

Digitalizing Tax Administration

Wuzhen Action Plan (2019–2021) Final Report

Digitalizing Tax Administration Task Force



September 2021

Table of Contents

1. Introduction	01
1.1 Background of this Final Report	01
1.2 Importance of Digitalizing Tax Administration	02
2. Responses on Digitalization of Tax Administration	05
2.1 Design of the Survey	05
2.2 Overview of Jurisdictions' Status and Current Stage of Digitalization of Tax Administration	07
3. Identify Existing Digital Adoptions	24
3.1 Strategy of Tax Digitalization	24
3.2 Digitalization of Tax Administration	27
3.3 Digitalization of Tax Services	28
3.4 Governance of Tax-related Data	30
3.5 Application of New Information Technology	32
3.6 Digitalization of Tax Administration Responding to the COVID-19	34
3.7 Commentary: Lessons Learned	36
4. Next Steps	38
4.1 Carry out Experience Exchange and Training on Taxation Digitalization	38
4.2 Business and Industry Tax Dialogue (BITD)	38
4.3 Assist Each Other in IT System Upgrade and Staff Training	38
4.4 Share experience and deepen cooperation	38
4.5 Develop a taxpayer service ecosystem with digitalization	39
4.6 Explore the application of cutting-edge information technology	39
4.7 Strengthening the infrastructure construction	39
4.8 Carry forward the Pilot Reform Program	39
References	40



Abbreviations

AES	Advanced Encryption Standard
AI	Artificial Intelligence
BEPS	Base Erosion and Profit Shifting
BITD	Business and Industry Tax Dialogue
BRI	Belt and Road Initiative
BRITACOF	Belt and Road Initiative Tax Administration Cooperation Forum
BRITACOM	Belt and Road Initiative Tax Administration Cooperation Mechanism
EBM	Electronic Billing Machine
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IRS	Internal Revenue Service (United States)
IRAS	Inland Revenue Authority of Singapore
ITAS	Integrated Tax Administration Systems
MIS	Management Information System
MNC	Mobile Network Code
MRA	Mauritius Revenue Authority
NTCA	National Tax and Customs Administration of Hungary
OECD	Organisation for Economic Co-operation and Development
RRA	Rwanda Revenue Authority
STA	State Taxation Administration (China)
SPED	Sistema Público de Escrituração Digital (Brazil)
SSL	Secure Sockets Layer
VAT	Value-added Tax
5G	5th Generation Mobile Networks/5th Generation Wireless Systems

Introduction

1.1 Background of this Final Report

The First Belt and Road Initiative Tax Administration Cooperation Forum (BRITACOF) was held in Wuzhen, China on 18-20 April 2019, attended by heads and their representatives of tax administrations or finance departments from 85 jurisdictions, 16 international organizations, and a number of academic institutions and businesses. The Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM) aims to facilitate tax administration cooperation and promote sharing of experience and jurisdiction example in tax administrations so that the BRITACOM contributes towards building a growth-friendly tax environment, focusing on the following five areas:

- i. Raising Tax Certainty and Rule of Law
- ii. Expediting Tax Dispute Resolution
- iii. Enhancing Tax Administration Capacity
- iv. Streamlining Tax Compliance
- v. [Digitalizing Tax Administration](#)

In the Wuzhen Statement released in the First BRITACOF, the BRITACOM Council Member Tax Administrations (TAs) reiterated the essential role of the digitalization of tax administration. They also echoed to enhance cooperation among themselves and expressed their commitment to improve tax digitalization.

The Wuzhen Action Plan (2019-2021) (Action Plan) was announced during the BRITACOF as a roadmap for period up to 2021. To implement the Action Plan, and to chart the course of “Building a Growth-friendly Tax Environment”, the BRITACOM Secretariat has conducted surveys among Belt and Road Initiative (BRI) jurisdictions, for BRITACOF participants to have an understanding of the current situation on tax administration and the priorities of BRI jurisdictions in digitalizing tax administration.

There are 4 key tasks in relation to tax administration digitalization in the Action Plan, which are stated, under items 16, 17, 18 and 19 as follows:

Item 16: “ We will conduct surveys among the Member TAs on (i) the current stage of digitalization in the BRITACOM member jurisdictions; (ii) identifying legal, administrative and cultural barriers to tap the full potential of new technologies to reduce compliance and administration costs and (iii) the potential for further actions. ”

Item 17: “We will endeavor to design and improve digitalization strategies and approaches on the basis of our own needs and in dialogue with businesses.”

Item 18: “ We will examine the feasibility of carrying out pilot projects for digitalization taking into consideration our specific and most pressing needs.”

Item 19: “We will assist each other in upgrading

information systems and training staff.”

Accordingly, the Final Report provides an overview of the current status with respect to digitalization of tax administration in BRI jurisdictions via surveys conducted anonymously, focuses on jurisdiction examples and key challenges in this regard and explores a set of concrete and practical approaches as a basis for discussion by BRI tax administrations to digitalize tax administration.

This Final Report is drafted based on the feedback from the survey respondents. Tasks in item 17 to 19 have been proactively implemented over the last two years since the First BRITACOF. The main purposes of this Final Report are to analyze the survey feedback, provide recommendations to the development of tax digitalization, demonstrate relevant cases and conclude that the BRITACOM can impose a positive effect on digitalizing tax administration through executing these tasks.

1.2 Importance of Digitalizing Tax Administration

1.2.1 Why Digitalize?

Disruptive technologies are reshaping the economy of the world by creating new business models, with new products and services. It includes new ways of communication, work and transactions. The expansion of the Internet, social media, mobile platforms, cloud computing and big data technologies and advanced analytics are all creating opportunities and options for the businesses and society.

The new development in the modern digital world provides challenges to tax administrations on their traditional way of interaction with taxpayers, yet providing new opportunities for tax administrations to collect taxes, support taxpayers and enhance compliance via new technologies and tools.¹

Digitalization of tax administration could serve national governance, realize the domestic and international coordinated co-governance pattern

of cross-level, cross-system, cross-region, cross-department, and cross-border taxation, and promote the deep integration of taxation work into the new stage of state governance. It could serve the economy and society in multiple dimensions, effectively promote the construction of "digital government", realize the effective connection between the new generation of electronic taxation bureaus and the national government service platform, and fully support the online services taxpayers. It could serve taxpayers with high standards, support new tax enforcement methods and supervision systems, and fully stimulate the vitality of market entities, and the awareness of tax law compliance could be further improved. It provides stereoscopic service for tax governance, support tax collectors in party affairs and government affairs. With one network connection, taxpayers and all tax and fee types are integrated, and "smart taxation" is fully realized.

Traditionally, tax administrations operate in

¹ <https://www.oecd.org/tax/administration/tax-administration-23077727.htm>

the following manner through interacting with taxpayers within a cycle²:

Filing - tax administrations issue tax returns to taxpayers for submission in order to collect relevant and accurate tax and financial information before issuing tax assessment/loss notices.

Tax payment/refund - after ascertaining a taxpayer position, tax administrations would need to issue tax assessment/loss notice to a taxpayer for tax collection/refund or credit within a specified period of time.

Data analytics - certain analysis and assessments are required for risk management on tax revenue source and stream.

Internal administration - performance tracking in relation to services provided to taxpayers, efficiency of operations (from issuing tax returns to payment collections/refund).

According to a research³, it has been a new era for tax administrations, in a more and more digitalized economy. One would say the purpose of digitalizing tax administration is to collect the “right” taxes at the “right” time based on the provisions of the prevailing tax law and regulations of a jurisdiction.

More importantly, “the drivers that brought tax digitalization to this point are recognizable as more must be done with less - fewer people and lower budgets.”

“Digital tools enable tax administrations to be more organized and more efficient, both in combating

abuse and in improving the quality of tax reporting and tax collection, leveraging automation and analytics to drive decision-making”⁴.

Digitalization of tax administrations can also provide insight to tax authorities through growing volumes of data, focusing their scarce resources on the most serious cases of evasion, fraud and aggressive tax avoidance.⁵

With reference to the Summary Report of the Lisbon Tax Summit on Tax Administrations and the Challenges of the Digital World in October 2018, speaker from the Head of Division in the German Federal Ministry of Finance indicated that the use of digital tools is able to simplify the exchange, the analysis and the use of data, which permits a new analytical method, such as statistical analysis to identify tax risks.

1.2.2 Observation of Global Trends on Digitalization

Through observing the digitalization trends of a number of jurisdictions, it does identify similarities in practices and it would help to shed light on the future trend and development for tax administrations going forward:

- a. Tax administrations are collecting more data and creating a more valuable global taxpayer web. A research shows that tax authorities are more aware than ever of both the range of data available and the public and political demands for it.⁶
- All the information (as required under the post-Base Erosion and Profit Shifting (BEPS) period

² IBFD

³ https://www.ey.com/en_bg/tax/how-tax-administration-is-going-digital

⁴ Towards the Digitization of Tax Administration. Marija Vuković, Professor of International Taxation. https://www.cef-see.org/files/Digitization_Tax_Administration.pdf

⁵ https://www.ey.com/en_gl/tax/how-tax-administration-is-going-digital

⁶ https://www.ey.com/en_bg/tax/how-tax-administration-is-going-digital

on country-by-country reporting and transfer pricing master and local file preparation) “paints a sophisticated picture, not only of data-driven transaction flows but also of a company’s risk appetite and overall structure”.

b. Tax administrations are moving compliance “upstream”. The availability of data is leading many tax administrations to consider how to support tax assessment in real time or near-real-time instead of capturing and analyzing transactions that have already occurred. After moving toward real time or near-real-time data submissions, tax administrations tend to rapidly “layer” new data submission requirements upon one another.

c. Tax authorities are quickly adopting data analytics and data-matching techniques, often sharing their leading practices with one another.

d. Most tax administrations are starting their journey with value-added tax (VAT), because of its high level of transactional data.

e. With BEPS moving into national implementation and global tracking and monitoring, digital is a new focal point for the Organisation for Economic Co-operation and Development (OECD). Tax officials learned the value collaboration with each other from previous projects and are putting that experience to good use by sharing approaches and leading practices.

f. The move to digitalizing tax administration is not necessarily linear. Jurisdictions may leapfrog directly from one level of digital maturity to another

through rapidly replicating successes demonstrated by other jurisdictions in the region.

Streamlined tax administration facilitated by digital technology helps to achieve the overarching objective of tax administrations to raise sufficient funds to finance public spending while responding to public demand for cost-effective and time-efficient services. In the Wuzhen Statement, the BRITACOM Council Member TAs are committed to maximizing the benefits of emerging technologies by adopting a long-term strategy, digitalizing tax administration, improving digital infrastructure within tax administrations and working to build improved taxpayer trust, privacy and data protection.

Responses on Digitalization of Tax Administration

2.1 Design of the Survey

In order to gain a deep understanding of the current stage of tax administration digitalization and respective barriers among BRI jurisdictions, the BRITACOM Secretariat has designed surveys and distributed them among BRITACOM parties, in particular to:

- (i) Understand the current stage of digitalization;
- (ii) Identify any legal, administrative and cultural barriers to tap the full potential of new technologies with reference to selected jurisdiction cases to reduce compliance and administration costs; and
- (iii) Identify the potential for further actions.

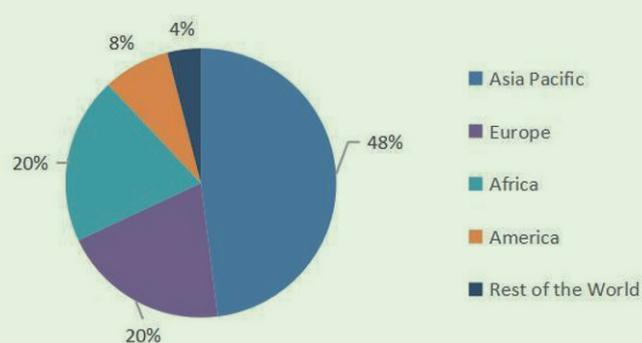
The survey consists of 2 sections:

1. General information, including region, population, tax revenue, gross domestic product (GDP) etc.
2. Questions on digitalization of tax administration.

2.1.1 Overview of the Survey Feedback

2.1.1.1 Region

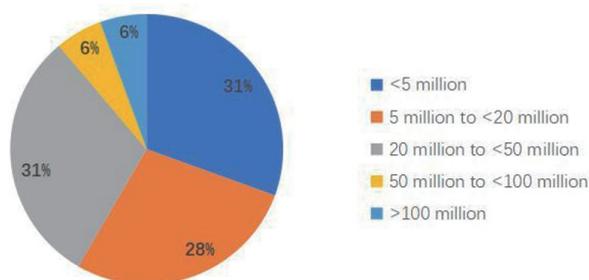
Figure 1: Region



In the survey, Asia Pacific refers to jurisdictions located in East Asia, Southeast Asia, North Asia, South Asia, Middle Asia, Australasia, Melanesia, Micronesia and Polynesia. Almost 50% of the survey participants are from Asia Pacific, and those from Europe and Africa account for 20% respectively.

2.1.1.2 Population of the Jurisdiction

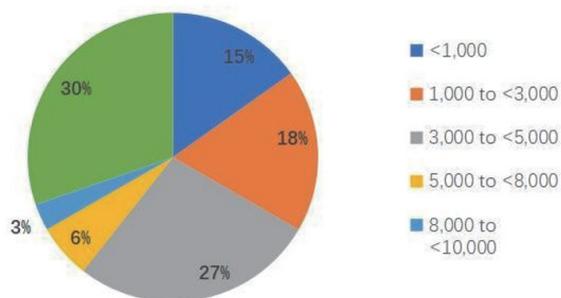
Figure 2: Population of your jurisdiction



One-third of the survey participants are from jurisdictions with a population of less than 5 million. Approximately a quarter of them are with a population between 5 million to 20 million and another one-third between 20 million to 50 million.

2.1.1.3 GDP per capita in USD in 2018

Figure 3: GDP per capita in USD in 2018



Survey participants with per capita GDP in 2018:

Less than USD 1,000 (15%) - production factor-driven stage of development according to the Global Competitiveness Report 2017-2018 published by the World Economic Forum⁷

USD 1,000 to less than USD 3,000 (18%) - production factor- driven, transitioning from

production factor driven to efficiency driven development

USD 3,000 to less than USD 5,000 (27%) - production factor- driven, transitioning from production factor driven to efficiency driven development

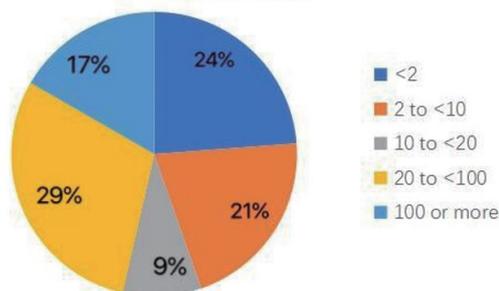
USD 5,000 to less than USD 8,000 (6%) - efficiency driven

USD 8,000 to less than USD 10,000 (3%) - efficiency driven, transitioning from efficiency to innovation driven stage

USD10,000 or more (30%) - transitioning from efficiency to innovation driven/innovation driven stage

2.1.1.4 Aggregate annual tax revenue in USD billion in 2018

Figure 4: Aggregate annual tax revenue in USD billion in 2018



In terms of the aggregate annual tax revenue in 2018, the results are more evenly distributed.

Aggregate annual tax revenue with: Less than USD 2 billion (24%), USD 2 billion to less than USD 10 billion (21%), USD 10 billion to less than USD 20 billion (9%), USD 20 billion to less than USD 100 billion (29%), USD 100 billion or more (17%).

⁷ <http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017-2018.pdf>

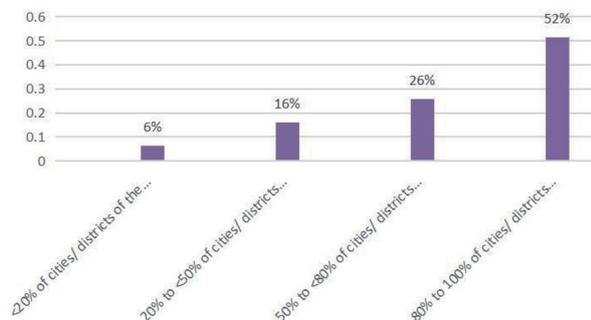
2.2 Overview of Jurisdictions' Status and Current Stage of Digitalization of Tax Administration

2.2.1 Strategy of Tax Digitalization

Currently, the BRITACOM Council Member TAs and Observers are actively formulating or implementing plans in digitalizing tax administration and enhancing investments in infrastructures. These are core tasks and important factors for tax digitalization. We have made the conclusion depending on the following data analysis based on our survey:

2.2.1.1 Coverage of internet infrastructure availability

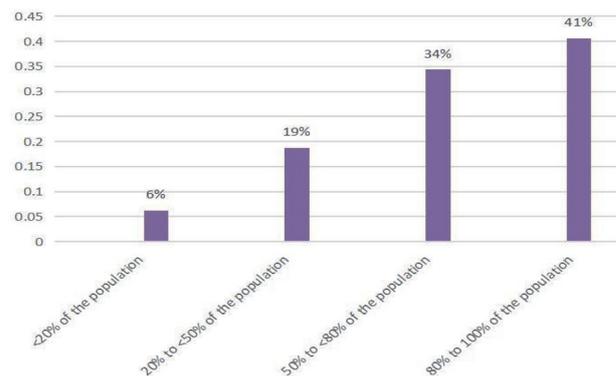
Figure 5: Coverage of internet infrastructure availability



About 52% of jurisdictions have internet coverage in more than 80% of the cities, while 26% of them have coverage between 50-80% of the cities. Such a great accessibility of internet should be well utilized. Compared with hardware, software is a greater concern for jurisdictions to carry out tax administration digitalization, which is consistent with the responds above.

2.2.1.2 Population percentage of internet users

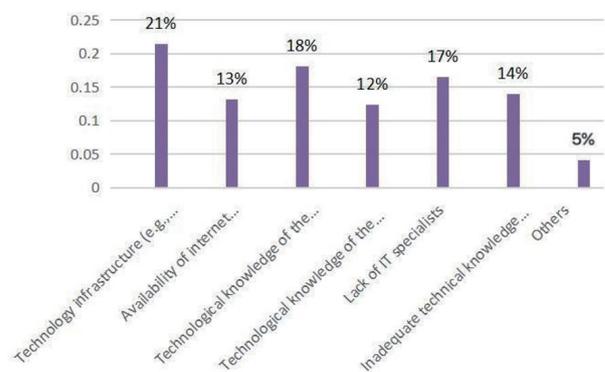
Figure 6: Population percentage of internet users



About 41% of jurisdictions have more than 80% of internet users in their jurisdictions. Considering the 52% of jurisdictions having internet coverage in more than 80% of the cities (as shown above), more work could be done to encourage the public/taxpayers to use internet so as to optimize the effectiveness of tax administration digitalization.

2.2.1.3 Issues that limit the use of technology for tax administration

Figure 7: Issues that limit the use of technology for tax administration



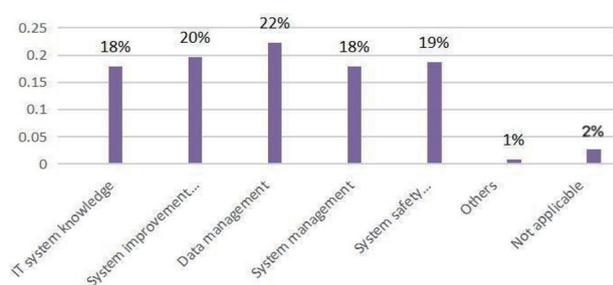
21% of jurisdictions are lack of technological infrastructure (e.g., electronic platform, master data support and system infrastructure), which limits the use of technology in tax administrations. However, software seems to be more important than hardware.

Other key factors include the lack of public technology knowledge in using internet and the lack of local IT specialists, accounting for about 18% and 17% of BRI jurisdictions respectively.

Considering the possibility of lack of IT local specialists in certain jurisdictions, it is suggested that jurisdictions might consider to engage global IT specialist to develop the IT infrastructure needed. To improve the software, jurisdictions may consider to engage global IT mobile network code (MNC) specialists in developing appropriate IT infrastructure to fit the jurisdictions' specific needs, e.g., server, database, websites, etc.

2.2.1.4 Areas require further efforts to upgrade/improve the existing system infrastructure

Figure 8: Areas require further efforts to upgrade/improve the existing system infrastructure



About 22%, 20% and 19% of jurisdictions consider data management, system improvement planning/execution and system safety management respectively as top areas which require further

efforts in future to improve the existing IT infrastructure.

Therefore, regular training for IT staff and engagement of global IT specialists for specific project is recommended to address the common issues identified above.

Based on survey results and relevant information, all BRITACOM Council Member TAs and Observers pay much attention to the planning of tax digitalization and have already made some progress. Respondents' jurisdictions have internet coverage in more than 80% of their cities. However, the majority of BRITACOM Council Member TAs and Observers are still at an early stage or developing stage of tax administration digitalization. The extent of developing the system infrastructure is unbalanced. It is mainly manifested in the following aspects:

Firstly, lack of scientific and comprehensive strategic planning for digitalization. Some BRITACOM Council Member TAs and Observers do not have clear goals, personnel division and scientific coordination, which leads to duplicate infrastructure, lack of foresight and the condition of "high input but low output".

Secondly, the system infrastructure is not comprehensive. Some BRITACOM Council Member TAs and Observers have yet to improve their overall systems, including business processing, data, coding, technologies and other standards. There is also room for improvement in establishing a series of system compliance, including data management, system management and system safety

management.

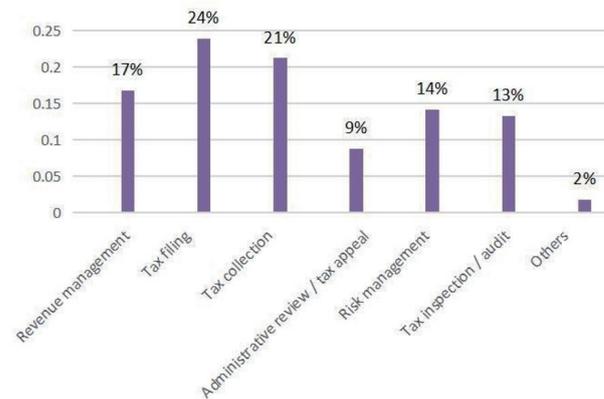
Thirdly, infrastructure development has to be further strengthened. Some BRITACOM Council Member TAs and Observers are lack of capital investment, hence their system infrastructure is relatively weak and network coverage is relatively low. Therefore, they have low level of digitalization and their capability to handle tax administration is not strong. Fourthly, the organizational structure is not comprehensive and human resources for digitalization are inadequate. Some BRITACOM Council Member TAs and Observers have not established instructions for operating efficient digitalization construction and maintenance. There are some difficulties in carrying out talent training as there is currently insufficient number of personnel with experiences in digitalization, and it is lack of talented senior professionals and technical staff. It is hard to train professionals without setting up feasible and practical talent training mechanism.

2.2.2 Digitalization of Tax Administration

With the boom of digitalization, BRITACOM Council Member TAs and Observers have realized the importance of digitalizing tax administration. They are actively promoting tax digitalization to further reduce the costs and improve the quality as well as efficiency of tax administration. Based on the survey result, we have conducted analysis from the following perspectives:

2.2.2.1 Areas adopted digital technology in tax administration

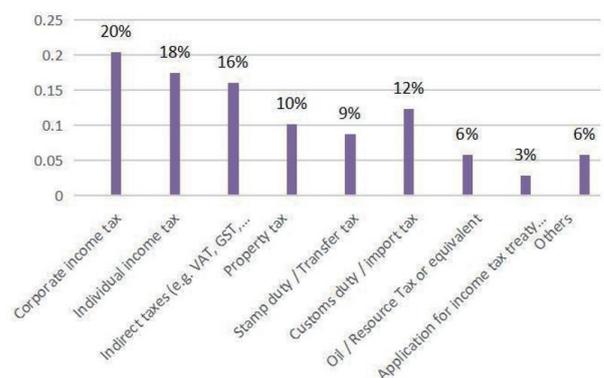
Figure 9: Areas adopted digitalized technology for tax administration



The key areas that jurisdictions adopted digitalized technology include tax filing and tax collection, accounting for about 24% and 21% respectively among BRI jurisdictions. This aligns with the above results that these two areas could be a good starting point to be administered digitally.

2.2.2.2 Revenue source of respondents' jurisdictions

Figure 10: Revenue source of respondents' jurisdictions



Survey responses indicate the result as follows, in descending order of the top 5 revenue contributor by % of eligible taxpayers:

Corporate income tax (20%), Individual income tax (18%), Indirect taxes (16%), Customs duty/Import tax (12%), Property tax (10%).

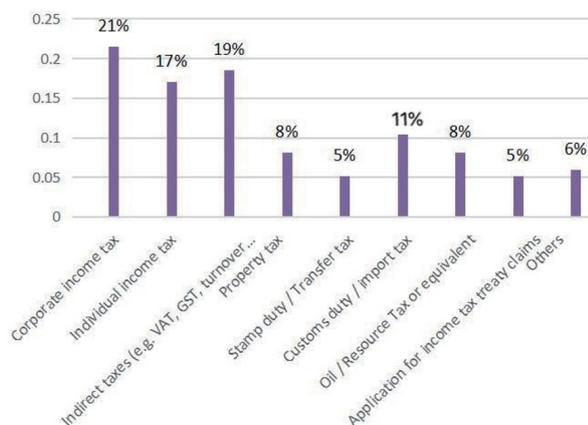
The tax administration may consider two approaches for commencing the journey of digitalizing tax administrations:

Approach 1 - Starting from the type of tax with the top revenue contribution, since it has a higher coverage as a percentage of total revenue; or

Approach 2 - Starting from the simplest tax system among all taxes to minimize tax risks, while providing an easier learning curve for taxpayers, then roll out to other more complicated taxes to accumulate adequate experiences step by step.

2.2.2.3 Applicable tax types/regimes eligible for electronic filing

Figure 11: Applicable tax types/regimes eligible for electronic filing

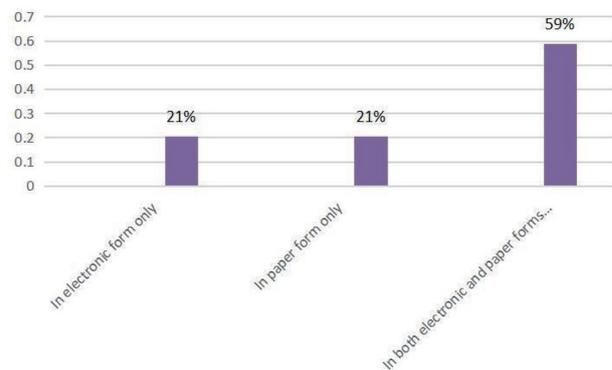


The top 3 items of tax digitalization from survey results are corporate income tax, indirect taxes and

individual income tax. 21% of survey respondents indicate that electronic filing is available for corporate income tax, 19% electronic filing for indirect taxes, and 17% for individual income tax.

2.2.2.4 Available form(s) of tax returns submission for taxpayers

Figure 12: Available form(s) of tax returns submission for taxpayers



59% of survey respondents indicate that they allow taxpayers to submit accounting documents and tax returns in both paper and electronic forms. 21% of all jurisdictions allow in either electronic or paper form only. This indicates that digitalization of tax administration is still in a transition stage.

To summarize the above, based on the relevant information, we believe that BRITACOM Council Member TAs and Observers have made some achievements in digitalizing tax administration. For instance, jurisdictions that have adopted information technology in tax filing and tax collection account for 24% and 21% respectively. Due to different conditions, they are at different stages of tax digitalization. In addition, BRITACOM Council Member TAs and Observers at different developing stages will come across various difficulties and bottlenecks.

First, the business coverage of information system is insufficient. This problem is more common among BRI jurisdictions which are at the initial or developing stage of digitalizing tax administration. It is manifested that the information system is still unable or impractical to fully support all tax-related matters, and there are still deficiencies in electronic filing, electronic invoice and tax data collection from the third party.

Second, the information system is not highly integrated with the tax services. This problem is commonly seen in jurisdictions with higher level of tax digitalization, where information system is able to support needs of tax administration but the use of information system is still half way, as they do not widely apply their new technology systems to handle tax-related matters, especially to reengineer the process of tax administration. This issue usually presents as immature tax risk model, big data application and blockchain technology.

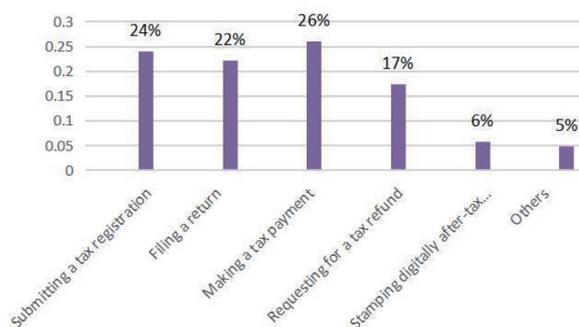
2.2.3 Digitalization of Tax Services

Tax service is always a vital part in tax administration. With the advent of digitalization, people are increasingly in need of diversified and personalized tax services. The BRITACOM Council Member TAs and Observers are also dedicated to applying information technology to provide a better and more efficient tax service to taxpayers, so as to reduce the taxpayers' burden and encourage

compliance. Here is the analysis based on the data collected:

2.2.3.1 Activities that can be performed online by taxpayers

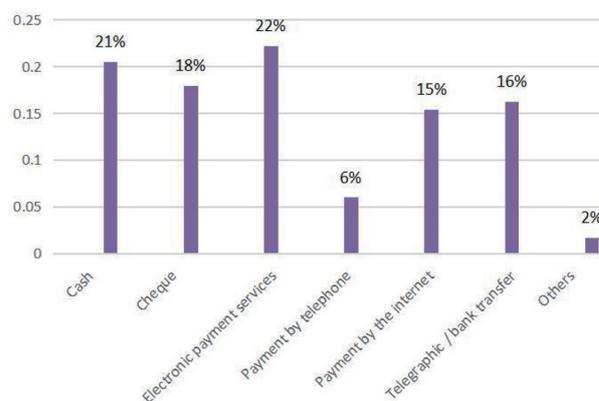
Figure 13: Activities that can be performed online by taxpayers



“Making a tax payment”, “Submitting a tax registration”, and “Filing a return” online account for 26%, 24% and 22% respectively.

2.2.3.2 Acceptable tax payment method(s) in survey respondents' jurisdiction

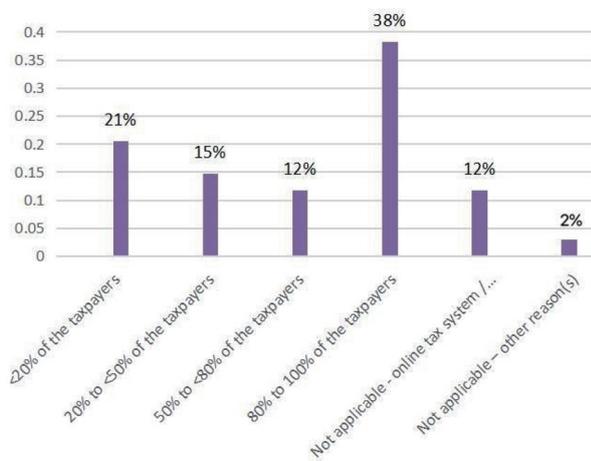
Figure 14: Acceptable tax payment method(s) in survey respondents' jurisdiction



The top 3 acceptable tax payment methods from respondents are electronic payment services (22%), cash (21%) and cheque (18%). Telegraphic/bank transfer accounts for 16% of the jurisdiction.

2.2.3.3 Percentage (%) of taxpayers using online tax account

Figure 15: Percentage (%) of taxpayers using online tax account

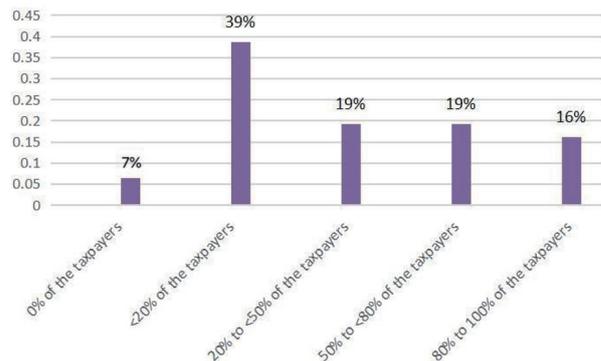


It shows a great disparity among BRI respondents on taxpayers' preference to utilize available technology (in tax area). 38% of respondent jurisdictions indicate that 80-100% of their taxpayers are using an online account, while 21% of the respondents indicated that less than 20% of their taxpayers are using an online tax account.

Reasons for such disparity should be investigated further and recommendations should be provided accordingly. For example, if the cause is lack of technological knowledge of the public, more education and guidance should be provided to the taxpayers.

2.2.3.4 Percentage (%) of taxpayers using digital channels for interactions, communications and inquiries

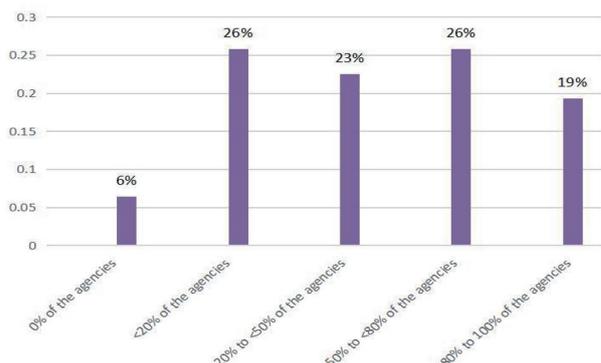
Figure 16: Percentage (%) of taxpayers using digital channels for interactions, communications and inquiries



39% respondents indicated that less than 20% of taxpayers are using digital channels in their jurisdictions. Only 16% respondents indicated that a majority (80% -100%) of their taxpayers are using digital channels for communication. It aligns with the result above that there is a great technological disparity initiated (partly) by the taxpayers. Potential causes might include lack of technological infrastructure or capability of taxpayers in certain respondent jurisdictions.

2.2.3.5 Percentage (%) of agencies using digital channels for interactions, communication and inquiries

Figure 17: Percentage (%) of agencies using digital channels for interactions, communication and inquiries



While 26% respondents indicated that they have less than 20% of agencies that are using digital channels, 23% of them indicated that 20-50% of agencies are using digital channels. It reaffirms that there is a great technological disparity. It also implies that both taxpayers and tax agencies initiated such disparity.

Therefore, the potential cause of such disparity in certain BRI jurisdictions might be more jurisdiction specific, e.g., infrastructure readiness, technology readiness and cultural differences.

Based on the above survey results, BRITACOM Council Member TAs and Observers put taxpayers' need as the priority, when they are formulating tax policies. They offer universal and individual services based on taxpayers' preferences and conditions of their own jurisdiction.

This practice can help further reduce cost, control risks, and improve the quality and efficiency of tax administration and services. It is also noted that BRITACOM Council Member TAs and Observers have accomplished certain achievements in promoting digitalization of tax services, while some obstacles below are still in the way:

Firstly, lacking the basic requirements for establishing a scientific and reasonable tax services platform. As most jurisdictions have already established tax service platforms that are suitable for the conditions of their own, some BRITACOM Council Member TAs and Observers are still at the initial stage of tax digitalization due to various factors such as socio-economic and cultural differences. These jurisdictions are facing various obstacles such as inadequate infrastructure and insufficient professional technical staff, making it

impossible to establish a scientific and feasible tax service platform.

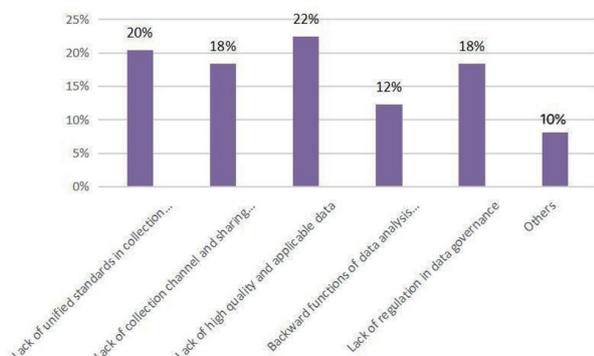
Secondly, single channel in handling tax affairs.

According to the survey, more than 46% respondents apply for tax registration, file tax returns, and make tax payments online. For some BRITACOM Council Member TAs and Observers, they are still heavily relying on the traditional ways to handle tax issues, such as settling tax related matters by visiting the tax authorities, submitting tax returns in paper and making tax payments in cash only. It is attributed to insufficient application of information technology in innovation of tax services which lead to the inadequate communication with taxpayers. Hence, some BRI jurisdictions are unable to meet their taxpayers' expectation under this diversified and ever-changing environment.

Thirdly, insufficient efforts on promotion and training. Currently, the majority of BRITACOM Council Member TAs and Observers have already established a relatively complete tax training mechanism with effective training strategies, for instance, to promote tax policies via TV advertisements, broadcasting, newspaper and internet. Moreover, some BRI jurisdictions organize Tax Policy Day (Week), setup promotional stalls on the streets, distribute flyers and brochures and organize training sessions for taxpayers from time to time. Nevertheless, a few BRITACOM Council Member TAs and Observers are still adopting the traditional ways for tax services, and taxpayers in some jurisdictions are reluctant to participate in tax training. Therefore, they are unable to enjoy the efficient and convenient tax services through online system or software.

2.2.4 Tax Data Management

Figure 18: Difficulties of data governance



As for difficulties of data governance in tax administrations, 22% respondents indicated that they are lack of high quality and applicable data, while 20% of them struggling with the lack of unified standards in collection data. Yet, 18% of respondents indicated that they are lack of collection channel and sharing platform, as well as lack of regulation in data governance.

More and more BRITACOM Council Member TAs and Observers now realize the importance of effective data management, which will enhance the quality and efficiency of tax management. Taking “2.2.1.4 Areas require further efforts to upgrade/improve the existing system infrastructure” as an example, 22% jurisdictions consider data management as the priority to be upgraded in the future. It shows that with the development of tax digitalization, the importance of tax related data management is even more apparent. Effective tax data management becomes an indispensable requirement for tax data formation.

Referring to researches and practical experiences made by other jurisdictions around the world, tax data management can be divided into four stages:

Initial stage: Some economies lack the awareness of tax related data management in the initial stage of using information technology for data collection and storage, resulting in the scattered data without standardization and sense of data security.

Developmental stage: Economies start to focus on data analysis. Data volume and online platforms are growing fast. At the same time, data security become more and more striking.

Relatively mature stage: Data collection is gradually systematic, and the scope is expanding. External data is growing rapidly. Data sharing is valued. Data analysis and utilization are further augmented, and data security has been considered. Basic data security system has been established and data security measures have been largely implemented.

Mature stage: A sound data management mechanism is well established, and effective management has fully covered the entire process of data collection, storage, transmission, utilization and destruction. The value of data resources has been fully explored, which plays a significant role in directing the taxation work. Data security is effectively protected.

Since most BRITACOM Council Member TAs and Observers start digitalization late and their infrastructure are relatively weak, most of them are still in initial and developing stage. And their problems mainly include:

First, lack of unified data standardization. With the development of tax digitalization, more investments in tax information system are required to satisfy the diversified management needs. Meanwhile, there is data dispersion and

inconsistent data caliber among information systems in some jurisdictions due to insufficient data standards and improper instructions. It affects the effectiveness of tax data management.

Second, barriers in data sharing. According to the survey, some BRITACOM Council Member TAs and Observers have made effective efforts in data sharing, and have realized that cross-border data sharing is beneficial for data management. However, there are still some obstacles in data sharing among certain national tax information systems, since databases of tax management systems are set up separately and independent from each other, making it hard to exchange data and hindering data flow as well as data sharing.

Third, data security needs to be improved. With the rapid increase in tax data volume, each has increased its awareness towards data security. Most BRITACOM Council Member TAs and Observers are at initial stage and development stage of tax data management, therefore, they do not have sufficient awareness towards data management. Moreover, they have only put limited resources in data protection and lack of infrastructure for data security. Since they have not established a scientific and comprehensive data management mechanism, they still have to improve their data management in the future.

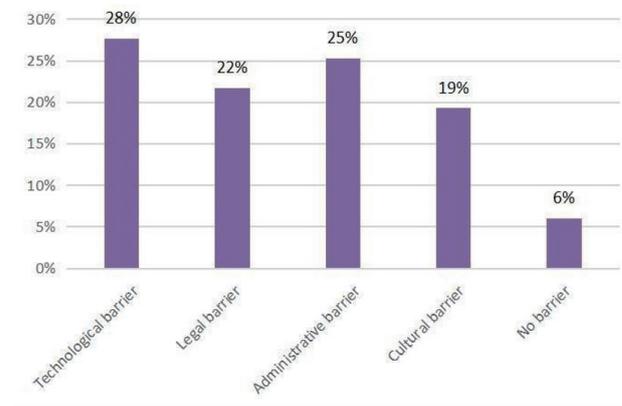
2.2.5 Application of New Information Technology

In the context of digitalized society, taxpayers and tax administrators in BRITACOM Council Member TAs and Observers have higher demands for digitalization. In order to enable taxpayers to enjoy better services and tax administrators to work more

efficiently, we must fully apply new information technology, deeply integrate the operation and technology, and turn the new technology to a strong support for efficient business management. In this regard, we have done the following analysis:

2.2.5.1 Barriers that prevent utilizing potential new technologies to reduce tax compliance and administration costs

Figure 19: Barriers prevent utilizing potential new technologies to reduce tax compliance and administration costs

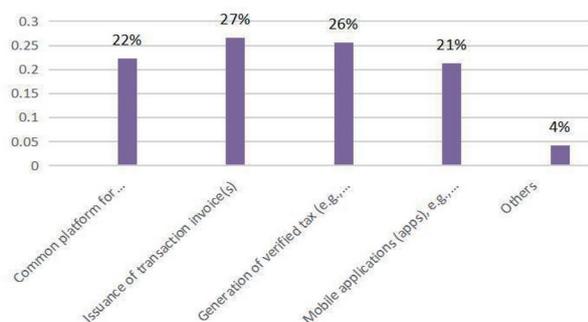


28% BRITACOM Council Member TAs and Observers commented that the key reason preventing them from utilizing the full potential of new technologies is the technological barrier. The technological barrier mainly includes the lack of capacity in both hardware and software.

Administrative, legal and culture barriers also ranked high. This may not be resolved by the tax administration itself, rather it may need a push from the central government to implement digital strategy for the whole jurisdiction.

2.2.5.2 How digitalization can be applied on tax administration in the future?

Figure 20: How digitalization can be applied on tax administration in the future?



For future applications, 27% jurisdictions ranked issuance of digital transaction invoice(s) and 26% ranked generation of verified tax invoices respectively as the most relevant digitalization that could be applied on tax administration in the future. 22% respondents indicated that common platform for transactions such as blockchain can also be applied in the future. 21% indicated the use of mobile application for tax payment.

Based on the survey results, it can be seen that some BRITACOM Council Member TAs and Observers have involved in the exploration of new information technologies, such as invoice management with blockchain technology, tax service consultation with artificial intelligence (AI) technology, and tax risk management with big data. More and more BRITACOM Council Member TAs and Observers have attached importance to the application of new information technology. According to the survey, 27% jurisdictions will use new technology to verify the authenticity of invoices, 26% jurisdictions focus on issuing transaction invoices with new technology, and 21% will use mobile applications in the future.

However, the application of new technology in most BRITACOM Council Member TAs and Observers are relatively low, and the obstacles are presented as below:

First, the hardware infrastructure needs to be upgraded. Some BRITACOM Council Member TAs and Observers need to further increase network coverage, upgrade network data transmission capacity, continuously increase the per capita share of infrastructure, and speed up the upgrade and replacement of old equipment.

Second, there are technical barriers. Some BRITACOM Council Member TAs and Observers are short of professionals in technology, research and development, as well as technology application, so it is necessary to overcome the barriers through talent training and immigration. Meanwhile, software development, operation and maintenance capabilities also need to be improved.

Third, the environment for developing new information technology needs to be improved. Taxpayers need to stay open to new information technology through promotion and training. It is a great foundation and conducive to the development and application of new information technology. Meanwhile, it is also necessary to overcome the political, legal and cultural barriers so as to promote the development of tax digitalization.

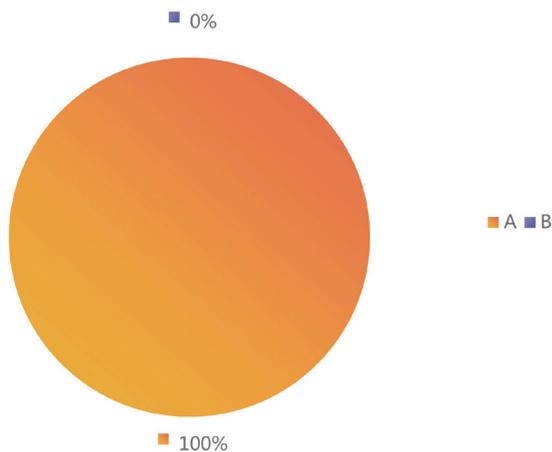
Fourth, the integration between new information technology and tax administration needs to be improved. It is necessary to further innovate and integrate new information technology with tax administration, and to provide taxpayers with practical ways to handle tax administration through new information technology platform.

2.2.6 Practices of Tax Administrations

2.2.6.1 What are the major measures for the construction of digitalization system by tax administration?

- A. Mainly develop, operate and maintain by tax administration (or its subordinate department)
- B. Mainly develop, operate and maintain by enterprises
- C. Others - please specify

Figure 21: major measures for the construction of digitalization system by tax administration



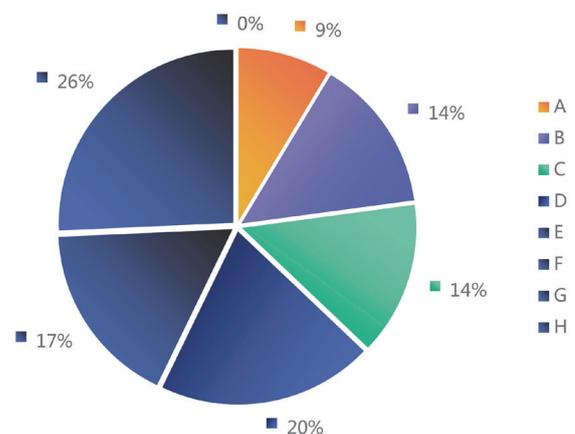
In various jurisdictions, construction, development and maintenance of the system is not in the charge of enterprises but in tax administrations and their subordinate departments, which demonstrates that governments attach great importance to tax digitalization and have made wide-spread deployment. In such construction and development, enterprises with excellent products, a good business reputation and designated size in the industry are preferred participants. In light of the status quo of the tax collected and the infrastructure investment in the surveyed jurisdictions, it is clear that in tax

digitalization, further investment on infrastructure and improving Internet coverage are needed. So are the enterprises with the capacity for information construction.

2.2.6.2 What are the major aspects that you would like receive assistance and support in terms of tax administration digitalization? (multiple choice)

- A. Training on vocational skills for individuals
- B. Training on the construction capacity of digitalization project
- C. Requirement consultation on tax administration digitalization
- D. Experience sharing forum on tax administration digitalization
- E. Field visit and study
- F. Provide professional consultancy services on tax administration digitalization
- G. Provide services on project approval and feasibility assessment
- H. Others - please specify

Figure 22: Major aspects that you would like receive assistance and support in terms of tax administration digitalization

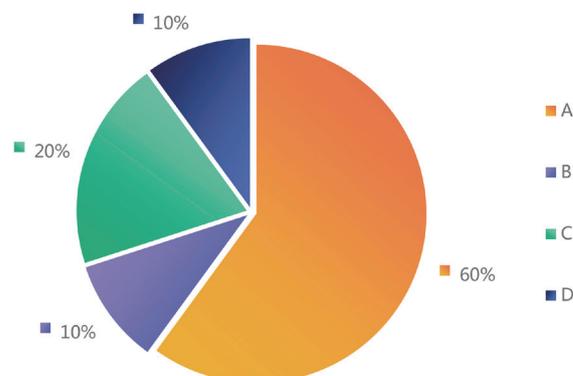


Most jurisdictions register that the development of informatization and the coverage of digitalization are insufficient, the data are not transparent enough and the Internet development awaits more capital investment. To tackle such challenges, some have intensified the training for system administrators, speaking volume for more experience sharing and collaboration of different jurisdictions. The goal is to further improve the demand-based consultation service on informatization and digitalization, boost the collaboration of international taxation, enhance the legal framework for tax reform and promote the capacity of tax inspectors in handling these technologies. Thus, it calls for a clear roadmap on expanding the coverage of Internet service and computer application for the better sharing and opening of the data. By ensuring that the development of digitalization and informatization of tax administration can keep up with the development of the mainstream information technologies such as the big data, the cloud or the blockchain and continuously increasing the security and convenience of various information systems, faster and more efficient services to taxpayers are guaranteed.

2.2.6.3 What achievements have your tax administration made in data governance?

- A. Unify data standard, and build unified data element, data dimension, etc.
- B. Unify data model, and make an abstract, unified and reasonable full-business data model
- C. Unify data service, and drive business optimization and innovation through data
- D. None of the above

Figure 23: Achievements tax administrations made in data governance



For the achievements in tax data governance, 60% respondents indicated that they have unified data standard and built unified data element, data dimension. 10% respondents indicated that they have unified data model, made an abstract, unified and reasonable full-business data model. 20% respondents indicated that they have unified data service, and driven business optimization and innovation through data, 10% respondents indicated that they have not achieved the above progress. These show that the data governance of many investigated BRITACOM Council Member TAs and Observers are still in initial and developing stage in tax related data governance.

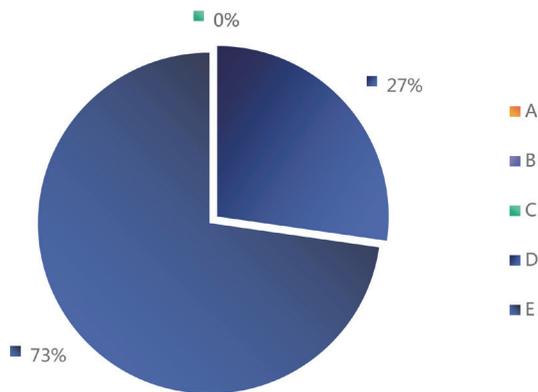
2.2.6.4 How much attention has been paid to tax administration digitalization by your tax administration?

- A. Do not pay any attention to tax administration digitalization
- B. Pay relatively less attention to tax administration digitalization
- C. Unclear

D. Pay relatively much attention to tax administration digitalization

E. Pay great attention to tax administration digitalization

Figure 24: Attention paid to tax administration digitalization by tax administration

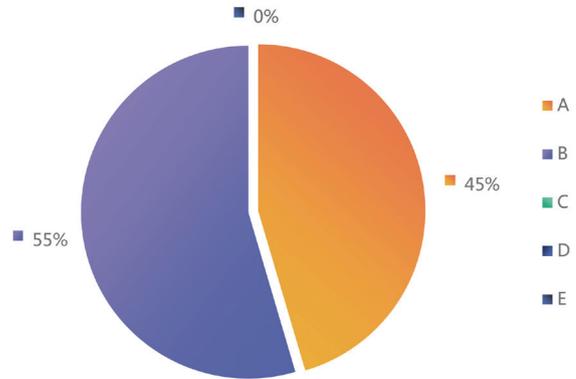


The survey respondents all attach importance to the digitization of tax administration. Data shows that 73% respondents pay great attention to tax administration digitalization and 27% respondents pay relatively less attention to tax administration digitalization.

2.2.6.5 What change has been made to working quality since the application of digitalization?

- A. Significantly improved
- B. Improved
- C. Decreased
- D. Significantly decreased
- E. No influence

Figure 25: Change made to working quality since the application of digitalization

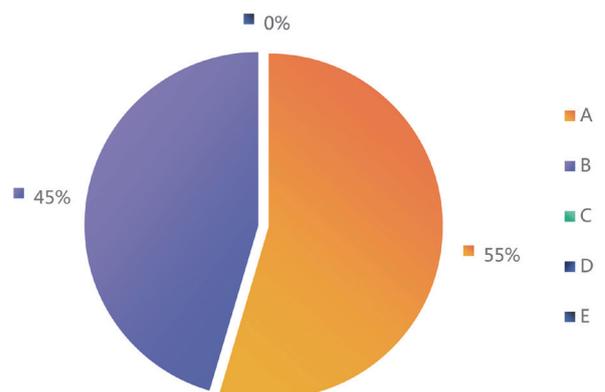


For the effectiveness of digitalization on working quality, 45% respondents indicated that working quality is significantly improved, 55% respondents indicated that working quality is improved.

2.2.6.6 What change has been made to work efficiency since the application of digitalization?

- A. Significantly improved
- B. Improved
- C. Decreased
- D. Significantly decreased
- E. No influence

Figure 26: Change made to work efficiency since the application of digitalization

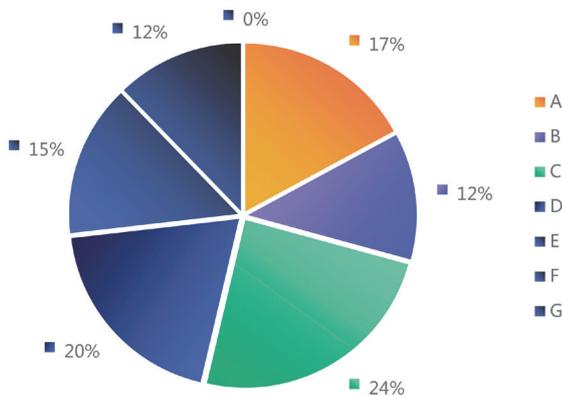


55% of the survey respondents indicated that working efficiency is significantly improved, 45% of the survey respondents indicate that working efficiency is improved.

2.2.6.7 What are the benefits of tax administration digitalization model from your perspective?

- A. Flexible and convenient
- B. Resource sharing
- C. Convenient for management
- D. Reduce tax collection and payment cost
- E. Favorable interactivity
- F. Customized service
- G. Others - please specify

Figure 27: Benefits of tax administration digitalization model



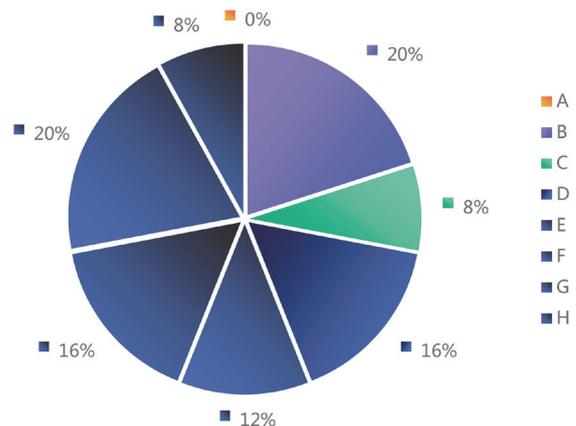
24% respondents replied that it has brought convenience to the management, and 20% respondents indicated it has reduced the cost of tax collection and payment. Other benefits include bringing flexibility and convenience, favourable

interactivity, resource sharing, and customized services, accounting for 17%, 15%, 12% and 12% respectively.

2.2.6.8 What are your dissatisfactions towards the current digitalization application?

- A. Difficult to break the development plan
- B. Lack of professional personnel
- C. Too much dependency on enterprises
- D. Tax officials need to improve their capability
- E. Lack of hardware equipment
- F. Lack of data resources
- G. Lots of training and guidance need to be given to taxpayers
- H. Others - please specify

Figure 28: Dissatisfactions towards the current digitalization application

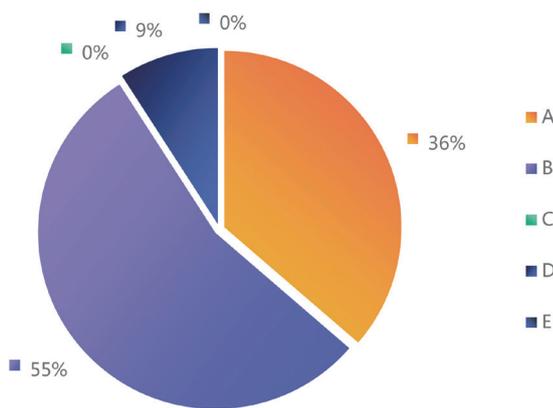


Lack of professional personnel, lots of training and guidance need to be given to taxpayers, tax officials need to improve their capability, lack of data resources are the most chosen items.

2.2.6.9 Do taxpayers support tax administrations to use digital technology in the process of tax administration from your perspective?

- A. Strongly support
- B. Generally support
- C. Neutral
- D. Slightly do not support
- E. Absolutely do not support

Figure 29: Do taxpayers support tax administrations to use digital technology in the process of tax administration?



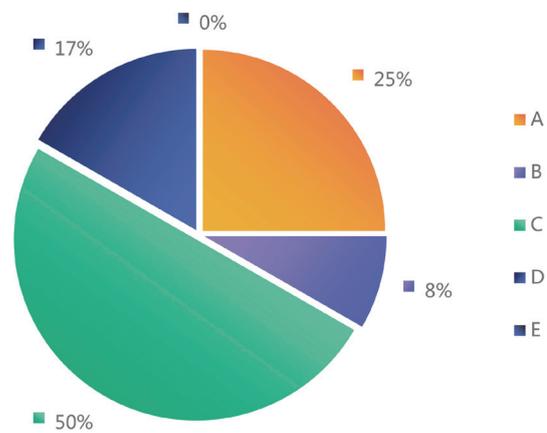
From the perspective of tax administrations, 55% taxpayers generally support the use of digital technology in tax administration, while 36% even strongly support its utilization. Opposition is rarely seen among the respondents.

2.2.6.10 What is the key point of the application of digital technology in tax administration digitalization from your perspective?

- A. The spread of the concept of digitalizing tax administration

- B. The maturity of digital technology
- C. The usability of tax administration digitalization system
- D. The capacity of tax officials and taxpayers in digital technology
- E. Others - please specify

Figure 30: Key point of the application of digital technology in tax administration digitalization



For the key point of the application of digital technology in tax administration digitalization, 50% respondents indicated that the usability of tax administration digitalization system is the most important, while 25% respondents replied that the spread of the concept of digitalizing tax administration is the key point, followed by the capacity of tax officials and taxpayers in digital technology and the maturity of digital technology, accounting for 17% and 8% respectively.

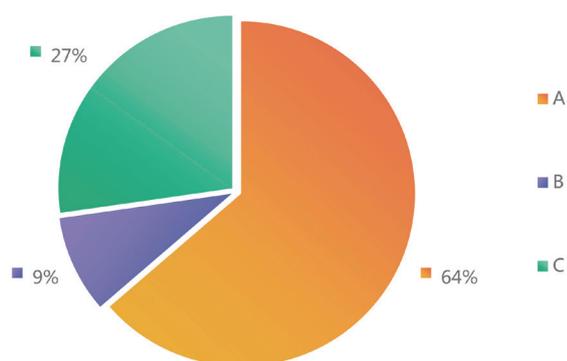
2.2.6.11 Does your tax administration examine your tax officials' digitalization capacity or make requirements?

A. Yes

B. No

C. Unclear

Figure 31: Does your tax administration examine your tax officials' digitalization capacity or make requirements?



64% respondents examine tax officials' digitalization capacity, while 9% respondents have not paid attention to the tax officials' digitalization capacity, indicating that most region attach importance to tax officials' digitalization capacity.

The survey has shown that though all jurisdictions have put in place a basic system of management and security protection, the overall development and capability for information security are far from being satisfying. Jurisdictions advanced in information technologies generally have established their own security management and data governance systems embedded with corresponding laws, regulations and industry standards (such as the approval of OECD confidentiality and security assessment or the implementation of Information Security Management Standards ISO27001). They have also carried out routine training on security awareness and formulated strict measures of classified protection and demilitarized zone to fend off risks

like data leakage. These prompt us to better manage our people and system, upgrade the protection by NGFW (next generation firewall), and on top of developing the E- invoice system, make full use of the system for taxpayer identity verification as well as technologies like digital certificate and password, so as to remold the protection on data security and data governance.

In terms of challenges brought by the development of new technologies and the coping strategies, the E-tax and other centralized digital services online have evidently brought great convenience to both tax administrators and taxpayers. However, as information technologies leap forward, maladjusted administration, mismatched services and obsolete ideas still stand in the way. Some jurisdictions are aware of that. Therefore, in addition to streamlining and merging costs, better publicity is urgently needed to beef up taxpayers' knowledge on digitalized taxation so as to reduce the misunderstanding on the excessive application of information technologies. Besides, improvement on the transparency of tax administration and services, sharing of taxpayer identity verification and acceleration on legislation for the application of information technologies should also get underway. These signal that we should upgrade the internal system and server in time, improve comprehensive evaluation and analysis to create a more convenient taxpayer service and increase the transparency of tax administration so that taxpayers can actually feel the benefit and become better self-served, and tax administrations get to improve the quality and efficiency of their services.

With the development on digitalization, tax administrations are becoming increasingly

transparent and efficient in managing and serving taxpayers alongside the wide application of information technologies. However, problems like deficiency in understanding the new scenario, incompatible management and service and outdated procedures still exist. On this regard, some jurisdictions have gradually adopted the streamlined administration and business procedures, reduced unnecessary review and approval, and built a benign tax administration-taxpayer relationship rooted on law and based on information technologies. As a result, they become a more intelligent and digitalized tax administration.

Identify Existing Digital Adoptions

Based on the analysis of the survey, the development of digitalization is uneven among BRI jurisdictions, some jurisdictions are still in the initial stage of tax digitalization with characteristics of lacking of scientific and comprehensive strategic planning, inadequate infrastructure, shortage of human resources in digitalization, relatively low efficiency in tax data acquisition and utilization rate, and weak security.

It is found that the improvement of the digitalization of tax administration could lead to the optimization of efficiency and quality of tax authorities. It could enhance the convenience for taxpayers. We will discuss the possible ways to promoting digitalization of tax administration from five aspects including strategy planning, tax administration, tax services, tax related data governance, and new information technology application. We will also focus on what tax authorities have done during the COVID-19 pandemic and how they promote tax digitalization to assist the implementation of tax benefits. We will also propose suggestions for BRI jurisdictions on how to improve tax digitalization .

3.1 Strategy of Tax Digitalization

The strategy of tax digitalization is the unification of the construction and administration of tax digitalization. Referring to successful practices of some BRI jurisdictions, it is obvious that setting the strategy of tax digitalization, defining the direction, making systematic administrative strategy and making the infrastructure designing are effective measures to promote tax digitalization.

3.1.1 Legislative Framework

No technological changes are possible without a legislative framework. And in order to digitalize something, it is necessary to make changes to some

legislative acts.

All the jurisdictions that participated in the survey made changes to tax legislation, some to the legislation on personal data, on banking legislation, on insurance. At the same time, some jurisdictions have regulated the issues of taxation of electronic commerce by foreigners, and some have applied universal declaration of the population. In this connection, we believe that tax administrations need to strengthen the direction in legalizing the digital administration of electronic commerce and the introduction of universal declaration. Since this is one of the areas that are in the shadow and the

whitewashing of this market will increase budget revenues, and increase tax culture.

• **China**

In terms of managing e-commerce, the first is to insist on supervision according to law. The taxation department treats online and offline transactions equally, and current tax laws and regulations apply to e-commerce. E-commerce operators shall fulfill their tax obligations and enjoy tax preferences in accordance with the law. Except for a few cases such as sporadic small transactions, e-commerce operators shall register as market entities in accordance with the law and be included in the scope of supervision.

The second is to persist in consolidating platform responsibilities. The e-commerce platform masters the true identity of the trader and detailed transaction information, and has the legal obligation to assist in supervision. The e-commerce law clearly stipulates that e-commerce platform operators shall, in accordance with the tax collection and management laws and administrative regulations, submit the identity information of the operators on the platform and tax-related information to the taxation department.

The third is to adhere to both development and standardization. In accordance with the principle of inclusive and prudential supervision, while supporting the innovative development of e-commerce, China tax administration will continue to regulate taxation supervision. In view of the characteristics of e-commerce, research the challenges brought by the current regulatory rules, and constantly improve the corresponding tax management system.

3.1.2 Network Construction Planning

Network is the fundamental factor for tax digitalization, for which BRI jurisdictions are strongly recommended to set a strategy for the construction of network to lower the risks. At the same time, we should build a more stable and high-speed network platform with new information technology.

• **Cambodia**

Cambodia has set up a network for national finance, which includes 210 access stations, 24 provincial convergence stations, two Phnom Penh convergence stations and two core sites. The reasonable strategy planning in the network construction offered great support for the implementation of tax digitalization.

• **Hong Kong, China**

In Hong Kong, China, enhancement of the system infrastructure including servers and workstations upgrade and applications migration has been made. Besides, a reporting portal in relation to the exchange of country-by-country data with other jurisdictions has also been introduced.

3.1.3 Data Center Planning

With the continuous development of information technology, the role of data center become more and more significant. According to the needs of tax digitalization, data center planning will be an important task.

• Zimbabwe

Zimbabwe has successfully built a data center based on out-resourced server and storage and a tax management system based on E-invoice management, and self- service tax terminal to effectively improve the collection efficiency and reduce the collection cost.

In order to avoid the resource waste, incompatibility in information sharing and inconsistent standard caused by duplicated infrastructure, it is suggested to strengthen top-level design and make comprehensive planning for information system.

• China

With more than 20 years unremitting efforts, China has built a tax collection and administration system using the Golden Tax Project Phase III as the main body for the whole process of tax collection, payment and refund. Golden Tax Project is the largest national digital project which has achieved the standardization and unification of foundational platform, application software, business standards, and the centralization of data of the whole nation. As a result, it has promoted the tax reform and the legalization of the tax system to a higher level, improved the service level of tax authorities, saved the tax compliance cost for taxpayers, reduced the collection cost for tax authorities, and provided a strong technical guarantee for the realization of

tax modernization. Now, the Golden Tax Project Phase III has developed into a consummation structure with five application systems including tax administration, E-tax, decision support, external exchange and administration.

3.1.4 Digitalization Projects

Some digitalization projects have been successfully implemented in each tax administration.

Angola has implemented the SIGT integrated tax management system, where a unique tax certificate is created, the tax payment process is automated and centralized, and etc.

Armenia–electronic payment of taxes for one account number.

Bangladesh–electronic registration as an individual income tax payer. Previously, this process took up to 7 days with mandatory physical presence. As well as electronic registration for VAT and electronic submission of the VAT declaration.

Hungary–introduction of eSZJA electronic income tax declaration and Online Szamla online invoice reporting system.

Greece–"My AADE live" in order to simplify procedures and improve taxpayer registration processes.

Indonesia–the introduction of electronic invoices, as well as the unification of income tax. Previously, taxpayers had to submit many forms of income tax return for payment of income tax.

Iran–the introduction of a single tax base on taxpayers, previously all information about taxpayers was in different sources. As well as the introduction of a single portal of tax services (a

single service window).

3.2 Digitalization of Tax Administration

How to make use of information technology tools to expand the tax base and block loopholes, further improve tax regulation is the common problems faced by the BRITACOM Council Member TAs and Observers. The following cases provide useful practices in E-filing, E-invoices, and third-party information.

3.2.1 E-filing

Compared with manual filing, E-filing is more convenient, accurate and cost-effective. Therefore, multi-channel E-filing can effectively improve taxpayers' filing rate.

Most jurisdictions indicated that taxpayers submit tax reports and other documents in electronic form. At the same time, there are tax administrations where reporting is provided in hard copies.

The Covid-19 pandemic has shown that the transfer to electronic filing of documents is necessary to preserve the health and life of the population. In this connection, tax administrations that have the submission of tax reports mainly on paper could change to a digital format of interaction with taxpayers.

• **Kazakhstan**

The tax digitalization in Kazakhstan is well developed, and it has been equipped with online tax services and E-invoices. The government of Kazakhstan has requested that from 1 January 2018 E-invoices have been implemented on large tax-paying enterprises that are under monitoring, and from 1 January 2019 electronic invoices have been

implemented on all other VAT taxpayers. At present, according to the registration, 67,000 taxpayers are using the E-invoice. The government of Kazakhstan also provides online services for enterprises, such as the registration and re-registration, acquisition of licenses and certification, tax payment and tax refund.

3.2.2 E-invoice

Through E-invoice, tax authorities can strengthen the management of enterprises, timely collect the information on enterprises' income, cost, expenses, improve the tax compliance, so as to maximize the tax revenue, and achieve the purpose of "tax administration by E-invoice".

• **Nigeria**

Integrated Tax Administration Systems (ITAS) in Nigeria is a solution that simplifies and automates tax administration process. Taxpayers' monthly and annual tax returns and supporting documents can be submitted online while online payments are supported. Taxpayers do not have to go to tax authorities to file monthly returns. The introduction of ITAS in Nigeria not only improves the tax administration process, but also encourages voluntary taxation, which will ultimately improve tax revenue. It will also improve the competitiveness of Nigerian economy and attract foreign direct investment, which will increase the country's foreign exchange capacity.

• Rwanda

Rwanda has around 22,751 taxpayers and 10,500 tax devices. In August 2013, the Rwandan government passed a law requiring registered companies to issue receipts to consumers via certified Electronic Billing Machine (EBM) for each transaction. EBM records and transmits all transaction data to the Rwanda Revenue Authority (RRA) in real time to better monitor the company's legal tax payment practices and compliance audits. The use of EBM has tripled in the last four years. According to the data released by the RRA, the VAT revenue has achieved 35.3 billion rupee (0.4044 billion dollars) in 2017 compared to 10.5 billions (12.047 million dollars) in 2013.

3.2.3 Cash Registers

Some BRI jurisdictions are using online cash registers or other devices in the retail sector when selling goods on the market. At the same time, a large volume of retail trade also remains in the shadows. And for this area, some jurisdictions could study the experience of advanced jurisdictions in the application and scaling of the use of cash registers.

3.2.4 Information from the Third Party

By strengthening cooperation with banks and other departments, tax administrations can obtain third

party data of taxpayers, so as to observe operation and tax payment status in a timely manner. At the same time, detecting errors and illegal behaviors of taxpayers through modeling and computation of the collected data also helps strengthen tax supervision and reduce risks.

• Brazil

By legislation, Brazil government can legally obtain taxpayers' production, operation data and tax-related third party information, which is simple, transparent and effective. On 19 December 2003, Brazil adopted a supplementary provision of the constitution, which stipulated taxpayers' subsidiary reporting obligations, namely the digitalization of bookkeeping and tax filing. Tax authorities, other government agencies and private companies jointly develop the Sistema Público de Escrituração Digital (SPED) system, and provide free services to taxpayers for bookkeeping and tax filing. At the same time, the system will transfer the accounting information and filing details to the central database of the tax authority. The central database has reserved the information on property, accounting, e-invoice, banking, customs from third party and key industries. In conclusion, the operating information is supervised by the tax authority from all aspects.

3.3 Digitalization of Tax Services

Tax service is an important element in tax administration mechanism. It is an essential indicator for evaluating the standard of tax services and also meaningful in building a service-oriented government. It also plays an important role in

improving tax compliance and creating a better business environment.

In view of different situations of tax services, we provide the following cases to serve as references to

solve common problems in most jurisdictions such as weak awareness of tax services and single channel for tax payment.

3.3.1 Use Information Technology to Establish a More Effective Customer Service Center

For jurisdictions with a low level of tax digitalization, the establishment and improvement of customer service centers can facilitate taxpayers to initiate consultations or applications, and provide taxpayers with more convenient and high-quality tax services, so as to ensure that all taxpayers can obtain necessary information and services to fulfill their obligations.

• Hungary

National Tax and Customs Administration of Hungary (NTCA) has adopted a more service-oriented approach to taxpayers to strengthen support for voluntary compliance and ensure that all taxpayers have access to the necessary information and services to meet their obligations by establishing more effective call centers to allocate the most essential tax services to each communication channel. In this process, the number of customer service contacts of the NTCA increased from 117 to 181.

• Macao, China

Macao, China started to use mobile application "My Tax" since 2020. The submission of tax returns and other tax certificates for Macao, China taxpayers could be done through this application.

• Myanmar

Myanmar has successfully cooperated with banks for paying taxes, as well as the development of an electronic document submission service.

• China

The submission of tax returns could be in electronic form, paper form, and mixed form. Both electronic and paper are available. The electronic form is completed by logging in to the Electronic Taxation Bureau, and the paper form is required to be filled in at the Tax Service Office.

• Peru

Peru has transferred payment receipts, accounts books, notifications to an electronic format, as well as online income tax refund.

• Tajikistan

An online consultant has been introduced in Tajikistan, allowing citizens to learn about the payment of taxes, fees, the procedure for calculating, and etc. An online tax code, online booking, a web service, online property registration, and a Call-center have also been introduced. Electronic invoices have been introduced since 2015. According to the World Bank report "Doing Business 2020", Tajikistan entered the top 10 reformer countries according to the "Taxation" indicator.

3.3.2 Building a Diversified and Convenient Tax Platform

In order to make taxpayers truly enjoy the excellent tax services online, we must collect the actual needs of taxpayers, constantly promote the digitalizing of tax services, and accelerate the path of constructing

a diversified and convenient tax platform. Therefore, we should make full use of information technology for innovation, constantly integrate tax business and technology, and support business with technology to achieve full coverage of tax-related matters. At the same time, we have to make more efforts to explore the application of new technologies such as blockchain, big data, cloud computing, and AI in tax services.

• Singapore

Singapore has developed Ask Jamie, a virtual assistant that provides digital services to taxpayers. Ask Jamie can use its natural language processing engine to process questions raised by the public and respond appropriately. If a taxpayer's question is too complex, Ask Jamie will seek a further description of the question from the taxpayer so that it can give an appropriate answer. Inland Revenue Authority of Singapore (IRAS) uses an API developed by IRAS to enhance Ask Jamie's functionality, enabling taxpayers to use SingPass (factor authentication mechanism) for authentication so that they can handle personalized queries related to their tax matters. Taxpayers can also chat online with tax officials if Ask Jamie's response does not adequately address their inquiries. The tax officers' response can be used to further improve Ask Jamie. In fiscal year 2018, Ask Jamie has handled about 630,000 taxpayer inquiries, which would be hardly achieved by manpower.

3.3.3 Carrying out Diversified Tax Service Advocacy and Training

It is suggested that while keeping the traditional methods of advocacy and training, economies should actively seek carriers that can be used for online advocacy and training, make full use of information technology, expand the path of socialization for advocacy and training, and build a reasonable, fully functional, coordinated and efficient online tax service platform for advocacy and training to meet the diversified needs of taxpayers.

• United States

In July 2018, the Internal Revenue Service (IRS) announced the strategic plan for the period from 2018 to 2022. In order to guide tax compliance and make it as easy as possible for taxpayers to understand and fulfil their tax obligations, the IRS will take proactive steps to reduce its tax burden with the help of taxpayer preference studies, behavioral science, and third-party advisory, and carry out training and outreach services to help taxpayers fully understand their rights and obligations. In addition, IRS made communication with taxpayers and tax professionals in a proactive and targeted manner to increase the dialogue between the two parties and lay the foundation for the effective implementation of the US Taxpayer Bill of Rights.

3.4 Governance of Tax-related Data

As we are entering the new era of big data, the analysis of massive data will have a profound

impact on tax collection and administration. It became a common sense for tax administrations

that analysis and utilization of tax related data is the key. It transforms not only the technical methods, but also the view of tax administration. In this way, tax authorities could take the initiative in tax work, make full use of data resources to tap tax potential, in which tax authorities could strengthen tax source control, improve the quality and efficiency of tax administration, make efforts to defuse the adverse impact of economic and policy income reduction factors, and maintain the sustained, coordinated and balanced growth of income. The following are case studies in data quality control, data exchange and sharing, and data security control.

3.4.1 Establish Standardized Data Quality Control Mechanism

By defining data quality control objectives, control objects and indicators, data quality inspection rules, we could implement data quality inspection, and formulate systematic solutions with inconsistent data standards and low data quality.

• Estonia

Estonia has created the x-road government platform, which serves for all business affairs of government including legislation, voting, education, justice, health care, banking, taxation, public security, etc. These regular services are connected to the platform through digital means. In addition to providing a query mechanism across multiple databases and supporting the secure exchange of documents, x-road seamlessly integrates different government portals and applications. In addition, private enterprises can also access the x-road platform for inquiries. Estonia has also established a cross-border digital data exchange with Finland, making the x-road the first cross-border data

exchange platform. If the online systems of different jurisdictions could be connected in some way, it would bring fundamental change to the cross board trade.

3.4.2 Promoting Data Exchange and Sharing

Expanding coverage of data interaction, realizing data interconnectivity among departments within the tax authorities, promoting data exchange, coordination and verification among various government departments and across regions will help eliminate “information islands”, and explore the value of tax-related data.

• Poland

Poland has introduced the tax standards audit archive (SAF-T), in which companies hand over data to the tax authorities in an electronic format. At the same time, VAT declarations are changed from a quarterly to monthly reporting, and VAT within the EU is calculated with a reverse charging mechanism. The tax standards audit archive aims to promote more effective tax auditing by establishing data quality control standards, so as to standardize the production and reporting of accounting information of enterprises, further analyze and correct the data of taxpayers, and identify errors more quickly.

3.4.3 Establish a Standardized Data Security Management Mechanism

We should formulate data security management system, set standards, enhance awareness of all staff, and implement the whole process management of data security. Some jurisdictions have made successful practices in managing the security of e-services of public administration.

- **France**

France reported that they use Secure Sockets Layer (SSL) Advanced Encryption Standard (AES) 256 bit. They advised that there is a national (whole-

of-government) legal framework which defines rules that each security function (authentication, confidentiality, electronic signature, timestamp) must conform to, depending on the security level required.

3.5 Application of New Information Technology

New technologies have spawned new business models and provided new tools and methods for tax governance, while bringing new challenges and unprecedented opportunities to tax authorities. The following are cases on blockchain, artificial intelligence, 5th Generation Mobile Networks/5th Generation Wireless Systems (5G) and big data.

3.5.1 BlockChain + Taxation

On the one hand, blockchain technology can be applied to many aspects of tax administration, such as automation of tax collection processing, information tamper-proof, transaction fidelity, economic activity identification, credit management, which is of great significance for further improving the quality and efficiency of tax collection and management. Many economies including German, China, Peru, Kazakhstan, Thailand, Netherlands and Denmark are exploring how to deal with tax compliance with blockchain technology.

On the other hand, some jurisdictions and scholars believe that blockchain have not yet reduced cost of tax administration considering the increasing expenses on hardware and software especially among developing jurisdictions.

- **China**

China has been exploring the application of the “blockchain & invoice” ecosystem since August 2018. This project adopts the blockchain platform called “TrustSQL”, which supports the billing volume of more than 10,000 transactions per second. It solves the problems of over-filing, false filing and false deduction, and overcomes the difficulty in verifying the authenticity of invoices in the process of invoice circulation. This measure will manage tax administration costs effectively and enhance tax governance capabilities.

The project simplifies invoicing process for taxpayers, and saves costs and serves the internal financial management of enterprises. At the same time, the project will be integrated into the existing risk management system of tax authorities for unified deployment, management, prevention and control, and post-supervision. By 25 October 2019, a total of 7,528 taxpayers in catering, parking services, retail, Internet services, finance and other industries had completed registration and access, and issued a total of 9.72 million electronic invoices for blockchain, with a total invoice amount of 6.11 billion yuan.

• Peru

As part of the application of blockchain technology, Peru is conducting a pilot to control smart contracts for electronic payment receipts.

• Kazakhstan

Kazakhstan has been conducting research and a number of attempts to use blockchain technology in VAT administration for simplified VAT refund since 2018. But the business community did not accept the amendments to the tax legislation. And since 2021, Kazakhstan has suspended work in this direction.

3.5.2 Artificial Intelligence + Taxation

Tax authorities in many developed jurisdictions are using virtual or digital assistants to help respond to taxpayers' inquiries and to support self-service. The use of AI is increasing rapidly in providing services to taxpayers and tax officials. The application of AI in taxation is a frontier subject.

• Australia

Australia designed a virtual assistant to respond to taxpayers queries and provide them with needed information and help. Tax inquiries can be answered on the website 7*24 hours a day. It is essentially a highly sophisticated search engine that taxpayers can ask questions as they were talking to a real person. At the moment, virtual assistants could answer more than 84,000 questions, and this number is growing. Unlike chat services, it requires no human support other than those involved in its design and deployment. Since its launch in February 2016, more than 2.7 million dialogues have been conducted, with 88 percent of the questions answered for the first time.

3.5.3 5G & Tax

5G will help advance the application of big data, cloud computing and artificial intelligence, improve data storage and analysis capabilities, and reduce the difficulty of data sharing and information exchange. In the era of 5G, the strategy of data acquisition will be further expanded, and the connection between tax administration and taxpayers will be closer. By analyzing the taxpayers, new trends and potential needs, we can provide taxpayers with more targeted, intelligent and personalized tax services, as well as efficient risk management.

It is estimated that big data and 5G may bring tax related data to the tax authorities 100 times more than before. It will be the core function of the new tax system to carry out risk analysis on taxpayers and formulate relevant legislation and policy. The foundation of tax digitalization is information and communication technology (ICT) infrastructure and solutions, which not only includes 5G technology, but also data center, cloud computing, Internet of things, artificial intelligence and other technologies. With these well-equipped ICT solutions, tax authorities will have a more efficient system.

3.5.4 Big Data & Tax

At present, many tax authorities have accumulated experience in the application of big data. The use of big data improves the tax compliance and interaction with taxpayers. The application of big data accelerates the innovation of management mode and means, which is conducive to strengthening tax law enforcement and cracking down on various illegal activities such as tax evasion. At present, it has become a common choice to make decisions by relying on big data, and to make intelligent risk response and management decision support.

• Peru

Peru can track 70% of declared income by 2018, and the figure will be close to 100% by 2020. The surge in the number of e-invoices prompted tax authorities to move to cloud services starting in 2017. Big data created with electronic invoicing systems has greatly improved the use of information for compliance purposes and interaction with taxpayers.

• Mauritius

In the three-year plan for 2018-2020 of Mauritius Revenue Authority (MRA), the MRA has built the big data platform and MIS (Management Information System) with Big Data technology. The MRA is prepared for challenges that may arise from emerging issues such as blockchain, cloud computing and other disruptive technologies. The MRA plans to integrate tax-related data with regular filing documents and accelerate the speed on the verification of taxpayers to improve the pre-filing. At the same time, tax officers could use the Big Data platform to check the information in real-time to locate the tax fraud activities and promote the quality and efficiency of decision-making.

• Kazakhstan

In Kazakhstan the Risk management System is endowed with Big data analytics tools (Big data). At the same time, the method of cross-analysis is used from information on the volume of transportation (railway and air), as well as on water and electricity consumption, received from enterprises providing such services, are compared with the income reflected by their counterparties in the tax statements.

• China

The main aspects of using big data for financial management in China include: implementing classified management and professional services for taxpayers; implementing taxation services and tax source management for large enterprises; and strengthening the analysis and forecasting of tax revenue.

3.6 Digitalization of Tax Administration Responding to the COVID-19

At this special moment while the global community is fighting the COVID-19 pandemic, tax authorities play an important role in fighting the pandemic and supporting economic recovery. They have done a lot in supporting business continuity of enterprises, helping taxpayers tide over difficulties, releasing fiscal and tax dividends to citizens and promoting

higher production capacity. In order to give full play to the role of tax revenue in fighting against the pandemic, it is necessary to comprehensively promote tax digitalization.

3.6.1 Tax Digitalization for Taxpayers

During the pandemic, online services show huge

advantages, which improves efficiency, reduces personnel contact, and provides a guarantee for the smooth development of tax administration. Meanwhile, tax preferential policies issued by various jurisdictions during the pandemic also need to rely on information technology to promote the implementation. The practice of the pandemic has proved that “Non-contact” tax payment has changed the definition and mode of tax services and complied with the inherent requirements of optimizing the business environment. “Non-contact” tax payment has become the mainstream, benefiting from the progress of science and technology and tax digitalization.

National Tax Service of the Republic of Korea (NTS) issues the tax certification online which could be used to apply for the relief fund for small and medium enterprises. Federal Tax Authority of United Arab Emirates has implemented the online tax administration system which aims at providing distance services for taxpayers and ensuring business continuity. State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan also offers spreadsheet for taxpayers to avoid the long queue and face-to-face service. Georgia adds 20 more APPs and more than 180 online applications and releases manual and policies online timely. Italy has improved its online tax services such as digital channel and dedicated free telephone number to make sure that taxpayers could get tax services seamlessly.

3.6.2 Tax Digitalization for Tax Officers

By standardizing tax digitalization and optimizing law enforcement methods, we can reduce market

uncertainty, relieve the burden on market subjects, and enhance their ability to resist risks. At the same time, in terms of technical architecture, it can iterate quickly to realize timely synchronization of system update, tax reform and business restructuring, so that the new tax incentives can be enjoyed in the shortest time.

• China

State Taxation Administration (STA) of China actively promotes “Non-contact” tax services, and local tax authorities continue to expand the “Non-contact” tax payment channels through developing smart notification procedure specified for COVID-19 pandemic, building intelligent micro hall, and opening online “cloud” measures, to have taxpayers experience the multidimensional services. On the one hand, it improves taxpayers’ experiences towards tax services, and on the other hand, it reduces the pressure on local tax officials, effectively prevents the spread of the pandemic.

3.6.3 Tax Digitalization for National Governance

Tax authorities generally have a large amount of data on the operation of the national economy. Against the background of the normalization of pandemic prevention and control, tax big data, due to its wide coverage, high timeliness and fine granularity, provides a strong basis for the government to make scientific decisions, promote pandemic prevention and control as well as economic and social development in a coordinated way. In the critical period to cope with the pandemic, tax authorities in many jurisdictions make full use of tax information to offer advice to the government.

3.7 Commentary: Lessons Learned

Based on the survey, almost all tax administrations have increased budget revenues, reduced the shadow economy, improved the efficiency of the processes of monitoring compliance with tax legislation, realized real-time data collection and processing, increased investment attractiveness due to transparency and simplification of administrative procedures through electronic transactions, improved the quality of public services, providing convenience for taxpayers, reduced the use of hard copies, and increased the level of tax culture among taxpayers.

At the same time, even if there are already positive aspects from the introduction of digitalization in tax administration, the tax administrations of BRITACOM Council Member TAs and Observers could offer the following promising ways of development in this direction: application of Blockchain technology, Big data and risk management systems, digitization of commercial transactions, the use of digital documents, development of an integrated application system, digitalization of 100% of services (on the principle of a single window), the introduction of digital audit and desk control, availability of highly qualified IT specialists, etc.

In order to achieve this, most jurisdictions need to overcome barriers that prevent the use of new technologies in the performance of tax obligations, such as: lack of hardware and software, administrative, legal and cultural barriers, lack of professional IT specialists.

To implement digitalization, jurisdictions need to strengthen informatization planning and management, clean up and integrate application

systems, and carry out pilot applications of new technologies in an orderly manner. In addition, integrating the information management system, improving the demand management mechanism, and implementing strict control on the projects and fund management are required. Last but not least, it is ought to optimize the infrastructure management mechanism, improve the operation and maintenance management system, implement safety management requirements, and promote service providers to improve service quality and efficiency.

Some successful practices of the above cases can be used for reference, of course, not a ready-made, general methods to realize the tax digitalization, each jurisdictions can achieve specific goals through evaluating tax digitalization strategy, infrastructure, and other preparation work to set specific goals and roadmap.

3.7.1 Suggested Measures for Immediate Term (2021-2022)

Establish the short-term Road Map along with the management mechanism according to the domestic situation to ensure the implementation of various tasks.

Clarify the contents, implementation strategies and construction requirements of infrastructure and various tax application systems, big data management, security management, information-based operation and maintenance and other aspects.

Optimize, improve and integrate the existing tax information system, form united tax authorities, eliminate the “system forest” and “information island”, and realize the comprehensive sharing of

data among the systems.

Strengthen data quality management. We will formulate standards for tax-related data, unify standards and data caliber, expand third-party data collection channels, improve the quality of tax-related data collection, and clean up garbage data.

Expand online channels for taxpayer in handling tax related business, including E-office, APPs, AI, etc. to improve taxpayers' feeling.

Carry out risk assessment and safety inspections on a regular basis, strengthen security protection of critical infrastructure, and conduct regular drills on security protection.

Jurisdictions with a high level of digitalization can explore the in-depth application of big data, 5G, artificial intelligence and other new technologies in tax authorities, so as to seize the future technological plateau.

3.7.2 Suggested Measures for Longer Term (2023 and beyond)

Establish a medium and long-term Road Map for tax digitalization, perfect the domestic tax industrial standard, improve various tax industrial standards such as business, data, application, technology and security, and give full play to the role of enterprises, scientific research institutions and think tanks to jointly promote the tax digitalization.

Ensure funding for information technology research and development, and optimize and improve infrastructure such as networks, computing and storage equipment, security equipment, disaster recovery and backup systems, and terminals.

Establish a taxpayer evaluation mechanism for

the effectiveness of tax digitalization, unimpeded demand collection, and realize accurate services based on taxpayers' needs. We will accurately acquire and predict the real needs of taxpayers and provide personalized professional services.

The security management system is embedded into the process of system development and construction and business data acquisition and application. Information security is fully considered in the system design, and artificial intelligence technology is used for timely warning and analysis of information security threats.

Strengthen the cultivation of interdisciplinary talents, pay attention to professional training, and build a professional information technology team that is familiar with tax business and proficient in information technology.

Carry out international communication exchanges on tax digitalization, support developing jurisdictions to improve tax digitalization by Belt and Road Initiative Tax Administration Capacity Enhancement Group (BRITACEG) training and field research guidance, and coordinate domestic leading technological enterprises to participate in the construction.

Next Steps

The aim of this report is to provide common suggestions for BRI jurisdictions on the basis of the current status of tax digitalization of BRITACOM economies. In order to give fully to the role of this report in the implementation of Wuzhen Action Plan (2019-2021), and propose suggestions for BRI jurisdictions.

4.1 Carry out Experience Exchange and Training on Taxation Digitalization

With the help of the Second BRITACOF, we plan to strengthen the exchange of experience in tax digitalization with BRI jurisdictions, and adopt various forms of discussion in the forum to promote the exchange of experience in information technology.

4.2 Business and Industry Tax Dialogue (BITD)

We will continue to engage in discussions with enterprises, collect views and suggestions from the business sector, and expand the channel of information acquisition. It is planned to invite enterprises to participate in the Second BRITACOF to enrich the content and display form and perspective of the topic. We will continue to promote cooperation projects on tax digitalization between high-tech enterprises and tax authorities of BRI jurisdictions.

4.3 Assist Each Other in IT System Upgrade and Staff Training

Sum up information of BRI jurisdictions in six categories, design typical questions for each type of problem, provide optimal solution and reference for jurisdictions of the typical model, help to build and upgrade information system and hold employee trainings.

4.4 Share experience and deepen cooperation

We will continue to share experience in the field of digitalizing tax administration, further exchange views, reach consensus, deepen cooperation, and summarize tax policies and measures which are aimed to combat pandemic and support development, so as to achieve our common aspiration of digitalizing tax administration.

We will actively promote the normalization of experience exchange among BRITACOM jurisdictions, and continue to carry out training on digitalization of tax administration.

We will deepen cooperation with other international organizations on digitalization of tax administration through sharing knowledge products, co-organizing seminars and training programs to bring various resources for BRITACOM parties.

4.5 Develop a taxpayer service ecosystem with digitalization

Based on taxpayers' requirements, we would adopt intelligent technologies and innovative management methods, broaden service channels, facilitate taxpayer service, and develop a taxpayer service ecosystem with digitalization and artificial intelligence, so as to improve tax compliance and reduce taxation cost.

4.6 Explore the application of cutting-edge information technology

We will actively explore the application of cutting-edge information technology such as big data, cloud computing and artificial intelligence, whilst respecting data protection and security rules. Through enhancing the digitalization of tax administration, solving difficult problems of tax administration in the context of digital economy and sharing experiences in electronic invoices, online tax filings and big data application, we would accelerate the building of intelligent taxation to better serve the governance in BRI jurisdictions.

4.7 Strengthening the infrastructure construction

Strengthening the infrastructure construction, quality control and analytics application of tax big data and building a data governance mechanism applicable to the respective circumstances of BRI jurisdictions, so as to jointly promote the modernization of tax administration. Giving full play to the strength of tax big data, we will enhance the application of tax big data to facilitate macroeconomic development under the pandemic and help enterprises resume their business.

4.8 Carry forward the Pilot Reform Program

According to the trend of the application of new technologies, we will organize experts and scholars to explore the feasibility of implementing the digitalization project in various fields with digital means to optimize taxpayers' taxpaying experience and improve the quality and efficiency of tax administration.

Digitalizing Tax Administration

Wuzhen Action Plan (2019–2021) Final Report
September 2021

REFERENCES

- [1] OECD. (2019). Tax Administration 2019. <https://www.oecd.org>
 - [2] Ernst & Young. (2018). Tax Insights. https://www.ey.com/en_bg/tax
 - [3] Marija Vukovi. (2018). Towards the Digitization of Tax Administration. International Taxation Higher School of Professional Business Studies, Novi Sad, Serbia.
 - [4] IOTA. (2018). Summary report of Lisbon Tax Summit 2018. <https://www.iota-tax.org>
 - [5] World Economic Forum. 2018. The Global Competitiveness Report 2017-2018
 - [6] World Bank, & PwC. (2018). Paying Taxes 2019. <https://www.doingbusiness.org>
 - [7] BRITACOM. (2020). BRITACOM virtual meeting “Responding to Covid-19: BRITACOM Perspective”, <http://www.britacom.org/> (Accessed 2 June 2020)
-

