

Techniques and technologies for detection tax evasion in India: A systematic analysis

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Abstract

In the world, activities related to tax evasion are becoming a significant hurdle and challenge for countries and governments. The research will provide importance to the hurdles and challenges faced or encountered by the tax authority of India and the impacts of these activities on the economic development or stability of the country. This study will provide insights into the technologies and techniques implemented by India's tax authority. It will analyze the effectiveness and efficiency of detecting tax evasion-related activities and how they improve the overall system or fill the gaps in the regulatory body. New age advanced technologies such as Artificial Intelligence, Data Analytics, Block chain technologies, and the platforms that integrate data transformed the identification process of tax evasion by determining similar patterns and abnormalities in the tax filings. This study will provide a brief introduction to these technologies and their applicability in the tax evasion detection process. It will also discuss the hurdles and challenges in the implementation process of these technologies. The research will also provide recommendations related to the optimization of the implementation process of these technologies and utilization for detecting tax evasion. Methods that are adopted for data collection and analysis in the study also are mentioned methodology section. All the objectives of this research are also mentioned in the study and interpretation of the collected data has been done as per the objectives. The primary data collected from the questionnaires' are also considered in the data analysis part. All the responses collected from the participants presented through visual presentation of pie chart. The results have been showed in percentage format.

Keywords: AI, Data Analytics, Machine Learning, Block chain Technology, GST, UPI, Tax

Evasion, Big Data.

Introduction

The activities related to tax evasion have the potential to disrupt the economic stability and growth of a country. These activities negatively impact the revenue sources of the government and have adverse effects on the whole country in several aspects. Tax evasion is historically a very common factor in India. It negatively affects the overall economic growth of the country and also decreases the revenue generation of the government (Bhalla *et al.* 2022). The Government of India implemented various levels of strategies and initiatives to promote awareness and develop a strong system for tax compliance. The tax authority of India also adopted various new-age advanced technologies in the tax evasion detection system to strengthen the detection mechanism. In the past few years, the tax authority of India developed and incorporated various strategies and initiatives such as Goods and Service Tax (GST), implementation of a digital payment system called UPI, incorporation of AIS system in the tax filing process (Joseph and Ramalingam, 2021). The research discusses the transformation of India's tax evasion detection systems by the implementation of advanced technologies and techniques. In the study, the key contribution of the technological advancements and techniques and their impact on the tax evasion detection system has been evaluated. It also discusses the innovative strategies implemented by the government of India for combating tax evasion-related activities.

Objectives

- To evaluate the general technologies and techniques incorporated by the Indian government for detecting tax evasion.
- To determine the way these methods are effective in the process of decreasing tax evasion.
- To acknowledge the challenges in the process of identifying tax evasion-related activities and providing recommendations.

Research Methodology

In this study systematic approach of data analysis methods has been incorporated to accomplish the research objectives. The process involves identifying studies and works accomplished by other researchers relevant to the research subject. After the identification and collection of relevant studies the method suggests critically analyzing the accuracy, reliability, and quality of those

studies or research works (Booth *et al.* 2021). As per this method, the collected data or information from the studies or research has to be summarized to assess the outcome or results of this study. Then this research approach interprets those outcomes or results from the analysis of the data to provide conclusions of the study. In this study, the systematic approach of data collection and analysis utilized both qualitative and quantitative methods to accomplish the objectives of the research. The study utilized a secondary qualitative data collection method for relevant data collection as per the subject of this study (Taherdoost, 2021). This involved official reports

released by the government, records of taxation systems, and other regulatory policies-related documents. It also involved various case studies conducted by other researchers relevant to the subject of this study. A quantitative method of data collection was also utilized in this research process that involved interviews and opinions of tax professionals, policymakers, and technological developers in the taxation system to assess significant insights (Karunaratna *et al.* 2024).

Interpretation

Manual Techniques for Detection of Tax Evasions

The income tax department also implements and follows various manual measures and procedures in the process of reducing tax evasion. These measures involve close investigation, audit and implementation of actions.

Notices and Summons

The department of taxation informs individuals or businesses with notices and summons which are suspected for tax evasion related activities depending on the abnormalities in the data of tax filings such as non-disclosure of income and avoidance in paying taxes. There are different kinds of notices included in this process such as Scrutiny Assessment Notices (Section 143(2)), Demand Notices (Section 156) and Show Cause Notices (incometaxindia.gov.in, 2024). The Scrutiny Assessment Notices (Section 143(2)) being issued to verify the accuracy in the tax return filed by the individual or the organization. Demand Notices (Section 156) are issued by the authority for the payment of outstanding tax liabilities. Show Cause Notices issued when the individual or organization is suspected for intentional tax evasions. There are also other notices such as Reassessment Notice (Section 148) for the cases of hidden assets and unreported income. In accordance with Section 131 the authority summons the individual or business organization for reviewing information or documents. In the process of conducting survey and collecting evidence the authority issues notice as per Section 133A.

Manual Inquiries and Assessments

In some particular incidents, the officers of the income tax department conduct manual investigation or review of financial documents such as income records, bank statements, transactions of real estate, high value purchases and financial records of businesses. The officers

adopt a comparative approach in the reviewing process of these documents which compares the data in the documents with the provided data under tax filing or reporting.

Surveys and Raids

There are two kinds of surveys conducted by the income tax authority of India involving income tax surveys (Section 133A) and search and seizure operations (Section 132). The income tax surveys (Section 133A) are generally conducted in business organizations with the objectives of reviewing books and assessing adherence to the policies (incometaxindia.gov.in, 2024). Search and seizure operations (Section 132) which are also generally known as “raids” in the incidents where any individual or organization is suspected for significant tax evasion. The officers of the income tax department manually take over undisclosed cash, documents and assets.

Recovery Actions for Tax Revenue

Manual activities such as attachment of properties, bank accounts freezing and auction of assets are involved in the initiative related to the recovery process of unpaid taxes. The recovery officers take charge or responsibility of the cases where tax dodgers fail to fulfil the requirements of demand notices (incometaxindia.gov.in, 2024).

Evaluation of Tax Transactions

The department of taxation in India conducts manual investigations for large deposits and withdrawals of cash. Apprehensive transactions of cash flagged by financial institutions or banks in accordance with the Anti Money laundering Laws and Income Tax Act are also involved in this (incometaxindia.gov.in, 2024).

Observing High Value Transactions

There are procedures such as Annual Information Return and Statements of Financial Transactions that manually investigates high value transactions reported by financial organizations or institutions such as purchase of property, expenses from credit cards and investments above a certain limit (incometaxindia.gov.in, 2024).

Cross Verification with Third Parties

The officers of the tax department conduct manual cross checks to verify details with employers, financial institutions or banks, property registrars and other agencies under the government. Employers are particularly important for checking TDS related details (incometaxindia.gov.in, 2024).

Penalties and Prosecution

The time tax evasion related suspicions or allegations are established or proven, the taxation department of India has the authority to incorporate legal penalties which can go up to 200% of the evaded value of tax (incometaxindia.gov.in, 2024).

Technologies for Detection of Tax Evasions

1. Implementation of Artificial Intelligence and Machine Learning

Artificial Intelligence: The government of India incorporated new advanced technologies of artificial intelligence to streamline the process of detecting tax evasion. These systems have the potential to identify similar patterns in the behavior of tax filing (Verma, 2022). It also can detect abnormalities in the data or information of tax filing or collection.

Machine learning: The tax regulatory authority of India also incorporated techniques or models of machine learning in the tax evasion detection systems. This model has the potential or ability to optimize and rectify the detection system by utilizing new information or data (Savić *et al.* 2022). It can drastically increase the accuracy of these detection systems of tax evasion.

2. Incorporation of Data Analytics

The regulatory authority of the taxation system in India also incorporated big data analytics in the detection process of tax evasion. This system has the potential to process large-scale datasets of financial transactions which can favor the authority to analyze patterns and abnormalities (Gupta and Mehta, 2024).

3. Blockchain technologies

The tax authority of India included blockchain technology in their GST networks. This technology has the potential to ensure transparency and can track financial transactions (Kaur *et al.* 2024). It records data or information of the transactions in an unchangeable ledger which increases the difficulty for individuals or any organizations to disrupt the records.

4. Integration of financial documents and digital payment system

Integration of financial Documents: The government of India developed regulations for linking financial databases such as PAN, Aadhaar, GSTN, and Income Tax documents. This initiative has the potential to provide a complete overview of an individual's financial activities (Goel, 2022).

Digital Payment System: The regulatory authority of taxation in India drastically promoted the digital process of transactions with the initiative of the Unified Payment Interface (UPI). These initiatives also have the potential to decrease cash-based transactions in the country to decrease

tax evasion-related activities (Aggarwal *et al.* 2021).

Effectiveness of these methods

Manual

Utilization of notices and summons such as Scrutiny Assessment Notices (Section 143(2)), Demand Notices (Section 156) and Show Cause Notices favor the government to provide significant time duration to the evaders to represent their counter arguments and evidence. The income tax surveys (Section 133A) and search and seizure operations (Section 132) significantly contribute in ground level investigations to detect tax evasions and seize unreported income or assets.

Technological

1. Artificial intelligence and machine learning

The technology of AI significantly contributed to the process of estimating potential activities related to Tax Evasion. It accomplishes this by evaluating similar behavioral patterns and identifying abnormalities in the financial data or information related to taxation (Verma, 2022). Techniques of machine learning models significantly increased the detection capabilities of the system by integrating new data. It increases the relevance and accuracy of the system significantly (Savić *et al.* 2022).

2. Data Analytics and Blockchain Technology

The "Project Insight" system introduced by the Income Tax Department involves a data mining system of data analytics in the process of disclosing income that is not reported and identifying activities related to fraud (sansad.,2024). In the system of the GST network, blockchain technologies are being utilized in the process of securing invoice matching and preventing activities related to fraud (Kaur *et al.* 2024).

3. Integrated Financial Databases and Digital Payment System:

The linking process or initiative of financial databases such as PAN, Aadhaar, GSTN, and Income Tax related documents was a strategic success for the government. It favored the income tax department to have a complete overview of the financial activities of an individual or organization (Goel, 2022). The process allowed the authority to easily cross-verify transaction-related information for the identification of non-reported or unaccounted income.

Implementation related challenges or problems

1. Technological hurdles

The implementation of advanced technologies such as artificial intelligence, machine learning, data analytics, or blockchain technologies is too resource-intensive and requires large-scale initial investment. Professional and skilled individuals are also required for the implementation process (Sood *et al.* 2022).

2. Privacy concerns in the utilization of Data

There are significant concerns related to data privacy because of the increased utilization of financial or personal information in the implemented systems. This aspect of these technologies creates questions related to data protection and privacy regulations (Alm, 2021).

3. Limitations of infrastructure

The lack of infrastructural development in the rural areas of India increases the difficulty related to the implementation process. The outdated infrastructure of these areas does not support the new technologies of the tax evasion detection system (Mallick, 2021).

Recommendations

- The authorities have to invest a significant amount of money in the implementation process of these techniques. It also has to recruit professional and skilled individuals for the implementation process.
- The government of India has to maintain transparency in the process of data utilization and ensure that there are no concerns related to privacy and data protection regulations.
- There has to be a significant amount of development initiative in the rural areas of the country to scale up the infrastructure of the government offices.

Conclusion

In the above discussion of the study, it is clear that the income tax department of India is committed to reducing the tax evasion activities in the country. The authority adopted several technologies and techniques to identify and decrease these activities. However, there are still some limitations present in the implementation process of these technologies in the detection process. Therefore, the income tax department required to create other initiatives.

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