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Digitalization of Tobacco Taxation in Bangladesh: Reducing Evasion and Enhancing Public Health

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Abstract

This study investigates the worldwide practice of digital tax systems to develop a digital taxation model for Bangladesh and identifies the prospects and challenges of implementing this model to address tax evasion. This study applies a qualitative approach to research. 30 in-depth interviews (IDI) with retailers of tobacco products and 10 key informant interviews (KII) with National Board of Revenue (NBR) officials, Tobacco control activists, and tax experts have been conducted using semi-structured interview guidelines. Secondary data has been collected from various reports, and journal articles. Data has been analyzed using the thematic analysis technique. The potential benefits of implementing a digitalized tax system encompass minimization of tax evasion, better monitoring, tracking, and tracing systems, transparent tax administration, and developing an efficient tax collection system. Despite the many advantages of digital tax systems, several challenges must be addressed. These include administrative resistance due to a lack of skilled manpower and modern infrastructure and the difficulties associated with registering tobacco companies and farmers. The implementation of proposed digital taxation model is expected to control tobacco tax evasion which ultimately increases prices and contributes to the overall goal of reducing tobacco consumption and enhance public health in Bangladesh.

Keywords: Digital taxation model, Control tax evasion, Tobacco control, Prospects and challenges

1. INTRODUCTION

Tobacco control has now become a priority need for the well-being of people all over the world. Every year more than 8 million people lose their lives to tobacco-related diseases, and its usage is directly linked to countless other diseases and health problems [1]. Sustainable Development Goals (SDG) aims are also pertinent to tobacco control. The first is a 30% decrease in premature mortality from non-communicable diseases by 2030, and the second is a more robust implementation of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC). Bangladesh has committed to making the country tobacco-free by 2040 [2], [3].

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Among the tobacco control initiatives across the world, tax measures were one of the most effective and successful tobacco control options. However, evidence also suggests that tobacco taxes are the most underutilized control measure, with only 14% of the world's population subject to extremely high tobacco taxes [4]. Tax and price policies on tobacco have been identified as essential instruments for financing the Sustainable Development Goals (SDGs) in the Addis Ababa Action Agenda. These policies aim to reduce tobacco demand, improve public health, and boost domestic development resources [5].

According to research, tobacco products in Bangladesh are easily affordable, resulting in a high number of users [6]. Price and tax measures have proven effective in reducing tobacco consumption (as outlined in FCTC article 6). Studies indicate that even a 10% increase in prices can lead to an 8.5% decrease in cigarette use in low-income people [7]. Similarly, in Bangladesh, a 10% hike in the prices could decrease overall cigarette consumption by 5% and smokeless tobacco by 7% [8]. Consequently, multiple initiatives have been taken to increase the tax rate of tobacco products. However, the expected outcome has not yet been achieved as the tax rate in Bangladesh is relatively high, but the prices of tobacco products remain among the most affordable globally. The failure of these policy initiatives can be attributed to the significant role played by tax evasion [9]. An effective tax administration reduces tax evasion and avoidance to ensure that tobacco tax raises result in increased tobacco product prices as well as decreases in tobacco usage.

The government of Bangladesh has largely digitalized different aspects of administration. However, the tobacco tax system has not yet caught up with times following the traditional method of collecting taxes. At present, the management of tobacco taxation in Bangladesh predominantly relies on conventional approaches such as banderoles and tax stamps, which lack a robust market monitoring mechanism. The tobacco industry could potentially avoid a considerable amount of taxation through this method [10], [11]. To mitigate tax evasion and enhance compliance, a number of countries have effectively made the transition to digital tax administration systems. Ukraine's unified tax invoice has greatly reduced illegal trade and improves the effectiveness of tax collection [12]. Digital tax register system of Uganda has also reduced tax evasion and improved tax compliance [13]. Tobacco production and distribution have been successfully tracked in Mexico through the use of digital tax stamps and a digital track and trace system [14]. These global experiences give Bangladesh important guidelines and ideas into how digital taxation system can boost revenue collection, strengthen administration, and reduce illegal trade.

To effectively address these concerns, increase tax revenue, and reduce tobacco consumption, it's crucial to implement a digital transformation of the tobacco tax system. The Government of Bangladesh has recognized the importance of

digitalizing the tobacco tax collection process to combat tax evasion by tobacco companies. However, no research has been conducted on developing a digital model and the future benefits and drawbacks of a digitalized tobacco tax system in Bangladesh. Therefore, this study aims to investigate the worldwide practice of digital tax systems to develop a digital taxation model for Bangladesh and investigates the potential prospects and challenges associated with implementing a digitalized tobacco tax system in the country.

2. METHODS

The present study employs a qualitative exploratory research design. The qualitative method of research is used because it helps to acquire deeper understanding into different stakeholders' perspectives [15]. This research method has enabled the investigators to gain a comprehensive understanding of the key concepts underpinning the study. Several previous researches also used qualitative approaches for studies related to tobacco control [16], [17]. The study population includes NBR officials, tax experts, tobacco control activists, and retailers of tobacco products as they are the main stakeholders in the taxation process. The interviewees are selected from various stakeholders to obtain diverse insights. NBR officials are directly involved in implementing tax policies including monitoring tax compliance, revenue collection. Besides, they have the knowledge on legal and operational challenges of tax administration. They can also contribute by sharing perspective on digitalization impacts on tax system. Tax experts have extensive research experience on taxation and familiar with global best practices of digital tobacco tax policies. Tobacco control activists are familiar with tax evasion pattern and they are also involved in policy advocacy. Retailer of tobacco products can share ground level experience and industry tactics. Thus, insights from different stakeholders contribute uniquely to the research findings. Respondents have been selected by following the purposive sampling technique. To meet the study objective, 30 IDIs of retailers of tobacco products and 10 KIIs of NBR officials, tobacco control activists, and tax experts are chosen.

The current study has obtained data from both primary and secondary sources. Primary data have been collected through In-depth interviews and Key informant interviews. Secondary data have also been collected from different sources. Primary data has been collected from a total of 40 respondents. There are two separate guidelines. One is the interview guideline for the retailers of tobacco products and another guideline is for KIIs. Semi-structured questionnaires with open-ended questions have been designed to collect qualitative data by face-to-face interviews. Secondary data were collected from relevant literature such as journal articles, books, and reports of different organizations. For analyzing qualitative data, the researcher organized the data based on information sources for the transcription of interviews, written field

notes, explanations from the researcher, and secondary data. The main themes of the analysis are illustrated based on the available data. The researcher used thematic analysis, which helped the researchers to track the key concept of the collected data. Finally, the data were defined by grouping them into categories based on themes.

Every participant in the research has given their written or verbal agreement, which is required for ethical reasons. They received assurances about the security of their data and were told that it would only be used for this research. Institutional ethical approval has been taken from the Public Health Foundation Bangladesh. Figure 1 show how the research is conducted following different steps.

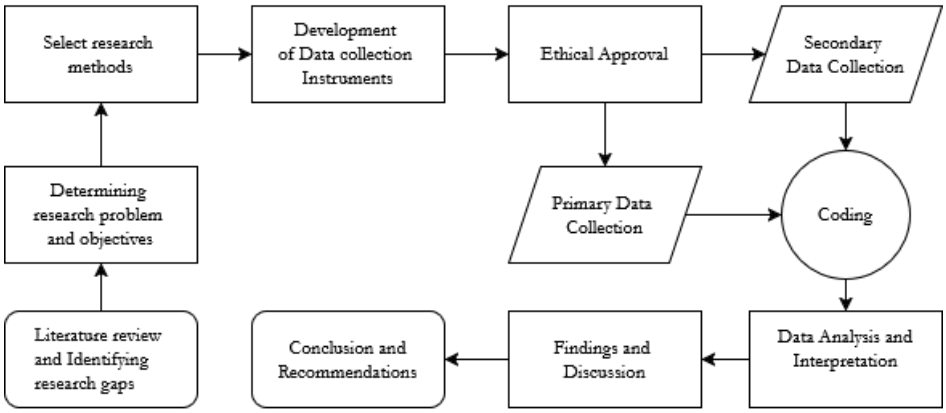

Figure 1. Flowchart of Research Steps

3. RESULTS AND DISCUSSION

3.1 Worldwide Practice of Digital Tax System

Many countries around the world have adopted digitalized tobacco tax systems to manage their revenue for its comparatively better features. Those countries, in many ways, experience relatively efficient and effective tax systems. The approach to implementing the process may be different but the actual aim of this initiative is the same and that is regulating tobacco products and reducing tobacco consumption.

Table 1.Features of digital tax system around the world

Features of Digital tax system	Countries
Digital tax stamp	United States of America (California, Michigan, New Jersey) [18], Uganda [13], Kenya [19], Ukraine [20]

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Features of Digital tax system	Countries
E-file	Bosnia & Herzegovina [21], Croatia [22], Kenya [19], Nigeria [23], Serbia [24], Mexico [14], Ukraine [20]
E-assess	Serbia [24]
Registration of tobacco farmers	India [25], America (California) [18], Zimbabwe [26]
E-audit	Russia [27], Mexico [14], Ukraine [20], Brazil [12]
E-accounting	Mexico [14]

Bangladesh, similar to many countries of the world, is also keen to digitalize the tobacco tax system. Based on the digital tax systems around the world, this study proposed a digital model for the tobacco tax system of Bangladesh considering the context of Bangladesh.

3.2 Proposed Model for the Tobacco Tax System of Bangladesh

Analyzing the tobacco taxation model of different countries features of digital tax system and insights from key stakeholders a digital tobacco taxation model is proposed considering the context of Bangladesh. Figure 2 shows the model.

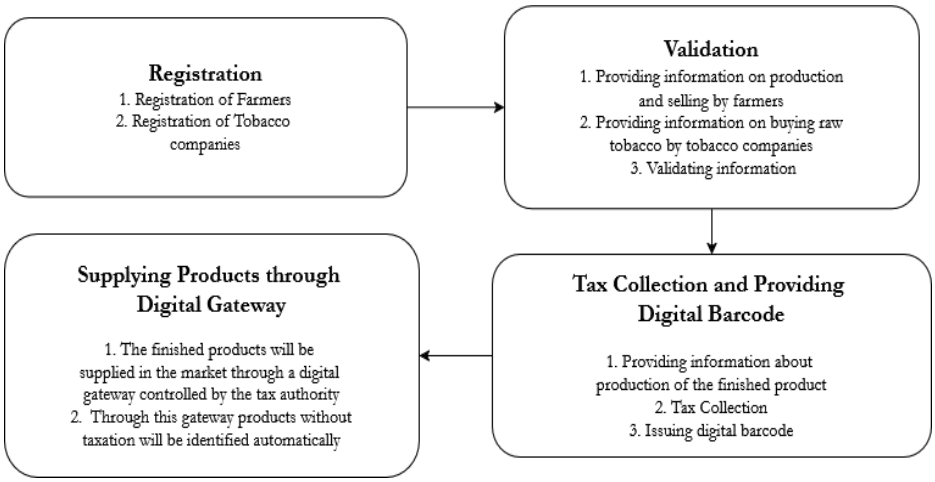

Figure 2: Proposed digital tobacco taxation model

Registration: All the farmers who are involved in tobacco farming must register as tobacco farmers. He will receive a unique ID number. No farmer would be allowed to cultivate tobacco without registration. Farmers can register from the Union Digital Center. While registering he must provide information about how much land he will use for tobacco cultivation alongside some basic demographic information. All tobacco companies must register through the website of the tax authority. When registering they will provide necessary documents to the website

for validating their registration. Online registration and e-password settings may be adoptable.

Validation: The farmers will provide information about the total production of raw tobacco. They will provide information about to which company they sell raw tobacco. They won't be allowed to sell raw tobacco to any unregistered company. The tobacco company must update the information about buying raw tobacco on the website. They will provide information about the amount of raw tobacco they buy. They will update information about from whom they buy the raw tobacco. The website will validate the information provided by the farmers and the tobacco companies about the amount of raw tobacco. Any inconsistency will be identified automatically through the website.

Tax Collection and providing digital barcode: The tobacco companies will provide information about the finished tobacco products to the website. The authority will provide digital barcodes to the tobacco companies based on the information provided to them about finished tobacco products. The tobacco company will pay taxes based on these digital barcodes.

Supply of tobacco products to the market through the digital gateway: The finished product will be supplied to the market through a digital gateway controlled by the tax authority. Through this gateway products without taxation will be identified automatically. No product can go outside without a digital barcode that will be valid only after paying tax.

3.3. Identifying the Prospects and Challenges of Digital Tobacco Tax System

Table 2 show the Prospects and Challenges of Digital Tobacco Tax System that successful identified.

Table 2: Prospects and Challenges associated with the digital tobacco tax system

Quotation	Prospects associated with digital tax system
"A digitalized tax system can deliver the desired outcome in less time with a lesser investment of human capital and resources because it is one type of automated system. Again, as this is technology-based, one-time capital investment can provide a sustainable system, software for example, but in the traditional system, to maintain the accounts and other services, human capital, and other resources are to be employed regularly."	Lowering tax administrative costs and time
	Development of an efficient tax system
"If the regulations of taxation or the process of collecting tax are not made clear to the taxpayers, they can either	Transparent tax administration

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Quotation	Prospects associated with digital tax system
intentionally evade tax or they can use that vagueness as an opportunity to evade tax. The digitalized system will ensure transparency of the taxation process."	
"With one unique ID number, any government authority can check the taxpaying status of a tobacco organization and take action within official jurisdiction, and this is only possible in a digitalized environment. In a manual system, it is not possible to establish a physical database that is accessible for all public offices."	Digital database
"By using real-time data, sophisticated analytics, and automated procedures, a digital tax system offers unprecedented chances to find and eliminate tax gaps. It improves revenue collection and fosters transparency by monitoring transactions, lowering underreporting, and identifying non-compliance."	Identification of tax gap
"If the tax system is digitalized it can be easily validated whether the tax of the products has been paid or not. Products can be released through a scanner where the censor will automatically identify the tax-paying status of a product by scanning the QR code. If the scanner is made public, civil society, tobacco control activists, and tax policy implementation authorities will scan the QR code of any product to see if it has paid tax. It will ultimately prevent this tax evasion."	Minimization of tax evasion by better monitoring system
"When everyone comes under the tax structure through digital tracking and tracing system, they will be forced to increase the price, they will have to bring the products to the market at declared prices automatically, and bringing them at declared prices will mean a price increase. So, when the price goes up, of course, they will reduce the consumption, and gradually reducing the consumption means moving towards our goal of a tobacco-free country."	Increasing the price of tobacco products
"It requires a workforce that is skilled and well-trained to comprehend and handle the system's technicalities. Even the most advanced technologies cannot produce the intended efficiency results if the system is not operated and monitored by the correct human resources."	Lack of skilled human resources
"For a digital tobacco tax system to be successful, a strong ICT infrastructure is essential. Significant obstacles that result in inefficiencies, delays, and gaps in tax collecting are caused by a lack of hardware,	Lack of ICT infrastructure

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Quotation	Prospects associated with digital tax system
dependable internet access, and smooth data integration systems."	
"The government has implementation agencies, first they have to get policy advocacy and they have to be sensitized. No one wants to adopt any new technology, any new system, or any new policy. When someone becomes comfortable with something, if he is offered something new, easier, or even something faster, he will not want to accept it. So we have to sensitize him, teach them how to use it, how to make it feasible, how to operate it."	Resistance to change
"In addition to increasing efficiency, the transition to a digital tax system also creates risks. Crucial issues include preserving system integrity, guarding against cyber-attacks, and securing confidential taxpayer information. The system is vulnerable to breaches that might erode confidence, threaten income, and cause operational disruptions in the absence of strong cyber security safeguards."	Maintenance of security
"The gross amount of the production of tobacco products by a farmer is very difficult to calculate. Monitoring the raw products in the lower end and how the farmer will be brought under digitalization are the biggest challenges, I think."	The difficulties associated with registering Bidi and SLT companies and farmers

3.4 Discussion

1) Prospects of the digital tobacco tax system

Traditional tax administration system requires more time and cost in the tax process and makes the system inefficient. Compared to any traditional system, digitalization is more sophisticated, modern, and efficient and can provide efficient results for all. A digitalized tax system can operate with minimal resources and time and fewer people can control the whole system. Therefore, with lower cost all the functions can be carried out easily. As has been mentioned, several studies also found that a digitalized tax administration saves both time and money for both parties; taxpayers and the concerned tax authority. Therefore, if all the benefits are analyzed, a digitalized tax system will be proven to be the most efficient in terms of revenue administration [28].

Transparency is an essential element of good governance that has many practical implications for different sectors of the government [29]. A transparent tax administration is necessary for conducting affecting taxation in an economy.

Since a digitalized system can be accessed by all and there is no scope to interfere from outside of the system, it has been regarded as a transparent one. Therefore, if any confusion or argument comes forward, through this transparent system, such dispute can be minimized easily. A digitalized tax system improves the level of transparency by providing an effective revenue management system on one hand and by strengthening good governance on the other as revenue administration is an important part of the government [30].

The digitalization of the tax system requires a database of taxpayers with detailed information. With this database, any information can be traced about a taxpayer. This database helps in not just managing the revenue administration rather in other services this database can be used. One central but integrated digital database with multiple institutional accesses can reduce administrative hustle. If a digitalized system can be developed with a strong database that can be used in various manners, it will be efficient for all public offices.

The tax gap is a serious problem in revenue administration especially where there is a weak, vague, and lengthy tax system. The tax gap ultimately turns into tax evasion when this continues for a longer period [31]. In a conventional tax system, which is traditionally followed almost everywhere, it is very difficult to keep track of all the accounts available for tax but if the system is digitalized, it is not that difficult for a technology-based system to identify the amount of levied taxes on a person or industry and the actual amount of paid tax in a year based on proper information. Comparing the two, an automated system can notify the concerned authority of such a gap. In this manner, the digitalization of the tax system can make the whole process more effective, and it also can ensure that no tax is evaded by a transparent tax system. If the process follows a clear process which is certainly what a digitalized system does, it is easy to identify the gap that helps to enrich the national economy [28]. Findings of a study show that after introducing digital tax stamps in 2007, Turkey successfully able to increase revenue collection by controlling illicit tobacco trade [12]. Similar findings are observed in New York City, USA [32].

Digitalization of taxation means that from the production of a product to consumption, the whole process will be monitored through a digitalized system, and with no technique the monitoring can be escaped [30]. Through the digitalized mechanism of taxation, tax authority gets the exact information and picture of produced goods and ultimately assists in imposing a tax on the actual amount of products that have been produced. Because of digital monitoring, producers and sellers cannot hide the produced products and cannot evade taxes [33]. Apart from that, because of transparent information flow among authority, farmers, buyers, sellers, and as well as consumers, people become more aware of tax in a digitalized system compared to the traditional system of taxation. A study found that implementing digital tobacco tax system significantly reduced

tax evasion and increase tax collection in Brazil [12]. Another study on Kenya found that after adopting digital tobacco tax system, authorities are able to track and trace tobacco products more effectively that consequently increase tax compliance by 45% reducing tax evasion [19].

A higher tax is imposed on tobacco products to discourage tobacco consumption so that the price of tobacco products increases [7]. However, because of tax evasion, the tobacco company got the opportunity to keep the price of tobacco products within the purchasing power of the consumer [34]. Digitalization of the tobacco tax system will ensure the strict monitoring, tracking, and tracing of tobacco products so that tax evasion is reduced. Consequently, the tobacco company will be forced to increase the price of tobacco products significantly to make which profit. Previous studies also suggest that a strong monitoring and tracing system of production and sales can ensure proper taxation that will increase the prices and through a digitalized tax system it is achievable [33].

2) Challenges of the digital tobacco tax system

The number of skilled manpower in Bangladesh is very inadequate and especially when it comes to technological skills, the number gets even lower. To maintain a digital system, there will be needed well-skilled human resources that can efficiently manage the whole process [35]. However, among the existing manpower of the current revenue administration, there is a lack of skilled manpower that can operate the system and extract the most out of it. Therefore, even if the system has been digitalized, it will still be challenging to carry out the tasks in a digitalized manner because of a shortage of skilled human resources.

The lack of ICT infrastructure is another challenge that needs to be addressed to implement the digitalization of the tax system properly. For a digitalized system, it is mandatory to employ adequate ICT infrastructure like database software, computers, scanners, reliable internet connection, and so on. It is well known that third-world countries suffer from this commonly [36]. Similarly, this is lacking in public offices of Bangladesh which are primarily responsible for carrying out the tax system. Acquiring those infrastructures at once can be a major challenge.

Any change initiative faces this challenge when that initiative is taken. Resistance to change in administration is a common problem. When people get used to a system, they do not want any change in it because that may cause discomfort to them [37]. Digitalization of tax administration also may face such challenges. Especially this challenge will come from the organizational level those who are responsible for the current revenue management. In this process, organizational resistance can arise for many reasons like lack of knowledge on the changing

pattern or lack of technical knowledge. However, when such resistance arises in an organization that is supposed to implement the change, it is challenging to implement the digitalization program.

The biggest challenge of a digitalized system is its maintenance, especially in terms of data. If proper security measures are not taken, then the total system may collapse, and it also may create some complex issues. Data breaches can be an example of a security-related challenge. Even a minor data breach can be responsible for the economic disruption of industries as their financial status may be revealed by this breach [38]. Again, data manipulation can be a security challenge where an organization can get into the system, and by manipulating data, it can evade taxes very easily if there is no proper security measure [39]. Therefore, maintaining strong security for this system is crucial and it is a challenge as well.

It is very important to register all the tobacco companies across the country so that they can be bought under the regulation of the tax authority. However, Bidi and smokeless tobacco companies are scattered all over the country. To bring them under registration requires a lot of resources, manpower, and time. Registering all the farmers and collecting accurate information of production from them is another difficult task to do. The small-scale informal producers and growers are tough to track. The decentralized and unorganized tobacco companies make this difficult to enforce any regulation on them [40].

This study has several limitations, even if it offers insightful information about Bangladesh's tobacco tax system's digitalization. The study mostly used qualitative data gathered from a small group of stakeholders, such as tobacco sellers, tax authorities, and government officials. The results may not apply to other nations or sectors due to their context-specificity. The outcomes were limited in their wider relevance due to the distinct regulatory, economic, and social dynamics of Bangladesh. Several findings were derived from interviews, which might contain biases such as recollection bias and social desirability bias. Although the study assumes that the shift to a digital system will go smoothly, it does not thoroughly examine the possible administrative and logistical challenges that may arise during the implementation stage. It is essential to recognize these limitations to put the study's findings in context and comprehend its limits. To fill these deficiencies, future studies should include longitudinal analyses, a wider geographic reach, and a more varied group of stakeholders.

4. CONCLUSION AND RECOMMENDATIONS

Bangladesh is committed to making the country tobacco-free by 2040 and imposing a higher tax rate is considered a way for controlling tobacco. Though the tobacco tax rate is increasing the price of tobacco products in Bangladesh is

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still one of the lowest in the world. Tax evasion is one of the reasons for the low price of tobacco products. Therefore, a digital tobacco tax administration system should be adopted to ensure effective revenue collection and real-time monitoring for curbing tobacco tax evasion and consequently control tobacco. The digitalization of the tobacco tax system will result in lower tax administration costs, reduced tax evasion, the identification of tax gaps, transparent tax administration, the development of an efficient system, a digital database, and an increase in the price of tobacco products. Despite the many benefits of digital tax systems, several challenges must be addressed. Administrative resistance due to a lack of skilled human resources, a lack of modern infrastructures, and the difficulties associated with registering tobacco companies and farmers, are the challenges that will arise to digitalize the tobacco tax system.

Digitalization of tobacco taxation can transform the tobacco control system through the use of technology, artificial intelligence and block chain with long term impacts beyond 2040. Technology can maximize the effectiveness of taxation policies by detecting evasion while use of block chain and artificial intelligence ensures real time monitoring and reduce illegal trade. Global coordination of taxation policies can also address loopholes of tax system. Digitalization not only enhances the effectiveness of tax system but also control the tobacco production and sales by increasing prices. It will help reducing tobacco consumption and achieving Bangladesh's long term goal establishing worldwide standard for digital taxation in tobacco control. However, for the effective implementation of a digital tax system, following policy recommendations should be adopted by the government of Bangladesh:

1) Policy reform: Existing policy should be reformed introducing digital tax stamps, digital invoicing and digital track and tracing system.
2) Technological transformation: Investing in information technology infrastructures and installing tax software to strengthen the tax administration.
3) Capacity building: Conduct ICT training for the manpower to develop a skilled workforce for digital tax administration.
4) Enhance monitoring: Develop an automated system for enhancing real-time monitoring, controlling tax evasion, and ensuring tax compliance.
5) Mass awareness campaign: Public awareness campaign should be arranged to educate farmers, consumers, and other stakeholders to ensure their cooperation in digitalized tax system.
6) Enhance coordination: For enhancing coordination between NBR, law enforcement agencies, and financial institutions integrated system should be adopted.

By implementing these initiatives, Bangladesh can develop an effective tobacco taxation system that will successfully curb tax evasion and reduce tobacco

consumption. It will not only help achieving the country's tobacco free goal by 2040 but also set a benchmark for future.

REFERENCE

[1] C. J. L. Murray *et al.*, "Five insights from the Global Burden of Disease Study 2019," *The Lancet*, vol. 396, no. 10258, pp. 1135–1159, Oct. 2020, doi: 10.1016/S0140-6736(20)31404-5.

[2] B. Cao, F. Bray, A. Ilbawi, and I. Soerjomataram, "Effect on longevity of one-third reduction in premature mortality from non-communicable diseases by 2030: a global analysis of the Sustainable Development Goal health target," *Lancet Glob. Health*, vol. 6, no. 12, pp. e1288–e1296, Dec. 2018, doi: 10.1016/S2214-109X(18)30411-X.

[3] M. M. Zaman *et al.*, "Facing the challenges of smokeless tobacco epidemic in Bangladesh," *Lifestyle Med.*, vol. 3, no. 2, p. e56, 2022, doi: 10.1002/lim2.56.

[4] M. Scollo and J. R. Branston, "Where to next for countries with high tobacco taxes? The potential for greater control of tobacco pricing through licensing regulation," *Tob. Control*, vol. 31, no. 2, pp. 235–240, Mar. 2022, doi: 10.1136/tobaccocontrol-2021-056554.

[5] M. Goodchild, A.-M. Perucic, and N. Nargis, "Modelling the impact of raising tobacco taxes on public health and finance," *Bull. World Health Organ.*, vol. 94, no. 4, pp. 250–257, Apr. 2016, doi: 10.2471/BLT.15.164707.

[6] N. Nargis *et al.*, "Trend in the affordability of tobacco products in Bangladesh: findings from the ITC Bangladesh Surveys," *Tob. Control*, vol. 28, no. Suppl 1, pp. s20–s30, May 2019, doi: 10.1136/tobaccocontrol-2017-054035.

[7] G. Cruces, G. Falcone, and J. Puig, "Differential price responses for tobacco consumption: implications for tax incidence," *Tob. Control*, vol. 31, no. Suppl 2, pp. s95–s100, Sep. 2022, doi: 10.1136/tobaccocontrol-2021-056846.

[8] N. Nargis, A. G. Hussain, M. Goodchild, A. C. Quah, and G. T. Fong, "A decade of cigarette taxation in Bangladesh: lessons learnt for tobacco control," *Bull. World Health Organ.*, vol. 97, no. 3, pp. 221–229, Mar. 2019, doi: 10.2471/BLT.18.216135.

[9] M. Nurunnabi, "Tax Evasion and the Role of the State Actor(s) in Bangladesh," *Int. J. Public Adm.*, vol. 42, no. 10, pp. 823–839, Jul. 2019, doi: 10.1080/01900692.2018.1520245.

[10] R. Huque, F. Kashfi, I. Khalil, H. Islam, S. M. Alam, and N. Ahmed, "Perspectives on reforming the tobacco tax administration system in Bangladesh to enhance public health," *Tob. Control*, Jan. 2024, doi: 10.1136/tc-2023-058143.

[11] S. Alam, W. Billah, and Z. Hossain, "Graphic health warnings on cigarette packs: an exploration of its effectiveness in deterring the youth of Bangladesh," *Discovery*, vol. 57, no. 302, pp. 103–112, Feb. 2021.

[12] L. Craig, G. T. Fong, J. Chung-Hall, and P. Puska, "Impact of the WHO FCTC on tobacco control: perspectives from stakeholders in 12 countries," *Tob. Control*, vol. 28, no. Suppl 2, pp. s129–s135, Jun. 2019, doi: 10.1136/tobaccocontrol-2019-054940.

[13] A. B. Gilmore, A. W. A. Gallagher, and A. Rowell, "Tobacco industry's elaborate attempts to control a global track and trace system and fundamentally undermine the Illicit Trade Protocol," *Tob. Control*, vol. 28, no. 2, pp. 127–140, Mar. 2019, doi: 10.1136/tobaccocontrol-2017-054191.

[14] F. D. Flores-Guajardo, J. Paura-García, and D. O. Flores-Silva, "The Digital Taxation Adoption and Its Impact on Income Tax in Mexico (2010–2020)," in *Digital Era and Fuzzy Applications in Management and Economy*, M. del P. Rodríguez García, K. A. Cortez Alejandro, J. M. Merigó, A. Terceño-Gómez, M. T. Sorrosal Forradellas, and J. Kacprzyk, Eds., in Lecture Notes in Networks and Systems. Cham: Springer International Publishing, 2022, pp. 82–93. doi: 10.1007/978-3-030-94485-8_7.

[15] W. M. Lim, "What Is Qualitative Research? An Overview and Guidelines," *Australas. Mark. J.*, p. 14413582241264619, Jul. 2024, doi: 10.1177/14413582241264619.

[16] K. Gangl, B. Hartl, E. Hofmann, and E. Kirchler, "The Relationship Between Austrian Tax Auditors and Self-Employed Taxpayers: Evidence From a Qualitative Study," *Front. Psychol.*, vol. 10, 2019, doi: 10.3389/fpsyg.2019.01034.

[17] P. A. S. Astuti, M. Assunta, and B. Freeman, "Why is tobacco control progress in Indonesia stalled? - a qualitative analysis of interviews with tobacco control experts," *BMC Public Health*, vol. 20, no. 1, p. 527, Apr. 2020, doi: 10.1186/s12889-020-08640-6.

[18] M. Kurti, K. von Lampe, Y. He, C. Delnevo, and D. Qin, "Innovations in counterfeiting tax stamps: a study of ultraviolet watermarks in a sample of discarded New York City packs," *Tob. Control*, vol. 28, no. 4, pp. 469–471, Jul. 2019, doi: 10.1136/tobaccocontrol-2018-054501.

[19] H. Ross, "Tracking and tracing tobacco products in Kenya," *Prev. Med.*, vol. 105, pp. S15–S18, Dec. 2017, doi: 10.1016/j.ypmed.2017.04.025.

[20] L. Joossens, A. Lugo, C. L. Vecchia, A. B. Gilmore, L. Clancy, and S. Gallus, "Illicit cigarettes and hand-rolled tobacco in 18 European countries: a cross-sectional survey," *Tob. Control*, vol. 23, no. e1, pp. e17–e23, May 2014, doi: 10.1136/tobaccocontrol-2012-050644.

[21] L. Ramić, "Tax Administration Toward Digitalization in the COVID-19 Environment—Case Study Bosnia and Herzegovina," in *Law and Economics of the Digital Transformation*, K. Mathis and A. Tor, Eds., in Economic Analysis of Law in European Legal Scholarship. Cham: Springer Nature Switzerland, 2023, pp. 91–118. doi: 10.1007/978-3-031-25059-0_6.

[22] G. Ö. Yalaman and H. Yıldırım, "Cryptocurrency and Tax Regulation: Global Challenges for Tax Administration," in *Blockchain Economics and Financial Market Innovation: Financial Innovations in the Digital Age*, U. Hacioglu, Ed., in Contributions to Economics. , Cham: Springer International Publishing, 2019, pp. 407–422. doi: 10.1007/978-3-030-25275-5_20.

[23] C. O. Egbe, P. Magati, E. Wanyonyi, L. Sessou, E. Owusu-Dabo, and O. A. Ayo-Yusuf, "Landscape of tobacco control in sub-Saharan Africa," *Tob. Control*, vol. 31, no. 2, pp. 153–159, Mar. 2022, doi: 10.1136/tobaccocontrol-2021-056540.

[24] G. Pitić, G. Radosavljević, M. Babin, and M. Erić, "Digitalization of the tax administration in Serbia," *Ekon. Preduzeca*, vol. 67, no. 1–2, pp. 131–145, 2019, doi: 10.5937/EkoPre1808131P.

[25] B. Hema, D. D. Reddy, K. V. Reddy, A. Srinivas, and S. K. Krishna, "Impact assessment of flue-cured virginia tobacco in mysore and hassan districts of karnataka," *Indian J. Ext. Educ.*, vol. 57, no. 2, pp. 76–81, 2021, doi: 10.5958/2454-552X.2021.00072.4.

[26] R. Chingosho, C. Dare, and C. van Walbeek, "Tobacco farming and current debt status among smallholder farmers in Manicaland province in Zimbabwe," *Tob. Control*, vol. 30, no. 6, pp. 610–615, Nov. 2021, doi: 10.1136/tobaccocontrol-2020-055825.

[27] T. Antipova, "Governmental Auditing Systems in Indonesia and Russia," in *Information Technology Science*, T. Antipova and Á. Rocha, Eds., in Advances in Intelligent Systems and Computing. Cham: Springer International Publishing, 2018, pp. 159–166. doi: 10.1007/978-3-319-74980-8_15.

[28] S. Kraus, P. Jones, N. Kailer, A. Weinmann, N. Chaparro-Banegas, and N. Roig-Tierno, "Digital Transformation: An Overview of the Current State of the Art of Research," *SAGE Open*, vol. 11, no. 3, p. 215824402110475, Jul. 2021, doi: 10.1177/21582440211047576.

[29] H. Addink, *Good Governance: Concept and Context*, 1st ed. Oxford University Press, 2019. doi: 10.1093/oso/9780198841159.001.0001.

[30] H. Mallick, "Do governance quality and ICT infrastructure influence the tax revenue mobilisation? An empirical analysis for India," *Econ. Change Restruct.*, vol. 54, no. 2, pp. 371–415, May 2021, doi: 10.1007/s10644-020-09282-9.

[31] D. J. Hemel, J. Holtzblatt, and S. Rosenthal, "The Tax Gap's Many Shades of Gray," Sep. 30, 2021, *Rochester, NY*: 3934044. doi: 10.2139/ssrn.3934044.

[32] D. Silver, M. M. Giorgio, J. Y. Bae, G. Jimenez, and J. Macinko, "Over-the-counter sales of out-of-state and counterfeit tax stamp cigarettes in New York City," *Tob. Control*, vol. 25, no. 5, pp. 584–586, Sep. 2016, doi: 10.1136/tobaccocontrol-2015-052355.

[33] N. Hendriyetty, C. Evans, C. J. Kim, and F. Taghizadeh-Hesary, Eds., *Taxation in the Digital Economy: New Models in Asia and the Pacific*. London: Routledge, 2022. doi: 10.4324/9781003196020.

[34] F. J. Chaloupka, A. Yurekli, and G. T. Fong, "Tobacco taxes as a tobacco control strategy," *Tob. Control*, vol. 21, no. 2, pp. 172–180, Mar. 2012, doi: 10.1136/tobaccocontrol-2011-050417.

[35] D. S. Bhattacharyya *et al.*, "Implementing a digital human resources management tool in the government health sector in Bangladesh: a policy content analysis," *BMC Health Serv. Res.*, vol. 21, no. 1, p. 1346, Dec. 2021, doi: 10.1186/s12913-021-07304-4.

[36] N. A. Siddiquee, "E-government and transformation of service delivery in developing countries: The Bangladesh experience and lessons," *Transform. Gov. People Process Policy*, vol. 10, no. 3, pp. 368–390, Jan. 2016, doi: 10.1108/TG-09-2015-0039.

[37] A. C. Bouarar, S. Mouloudj, and K. Mouloudj, "Digital Transformation: Opportunities and Challenges," in *Advances in Finance, Accounting, and Economics*, N. Mansour and S. Ben Salem, Eds., IGI Global, 2022, pp. 33–52. doi: 10.4018/978-1-7998-9117-8.ch003.

[38] S. Srinivas and H. Liang, "Being digital to being vulnerable: does digital transformation allure a data breach?," *J. Electron. Bus. Digit. Econ.*, vol. 1, no. 1/2, pp. 111–137, Dec. 2022, doi: 10.1108/JEBDE-08-2022-0026.

[39] H. Stewart, "Digital Transformation Security Challenges," *J. Comput. Inf. Syst.*, vol. 63, no. 4, pp. 919–936, Jul. 2023, doi: 10.1080/08874417.2022.2115953.

[40] K. Siddiqi *et al.*, "Smokeless Tobacco Supply Chain in South Asia: A Comparative Analysis Using the WHO Framework Convention on Tobacco Control," *Nicotine Tob. Res.*, vol. 18, no. 4, pp. 424–430, Apr. 2016, doi: 10.1093/ntr/ntv067.