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Reconstruction Model For Mitigating Business-To-Customer Fraud In Indonesia's VAT Policy

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Abstract

Purpose: *This research aims to examine the possibility of combining E-Barimt and blockchain technology with E-Filing. This examination hopes that if the implementation of E-Barimt can be adopted into the Indonesian system, then the government will have another option of increasing tax revenue rather than increasing the tariff of VAT.*
Method: *This research employs a systematic literature review as its method. The literature used comprises Scopus-indexed journals and grey literature – the latter was utilised due to the limited information available on Scopus-indexed journals regarding the e-Barimt.*
Results: *The implementation of E-Barimt in Mongolia yields more beneficial effects, and with some adjustments, the author argues that it can also be implemented in Indonesia.*
Implications: *This research presents a model for integrating E-Barimt, E-Filing, and Blockchain technology. This model can be implemented by policymakers in Indonesia to mitigate potential fraud, thereby supporting the government's goal of increasing tax revenue.*
Novelty: *E-Barimt has never been mentioned in a Scopus-indexed journal, so this is considered a new system that scholars have not discovered. Besides, the effectiveness can be adopted in Indonesia and solve the VAT's loopholes.*

Keywords*: VAT; E-Barimt; block-chain technology; tax refund; tax lottery*

Abstrak

Tujuan: Tujuan dari penelitian ini adalah untuk menguji kemungkinan menggabungkan teknologi E-Barimt dan blockchain dengan E-Filing. Kajian ini berharap jika penerapan E-Barimt dapat diadopsi ke dalam sistem Indonesia, maka pemerintah mempunyai pilihan lain untuk meningkatkan penerimaan pajak dibandingkan menaikkan tarif PPN.
Metode: Metode yang digunakan dalam penelitian ini adalah tinjauan literatur sistematis. Literatur yang digunakan adalah jurnal terindeks Scopus dan grey literatur. Literatur abu-abu digunakan karena terbatasnya informasi e-barimt pada jurnal terindeks Scopus.
Hasil: Terdapat dampak yang lebih menguntungkan pada penerapan E-Barimt di Mongolia, sehingga dengan beberapa penyesuaian, penulis berpendapat hal tersebut dapat diterapkan di Indonesia.

Implikasi: Penelitian ini menyajikan model untuk integrasi E-Barimt, E-Filing, dan teknologi Blockchain. Model ini dapat diterapkan oleh pembuat kebijakan di Indonesia untuk mengurangi potensi kecurangan, sehingga mendukung tujuan utama pemerintah dalam meningkatkan penerimaan pajak.

Kebaruan: E-Barimt belum pernah disebutkan dalam jurnal terindeks scopus, sehingga dianggap sebagai sistem baru yang belum ditemukan oleh para sarjana. Selain itu, efektivitasnya dapat diadopsi di Indonesia dan mengatasi celah PPN.

Kata kunci: PPN; E-Barimt; teknologi rantai blok; pengembalian pajak; undian pajak

INTRODUCTION

An established government is generally oriented towards security, order, justice, prosperity and prioritises the use of resources for the interests of its citizens. In carrying out its role, the government needs funds from various sources, one of which is taxes, as in Indonesia. The role of taxes in contributing to Indonesia's state income accounts for approximately 70% of all income in the State Revenue and Expenditure Budget (APBN). One of the tax revenues in Indonesia is Value Added Tax (VAT). VAT is often regarded as one of the most effective taxes, with proponents claiming that it significantly boosts government tax revenue (Lim, 2012). According to Article 7 of the UU HPP, the VAT rate, previously 10%, was increased to 11% as of April 1, 2022, and is set to rise further to 12% no later than January 1, 2025.

The VAT increase, particularly the 11% rate, has been impactful in raising state revenues and returning benefits to the community, particularly the upper middle class (Faisol & Norsain, 2023). However, there are differing viewpoints regarding this policy. Some argue that an 11% VAT increase, coupled with rising prices of essential goods during the COVID-19 pandemic, is inappropriate and burdensome for people trying to meet their daily needs (Faisol & Norsain, 2023). Consequently, it is crucial to comprehensively understand the pros and cons of this VAT increase policy to make informed decisions and avoid unwarranted speculation in the community (Faisol & Norsain, 2023).

Instead of resorting to an increase in the VAT rate, the author argues that the government can adopt alternative approaches to enhance revenue generation. In the contemporary digital era, there is substantial potential for augmenting state revenues through the modernisation of the tax system (Rahma et al., 2023). One such solution, still related to VAT, is preventing VAT fraud. VAT operates as a tax within the value chain, spanning from business to business (B2B) and extending to the end of the chain, involving business-to-consumer (B2C) transactions.

Indonesia has already implemented the E-Faktur system to manage this VAT credit mechanism. This means that the company already receives an incentive from the VAT input they have and is likely to request the VAT invoice for this credit mechanism. However, a challenge arises when considering the

"last mile" of VAT enforcement, particularly in B2C transactions where there may be a limited incentive to request and retain receipts (Nicolaides, 2023), especially in cash transactions. It is not uncommon to encounter retail stores claiming that their receipt-printing machines are malfunctioning or restaurants that only accept cash payments. Electronic transactions differ from cash transactions because they involve third-party processors independent of the transacting partners. This creates a trail of documentation that governments can access to ensure tax compliance (Brockmeyer & Somarriba, 2022).

Loopholes in the tax system undoubtedly pose a pressing issue in Indonesia, as they can be exploited for fraudulent activities. These loopholes often give rise to various forms of tax fraud, with tax evasion being a prominent example (Slemrod, 2007). The implications of VAT fraud, usually referred to as the "Domino Effect," extend beyond the act itself. Tax evasion results in substantial financial losses for governments and significant economic distortions, particularly in developing countries (Pomeranz, 2015). For instance, overclaiming refunds with more than a third attributed to invoice mills, has resulted in substantial revenue losses in Pakistan (Waseem, 2023). Three convenience retailers located in Illinois and Indiana have been charged with multiple counts of theft, fraud, and tax evasion. The charges against them are based on the allegations that they intentionally underreported over $50 million in sales (Holtz, 2023). In Indonesia, PT Gemilang Sukses Garminda created a fake tax invoice to obtain a tax refund, resulting in a loss of IDR 27 billion for the government in 2019 (Zola, 2020). The same case also happened in 2020 with PT DC, this time the fine was IDR 20.5 billion or twice as the government's loss (Suryanto, 2020). Besides, from an interview it was revealed that there are companies who did not make the VAT invoice since they want to attract customers and give them a cheaper price than companies that make the VAT invoice. From the same interview, several companies choose not to report their sales when the customer do not want to pay the VAT (Mangoting et al., 2017).

The world has implemented diverse and innovative measures to counteract VAT fraud, each with its distinctive approach. For example, Germany employs the reverse charge mechanism, expanding its scope to place VAT liability on purchasers rather than sellers (Keen, 2007). In Russia, the transfer of a portion of VAT proceeds to regional budgets has heightened the interest of regional government bodies in expanding the taxable base (Gasanbekov et al., 2023). In contrast, Pakistan decreased the VAT rate for five key sectors from the regular 15% rate to zero (Waseem, 2023). Meanwhile, the positive impact of E-Barimt implementation in Mongolia is evident. This impact includes increased government revenue and a growing number of newly registered users during the system's initial phase. Notably, from October 31st, 2016, to October 31st, 2017, VAT revenue grew by 269%, and corporate income tax (CIT) revenue increased by 378.5% (International Monetary Fund, 2017).

The E-Barimt in Mongolia adopts a unique system. Regarding the revision of VAT law, which was adopted on July 9th, 2015, the Pos API 2.1 library has been developed by the General Department of Taxation to collect sales receipts of goods and services (ebarimt.mn, 2015). Pos API 2.1 is a software module that works in conjunction with the Cashier Pos system, which collects sales information on goods and services sold to consumers by businesses and individuals (ebarimt.mn, 2015). Therefore, E-Barimt is not utilising blockchain technology due to its reliance on a central database and non-automatic processing. The author was unable to identify another country that implements E-Barimt or a similar application within their taxation system. Based on the author's research, Mongolia is the only country currently utilising this system.

Blockchain technology encompasses various types of blockchains and implementation models that can be tailored to meet specific needs and achieve desired benefits. A permissioned private blockchain enables the DGT to operate a private yet customizable blockchain system, where the DGT can specify which parties are nodes and the extent of their authority within the blockchain technology network. This can then be set out in a smart contract. A smart contract is a series of agreements that serve as a regulator for business transactions. A smart contract is stored and executed automatically in the blockchain as part of a transaction. Suppose all taxable enterprises (TEs) are part of the blockchain network simultaneously as the DGT. In that case, TE should be unable to see the data of other TE transactions without a transaction connection. For example, when TE A conducts transactions with TE B, only TE A and TE B need this data, not TE C, TE D, or any other TE. Thus, the smart contract should be regulated to restrict access to transaction data to the seller, buyer, and DGT only (Setyowati et al., 2020).

This research aims to examine the possibility of combining E-Barimt and blockchain technology with E-Filing. Submitting tax returns electronically can be done through E-Filing. This process is completed online and in real-time through the Directorate General of Taxes (DGT) website. The reason for using E-Filing instead of E-Faktur is that this website is available for every individual taxpayer. The E-Faktur is only available to taxable companies (PKP). At the same time, the goal of this integrated system is for the end-users of the supply chain, or customers, not the companies. It has been proposed that customers who report their transactions to the Directorate General of Taxes (DGT) and become tax auditors will receive a reward. By documenting all transactions, including those that involve VAT and those that do not, the DGT will receive a more comprehensive report that can capture a broader range of information. This approach is expected not only to address VAT underreporting fraud but also to address the underreporting of non-PKP transactions. The interconnection of E-Barimt, E-Filing, and blockchain will benefit from the assistance of Cortex and PSIAP. The implementation of this model is expected to yield similar results in

terms of increasing tax revenue, akin to the outcomes observed in Mongolia. It is thus anticipated that the proposed framework will make a practical contribution.

PSIAP is an integrated system that reduces manual work, increases productivity, and enhances employee capabilities. PSIAP offers benefits, including a taxpayer account on the DGT portal, quality service, reduced potential for disputes, and lower compliance costs. Various digital services are increasingly complete with specified service standards (Saptati, 2023).

METHOD

The research approach employed in this study is qualitative, involving a systematic review (SR) of the literature. The SR method is designed to collect and assess all relevant evidence on a particular topic. Its purpose is to avoid the introduction of research biases that may occur in unsystematic reviews, which can occur in various stages of the review process, including question formulation, data collection, analysis, interpretation, summarisation, and presentation (Biolchini et al., 2005). In other words, reviews that are conducted in a traditional, non-systematic manner, which involves a more casual and selective approach, are more susceptible to bias. This is because the process of searching for, selecting, and combining studies is not defined in advance or described transparently (Hardies et al., 2024). To provide the two-way sides of the recommendation in this research, discuss all the benefits and solutions to solve the problem. While also considering all the drawbacks that come with the implementation.

Systematic Reviews (SRs) play a crucial role in guiding our decision-making process regarding research programs and policy recommendations. They ensure that we consider evidence from all available research studies, rather than relying solely on the results of the most extensive or latest study. (Hardies et al., 2024). As tax policy recommendations will be based on this thesis, the chosen methodology is a literature review. This research will follow the guidance of Jesson et al. (2011). The other step by Hardies et al. (2024) only stated seven steps without explicitly mentioning the "inclusion and exclusion criteria." See figure 1: Key Stages in a Systematic Review below.

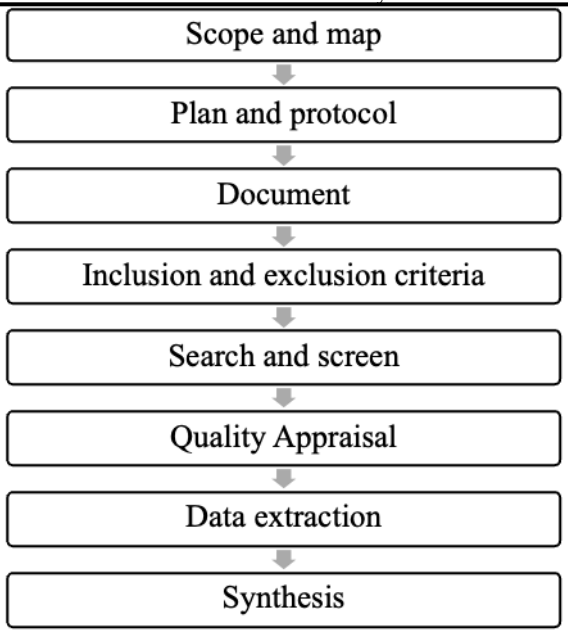

Figure 1. Key Stages in a Systematic Review
Source: Jesson et al., (2011)

The primary research object is Mongolia's E-Barimt application, which is an innovative model for VAT collection and consumer incentives. There are examinations of the mechanisms, benefits, and challenges associated with the E-Barimt system. The research subjects encompass stakeholders involved in or impacted by the E-Barimt system. These include Mongolian tax authorities and the Indonesian tax ecosystem.

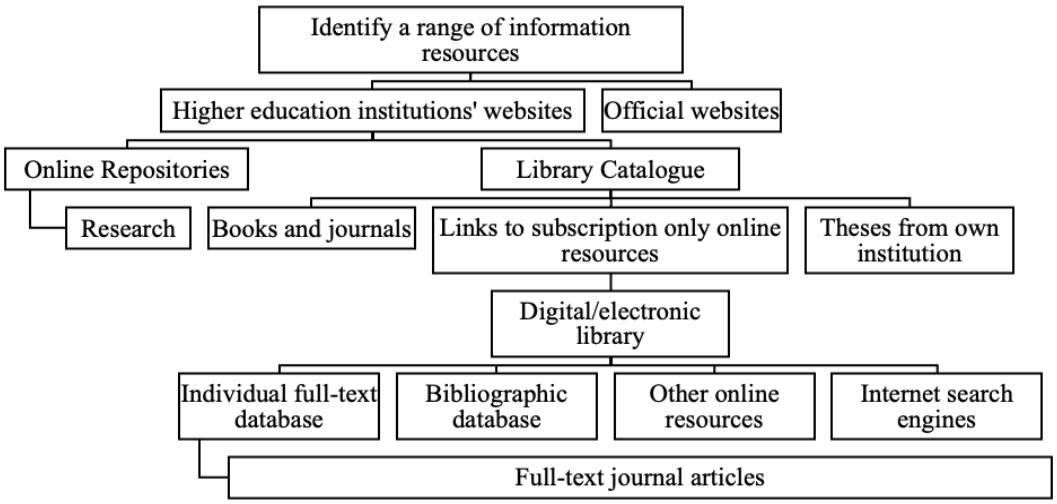

Figure 2. Resources to Search for Information
Source: Jesson et al., (2011) with modification

A qualitative data approach will gather comprehensive insights into the E-Barimt system and its implications. This approach uses qualitative data collection techniques. Scholarly articles, official documents, and reports on Mongolia's E-

Barimt system and VAT policies will be subjected to content analysis. This method will help extract qualitative insights and identify recurring themes and patterns. Some keywords need to be decided based on the relevance of discussing the specific topic of the research question. The keywords, terms, and results are shown in Table 1.

As appears in the Table 1. Keywords, Terms, and Results Used for the Sources: several keyword groups are used. The first keywords and terms used are (1) blockchain AND electronic, AND (2) VAT. This point (1) means that the article title, abstract, or keywords must contain the words blockchain and electronic; both words represent almost similar terms but are different. The blockchain has an absolute meaning. The electronic can illustrate how the digital tax is applied, such as through electronic payments, invoices, and forms. Point (2) with the conjunction of AND limits the search to the VAT only. This term can answer the second research question.

Table 2. Keywords, Terms, and Results Used for the Sources

Scopus Keywords	Term	Result
[1]Block-chain AND electronic [2]VAT	AND	5
[1]"Tax lottery" OR "invoice lottery" OR "receipt lottery" ("Refund" OR "cashback") [2]("VAT"OR"VAT loopholes")	AND	91
[1]"Tax lottery" OR "invoice lottery" OR "receipt lottery" [2]Georgia OR Taiwan OR Portugal OR Romania	AND	5
[1]Mongolia [2]Tax	AND	71
[1]Indonesia [2]e-filing	AND	21
"E-Barimt" OR "ebarimt"	Scopus	0
	news_mn	6
	Journal (non Scopus)	2
	Report	6
Total		**207**

Source: Processed Data (2023)

The second is (1) "Tax Lottery" OR "invoice lottery" OR "receipt lottery", with the conjunction of OR, (2) ("Refund" OR" cashback") AND "VAT". This means that (1) allows the search engine to choose one of the keywords while also being able to choose just one of the (2). The reason is that the E-Barimt is using both lottery and refund. However, if the conjunction is AND, then the result will shrink. If the article only discusses one of them. It is still included since it will answer the research questions first and second.

The third are (1) "Tax Lottery" OR "invoice lottery" OR "receipt lottery", with the conjunction of AND, (2) Georgia OR Taiwan OR Portugal OR Romania. This term was chosen because it will broaden the lottery explanation on countries other than Mongolia. This will answer the second research question. The fourth is (1) Mongolia AND (2) tax. This term is used to broaden knowledge of tax in Mongolia, in order to answer the first and second research questions. The fifth is (1) Indonesia AND (2) E-Filing because of the need to answer the second research question. Furthermore, the last is "E-Barimt" OR "ebarimt". There is no combination for this term since no Scopus journal has published on this term yet.

Figure 2, Resources to Search for Information, shows the literature used in this article. Data from news sources, non-Scopus journals, and reports available online will be used to understand the term E-Barimt. They are identified as grey literature. Grey literature consists of publications produced by governments at any level, academia, business, and industry, both in print and digital formats. However, they are supposed to be not controlled by commercial publishing interests, and publishing is not the main business of the organisation (Nahotko, 2008)."

Table 3. The Result for Each Keyword Group

Search Term	Result	Article or Conference Paper	English	Final
(TITLE-ABS-KEY (block-chain AND electronic) AND TITLE-ABS-KEY (vat))	5	5	5	5
(TITLE-ABS-KEY ("Tax lottery" OR "invoice lottery" OR "receipt lottery") OR TITLE-ABS-KEY (("Refund" OR "cashback") AND ("VAT" OR "VAT loopholes")))	91	82	79	70
(TITLE-ABS-KEY ("Tax lottery" OR "invoice lottery" OR "receipt lottery") AND TITLE-ABS-KEY (georgia OR taiwan OR portugal OR romania))	5	4	4	3
(TITLE-ABS-KEY (mongolia) AND TITLE-ABS-KEY (tax))	72	60	59	49
(TITLE-ABS-KEY (indonesia) AND TITLE-ABS-KEY (e-filing))	21	21	21	21
E-Barimt Mongolia	14	14	14	14
			Total	162

Source: Author's Processed Data (2023)

In this study, 14 grey literature sources were used: 6 news articles from news.mn, 2 non-Scopus journals, and six reports, which include: 3 reports from the Mongolian government published on its official website, one report from the Asian Development Bank, one from The World Bank, and one from KPMG. The author argues that only 6 out of the 14 sources are published by media organisations controlled by commercial publishing interests, where publishing is the organisation's primary business. Nevertheless, it is worth noting that this research has a potential limitation, as the use of grey literature may introduce biases that could impact the findings. As appears in Table 4, the total number of documents used for each keyword group is 162.

After all the articles are collected, the following process is selecting which papers to include and which to exclude. The inclusion criteria are document type (article and conference paper) and language (English).

The data analysis for this research will be primarily based on a thematic analysis using NVivo tools. This thematic overview maps out and synthesizes the findings and learning experiences of review teams to account for how systematic review methodology has featured in the domain of international development (Langer & Stewart, 2014). Through this comprehensive review, this research provides qualitative insights, identifies recurring themes, and synthesizes relevant findings from the existing body of knowledge. Due to their particular methodology, systematic reviews provide the best means to synthesize all available evidence regarding specific questions unbiasedly (Hardies et al., 2024). This approach provides a rigorous analysis of existing information and identifies valuable insights for assessing the potential applicability of the E-Barimt model in Indonesia's tax landscape.

There are several steps to use NVivo. After importing the documents into the NVivo application, the author created codes to categorise the information. The primary codes used were Blockchain, E-Barimt, and E-Filing. Each of these primary codes was further subdivided into four sub-codes: Definition, Negative Impact, Positive Impact, and Process. Once the coding structure was established, the author reviewed the documents and organised the information according to the corresponding codes. After the information was grouped, the data were prepared for analysis and discussion in the results section.

The expected result is a comprehensive compilation of information for each aspect of the tax applications to be integrated. This includes detailed insights into the Blockchain, E-Barimt, and E-Filing systems, with a focus on their definitions, potential positive and negative impacts, and implementation processes. This organised information will provide a clear understanding of how each component contributes to the overall integration framework for improving tax administration.

Applied research is a type of research that aims to address practical problems or answer specific questions in real-world contexts. Applied research is

distinct from basic or theoretical research, as its primary goal is to generate pragmatic solutions, interventions, or recommendations that can be directly applied to a particular issue or situation. Applied research is a valuable and goal-oriented approach, focusing on solving real-world problems. It involves the application of knowledge to specific conditions or issues. This research addresses the application of a solution to the problem of Indonesian tax loopholes in B2C transactions. The solution is the combination of E-Barimt, E-Filing, and blockchain technology. Implementing this integrated system will have a positive impact on both the positive and negative aspects.

RESULT AND DISCUSSION

The Comparison of Indonesia and Mongolia

Figure 3 shows the comparison of Indonesia and Mongolia in several aspects. Although Indonesia's annual GDP is higher than Mongolia's, its GDP per capita is lower. The debt-to-GDP ratio is also different by 7.2%. There is a contradiction in the deficit percentage of GDP; while Mongolia still has a surplus, Indonesia is in the opposite position.

Talking about education and population. Indonesia has almost 80 times the population of Mongolia, despite having a surface area that is not significantly different from that of Mongolia. Indonesia is allocating more for education, so the impact is in line with the outcome. The unemployment rate in Indonesia is lower.

Mongolia						Indonesia
Annual GDP [+]	2023	$20,315M		$1,371,171M	2023	Annual GDP [+]
GDP per capita [+]	2023	$5,796		$4,920	2023	GDP per capita [+]
Debt (%GDP) [+]	2023	46.80%		39.60%	2023	Debt (%GDP) [+]
Deficit (%GDP) [+]	2023	2.73%		-1.61%	2023	Deficit (%GDP) [+]
Education Expenditure (%Bud.) [+]	2022	4.26%		13.93%	2022	Education Expenditure (%Bud.) [+]
Unemployment rate [+]	2024Q1	5.1%		4.1%	2023Q3	Unemployment rate [+]
Tax Revenue (%GDP) [+]	2021	24.0%		10.9%	2021	Tax Revenue (%GDP) [+]
Population [+]	2023	3,505,000		278,696,000	2023	Population [+]

Mongolia

- Capital: Ulan Bator
- Population: 3,505,000
- Surface Area: 1,564,116 km2
- VAT rate 10%
- Currency: Tugrik (1 EUR=3,529.3300 MNT)

- Religion: Mostly Buddhism
- Belongs to: ACD, IMF, UN, OSCE

Indonesia

- Capital: Jakarta
- Population: 278,696,000
- Surface Area: 1,916,907 km2
- VAT rate 12%
- Currency: Indonesian rupiah (1 EUR=16,887.3800 IDR)
- Religion: Mostly Islam
- Belongs to: ACD, ASEAN, G20, IMF, UN, OPEC

Figure 3. Comparison of Mongolia and Indonesia
Source: countryeconomy.com, (2025)

Regarding taxation, the tax revenue percentage of GDP is significantly higher in Mongolia, almost twice that of Indonesia. Even though previously, Indonesia and Mongolia's rate of VAT was the same at 10%. Indonesia is changing the rate now.

The E-Barimt and Mongolia Background

The GDNT (General Department of National Taxation) is working towards achieving the goal of computerising all tax offices. According to the integrated result of a survey conducted in April 2006, a total of 835 computers are available in 31 tax offices. The Mongolian Tax Administration (MTA) network has two types of connections. A fibre tool connects all the district (Ulaanbaatar city) tax offices. Before 2007, the MTA had offline connections between its headquarters and local tax offices. It means that all local tax offices are connected by dial-up when they need to send data. Currently, the MTA has significantly improved connections among tax offices, and data exchange is conducted online (Dandar et al., 2007). The illustration of the MTA network appears in Figure 4.

According to a survey conducted by the Mongolian Chamber of Commerce and Industry, in 2019, there were 3,800,000 duplicate mobile phone users in Mongolia, of which 2,439,000 were smartphone users. There are 2,910,000 Internet users. There are 1.7 million people currently use the E-Barimt tax system, and 500,000 people log in daily. In other words, about 85% of the 2.1 million adults in our country use the electronic tax system (Jargalsaikhan et al., 2021).

The new "Law on Value Added Tax", which was approved by Parliament on 9th July 2015 came into force on 1st January 2016. The new VAT Law provides the opportunity to retrieve 2% from all purchases (20% of the paid VAT) at the end of every year. The new VAT law enables people to participate in a lottery twice a month (news.mn, 2016e).

The purchaser must first register at ebarimt.mn which will issue a personal identification number. Secondly, the shops and trading centers must be VAT-paying entities. According to the new law, the purchaser must register the payment receipt for the items purchased on the above site. The VAT refunds for

2016 will take next year in 2017, once all the receipts have been collected. Another incentive is that everyone registered at ebarimt.mn can participate in a monthly lottery (news.mn, 2016a). The lottery will be held 2-3 times a month. People can participate in the lottery three times with one receipt (news.mn, 2016b).

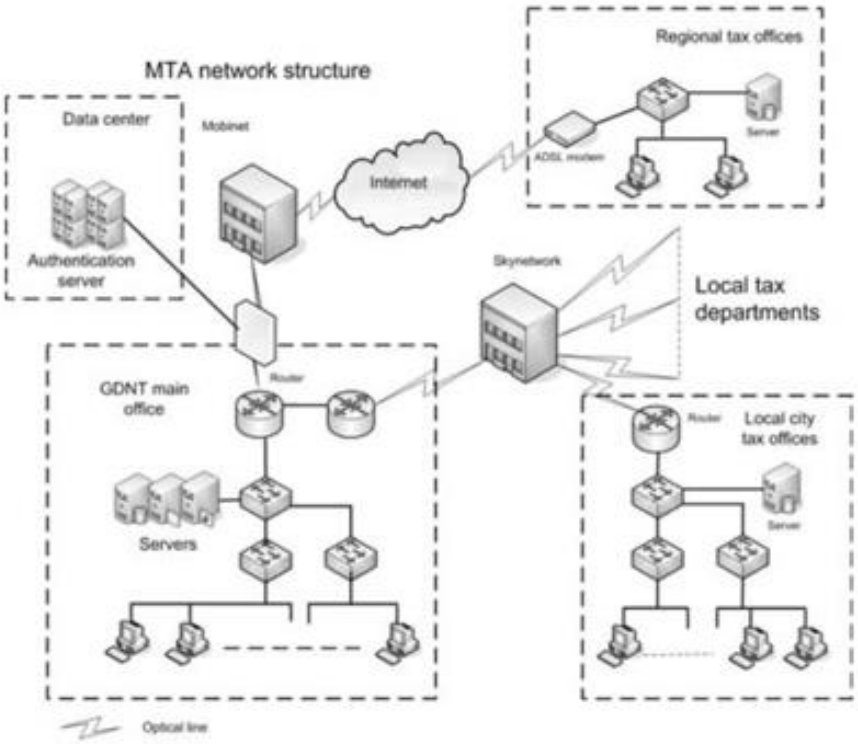

Figure 4. MTA network
Source: Dandar et al., (2007)

All businesses are obliged to use Point of Sale (PoS) systems to register their sales, and each PoS is connected to the E-Barimt network, which creates a unique QR code on the receipt (KPMG, 2022). The new receipt must include the QR code, the trader's bar code, the company logo, the tax payment number, and the total purchase amount. Currently, 330,000 entities are linked to the ebarimt.mn. In addition, all entities must start providing the new receipts by January 18th. Those who fail to do so will be penalised with a fine of 2% of their income (news.mn, 2016c).

Lottery Taxpayers can win up to 30 million MNT from the receipts scanned in a previous month and the lottery runs at least once a month. The lottery number contains 2 letters followed by 8-digit numbers from AA00000000 to ZZ99999999. The individual lottery result is available on the E-Barimt account after every draw (KPMG, 2022).

The total revenue of the VAT and CIT from 2012 until 2016 never reached more than 568.8 billion tugriks and 700 billion tugriks respectively and is prone to be stagnant. However, after the implementation of E-Barimt the revenue of both VAT and CIT increased significantly. This upsurge is accompanied by a

reduction in the percentage of VAT in total revenue. This means that the total revenue itself was also raised (Norjinlkham, 2019).

The statistics of printed and confirmed e-receipts show an increasing trend. Given that VAT and CIT are also increasing by 269% and 378.5%, respectively. This is an indicator of an effective VAT system in place in Mongolia. When related to the tax agency behaviour, the application of E-Barimt supports the tax agency in terms of tax collection and enforcement. The receipt has a dual purpose as it can function as a lottery ticket with potential prizes while also leaving behind transaction records that can be utilized by revenue authorities to audit vendors (Larsen et al., 2019).

If a similar system were implemented in Indonesia's VAT framework, the author argues that the Indonesian government could increase VAT and CIT revenues by up to 269% and 378.5%, respectively.

The Drawbacks and Challenges of E-Barimt Implementation

Although the incentives of cashback and lotteries offer numerous benefits, they also have some drawbacks. By incentivising consumers to ask for receipts, high-income individuals and high spenders have a higher chance of winning and, thus, benefit the most from the scheme's prizes (Nicolaides, 2023). Besides, it also increases unnecessary consumption when people have erroneous intuitions about the laws of chance (Tversky & Kahneman, 1971) and appeal to the "hot hand" fallacy and expect positive serial correlation, or they might believe in nonexistent variation in luck across stores and infer from the signal of a win which store is lucky (Guryan & Kearney, 2008). This supports the gambler or the gambling addict. The tax lottery can also fail, as seen in Georgia's rapid yet shaky political and economic development (Larsen, 2023). It costs the government. When formulating optimal policy, one needs to consider the marginal costs of enforcement against the costs of alternative revenue-raising methods (Slemrod, 2016). The other factor considered by users is privacy. Over time, taxpayers have come to consider not only the usability and convenience offered by digital administration systems but also other factors, such as risk factors (Grace et al., 2023). The challenges of the E-Barimt implementation include VAT invoice fraud, not issuing e-receipts, and reporting problems to customers, such as stating that there is currently no internet or a printer problem, and offering 10% discounts if a customer does not require an e-receipt (Norjinlkham, 2019).

The Indonesian's E-Filing

Governments may inadvertently put significant administrative hurdles on corporations to secure a steady flow of tax income (Søgaard, 2021). Even when the taxpayers have already paid the tax, they are required to report it every year. Electronic filing, often referred to as E-filing, is a crucial component of modern tax administration systems. The Directorate General of Taxes has implemented e-

SPT and E-Filing to digitise and automate tax reporting (Hakim, 2016). As in many countries, E-Filing represents a significant advancement in tax collection and compliance processes in Indonesia.

E-Filing is an electronic platform that enables taxpayers to submit their tax returns, payments, and associated documentation to the tax authorities in a digital format. The primary purpose of E-Filing is to streamline tax compliance, enhance accuracy, reduce paperwork, and facilitate efficient tax administration. Digitalisation revolutionises the operations of tax administrations by significantly enhancing their capacity to gather, analyse, and oversee tax data (Bellon et al., 2022).

While e-filing offers numerous benefits, challenges must be addressed. Ensuring that all segments of the population can access and use e-filing platforms is crucial to prevent a digital divide. However, with the diversification of taxpayer types, multidimensional demand and business diversification, tax collection has also brought new challenges: the opaqueness of data worsens the asymmetry of tax information; over-reliance on centralization makes it difficult to trace the nature of things in real time across regions and subjects (Niu et al., 2022). Robust cybersecurity measures are essential to protect taxpayer data and prevent breaches. Taxpayers need to be educated and supported in using e-filing platforms effectively. Several other challenges may be faced when implementing this integrated system, including the readiness of the technology infrastructure, the need to adjust tax regulations, and the level of digital literacy within the community.

The Innovative System Model (E-Barimt, E-Filing and Blockchain)

The same characteristics shared by Mongolia and Indonesia demonstrate why the E-Barimt will be applicable in Indonesia, as both have a self-assessment tax system (Sambuu & Dandar, 2009). However, Indonesia's transactions are bigger. In scenarios involving large amounts of data that need to be kept secure and private, blockchain is the best option (Alam et al., 2021).

A blockchain consists of several blocks that are merged and linked to each other, forming a chain. Each block identifies the previous block using a hashing function that forms a single unbroken chain set. When a piece of information has already been recorded in the blockchain database, it is difficult to delete or modify that data. The blockchain uses a decentralised and distributed ledger method referred to as a distributed ledger. A distributed ledger is a record that contains all transactions in a network and can be accessed by all parties in the network (Setyowati et al., 2020).

There are seven numbers in Figure 5. The integrated system processes in a full cycle. Number 1: Data considered safe for distribution to nodes in the blockchain technology network includes the Tax Invoice Serial Number (TISN). A TISN system based on blockchain technology will produce a faster and more

efficient system. Transactions on the TISN in Indonesia can also be monitored and tracked directly by the Directorate General of Taxation (DGT) (Setyowati et al., 2020).

The seller issues the tax invoice, and the customer makes the payment for the transaction. Upon issuing the invoice, the seller provides the necessary information to both the government and the buyer. There are two dashed lines (representing the information process) in the diagram, connecting the seller to the government and the client. The line connecting the customer and the seller represents the payment process.

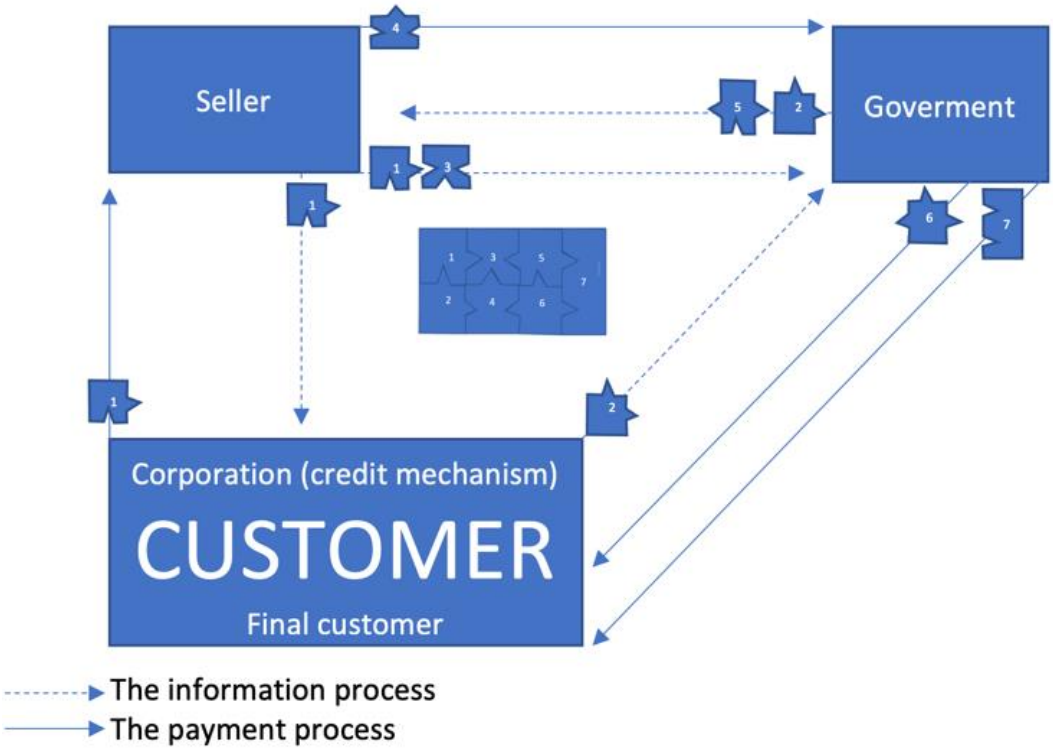

Figure 5. The integrated system process in a full cycle
Source: Author, (2024)

Number 2: The customer submits the tax invoice into the connected system. When a non-final consumer (a company) receives a tax invoice, the credit mechanism is activated in this process. The dashed line represents the flow of information from either the purchaser, who may be a corporation capable of implementing a credit mechanism, or the final customer, who will be able to complete this new incentivising system. Upon obtaining the information, the government promptly sends a confirmation request to the seller. In this process, the E-Filing, which has been modified to include the E-Barimt feature, takes its place.

Previously, the E-Filing website was limited to facilitating the reporting of annual returns for tax subjects. However, with the adoption of E-Barimt, an additional feature has been introduced, allowing tax subjects to report their

purchases. This enhancement enables the government to collect relevant data directly from taxpayers (customers).

Number 3: The seller verifies the receipt of payment and confirms that the tax invoice submitted by the buyer in Number 2 is accurate, allowing the procedure to proceed to the next stage. This process solely entailed the vendor providing confirmation information to the authorities.

Number 4: The seller covers the discrepancy between VAT output and input, if any exists. As a seller, the VAT is subject to a credit mechanism. The seller must pay the net difference between the VAT output to the customer and the VAT intake from the supplier or vendor. According to the existing regulations, this process is performed monthly. Nevertheless, this current integrated system allows for the completion of the process within a single day. This method demonstrates that the flow is restricted solely to the payment aspect, with no exchange of information.

Number 5: The government verifies the seller's Value Added Tax (VAT) payment, if required. This procedure is the next step in the progression of number 4. This method involves transmitting the confirmation flow solely through the government to the seller. If the seller has an excess of VAT or if it is zero, process numbers 4 and 5 will not be applicable.

Number 6: The government provides the refunded amount of Value Added Tax (VAT) to the customer. Once the entire process is completed, the only party that does not benefit from the VAT system is the last purchaser, as the credit mechanism comes to a halt. The sixth phase enables the government to offer customers a return as an incentive. However, if the customer is a corporate entity that manages the credit mechanism, then this process will not occur.

This process stems from the adoption of E-Barimt. The Mongolian government has implemented a system that incentivises the final customer in the value chain to report their purchases. This represents a significant shift in tax enforcement, as the data is now collected not only from sellers or corporate purchasers, but also from individual purchasers.

Number 7: The government conducts a monthly lottery process, similar to the numerical method of 6. This procedure also enables the government to offer incentives to individual purchasers who are unable to utilise the credit mechanism. Nevertheless, the outcome of this procedure is not directly correlated with the monetary value of the tax invoice. Instead, this technique just involves taking the tax invoice number and pairing it with the lottery result.

There are other factors to consider when implementing this integrated system. If a corporation, rather than the final client, receives tax invoices, the nodes will implement an additional rule and proceed to step 5. The program is unable to continue to the digits 6 and 7. Secondly, for the program to operate seamlessly, the seller must make the deposit, so that when a negative balance arises, the VAT payment to the government will be established automatically.

Furthermore, there is a requirement for a modification in the law. This existing system operates monthly, so the credit mechanism is likewise completed within a month. The existing tax legislation is incompatible with this approach as it restricts the implementation of a credit mechanism to a maximum timeframe of 3 months.

CONCLUSION

The Indonesian government raised the VAT rate to boost tax revenue. There is another way to increase tax revenue, as the gaps in the VAT system between business-to-customer transactions still exist. The option to address these loopholes is to adopt the same approach to the VAT system that Mongolia does. Mongolia utilises E-Barimt as a means of providing incentives to the end consumer. The incentives offered are a VAT refund and participation in a lottery. The outcome is affirmative, indicating its feasibility for implementation in Indonesia. Nevertheless, the population of Mongolia is significantly smaller than that of Indonesia, necessitating the adoption of a different approach, such as integrating blockchain technology with the current system. Implementing an integrated system in the VAT system in Indonesia is anticipated to provide similar favourable outcomes as adopting E-Barimt in Mongolia. The ultimate objective is to enhance tax compliance by utilising a customer booster, ensuring all transactions are reported. Ultimately, compliance is expected to improve tax revenue for the government and foster prosperity in Indonesia.

Although the implementation of this integrated system holds significant potential, it may also face challenges, including the readiness of technological infrastructure, the need for regulatory adjustments, and the varying levels of digital literacy across different communities and regions. Given Indonesia's vast geographical expanse and the uneven distribution of digital facilities, these issues are particularly pertinent. This article contributes to the academic literature by exploring the feasibility of such an implementation and offering potential solutions. Ultimately, the goal is to enhance tax revenue without increasing tax rates.

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