transformation process in the licensing service of starting a business in Pekalongan City. The output could be system applications, IT-based innovation products, licenses, recommendations, and rewards that motivated the achievements of the digital transformation process in Pekalongan City. The role turned out to be there that was encouraging, but some were inhibiting.

Data and information showed that the change was inseparable from the role of central government organizations. KPK provided assistance and recommendations based on its authority to coordinate and supervise efforts to eradicate and prevent corrupt practices. LAN put pressure on leaders in the bureaucracy to make changes through competency development programs. Coordinating Minister for the Economy and BKPM developed an OSS application that changed the licensing service system to start a business. The application then forced the Pekalongan City government to move from the development of a partial system. Ministry of Communication and Informatics played a role related to control the use of data and information through SI-MANTRA. BSSN provided influence through oversight of the security of electronic systems by giving licenses. The Ministry of Administrative and Bureaucratic Reform sought to create a digital culture in local governments through innovation competitions. The role of the central government organization can be seen in table 6.

Table 6. The Role of Central Government Organizations in the Digital Transformation Process of Licensing Services to Start a Business in the City of Pekalongan

No	Agency	Form of Influence	Output
1	KPK	Service assistance	Recommendations for providing services without face to face
2	LAN	Competency Development	Innovative products included SI-KAREP application, E-Signature, Licensing data filtering feature
3	Coordinating Minister for the Economy & BKPM	Launching the OSS application	Changes in the direction of IT systems development
4	Ministry of Communication and Informatics	Data and information control	Establishment of SI-MANTRA application as a bridge for OSS and SAKPORE system

5	BSSN	Maintain System Security	Licence
6	Ministry of Administrative and Bureaucratic Reform	National Innovation Competition to create a digital culture	The drive to create innovation products

This research concluded that the digital transformation in licensing services to start a business in Pekalongan City has not reached the digital government phase if it refers to the concepts issued by the OECD (2016). Three main reasons justified the conclusion. First, users or citizens had not voiced their demands regarding the use of technology. Secondly, there had not yet been a transformation of the internal work processes in licensing services to start a business. The internal process from the SIMPADU to SAKPORE + period was the same hierarchy, those were from the front office (FO), sub-section head of service, information, and complaint, back office (BO), sub-section head of process and data, head of allowance service section, technical team, secretary of DPM-PTSP, and head of DPM-PTSP. The process of fulfilling licensing commitments to start a business even involved an investment control and development section in the SAKPORE + period. Innovations carried out had only changed the workings from manual to online systems, while the transformation that was characteristic of the digital government required radical changes. Third, no shared database sharing process between related institutions either between offices or agencies in the Pekalongan City government environment or with the central government agency.

The e-government in the Pekalongan City government was currently only a collaborative stage when referring to concepts developed by the Ministry of Administrative and Bureaucratic Reform (2018). Integration was also only done with the population and registry office related to population data. In the SAKPORE + period, the system developed by the Pekalongan City government was expected to be integrated across offices within the Pekalongan City government, besides, system integration was also expected to occur with central agencies in the context of licensing services starting a business, those were the Ministry of Justice and Human Rights, the Directorate General of Tax - the Ministry of Finance, the Ministry of Manpower, and BPJS office. The integration when referring to the concepts introduced by Lyne and Lee (2001) was called the stages of vertical integration and horizontal integration. Vertical integration occurred with systems from higher agencies, whereas horizontal integration occurred with cross-functional organizations. Five differences were identified between the results of this study with Eggers and Bellman's research (2015).

The influence of strategic factors, digital cultural factors, leadership factors, the role of the central government organization, and HR capacity factors were different from the results of research conducted by Eggers & Bellman (2015). Five differences were identified between the results of this study with Eggers and Bellman's research (2015). First, the research data and information found no evidence that showed the influence of user focus factors. There is no community involvement in the process of design and execution of digital transformation in the licensing service of starting a

business in Pekalongan City. Second, the emergence of the role factor of central government organizations that were not explained in Eggers and Bellman's research.

Third, data and information showed that leadership was a major factor in the process of digital transformation. Evidence in this study showed that strategy factor, digital culture factor and HR capacity factor were part of the steps taken by leaders in leading the digital transformation process. Fourth, this study found the evidence showed the leaders' influence on the process of digital transformation were not only done with the command and used of their power. Leaders tried to influence the process of digital transformation by seeking knowledge, networking, creating strategies, taking risks, and concentrating on followership.

Therefore, this study revealed five leadership characteristics, those were : (1) leadership who has knowledge of digital development trends, (2) networked leadership, (3) leadership that concentrates on followership, (4) entrepreneurial leadership, and (5) leadership which has a strategy. Eggers and Bellman (2015), only mentioned two leadership characteristics that were able to influence the process of digital transformation. First, leaders who are aware of and know digital trends. Second, leaders who have the skills to lead digital strategies.

Research findings on the influence of leadership character who was concerned with followership were interesting to discuss, especially when compared with the Kellerman's opinion (Kellerman, 2012). The findings showed that the relationship between leader and follower was more flexible. The opportunity to innovate was not just for leaders. Followers who were at the lowest staff level could also innovate, nevertheless the leader held the most important role. The follower had a better role in innovating but did not reduce the power of a leader. The findings were different from the Kellerman's opinion (2012) in his book entitled "The End of Leadership". According to Kellerman (2012), there had been a shift in the relationship between leaders and followers. Leader power had decreased, while follower power had increased. The conditions presented by Kellerman (2012) were based on the evidence that occurred in the context of relations between the state and citizens. The condition did not fully occur in the public bureaucracy.

E. CONCLUSION

This study concluded that the achievements of the digital transformation process in Pekalongan City in licensing services to start businesses were at the level of e-government. Pekalongan City Government has to fight to get to the level of digital government, which was the highest level in the process of digital transformation in the public bureaucracy.

This study also concluded five factors influence on the process of digital transformation, those were strategic factors, digital cultural factors, leadership factors, the role factor of the central government organization, and HR capacity factors. Leadership was a major factor in the process of the digital transformation of licensing services to start a business in Pekalongan City. Digital culture, strategy, and

strengthening human resource capacity were part of the leader's way to influence the process of digital transformation.

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