AAPA-EROPA-AGPA-IAPA International Conference 2024
Towards World Class Bureaucracy
ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

Digital Transformation: Optimizing the Regional Tax Audit Process Using the Data Analytics System

Ahmad Reinaldi Simba

Faculty of Social and Political Sciences, Sriwijaya University, Indonesia.
(email: ahmadreynaldisimba22@gmail.com)

Abstract

The regional tax audit process often faces challenges, such as limited data, time inefficiency, and potential errors in decision making. Therefore, digital transformation using a data analytics system is important to optimize the regional tax audit process. This paper presents how digital transformation in the regional tax audit process using a data analytics system must be carried out. The method used is qualitative descriptive to explain in detail the digital transformation in the regional tax audit process using a data analytics system. The results of the study show that this digital transformation is very necessary in the implementation of regional tax audits. The implementation of a data analytics system will be able to minimize the risk of errors, increase efficiency, accuracy and precision of taxpayer information, transparency, and can provide data-based recommendations that will facilitate and strengthen decision making. This visualization helps in presenting audit results effectively and making decision making faster and more precise.

Keywords:

digital transformation; data analytics; local tax; audit

Introduction

In the era of the industrial revolution 4.0, digital technology is developing rapidly and has a direct impact on various sectors, including the taxation sector. In Indonesia, regional taxes are a significant source of income for local governments. However, the regional tax audit process often faces challenges, such as limited data, time inefficiency, and potential errors in decision making. Therefore, digital transformation is important to optimize the regional tax audit process. Digital transformation is the process of utilizing existing digital technologies such as virtual technology, mobile computing, cloud computing, and artificial intelligence to integrate all existing systems in an organization. The concept of "digital transformation" For public sector organizations. This is based on the definition of digital transformation, which refers to the implementation process and practices to help public organizations create social value in an increasingly digital world (Lukman & Sakir, 2024).

Regional tax is one of the original regional incomes that functions as a support for regional development. In addition to fund transfers from the center, regional governments in carrying out the development process, employee spending, facilities and infrastructure are also supported by original regional income obtained from compulsory regional tax levies. According to Mardiasmo

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

(as quoted in Jannah et al., 2016), regional tax is a mandatory contribution or community contribution without direct compensation from individuals or organizations that is implemented in accordance with applicable laws and regulations and is used to finance the implementation of national government and regional development. Tax revenues are used for daily living expenses and as a source of finance for regional development which aims to create a prosperous regional life (Panga & Elim, 2015).

In the implementation of regional tax collection, the government is often viewed by the public as an effort to reduce income so that they tend to choose not to pay taxes on the grounds that they do not feel much benefit from the regional tax. Taxpayers consider it fair if the tax imposed is commensurate with their ability to pay and the benefits they receive, and feel the benefits of the tax burden they bear. (Indriyani et al., 2016). The crisis of trust that arises in the community causes significant turmoil in the target of regional tax realization which affects the target of achieving the annual realization of the regional government. Because of that, tax evasion efforts are often found by regional taxpayers. Rahayu (as quoted in Sari et al., 2019), explains that tax evasion is an active effort by taxpayers in terms of eliminating, reducing, and unofficially manipulating tax debts or deliberately escaping from paying taxes as owed according to statutory regulations. According to Darmawansyah (2019) as quoted from (Sulistyaningrum et al., 2021), there are two types of tax avoidance in several countries, namely acceptable tax avoidance and unacceptable tax avoidance. If the transaction carried out does not have a good business purpose by manipulating the transaction, then the action is unacceptable tax avoidance. However, if the transaction carried out has a good business purpose without manipulating the transaction and without violating applicable laws and regulations, then the action is included in acceptable tax avoidance.

Regional taxes are very important for local governments in implementing the wheels of government funded by regional taxes. The existence of taxpayer non-compliance encourages reforms that must be carried out by the government so that the target of tax payments by taxpayers can be realized. Therefore, digital transformation is needed to increase efficiency and accessibility. With digitalization, tax administration processes, such as filling out forms, tax reporting, to payments, can be done quickly and without having to go through a time-consuming manual process. In addition, the digital system allows the government to reach more taxpayers, including those in remote areas. This technology makes it easier for them to report and pay taxes without having to come to the tax office in person.

The possibility of fraud detection can be done by detecting fraud is through tax audits. This audit increases the possibility of tax fraud being found. This situation allows taxpayers to

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

comply with their tax obligations and minimize the risk of tax evasion (Indriyani et al., 2016) . With the existence of a regional tax recording and reporting technology system that is integrated with big data, it can have a major impact on the regional tax audit process in addition to field audits. Regional tax audit activities mandated in the Regulation of the Minister of Finance Number 207 / PMK.07 / 2018 concerning Guidelines for the Use of Examination Methods and Techniques are regulated that audits can be carried out by Office Audits and / or Field Audits. For this reason, for accuracy, efficiency, and accessibility, innovation is needed by utilizing the latest technology in the regional taxpayer audit process and implementing a system approach that is designed as well as possible.

The system approach is based on the assumption that the organization is viewed as a system. A system is a collection of interdependent and interconnected parts that are arranged in such a way as to produce a unity. The system approach in management is seen as a way of thinking about work that has a framework to describe various elements of both the external environment and the internal environment as a whole in an organization. According to (Silalahi, 2015) , the external environment (external) is the main forces outside the organization that have the potential to have a significant impact. The external environment (external) is divided into 2 things, namely a special environment (specific) such as the government with its regulations and the general environment both economically, politically, and socially, which do not have a direct impact.

The internal environment (inside) is a key factor and strength in an organization that can also be called the organization's stakeholders (Silalahi, 2015). The internal environment includes financial resources (budget), human resources, information, and system and technology resources. This internal environment is used by the organization to achieve its goals. By fulfilling the existing system approach, digital transformation is something that can be realized amidst technological advances.

Data and analytics, or advanced analytics as it is often called, is 'the science of studying raw data with the aim of drawing conclusions about and from that information. Data and analytics are used to identify trends, benchmarks and errors to inform taxpayers on how best to meet their tax obligations and identify potential issues that may arise (Sepriano et al., 2023). Existing techniques for analyzing past events such as audit results or payment history have now been enhanced to the point where it is about harnessing and qualifying real data. Data can be obtained from a variety of sources, such as information provided by taxpayers to tax authorities and by third parties such as banks and other government departments. However, for data to be

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

meaningful, it needs to be analyzed and applied in a way that provide insight and/or paths to action (Veit, 2019).

Data Analytics systems in the tax system shows how big data and analytical technology can improve efficiency, transparency, and tax oversight. Big data analysis is a collection of technologies and techniques that require new integrated forms to uncover hidden patterns from large data sets that are different from usual, more complex, and on a very large scale (Sulistyaningrum et al., 2021). Digital technology allows tax authorities to monitor transaction data and tax payments in real-time, providing a more accurate picture of taxpayers' tax obligations and payments. With a digital system, the government can detect tax anomalies or non-compliance more quickly and follow up with corrective measures or law enforcement.

Optimization of the latest audit system is needed to overcome these problems. Digital transformation in the audit process involves the application of advanced technologies such as data analytics, which allows for more effective and efficient data collection, analysis, and visualization. Data analytics helps local tax auditors identify patterns, anomalies, and potential fraud faster than traditional methods. The use of data analytics also provides advantages in terms of prediction and automation, which can improve audit accuracy and reduce the time required to complete the audit so that digital transformation in the local tax audit process uses a data analytics system.

Methods

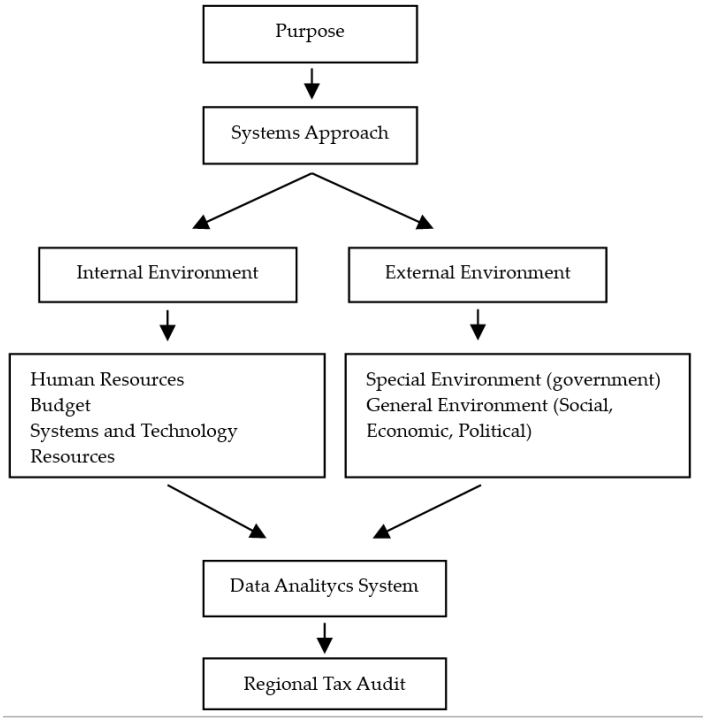
This study uses a qualitative research type that emphasizes literature review. According to (Raco, 2010), defining qualitative research as an approach or exploration to explore and understand a central symptom. The data collection method is carried out using the method carried out by collecting data through observation and literature study and interviews.

The data analysis techniques used according to Cresswell are, processing and preparing data for analysis, reading all the data, analyzing in more detail by coding the data, showing how these descriptions and themes will be presented again in a narrative or qualitative report, interpreting or giving meaning to the data.

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

Figure 1.

Flow of Thought



Results and Discussion

Manual audit of local taxpayer data involves a series of traditional procedures that rely on physical document examination, manual data analysis, and field inspection. The audit process that uses manual methods such as random testing or complete examinations that take a long time is certainly very inefficient. Although this method is effective in some cases, manual audits have several limitations, especially in terms of time and accuracy, and are difficult to apply in situations where the volume of data analyzed is very large. An innovation is needed that follows the latest technology. Therefore, digital transformation based on data analytics is useful for increasing the efficiency and effectiveness of tax supervision.

Data analytics is the process of processing raw data to find patterns, relationships, and important information that can be used for decision making. In the context of taxation, data analytics is used to analyze taxpayer data, identify risks, detect fraud, monitor compliance, and improve the efficiency of the audit process. Initially, the government can input regional taxpayer data into the data analytics system which is then integrated and updated. When the data is in the database, it can make it easier for auditors to audit the regional taxpayers.

The implementation of data analytics systems can occur when the system approach can be utilized to the maximum. The utilization of the system approach will be able to transform the

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

manual audit system into a technology-based one. Alignment and the willingness of stakeholders will encourage reform in the field of tax administration.

Human resources are the main thing in planning the use of data analytics systems. Humans are the main managers of the system and are the driving force of activities. In a study conducted by (Zumaira & Rahmawaty, 2022) , it was explained that Human Resource Capacity, Utilization of Information Technology, and the Role of Internal Auditors have an impact on the Quality of Regional Government Financial Reporting at the Banda Aceh City SKPK. This means that the role of human resources in the process of implementing digital transformation from manual audits to data analytic systems is very important and sufficient and qualified human resources are needed so that these goals can be realized.

In other cases, financial capacity (budget) is also very necessary for the procurement of data analytics systems so that the transformation plan can be carried out. Without a budget, there will be no digital transformation because all processes, both procurement and use, certainly have operational costs that must be financed by the local government. Therefore, in order to implement the transformation using a data analytics system, a series of budget planning is required so that funds can be available according to needs so that the system can be realized.

System and technology sources also play a very important role in digital transformation planning using data analytics in the regional tax audit process. Without technology, the data analytics system cannot be implemented because the system requires tools to operate. Ensuring the use of renewable technology will make the system implementation run well and effectively.

Information is also very much needed in the implementation of data analytic systems, both in terms of how to operate and in terms of system maintenance. Without this information, the data analytic system will not run properly or even stop altogether, so that regional tax audits using this system cannot be carried out. Therefore, ensuring complete and correct information is an obligation that must be fulfilled.

Government regulations play an important role in supporting the implementation of data analytics systems in the regional tax audit process, with the main functions being legal certainty. Regulations establish the legal basis for the use of data analytics technology in tax audits. This includes aspects such as the legality of collecting, processing, and using taxpayer data, as well as maintaining privacy rights and personal data protection in accordance with applicable regulations, such as the Data Protection Act. This legal certainty is important to prevent data misuse and increase public trust. Regulations serve to establish accountability in the use of data analytics, regulate control and supervision mechanisms over the use of data analytics systems, help standardize data analytics-based audit processes, and encourage the adaptation of more

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

sophisticated technologies, including the application of big data and artificial intelligence (AI) in the tax system.

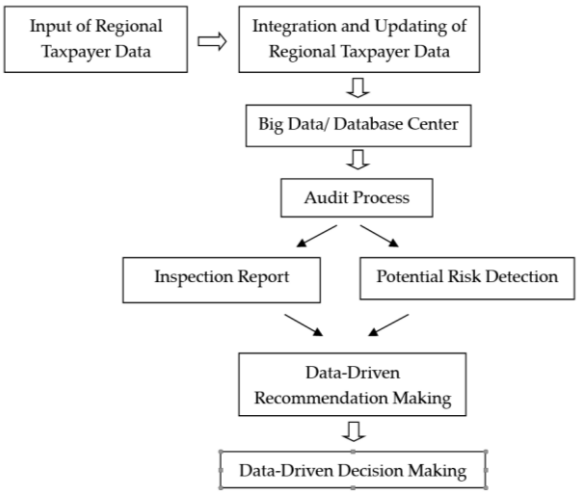
In addition, indirect impacts originating from the economic, social, and political fields must also be considered and solutions must be made so that when affected by these impacts, the system will not be affected so that it does not affect the regional tax audit process. When all elements of the system approach have been met, a new data analytic system can be realized.

Analysis in data analytics in the tax sector can use 3 methods, including: Predictive analytics is to predict tax revenue trends or fraud risks. Descriptive analytics is to analyze existing tax reports and see compliance patterns and Prescriptive analytics is to recommend actions based on data analysis, such as audit priorities. All of these methods can be used in the tax audit process so that it can produce audit report results and detect potential risks, especially tax evasion. Conclusions from potential risk detection and audit reports can provide useful recommendations in determining decisions by related parties against taxpayers based on audit results.

The results of the decision strengthened by the audit data using the data analytics system are certainly able to strengthen the government's position in efforts to improve taxpayer compliance and minimize illegal tax avoidance. Recommendations generated after data visualization taken from the integrated database will be accurate because the information has been validated due to the integration of various sources related to regional taxpayer data. Of course, collaboration between government agencies is needed to realize accurate data that is in accordance with regional taxpayers.

Figure 2.

Data Analytics Implementation Flow



Data analytics utilization in the regional tax audit process must be carried out immediately and supported by various policies issued by the government such as Institutional

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

Arrangement which refers to the structure, rules, and mechanisms that regulate the interaction between various actors in a system or organization so that it can show how institutions function and how they interact with each other to achieve certain goals. In addition, the involvement of other institutions can also be carried out in the process of integrating and updating regional taxpayer data so that all data contained in the database is appropriate. In the taxation system, institutional arrangements include tax institutions (such as the Directorate General of Taxes and the Regional Revenue Agency), tax regulations, tax collection mechanisms, and the process of monitoring and enforcing the law against tax violations. Digital transformation using the Data Analytics system requires a series of policy formulation by the regional government.

An analytics-based tax system can monitor large financial transactions in real time and detect suspicious transaction patterns, such as profit shifting to low-tax countries (tax havens). By collecting data from various sources (e.g., bank data, tax reports, personal expenses), local governments can use machine learning algorithms to find discrepancies between reported income and actual income or assets owned by local taxpayers.

Digital transformation in the tax system through data analytics provides local governments with the ability to better manage, monitor, and analyze tax data. Data analytics systems help improve taxpayer compliance, reduce tax avoidance and evasion, and provide greater transparency and accountability in tax management. It also enables more targeted tax policy planning and implementation.

A study conducted by (Putri et al., 2024) stated that big data analysis has an effect on audit quality, but has no effect on fraud detection. Although audit quality has also been shown to affect fraud detection, we cannot mediate the relationship between big data analysis and the auditor's ability to detect fraudulent financial statements.

On the other hand, the results of the study conducted (Anisa & Novita, 2023) , explain that the use of data analysis has a positive and significant impact on fraud detection. Using data analysis in the audit process can help external auditors identify findings that indicate fraud. This is because data analysis can quickly process significant amounts of data and provide data evidence that is different from other data sets, allowing auditors to determine whether the data contains material misstatements that lead to fraud indicators.

This digital transformation is very necessary in the implementation of regional tax audits. The implementation of a data analytics system will be able to minimize the risk of errors. The data integration carried out will make taxpayer information more valid so as to minimize the inconsistency of existing data. In addition, in the midst of technological advances, of course, the government should not rely on old methods that will only hinder the performance of auditors so

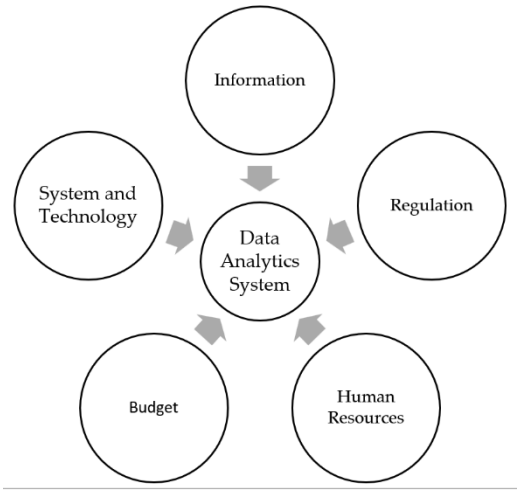
ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

that digital transformation in regional tax audit methods and systems must be carried out immediately.

Digital transformation to optimize the regional tax audit process using a data analytics system requires several supporting factors that are very important to ensure the success of its implementation. Of course, this system cannot stand alone so it requires support both in terms of taxpayer data input both independently and collectively. In addition, facilities and infrastructure, adequate human resources, and sufficient budget are needed in this transformation. In addition, local governments need to have regulations that support the use of digital technology in tax audits, such as rules on data privacy, data access, and the use of AI technology in decision making. The system must comply with applicable tax regulations in Indonesia, and auditors must ensure that the use of this technology does not violate tax regulations or audit ethics and must be integrated with each other. Data integration is needed in the implementation process so that the impact will be maximized. An integrated system has the advantage of being able to increase the flow of information needed for all departments, so that there is no different communication in one company or organization and avoids data theft and loss (Anisa & Novita, 2023).

Figure 3.

Data Analytics System Support



The data analytics system needs to provide dashboards and data visualization tools that are easy for auditors to understand. These visualizations help in presenting audit results effectively and making decision making faster and more precise. In addition, the implementation of the data analytics system requires continuous monitoring and evaluation of performance to ensure that the system runs as expected and produces accurate output. Based on the evaluation results, the system must continue to be developed and improved to remain relevant to changes in regional tax audit needs and technological developments.

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

Conclusion

Digital transformation in the regional tax audit process is a must that must be done as soon as possible. The use of a data analytics system in the implementation of regional tax audits will increase the efficiency, accuracy and precision of taxpayer information, transparency, and can provide data-based recommendations that will facilitate and strengthen decision making. Of course, this transformation must be supported by various factors such as adequate human resources, clear regulations, complete information, adequate systems and technology, a budget for the procurement and operation of the system, and preventive measures to address possible social, economic, and political impacts.

This system must be integrated and have complete data, ensuring that the data entered into the database is accurate in order to eliminate data errors. Data inconsistencies can be detrimental to both parties, both the local government itself and taxpayers, both material and non-material losses. With a data analytics system, the regional tax audit process will be more effective, efficient, increase transparency and will encourage increased taxpayer compliance so that the tax realization target can be achieved far beyond the set target.

References

Anisa, AINA, & Novita, N. (2023). The Use of Data Analytics to Improve Fraud Detection in External Audits. *Journal of Economic, Management, Accounting and Technology*, *6* (1), 34–45. https://doi.org/10.32500/jematech.v6i1.3435

Indonesia. (2018). Regulation of the Minister of Finance Number 207/PMK.07/2018 Concerning Guidelines for the Use of Audit Methods and Techniques

Indonesia. (2018). Palembang City Mayor Regulation (PERWALI) Number 10 of 2022 concerning Amendments to Mayor Regulation Number 80 of 2013 concerning Procedures for Examination of Regional Taxes

Indriyani, M., Nurlaela, S., & Wahyuningsih, EM (2016). *The Influence of Fairness, Tax System, Discrimination, and the Possibility of Detecting Fraud on Individual Taxpayers' Perceptions of Tax Evasion Behavior*. 818–825.

Jannah, HELEN, Suyadi, I., & Utami, HN (2016). Contribution of Regional Taxes to Regional Original Income. *Journal of Taxation (JEJAK)*, *10*.

Lukman, JP, & Sakir, AR (2024). *Digital Transformation in Public Administration: Opportunities and Challenges*. *2* (1).

Panga, RB, & Elim, I. (2015). *Analysis of Tax Audit Effectiveness in Efforts to Increase Tax Revenue at Bitung Pratama Tax Service Office*. *3*, 796–805.

ISSN Print: 2686-6242, ISSN Online: 2686-6250
https://doi.org/10.30589/proceedings.2024.1090

Putri, DA, Nizarudin, A., & Julia. (2024). The Role of Big Data Analytics and Audit Quality in Strengthening Auditors' Ability to Detect Financial Report Fraud. *JEMSI (Journal of Economics, Management, and Accounting)*, *10* (3), 1551–1561. https://doi.org/10.35870/jemsi.v10i3.2350

Raco, JR (2010). *Qualitative Research Methods Types, Characteristics and Their Advantages*. PT Gramedia Widiasarana Indonesia.

Sari, MMR, Wirajaya, IGA, & Supadmi, NL (2019). Gender Moderates the Effect of Love of Money on Tax Evasion Tendency. *Journal of Applied Quantitative Economics*, *12* (2). https://doi.org/10.24843/JEKT.2019.v12.i02.p08

Sepriano, Hikmat, A., Munizu, M., Nooraini, A., Sundari, Afiyah, S., Riwayati, A., & Indarti, CFS (2023). *Transformation of Public Administration in Facing the Digital Era*. PT Sonpedia Publishing Indonesia.

Silalahi, U. (2015). *Principles of Management*. PT Refika Acitama.

Sulistyaningrum, A., Apandi, RNN, & Sofia, A. (2021, June 15). The Whistleblowing System, Literacy of Big Data Analytics, and Tax Avoidance: Experimental Study. *Nusantara Science and Technology Proceedings*. 1st ICEMAC 2020: International Conference on Economics, Management, and Accounting. https://doi.org/10.11594/nstp.2021.1003

Veit, A. (2019). *Swimming upstream: Leveraging data and analytics for taxpayer engagement – an Australian and international perspective*.

Zumaira, T., & Rahmawaty, R. (2022). The Influence of Human Resource Capacity, Utilization of Information Technology, and the Role of Internal Auditors on the Quality of Regional Government Financial Reporting (Study on SKPK Banda Aceh). *Scientific Journal of Accounting Economics Students*, *7* (4), 508–519. https://doi.org/10.24815/jimeka.v7i4.20662