Research Article

Workforce Empowerment in Digital Innovation Governance in the Management of Regional Own-source Revenue of Makassar City

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Abstract.

Optimal management of regional own-source revenue will encourage better regional development. In the current digitalization era, governance based on digital innovation is a key factor in increasing the amount of regional own-source revenue. Therefore, this study aims to analyze workforce empowerment in digital innovation governance in managing regional own-source revenue.

This study uses a qualitative approach with a case study strategy. The research informants are the leaders and staff at the Makassar City Regional Revenue Agency, as the leading sector in regional revenue management. Data sources include primary and secondary data. Data collection through observation, in-depth interviews, and documentation. Data analysis includes data collection, data reduction, data presentation, and drawing conclusions.

The results of the study show that the readiness of the Regional Revenue Agency to carry out digital innovation is not optimal. Digital innovations currently used include the PAKINTA application, payment integration with Qris and Virtual Account, electronic regional government transactions (ETPD), and digital socialization and education.

From the perspective of human resource empowerment, it shows that the level of digital literacy of the State Civil Apparatus is not evenly distributed. This is also due to the lack of digitalization-based training for operators to manage various digital innovations in the Regional Revenue Agency. The organizational culture is supportive at the top level (top-down), but has not been fully integrated into the daily operational level of ASN. The reward system has not been designed to encourage ASN involvement in digital innovation structurally and systematically. These findings are obstacles in optimizing digital innovation governance in the management of Makassar City's Regional Original Income (PAD).

Keywords: workforce empowerment, governance, digital innovation, local original income

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1. Introduction

The essence of regional autonomy is to facilitate the development process as a means to achieve people's welfare which must be accepted and implemented with a full sense of responsibility. The implementation of regional autonomy is carried out by providing broad, real, and responsible authority to regions in a professional manner which is realized through the regulation, distribution, and utilization of national resources that are fair. To implement broad, real, and responsible regional autonomy, the authority and ability to explore their own financial sources are required. With the enactment of the Law, the authority of the regions becomes greater to manage and take care of their own households including managing sources of regional income by implementing various strategies and innovations in order to support the Regional Revenue and Expenditure Budget (APBD).

In order to realize these goals, one of the efforts implemented by the regional government is to encourage an increase in Regional Original Income. Regional Original Income (PAD) is income obtained by a region from sources within its own region which is collected based on regional regulations in accordance with applicable laws (Halim, 2001). The purpose of Regional Original Income is to provide authority to the Regional Government to fund regional autonomy in accordance with regional potential as a manifestation of decentralization. So, the higher the PAD income obtained by the region, the higher the region's ability to implement decentralization because PAD is one of the important sources of funding for the region. According to Law Number 23 of 2014 concerning Regional Government, sources of regional income consist of: Regional Original Income, which consists of: Regional Taxes, Regional Levies, Management of Separated Regional Assets, Other legitimate regional original income. Regional income is one source of regional income. In the General Provisions of Government Regulation Number 12 of 2019 concerning Regional Financial Management, it is stated that regional income is money that goes into the regional treasury. Local Original Income (PAD) includes local taxes, local levies, results of management of separated local assets, and other separated local original income. The types of local taxes and local levies must be based on Law Number 28 of 2009 concerning Local Taxes and Local Levies.

One of the problems faced by some districts/cities in Indonesia today is the management of Regional Original Income, the receipt of which is often low and does not reach the expected target. This causes local governments to often rely on financial assistance or subsidies from the Central Government and results in low contributions of Regional

Original Income to Regional financing. This also occurs in Makassar City, which is one of the largest cities in Indonesia with a fairly high Regional Original Income in Eastern Indonesia, where the management of Regional Original Income is not yet optimal.

In the era of digital transformation, local governments are faced with demands to increase effectiveness, efficiency, and accountability in governance, as well as in the management of Regional Original Income (PAD). One of the strategic approaches used to answer these challenges is through digital innovation, namely the use of digital technology to create changes that have an impact on the process and results of public services.

Governance of digital innovation is an important aspect that determines the success of implementing digital transformation in the public sector. Governance of digital innovation includes policies, organizational structures, coordination mechanisms, and monitoring and evaluation systems that support technology-based innovation in the government environment [1]. In the context of regional government, this governance aims to ensure that the digital innovation implemented is not only technical, but also able to answer public needs and increase regional income sustainably [2].

Makassar City is one of the regions in Indonesia that has adopted various digital initiatives in its governance, including in the field of PAD management. Through programs such as Makassar Smart City and the implementation of digital systems in collecting local taxes and levies, the Makassar City government seeks to increase transparency and optimize revenue [3]. However, digital innovation is not enough with just adopting technology; its success is greatly influenced by how governance is carried out. This is in line with the view of Janssen et al. (2012) who emphasized the importance of governance mechanisms to support the sustainability of digital innovation in the public sector [4].

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Innovation refers to the art of simplifying something difficult and creating new ways to solve complex problems through collaboration, different organizational structures, and participation from outside parties [5,6,7]. Innovation is defined as the ability to determine what to do or use, whether it is utilizing existing resources, no longer using old methods, reinventing, or presenting something completely new. Therefore, the government can provide services that are able to meet the changing needs of the public efficiently through digitalization, because digital services can empower society and improve interaction between government and society [8].

Public administration aims to create important interactions and will influence the innovation agenda in the public sector. The goal is to develop internal connection capacity or mobilize community capabilities [5]. The OECD states that information technology can improve public sector performance, from health services, social security to tax governance [9]. So far, the Internet has provided opportunities to collect large amounts of data, provide an easy way to disseminate information to the public, and increase engagement and communication with the public as consumers of public services. For example, the internet of things is a new technology equipped with sensors to capture and communicate information [10]. Internally, information technology can improve financial transaction payment systems, revenue administration, and customer relationship management between government agencies [11]. However, all of this requires proper planning of information technology governance and management [9]. The governance approach and innovation agenda that prioritizes the governance perspective assumes that various actors can help overcome social problems by forming networks with various stakeholders from the public and private sectors [5]. This means that the method of governance and utilization of information technology to overcome the challenges of economic and social development should pay attention to the contribution and role of the private sector, civil society, and government [10].

Digital innovation governance not only includes the introduction of digital technologies, but also includes the division of tasks to various actors, the use of new skills, and

the efficient management of funding, collaboration and partnerships with the private sector, as well as appropriate arrangements or frameworks. It is understood as an ecosystem in which participants consider the requirements for the innovation system [15]. Decision makers at various stages of design must have clarity on the governance framework, have the right team, relevant mechanisms for project measurement, and involve users, civil servants, professionals, and the community at all levels of government [16]. Communication practices must be maintained through networks to support collaboration [17]. Government officials must ask themselves how they will develop methods to transform the organization into an organization that is open to change, and ready to accept and adopt new ways of implementing policies and processes [18]. According to Martin and Gregor, as referring to the Information Technology Governance Institute (ITGI), the definition of digital innovation governance is a framework consisting of leadership and organizational structures and processes that ensure that the organization's information and communication technology (ICT) system can maintain and expand the organization's strategy and goals [19]. This governance framework should ensure that employees understand the organization's processes as part of the organizational structure and have strong leadership to help achieve the organization's goals.

This governance framework should help the organization achieve its goals and objectives, particularly those related to e-government activities. This is possible by creating an ecosystem that encourages digital innovation and a culture of innovation in which employees can participate, such as through startups, incubators, and user-friendly platforms within the organization [20]. The ICT governance framework serves as a guide and direction on how ICT policies, resources, and infrastructure projects will be established, used, and managed. One important aspect of digital innovation governance is workforce empowerment. This is important considering that every organization needs an adequate workforce, making workforce planning essential to meet future needs in the workplace. The government must also be able to design a human resource strategy that is in line with the government's future goals and objectives [21]. Digital skills are very important, and need to be recruited if they are not already available. In addition, existing employees need to be trained to suit the current and future needs of the organization, and innovation teams need to be formed. For comparison, for example, the Australian Government developed a digital transformation strategy 2018–2025 with the main objective of providing simplified, flexible, responsive and efficient government services. One of the main points in this strategy is to create a government that is ready to face the digital era, with a particular focus on developing digital skills among the public

sector workforce. Various programs have been developed for government employees to improve digital skills, digital service training, mentoring programs and meeting forums [21].

Based on the explanation above, the purpose of this study is to analyze workforce empowerment in digital innovation governance in managing Regional Original Income. This study is considered important considering that the capacity and ability of human resources are very important to be able to manage digital innovation which aims to improve the quality of public services in regional taxes as an effort to increase Regional Original Income.

2. Materials and Methods

This study uses a qualitative approach to deeply understand how workforce empowerment contributes to the governance of digital innovation in the management of Regional own-source revenue (PAD) in Makassar City. The qualitative approach was chosen because it is able to provide a holistic understanding of complex and contextual phenomena, especially those involving behavior, perception, and relations between actors in the innovation process.

In addition, this approach allows for in-depth exploration of the internal dynamics of local government organizations, especially in building digital capacity through empowering human resources. This study uses a deductive approach, namely by starting from existing theories about governance of digital innovation. In the context of a qualitative approach, as conveyed by Creswell, theories in research can be used from the beginning to then be modified or adjusted as data and information from participants develop [26].

The research strategy used is a case study, considering that case studies are a relevant strategy to answer exploratory research questions such as “how” and “why”, and are very appropriate for use when researchers want to understand contemporary phenomena in the context of real life [27]. This study focuses on Makassar City which was purposively chosen as a location because it is considered to have unique characteristics in the application of digital innovation in the public sector, as well as because of its role as a center of economic growth in South Sulawesi Province.

The determination of informants was carried out using purposive sampling techniques, namely the deliberate selection of informants based on the consideration that they are considered to have understanding, experience, or direct involvement in the

digital innovation process, especially in PAD management. The main informants include officials and staff of the Regional Revenue Agency, DPMPTSP, financial institutions, Bappeda, and representatives of the community who are the objects of tax services. The data obtained in this study consist of primary data and secondary data. Primary data is collected directly from the results of observations, in-depth interviews, and documentation, while secondary data is in the form of documents, reports, and official archives such as RPJMD, RENSTRA, PAD performance reports, and other relevant publications.

Data collection was conducted through direct observation of actor activities in implementing digital innovation, in-depth interviews with stakeholders using guidelines based on the workforce empowerment dimension in digital innovation governance theory, and documentation studies of various written sources and supporting quantitative data. The data analysis process in this study refers to the Miles, Huberman, and Saldana model [28], which includes four stages, namely data collection, data reduction, data presentation, and drawing conclusions.

3. Results and Discussion

Based on the results of the study, it shows that the Makassar City Government has made various efforts to manage digital innovation in managing Regional own-source revenue in Makassar City. Digital innovation-based governance in the PAD management system in Makassar City has experienced significant development in recent years. The Makassar City Regional Revenue Agency (Bapenda) has implemented various digital innovations to improve efficiency, transparency, and accountability in managing regional taxes and levies. The role of Bapenda in managing PAD is very important because this agency has the authority to manage Regional Taxes, where around 80% of PAD comes from Regional Taxes. In addition, Bapenda has the function of coordinating and consolidating the preparation of PAD targets and reconciliation of PAD realization with the Regional Work Units (SKPD) managing PAD. Various digital innovation products in PAD governance in Makassar City include:

First, the PAKINTA (Integrated and Digitalized Tax) Application. PAKINTA is a digital platform that facilitates non-cash regional tax payments. This application has contributed to increasing the PAD of Makassar City. The obstacles in this application are that not all regional levies are integrated, public understanding and level of trust in the online system and increased support from Bank RKUD are urgently needed.

Second, Payment Integration with QRIS and Virtual Account (VA). The Makassar City Government has integrated the tax payment system with QRIS and VA, in collaboration with Bank Sulselbar. This step makes it easier for taxpayers to make payments digitally, increasing transparency and accountability. The obstacles faced in this digital innovation product are the uneven distribution of electronics in the Makassar City area, dependence on RKUD banks and some taxpayers and levies are not yet familiar with the use of QRIS.

Third, Electronification of Regional Government Transactions (ETPD). The Makassar City Government, through the SKPD managing revenue, encourages the electronification of regional revenue transactions to increase efficiency and transparency in managing regional revenue. The obstacles faced in ETPD are limited coordination across SKPDs and the level of public trust in the online system.

Fourth, Socialization and Education of Digitalization. The Makassar City Government actively conducts socialization of electronic transactions to the public, especially from the tax and retribution sector to increase understanding and participation in the digital payment system. The obstacles faced include limited human resources of technical SKPDs and bureaucratic culture that is still accustomed to manual processes. In terms of budget, the Regional Revenue Agency (Bapenda) has improved digital infrastructure as shown in the following Table 1.

Based on the table above, it shows that the Makassar City Government through Bapenda has allocated a budget of IDR. 5,929,710,614 to improve digital infrastructure in the governance of regional own-source revenue. This shows that the government has paid great attention to improving the quality of digital innovation governance.

Viewed from the workforce empowerment aspect, it shows that the number of employees working for digital products in the governance of Regional Original Income sourced from taxes is 6 people. However, the number of employees is considered still limited so that management is not yet effective. Employees working for digital innovation products have received various trainings as shown in the following Table 2:

The table above shows that the amount of training received by employees who work to manage digital innovation products in the governance of Regional Original Income is limited, where on average they only receive 1-2 training times per year. In fact, the capacity and ability of employees in managing digital innovation must be continuously improved, otherwise, this can have an impact on the effectiveness of the implementation of digital innovation. The findings show that the ability of employees or State Civil

Table 1: Digital Infrastructure Budget of Makassar City Regional Revenue Agency in 2024.

Types of Budgeting	Volume	Unit	Price	Amount
Network Device Equipment	1	Package	IDR 86,645,600.00	IDR 86,645,600.00
Information Board/ Digital Signage	1	Unit	IDR 141,750,000.00	IDR 141,750,000.00
Smart Board Interactive Display	3	Unit	IDR 186,480,000.00	IDR 559,440,000.00
Computer Capital Expenditure	1	Year	IDR 695,874,000.00	IDR 695,874,000.00
Server	1	Set	IDR 1,988,894,374.00	IDR 1,988,894,374.00
Shopping for Internet Services	1	Year	IDR 972,392,640.00	IDR 972,392,640.00
Software License	2	Unit	IDR 2,500,000.00	IDR 5,000,000.00
PC, Laptop and Printer Maintenance	1	Year	IDR 339,550,000.00	IDR 339,550,000.00
Server Room Rehabilitation	1	Year	IDR 494,164,000.00	IDR 494,164,000.00
Maintenance/ Development of PAKINTA Application Modules	1	Year	IDR 250,000,000.00	IDR 250,000,000.00
Firewall License	1	Year	IDR 196,000,000.00	IDR 196,000,000.00
Intangible Asset Capital Expenditure	1	Application	IDR 200,000,000.00	IDR 200,000,000.00
TOTAL				**IDR 5,929,710,614.00**

Source: Regional Revenue Agency (Bapenda) of Makassar City, 2024

Apparatus who manage digital innovation is still limited and highly dependent on the involvement of their employees in the digital-based Regional Original Income system. Various challenges faced in maximizing workforce empowerment include the uneven level of ASN digital literacy, the lack of structured and periodic digital training, the lack of structured and periodic digital training, the lack of internal digital facilitators and mentors, limited supporting facilities for learning and practice, and the lack of recognition and incentives for digital competence. The findings show that the organizational culture is supportive at the top level (top-down), but has not been fully integrated into the daily operational level of the state civil apparatus. In addition, the reward system has not been designed to encourage ASN involvement in digital innovation in a structural and systematic manner. there is a digital capacity gap between ASN, a lack of structured training and competency development programs and a mismatch between ASN placement and digital competencies.

Table 2: Types of External Training.

Training Name	Execution time	Organizer
Capacity Building for the Regional Digitalization Acceleration and Expansion Team (TP2DD)	August 2022	Regional Revenue Agency of South Sulawesi Province
Capacity Building for the Regional Digitalization Acceleration and Expansion Team (TP2DD)	November 2023	Representative Office of Bank Indonesia, South Sulawesi Province
Coaching Clinic for the Regional Digitalization Acceleration and Expansion Team (TP2DD)	February 2024	Representative Office of Bank Indonesia, South Sulawesi Province
Geomaps Application Training	May 2024	PT. Databumi
Capacity Building for the Regional Digitalization Acceleration and Expansion Team (TP2DD)	November 2024	Representative Office of Bank Indonesia, South Sulawesi Province
Number of Trainings (External)		5

Source: Regional Revenue Agency (Bapenda) of Makassar City, 2024

Various research findings show that digital innovation governance in managing Regional own-source revenue (PAD) in Makassar City has developed quite well. Innovations such as the PAKINTA application, QRIS and Virtual Account integration, Regional Government Transaction Electronification (ETPD), and digital socialization and education programs are evidence of a shift in public policy orientation towards a technology-based approach. This transformation reflects the application of digital governance principles, namely government management based on information technology to improve public services, increase administrative efficiency, and strengthen transparency and participation [25].

In digital governance literature, the role of technology is not only as an administrative tool, but also as a strategic instrument to reshape the structure and process of public organizations. The PAKINTA application, for example, is not just a payment platform, but also reflects an effort to build an information integration system across organizational units and encourage higher fiscal accountability. However, technology will not have a significant impact without being balanced by the readiness of the implementing actors. This is where the importance of the role of workforce empowerment lies.

Workforce empowermentin this context refers to increasing the capacity, autonomy, and participation of state civil servants (ASN) in designing and implementing digital innovation [26]. This study shows that the biggest challenges of various digital innovation products are not only technical, but also concern organizational culture, limited

human resources, and bureaucratic leadership patterns. The continued resistance to digitalization, low technological literacy, and the tendency of bureaucracy to adapt slowly indicate the need for a systematic ASN empowerment strategy, both through training, forming innovation teams, and creating a work climate that supports creativity and collaboration.

On the external side, community involvement as users of digital services still needs to be improved. The socialization and digital education carried out by the Makassar City Government is a good initial step, but its effectiveness is highly dependent on the extent to which ASN are empowered to become digital literacy agents in their work environment. Without internal HR empowerment, digital communication and education strategies tend to be formalistic and unsustainable.

4. Conclusion

Based on the research results, it can be concluded that the Makassar City Government through the Regional Revenue Agency (Bapenda) has shown a high commitment to strengthening digital innovation governance in managing Regional Original Revenue (PAD). This is reflected in the allocation of a digital infrastructure budget reaching IDR 5,929,710,614 in 2024. Various digital innovations such as PAKINTA, QRIS and Virtual Account integration, and the Regional Government Transaction Electronification (ETPD) program are pillars of PAD governance in Makassar City. In terms of workforce empowerment, research shows that the number of employees who specifically handle digital innovation is limited compared to the complexity of the digital system being developed. The main challenges in employee empowerment include low digital literacy that is evenly distributed among ASN, limited internal facilitators, minimal incentives, and the lack of a reward and recognition system for the performance of their digital innovations.

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