FORUM ON TAX ADMINISTRATION

OECD Tax Administration Maturity Model Series

Digital Transformation Maturity Model

OECD Tax Administration Maturity Model Series

Digital Transformation Maturity Model

Updated in September 2022

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

This document's first version was approved by the Committee on Fiscal Affairs on 14 December 2021 and prepared for publication by the OECD Secretariat. The current version has been updated with additional tax administration responses received prior to 12 September 2022.

Preface

On behalf of the Organisation for Economic Co-operation and Development's Forum on Tax Administration (OECD FTA), I am pleased to present the Digital Transformation Maturity Model, a self-assessment tool for tax administrations to diagnose their current levels of digital maturity, towards more seamless taxation. This Maturity Model report looks into the practical aspects of respective building blocks of the future of tax administration, and harnesses industry-specific knowledge from tax administrations and FTA experts.

Each tax administration will have its unique digital transformation journey, given inherently different starting points, experiences, systems and objectives. For those that more recently embarked on this endeavour, this Digital Transformation Maturity Model seeks to provide, rather than prescribe, useful guidance and change management considerations on defining country-specific and achievable digital ambitions. The forward-looking Whole-of-Society perspectives will also aid early planning and stakeholder mobilisation.

Even for tax administrations already in the thick of digital transformation, periodic health checks to assess capabilities, processes, and priorities would be useful. **Advances in technology and digital tools** open up new opportunities and use cases to address evolving needs. The Maturity Model thus does not replace existing frameworks but serves as a complementary tool to stimulate discussions within and beyond tax administrations, on **iteratively** enhancing roadmap development, prioritising projects, and optimising resources. The COVID-19 pandemic has also underscored the importance of **organisational agility** as many tax administrations have taken on additional roles to support national relief efforts**.**

This Digital Transformation Maturity Model is one of the first outputs following the OECD FTA's publication of the Tax Administration 3.0 Vision last year. It is envisaged as an anchor for knowledge sharing and capacity building, and provides a reference point for other flagship projects. As Chair of the Advisory and Drafting Group, Singapore was represented by Evelyn Khoo and her team (Hui Yan Au, Yi Qing Soh and Edwin Chen). We would like to thank the OECD FTA Secretariat, especially Rex Arendsen and Peter Green, as well as all members of the FTA's Advisory and Drafting Group (Canada, Denmark, Finland, Norway, Russia) and professional expert David Regan for their contributions and support. We also benefited from inputs from many tax administrations that participated in the pilot, as well as those that shared their feedback at the various sessions.

Lastly, I encourage all tax administrations to use this Digital Transformation Maturity Model in envisioning the future, considering or revisiting transformation priorities, and conducting important strategic conversations.

Ng Wai Choong

Commissioner

Inland Revenue Authority of Singapore

Table of contents

FIGURES

Executive Summary

In general

Maturity models are a relatively common tool, often used on a self-assessment basis, to help organisations understand their current level of capability in a particular functional, strategic, or organisational area. In addition, self-assessing and discussing different levels and descriptors of maturity can help an organisation achieve a common understanding of the type of changes that would be likely to enable it to reach a higher level of maturity over time.

The Digital Transformation Maturity Model (Maturity Model) contained in this report covers the Tax Administration 3.0 building block paths of growth and transformation (OECD, 2020[1]). The aim of the Digital Transformation Maturity Model is to:

- Allow tax administrations to self-assess through internal discussions as to how they see their currently level of digital maturity. There is not a prescribed optimal level of maturity for tax administrations. The level of maturity will depend on each organisation's circumstances, broader objectives, and priorities.

- Provide staff and senior leadership of the tax administration with a good overview of the level of maturity based on input from stakeholders across the organisation. This can help in deciding strategy and identifying areas for further improvement, including areas that require support from other parts of the tax administration or external stakeholders, including other parts of government. A number of administrations have reported that cross-organisational conversations when self-assessing can be useful in joining-up different business areas, helping people see the scope for synergies and identify areas for mutual support.

- Allow tax administrations to compare their level of digital maturity with their peer organisations. An administration will know its own level and will be able to compare itself to other tax administrations. It is also possible for tax administrations to reach out, through the Secretariat, to other tax administrations at different levels of maturity for peer-to-peer discussion and learning purposes.

This report consists of four parts:

- **Chapter 1: Using the Digital Transformation Maturity Model.** This provides an overview of the model and an explanation of how to use the model, including how to get the most out of discussions within the tax administration.

- **Chapter 2: Results of self-assessments.** This chapter sets out the anonymised results of the self-assessments undertaken by tax administrations.

- **Chapter 3: The full Digital Transformation Maturity Model.** The chapter contains the model which can be used by tax administrations for self-assessment purposes and, following anonymised collation of results, for the purposes of international comparisons.

- **The Annex** contains a record sheet for internal purposes, including to inform repeat use of the model from time to time, and for anonymised comparison purposes when submitted to the Secretariat. (This annex and the Digital Transformation Maturity Model are both available on the FTA website.)

This Digital Transformation Maturity Model was developed by the FTA's Tax Administration 3.0 Maturity Model Advisory and Drafting Group (Canada, Denmark, Finland, Norway, Russia, Singapore), led by the Inland Revenue Authority of Singapore. It has also benefited from two rounds of pilots undertaken by a wide range of FTA members and some non-members.

Caveat

Tax administrations operate in varied environments, and the way in which they each administer their taxation system differs with respect to policy and legislative environments as well as administrative practices and cultures. A standard approach to tax administration may be neither practical nor desirable in a particular instance. Therefore, this report and the observations it makes need to be interpreted with this in mind. Care should be taken when considering a tax administration's distinct practices to fully appreciate the complex factors that have shaped a particular approach. Similarly, regard needs to be had to the distinct challenges and priorities each administration is managing. In particular, not all parts of this Maturity Model will be relevant for all tax administrations depending on the way that they undertake their digital transformation journey.

1. Using the Digital Transformation Maturity Model

General background

Maturity models are generally descriptive in nature, with a focus on processes and the broad outcomes of those processes, rather than being heavily based on metrics. This recognises that even where the metrics chosen may indicate a good or less good outcome, they do not by themselves show how that outcome has been achieved, the sustainability of the outcome, or its robustness and adaptability to changes in the external environment.

By their nature, Maturity Models are not prescriptive as to the details of processes nor as to how broad outcomes should be achieved. There is no one-size-fits-all nor any detailed method that should be preferred to another in all circumstances. There is also no judgement within the models themselves as to what the optimal level is for a particular tax administration. This will depend on their own circumstances, objectives, and priorities.

What the Maturity Model will help an administration assess, though, is where they see themselves as to their current level of maturity and the kind of processes and broad outcomes they may wish to consider in order to improve their maturity. In addition, being able to compare themselves to other tax administrations, or to the average level of maturity of other administrations, can be a useful input to the consideration of whether the current level of maturity is the right one for them.

Maturity levels

The Model sets out five levels of maturity. The reason for choosing five levels is to help make it easier for administrations to take a judgement as to their current level of maturity by providing clear distinctions in the descriptions of maturity levels. This would become more difficult the more maturity levels there are. At the same time, having five levels helps to ensure that the distinctions between the levels are not so great that it becomes difficult for administrations to see the pathway to higher levels of maturity.

In designing the Maturity Model, it was decided to use the middle level, termed "Established", to provide a description of where, on average, Forum on Tax Administration (FTA) members may be expected to cluster. Using this as an anchor, the other levels of maturity were fleshed out by trying to describe the pathway from an "Emerging" level to "Established", and from an "Established" level to what might be possible in the future given expected developments. The five levels are:

1. **Emerging**: this level is intended to represent tax administrations that have already developed to a certain extent, but which have significant further progress they could make in the area of digitalisation. The descriptions of this level focus on what is in place rather than on what is not, while also noting what some of the limitations might be.

2. **Progressing**: this level is intended to represent tax administrations which have made or are undertaking reforms in digitalisation as part of progressing towards the average level of advanced tax administrations.

3. **Established**: this level is intended to represent where many advanced tax administrations, such as FTA members, might be expected to cluster.

4. **Leading**: this level is intended to represent the cutting edge of what is generally possible at the present time through actions by the tax administration itself, with some collaboration with stakeholders.

5. **Aspirational**: this level is intended to look at what might be possible in the long-term moving towards more seamless and increasingly real-time tax administration, described in the Tax Administration 3.0 Vision (OECD, 2020[1]). No tax administrations are expected to be consistently at this level currently, in particular since in some cases it requires extensive cooperation external to the tax administration (such as whole of society approaches, access to a wide range of data sources, extensive use of artificial intelligence (AI) etc.).

Digitalisation and Digital Transformation are important aspects of this Maturity Model. Digitalisation allows for the substitution of paper-based business processes by digital data processing applications, enhancing overall efficiency levels. Digital transformation refers to more fundamental changes in the way that tax administrations operate, responding to the changes in how taxpayers interact and conduct business with each other. In particular, as described in Tax Administration 3.0 (TA 3.0), (OECD, 2020[1]), this transformation is centred around the increasing migration of taxation processes into taxpayers' natural systems, i.e., the systems they use in their daily lives and/or businesses. These transformational aspects are addressed in the descriptions of the Leading and Aspirational maturity levels and are related to digital transformation strategies in those cases.

Layout of the Digital Transformation Maturity Model

The Digital Transformation Maturity Model consists of six main themes. These themes mirror the set of Tax Administration 3.0 Building Blocks (see Figure 1.1. below):

- Digital Identity
- Taxpayer Touchpoints
- Data Management and Standards
- Tax Rule Management and Application
- New Skill Sets
- Governance Frameworks

Figure 1.1. The Tax Administration 3.0 Building Block model
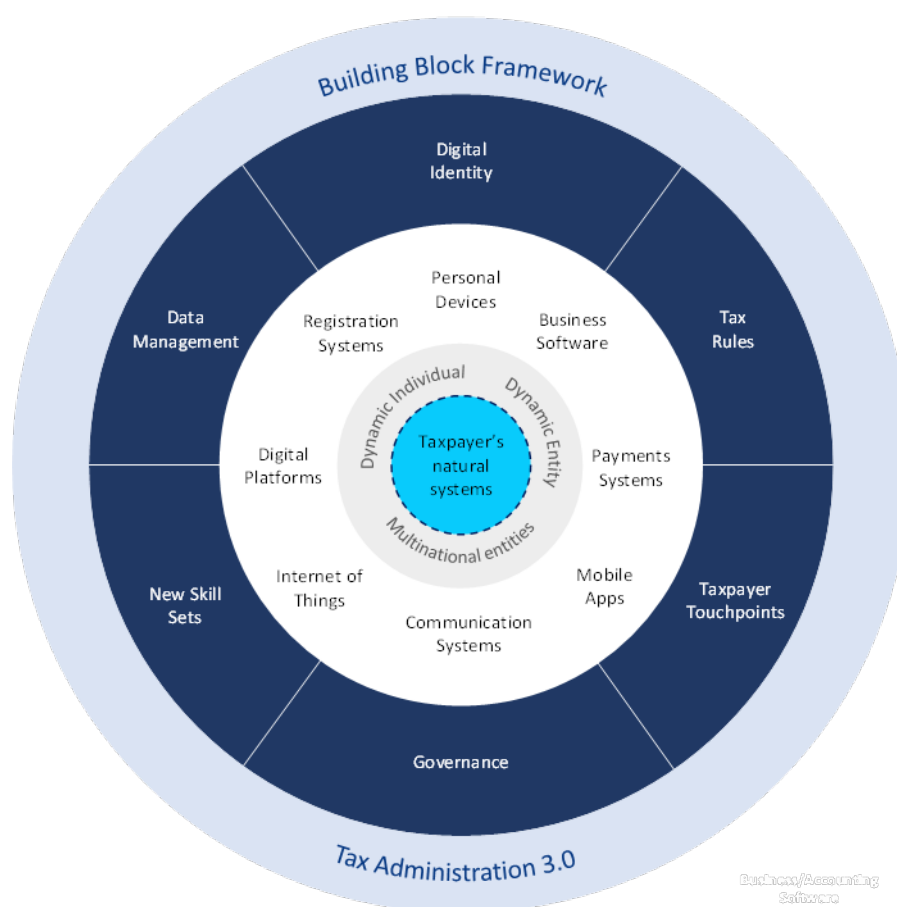
Source: OECD (2020)

For each of the themes (building blocks), a high-level descriptor of maturity is set out at the top of the building block section. To assist in the understanding of a given level of maturity, a set (usually 2 or 3) of indicative attributes is also contained in each of the six Maturity Model tables. These seek to break out the elements to be considered when looking at the overall maturity level covering both strategic and practical aspects.

As shown by the term itself, these are indicative attributes and not determinative. They are, though, intended to reflect what might be expected, in general form, to be in place at a particular maturity level which will differ from the level below it (for example, they may be of a different nature, or more demanding). In addition, tax administrations carrying out a self-assessment should be aware that the examples, processes and deliverables described at a specific maturity level do not necessarily replace (or erase) all elements and functionalities from the level before. To distinguish levels, new features and important differences are highlighted in the descriptions of the 'next' level. Therefore, administrations may probably still recognise valuable legacy elements from earlier stages compared to their current maturity level.

Not all the indicative attributes under a particular maturity level will necessarily be present in a particular tax administration. A tax administration may also not fit all the elements of a particular attribute.

Using the Maturity Model

The Digital Transformation Maturity Model is designed to be used as a self-assessment tool. To be effective, this self-assessment should be completed as objectively as possible. Experience with using the model suggests the following key considerations for the self-assessment discussion:

- Sufficient time should be allowed for the self-assessment discussion. Feedback from administrations suggests that concerted discussions may take from a few hours to more than a day depending on the amount of preparation before the group discussion and the level of detail of the discussions. Tax administrations may also take time to approach various departments to obtain comments or confirmation.

- Ideally, there should be a range of staff with responsibilities related to digital transformation involved in the self-assessment, across grades and functions. Care should be taken to ensure that the conversations can be frank and open, and people should be encouraged to express their views.

- It can be helpful to ask someone outside of the management chain responsible for overall management of digitalisation and digital transformation to facilitate the discussions. This person should have read this note and understand how to process the self-assessment against the model. As well as facilitating discussions, the person should ideally be able to challenge the views of the self-assessment group, including asking for supporting evidence where appropriate.

- Consideration should be given to how to reach a view where there is a division within the self-assessment group on the appropriate assessment of maturity. The facilitator may, for example, have a tie-break role.

- In addition to the facilitator, consideration should be given to involving staff from various tax administration functions, ideally at a relatively senior level, to assist in the challenge function and to provide insights from their different perspectives. A number of administrations have reported that cross-organisational conversations when self-assessing can prove highly useful in joining-up different areas of business, helping people to see the scope for synergies and for mutual support in achieving the administration's objectives.

Recording of self-assessments

Annex A contains a record sheet for tax administrations to record the results of their self-assessment.

The Maturity Model is intended to cover the broad range of private and business taxpayers. Different examples in the storylines support this inclusive approach. For testing purposes, participants are advised to consider this broad perspective. However, if a tax administration prefers, the practical use of the Maturity Model could be focussed on specific taxpayer focus groups.

We advise tax administrations to *only score the indicative attributes.* The generic high-level theme descriptors are intended to assist administrations to better understand the nature and flow of change occurring across maturity levels.

Most of the indicative attributes are divided into two or three storylines. In self-assessing the maturity level for that attribute, these storylines should be taken together, and an overall judgement reached based on the weight attached to the different elements by the administration. An issue that may arise is that the self-assessment group may feel that it in some cases, a number of storylines of a particular indicative attribute will be met within a particular theme, for example some "Progressing" and some "Established" story lines. In that case, the administration should choose *whichever maturity level it thinks best describes its current position given the weight that they attach to the particular storyline(s).*

There is no one-size-fits-all that can work across a large and diverse range of administrations. The attributes are therefore intended to help guide discussions rather than determine the outcomes of the self-assessment in a mechanistic manner. In using the model, tax administrations are therefore asked to consider the best fit for them, taking account of both the indicative attributes and story lines as far as is practicable.

Annex A also contains a checklist of the considerations for successful self-assessment discussions as described above. At the end of the record sheet there are also open text boxes to help inform the future development of the model. When using the model, administrations are asked to identify:

- where they feel that some of the indicative attributes or are misplaced or wrong, or whether there are important attributes that they think are missing
- changes they think should be made to the descriptions in the Maturity Model (either by noting comments in comment boxes or by incorporating changes directly into the model using track change)
- any lack of clarity as regards the difference between adjacent maturity levels
- any areas where it finds the language is unclear or ambiguous or may need to be added to the glossary.

In order to allow administrations to see where they sit relative to their peers, the results reported to the Secretariat from the self-assessments will be put into an anonymised form in a heat map, which will be updated periodically on the FTA website when new record sheets are submitted to the Secretariat. Administrations are identified by letters within this heat map (with administrations being able to identify themselves based on their record sheet submission).

The reason for keeping the results anonymous is to help ensure that administrations are not influenced in their use of the Maturity Model by concerns about external perceptions, and this is intended to reinforce its primary purpose as a self-assessment tool for informing an administration's future strategy. Administrations which wish to speak to peers for knowledge sharing purposes (for example where they are at a "Leading" or "Aspirational" level) can ask the Secretariat to reach out to that peer for agreement to put them in touch.

2. Results of Self-Assessments

The Digital Transformation (DT) Maturity Model was tested in a pilot project that involved self-assessments by tax administrations from FTA and non-FTA countries. The feedback from the pilot test was then incorporated into the model, which involved the inclusion of an additional term to the glossary and textual enhancements to the several indicative attributes. This section summarises the results from self-assessments carried out by tax administrations.

Self-assessment results

The self-assessment record sheets received from 55 tax administrations show that the majority assess the maturity of their Digital Transformation functions at "Established" maturity levels. This can also be seen in Figure 2.1. which illustrates the average score for each of the thirteen indicative attributes of the Maturity Model (in which the Established level is indicated by the digit '3', and Aspirational by a '5').

Figure 2.1. Results of the self-assessment for the thirteen indicative attributes of the model
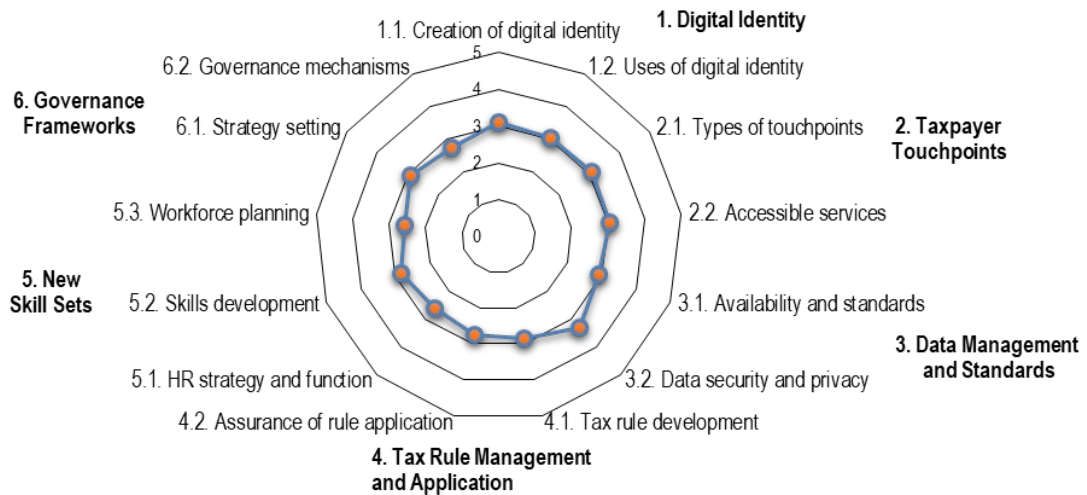
Source: OECD Secretariat analysis based on participants' self-assessments.

The detailed results contained in the heat map in Figure 2.2. show how each of the tax administrations scored across the indicative attributes. The results are anonymised to ensure that administrations are not influenced in their use of the Maturity Model by concerns about external perceptions.

Figure 2.2. Results of the self-assessment for the thirteen indicative attributes of the model

Heat map key:
■ Emerging   ■ Progressing   ■ Established   ■ Leading   ■ Aspirational

Source: OECD Secretariat analysis based on participants' self-assessments.

The heat map shows that the "Established" level was chosen in 52% of possible instances followed by "Progressing" with 26%. In 17% of the cases, administrations chose the "Leading" level, in 3% of the cases "Emerging", and only in 2% of possible instances, administrations chose "Aspirational".

Those results are in keeping with the expected clustering around the "Established" category when the Maturity Model was built. Therefore, for the time being there is no need to adjust the model. However, some pilot participants suggested changes that might be fed into future model versions, e.g. with respect to business agility and organisational culture. Many administrations are in the process of implementing and upgrading their Digital Transformation function and capabilities, therefore, it is expected that administrations will self-assess at a higher level of maturity in the near future. Keeping the current calibration will allow the maturity model to remain unchanged in the medium term. However, when more tax administrations self-assess themselves at higher levels of maturity, the model may need to be re-calibrated and adapted to new challenges and circumstances.
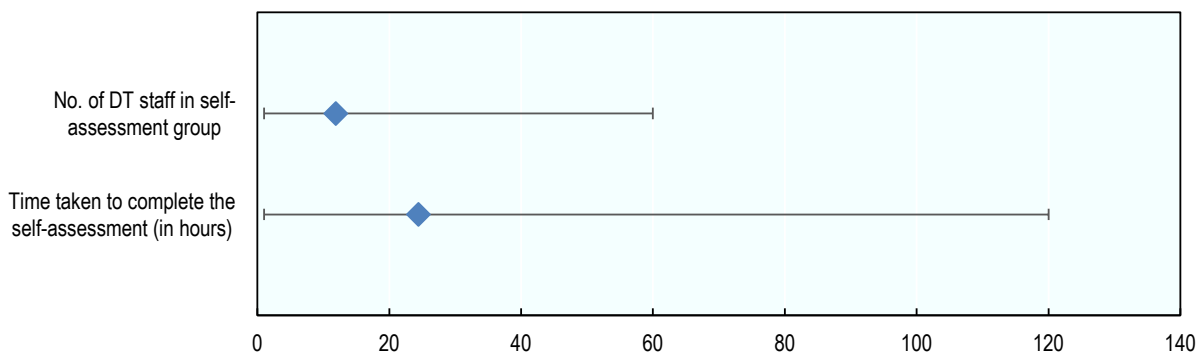
Self-assessment process

The feedback received during the pilot process indicated that for the majority of the participants, the model was easy to use, covered the right areas and that the jumps in maturity levels were sufficiently discrete and understandable. Some participants reported that they faced challenges in choosing the best fitting maturity score regards specific indicative attributes, especially where they perceived their tax administration was at a higher level for part of the definition than another part. Chapter 1 provides some guidance on how a best fitting score can be established. Some changes to language were suggested in a few of the indicative attributes and these have been made in the final version of the model in Chapter 3.

As mentioned in Chapter 1, experience with using maturity models suggests administrations might wish to take into account a number of considerations for the self-assessment discussions, including involving a range of staff with digitalisation and change management responsibilities, across grades, and involving staff from other tax administration functions, such as human resource management and technical experts.

Record sheet submissions from tax administrations show very diverse approaches as regards the self-assessment process. As can be seen in Figure 2.3., the number of digital transformation staff in the self-assessment group ranged from one (1) to sixty (60) with administrations involving twelve (12) digital transformation (DT) staff members on average. More than 91% of the administrations indicated that they had an appropriate distribution of grades within the discussion groups, and 93% noted that they involved official(s) from other areas of the tax administration. In addition, almost two-thirds (62%) of the administrations indicated using a facilitator to lead the discussions.

Figure 2.3. Self-assessment process: Minimum, average, and maximum number of staff in the self-assessment group and time taken to complete the assessment

Source: OECD Secretariat analysis based on participants' self-assessments.

Figure 2.3. also shows the time it took administrations to complete the self-assessment including the preparations for the group discussions. Again, there are significant differences among participants with administrations taking as little as one (1) hour to complete the assessment to as much as one hundred and twenty (120) hours. The average time taken to complete the self-assessment was twenty-four (24) hours.

Understanding that many administrations involved a significant number of staff and spent many hours in the group discussions, it will be interesting to review in due course what administrations report about the impact of the maturity model on their digital transformation journeys.

3. The Digital Transformation Maturity Model

The Digital Transformation Maturity Model consists of six main themes (building blocks). This chapter presents detailed descriptions of each of these themes. Each section starts with a short theme description and a characterisation of the path of growth. Subsequently, a matrix presents the interrelated set of storylines.

Digital Identity

The secure identification of taxpayers is key to the efficient functioning of modern tax administrations, allowing the matching of administration processes (communication, tax return filing, incorporation of other data sources, self-service options, etc.) to individual and business taxpayers.

To facilitate the identification of individuals and businesses that are, or may be, subject to tax obligations, tax administrations put in place registration processes and databases, also called registers. To ensure the accuracy of the registers and to streamline internal digitised processes across the administration, in particular matching data to taxpayers, jurisdictions started issuing tax identification numbers (TINs) or equivalent unique identifiers.

With technological advancements resulting in an increasing taxpayer demand for the delivery of services through digital means, tax administrations have to consider how to ensure the secure identification of taxpayers in the digital world. For this purpose, tax administrations started creating more complex digital identities of their taxpayers to allow them to access a range of digital services, for example, through taxpayer portals.

Digital identities provide wider opportunities than just in tax administration. They enable different parts of government and third parties to work together in a secure, convenient, and trusted manner and allow the same digital identity to be used in interactions, both domestically and across borders. As a result, an increasing number of governments are putting in place government-wide digital identity strategies, encompassing a large variety of government services, and tax administrations have an important role to play in this.

Mirroring the Tax Administration 3.0 Vision (OECD, 2020[1]), **the Digital Identity path of growth** presented in the matrix below can be characterised as:

- increasingly adopting a "tell us once" approach by moving from tax administration specific and less secure identification methods to highly personalised and information rich digital identities which can be used for secure processes across government, and eventually, the whole of society;
- expanding support of orchestration of taxpayer centred processes like filing and reporting processes and an ecosystem approach towards payments, benefits and refunds from a citizen and business perspective; and
- enhanced interoperability between solutions and solution providers supporting secure and unique identification of taxpayers and citizens in a joined-up way, helping to reduce burdens and move processing into the background, connecting taxpayers' natural systems.

Digital Identity	Emerging	Progressing	Established	Leading	Aspirational
Descriptor / **Indicative Attributes**	*Identity as a taxpayer is established by the tax administration through the verification of documentary evidence. A TIN is created to identify the taxpayer for internal tax administration processes which remain largely within silos. There are very limited options for self-service, although electronic submission of forms is increasingly possible.*	*For the majority of taxpayers, the administration creates basic digital identities which include TINs. Taxpayers are provided with credentials (often TIN and a password) which enables access to basic self-service options and communications between the administration and taxpayer, including online filing and payment. The administration is using TINs to improve the digital joining-up of data within the administration as well as engaging with other parts of government on data sharing options.*	*More complex digital identities are created by tax administrations to access online services. TIN and password are no longer the only attributes to authenticate taxpayers, as a range of attributes are combined to create a more secure access to the digital identity allowing the administration to provide more self-service options. Digital identity has become a key enabler of joined-up tax administration and governmental processes and taxpayer self-service.*	*Individuals can use their digital identity to unlock services in different roles and (business) contexts. There is a shared digital identity vision across government as well as increasing collaboration with private sector partners. Digital identity supports a wide range of public/private service delivery and exchange of data. While the tax administration still centralises some data, increasingly taxation processes are built into taxpayers' natural systems, making transactions more convenient and increasingly seamless, enabled by secure digital identity.*	*Whole of society digital identity is being developed and implemented, allowing for comprehensive joining-up across the public and private sector. Digital identity supports taxation processes, including secure (near) real-time tax accounts, which are embedded into taxpayers' natural systems. The digital identity system is designed to facilitate international interoperability, supporting seamless usage of a digital identity in different public/private contexts and responsibilities.*
Creation of digital identity and the	Taxpayer registration and issuance of a TIN is generally done on a reactive basis following submission of	Identification for some taxpayers is increasingly supported by sending scanned identification documents, but	Taxpayer registration and the creation of a digital identity is generally a digitised process for individuals in employment and	Digital identities created by other government agencies, which may be triggered by other life events, can be used	The digital identity system gradually facilitates the creation of an entire ecosystem offering a suite of identity services (e.g.

Digital Identity	Emerging	Progressing	Established	Leading	Aspirational
unlocking of service options.	appropriate forms and proof of identity by the taxpayer. Registration forms are available in printed format, although some forms may be available for download on the administration's website. Registration is usually done in person or by mail, although for some classes of taxpayers online registration may be possible. A Tax Identification Number (TIN) may take a number of days to issue. TINs are generally used only in tax administration processes and communications, and different identification numbers are used across government and the private sector	still requires a degree of manual checking of documents within the administration. Individuals and entities are increasingly prompted and guided to register for tax following certain trigger events, such as registration as a business or for employment. Taxpayers are increasingly issued with a TIN and password on the same day. Engagement is starting with other parts of government on how and where government registration processes and issuing (and use) of identification numbers can be more joined-up (for example using common databases or linkages between existing registers).	is increasingly a condition of business registration. The administration engages with online platforms, trade associations and other parts of government on the promotion and prompting of tax registration. Verification of electronic documents and issuance of a digital identity is possible in near to real-time. Enrolment processes for digital identities are increasingly joined-up across government agencies, bringing together government-held information, for example population registers, passports, or social security records through digitised processes within a legal framework.	for tax purposes by the administration. Taxpayer registration is increasingly carried out seamlessly for most taxpayers, for example, when they first undertake taxable transactions, enter employment, register a business, or enter the jurisdiction for work purposes. The tax administration is fully engaged with the development and implementation of a strategy for whole-of-government digital identities, which is a key enabler to allow for an array of digital interactions between taxpayers and tax administration as well as third parties (e.g., financial intermediaries).	authentication, retrieval of information, electronic signature). As whole of society digital identity develops, a whole of government digital identity system is in place allowing taxation processes to be built into taxpayer's natural systems. This digital identity (or compatible digital identities) can also be harnessed by approved private sector organisations and can work seamlessly across borders where counterparts have adopted internationally compatible digital identity standards.
	Most interactions with the tax administration remain paper based and, depending on the degree of risk of fraud, may require the submission of further proof of identity, for example through the sending of witnessed documents or presentation of credentials at the tax office.	Some digital services can be accessed by using TINs and passwords, although these are generally limited to submission of information to the tax administration. More risky processes, such as requests for refunds, change of personal details and delegation of authority, cannot be carried out online. Delegation to carry out actions on behalf of the taxpayer can be authorised through online application processes.	The TIN and password is no longer a single digital identifier, and a wider set of attributes (connected identifiers, characteristics and credentials) are connected together to securely represent the digital identity of a person or entity. This enables a wide range of e-services to be accessed directly by taxpayers. Applications to delegate certain actions to real persons (e.g. relatives or tax practitioners) can increasingly be carried out	The attributes associated with digital identity can be harnessed by trusted public and private organisations. These attributes include enhanced security measures, such as biometric information, and are transparent to taxpayers. A public/ private control framework is established, allowing taxpayers to manage their digital identities, including delegations to authorised representatives and the operators of natural	Taxpayers have a high degree of control over their digital identity. This includes the ability to choose specific data to share from their digital profile, verify their ID, authorise the sharing of data, including to update attributes in real-time, and securely transact more seamlessly. Taxpayers can easily switch (private and business) roles within the tax system, using the same personal digital ID. This societal secure digital ID

Digital Identity	Emerging	Progressing	Established	Leading	Aspirational
			online.	systems.	enables the orchestration of societal processes into seamless customer experiences.
Uses of digital identity within the administration and by taxpayers	TINs are used to identify taxpayers within the different tax administration functions, although taxpayer data remains within silos in general. Data can be accessed from other functions on request using the TIN (which is the identifier used across the administration). This scattering of taxpayer information can lead to delays for the taxpayer, for example as regards refunds and closure of tax positions, as well as duplication of reporting in some cases.	TINs are increasingly used to join up individual taxpayer information across different administration functions, improving the efficiency of processing within the administration and helping to drive improvements in the use of analytics and compliance risk management. Not all systems are fully integrated, though, so there is not a single picture of a taxpayer available to all tax administration functions in real-time.	Taxpayer data linked by digital identity is immediately accessible to all tax administration functions (subject to any legal restrictions on use and internal controls on access to data). Digital IDs increasingly allow the links to be made between taxpayers when they are acting in different capacities (such as for themselves or on behalf of entities), and allows a fuller risk picture to be built based on connections to other taxpayers.	Digital IDs, which are used across an increasing number of government agencies and some private sector actors, allows for the bringing together of increasing amounts of tax relevant data within the administration, This data is increasingly available in real-time rather than following periodic reporting cycles. These integrated digital identity functions enable tax administrations to service taxpayers from a more holistic perspective.	The tax administration is fully embedded in a whole-of-society system of digital identity (whether unique or compatible digital identities). The tax administration has a real-time holistic picture of the taxpayer, taxable events, and their natural system touch points. This also allows the tax administration to adequately find, service and tax entities and persons abroad. Where taxation processes are built into taxpayers' natural systems, digital access is available to the tax administration for proactive, personalised assurance processes, supported by the use of artificial intelligence.
	Self-service offerings, which can be accessed through the TIN and an account password, are generally limited to viewing basic identity information about the taxpayer. The taxpayer can query the information electronically in some cases, but is unable to amend it directly. The administration is starting to develop a strategy	Basic digital identification gives taxpayers access to a portal/ platform allowing them to view personal information or notices from the administration and to increasingly interact digitally with the tax administration (for example for reporting, payment and some verifications). Passwords to access the portal are sent by mail to the	A wide range of digital taxpayer services, including for refunds and amendments of taxpayer information, can be unlocked using digital identities and more secure authentication processes, such as multi-factor authentication. A legal framework is in place for allowing two-way sharing of information across government	Digital identity supports taxation processes being embedded within some taxpayers' natural systems, in particular for elements of personal income tax and small business taxation, although the administration continues to centralise large amounts of data for the processing of tax liabilities and risk assessment.	Increasingly real-time taxation processes are embedded in taxpayers' natural systems for all taxpayers, with digital identity supporting the real-time exchange of information from all relevant parties necessary for such processing. Tax-relevant data is sent from taxpayers' natural systems to the administration when

Digital Identity	Emerging	Progressing	Established	Leading	Aspirational
	for the expansion of digital identification and self-service options for taxpayers.	taxpayer's registered address and have to be used along with the TIN. For security reasons, limitations or exclusions are in place for some processes to be done in real-time such as changes of details, refunds or viewing of some records.	and some private sector actors, but this is not yet fully operational due to lack of compatibility across digital IDs.	Taxpayers can use their digital IDs to access up-to-date information across many government and some private sector platforms. Taxpayers can increasingly use biometric and other authentication methods built into their natural systems.	taxable events occur, allowing the taxpayer to have an up-to-date understanding of their current tax position. Overall, trust drives taxpayers' adoption and use of joined-up/ integrated digital identity enabled services.

Taxpayer Touchpoints

Communicating, interacting, and facilitating engagements with taxpayers is core to the smooth running of tax administration. This is managed and supported through a number of touchpoints, varying from: face-to-face interactions, phone calls, multifunction websites, e-services, to business management systems etc. These taxpayer touchpoints help to resolve friction where it arises, for example due to lack of understanding, unusual circumstances that require further discussion with the administration, processes not working as they should etc. Advances in digitalisation allow tax administrations to improve existing taxpayer touchpoints or to create new ones. Over the past years, many FTA member administrations have introduced new e-services, ranging from integrated taxpayer accounts to mobile applications and digital mailboxes. Touchpoints can also be embedded into taxpayers' natural systems allowing them to have a more seamless experience, with taxation processes becoming a more integrated part of daily life and doing business, thus fundamentally changing taxpayer engagement with the administration. Key enablers for achieving such integration include (open) application programming interfaces (APIs) which allow applications developed by third parties to digitally interact with the tax administration systems without providing direct access.

Mirroring the Tax Administration 3.0 Vision, **the Taxpayer Touchpoint path of growth** presented in the matrix below can be characterised as:

- moving from paper-based via websites and portals towards seamless integration into taxpayer natural systems;
- shifting from re-active to responsive and pro-active taxpayer engagement support; and
- continuous enhancement of awareness and abilities to support inclusiveness and accessibility.

Taxpayer Touchpoints	Emerging	Progressing	Established	Leading	Aspirational
Descriptor / **Indicative Attributes**	*General information and downloadable forms are provided on the administration's website, although this can be difficult to navigate and may not be regularly updated. Many interactions can only be performed through tax offices and/or on paper.*	*A professionally designed website and call centres are the primary means of interaction with the tax administration. Some self-service options for e-filing and payment are available, although many interactions still require paper or in-person contacts.*	*Taxpayer portals and direct connections with business management systems are increasingly used, with e-services available for the main interactions with the tax administration. Personalised interactions are increasingly done electronically, and the use of self-service solutions is growing.*	*Taxpayer accounts and embedded functions in business software are increasingly a one-stop-shop for interaction with the tax administration. The number of tax administration processes and related touchpoints capable of being integrated into taxpayer natural systems is increasing, as a suite of APIs has been developed.*	*In most cases taxpayer touchpoints are fully integrated into taxpayers' natural systems with an increasing use of AI to assist in dealing with ambiguities and anomalies. Taxpayer touchpoints are increasingly usable in cross-border situations.*
Types and uses of taxpayer touchpoints	The tax administration website contains general information on tax obligations, although this may not be regularly updated. An increasing number of forms are available for downloading. Some information can be obtained on request over the phone, but the primary channel for taxpayer engagement is the local tax office, including for the filing of most tax returns and payment of tax. Communication with taxpayers is generally done by letter, phone, or physical interactions.	The main taxpayer touchpoints are the administration's website and call centres. The website is professionally designed and contains all common forms needed by taxpayers, which can be downloaded and sent by electronic means. A wide range of guidance is available on the website. Digital facilities for voluminous e-filing from business systems are becoming available. However, for less usual cases it is necessary to communicate with the administration outside of the website.	The primary individuals' taxpayer touchpoint remains the administration's website although there is increasing use of personalised communication using email and texts as well as through taxpayer portals and web chat facilities. Businesses in most cases can file VAT and salary tax returns digitally, often via business systems interfaces (like API's). Call centres remain in use, although there is a strategy to shift taxpayers to self-service channels. Taxpayers can complete most routine processes such as filing, payment, and applications online.	The primary taxpayer touchpoints are contained within taxpayer accounts which can also be accessed from one-stop solutions (e.g., mobile applications and cloud-based business management suites, etc.) and increasingly use native features of the relevant devices (such as cameras, reading of QR codes and biometrics). Taxpayer accounts contain up-to-date information on tax assessments as well as general and personalised communications. Self-service channels supported by real-time assistance (such as. chat bots) are increasingly used across the administration, some supported by artificial intelligence.	Taxpayer touchpoints are incorporated within taxpayers' natural systems. This provides for increasingly seamless interaction, which for most taxation processes is done on a machine-to-machine basis, including increasingly across borders. This includes relevant updates affecting taxpayer status, for example changes in income, taxable status, tax rates, and rules. Real-time settlement options are available for most tax liabilities. Options for human interaction remain and are transparent and easily accessible.

Taxpayer Touchpoints	Emerging	Progressing	Established	Leading	Aspirational
	The design and content of the administration website is done by individual tax administration functional areas rather than across the tax administration as whole, and it is not always regularly updated or cross-checked.	The administration has a strategy to increase the availability of e-forms which can be processed online, some of which are already available. Electronic payment options are increasingly supported. The tax administration creates and distributes standards enabling digital interfaces with business management systems.	The administration has a strategy to understand and develop taxpayer touchpoints based on analysis and feedback from taxpayer groups. Some self-service and pre-filling solutions have been developed, whether by the administration or by external developers using some APIs made available by the administration, in particular for filing of PIT, CIT and VAT returns and communications.	The tax administration publishes a library of APIs covering a wide range of administration functions to increasingly enable taxation processes and related touchpoints to be incorporated into taxpayers' natural systems (i.e., multi-channel). This also enables joined-up services with other government websites and applications, supporting options for real-time transaction processing based on insights gleaned from whole-of-government customer journey mapping.	The design and implementation of tax administration touchpoints is an integrated part of societal systems' development processes (i.e., omni-channel). Artificial Intelligence (AI) support is increasingly integrated into taxpayer touchpoints. This provides prompts and recommendations for actions the taxpayer may wish to take, information they may wish to review, and highlights possible mistakes and options for obtaining further information in complex cases.
Accessible services	Taxpayers can generally access services or request assistance/consultation through tax offices. Few formal facilities are available for taxpayers without the ability to read or for those without a computer and internet; a lot of assistance is de facto provided informally and may not be consistent nor high-quality.	All digital services are still available via paper supported processes. Therefore, no specific digital accessibility measures are implemented. Website design does not have open support for the visually impaired. Some remote service support is available to taxpayers without access to digital channels or who have special circumstances, including through call centres or within the tax office.	Digital accessibility has become part of the tax administration's touchpoint strategy. Governmental and societal frameworks guide the design of user friendly and accessible digital services although requirements are not met in all cases. Special interest is given to specific taxpayer groups who struggle to use digital services. This includes the continued support of paper processes and the engagement with government advice centres, civil society, and informal networks.	Digital accessibility is a cornerstone of the tax administration's digital service implementation strategy. For business taxpayers a suite of self-service solutions (e.g., user friendly apps, software tools and webforms) is available. All digital services align with open international accessibility standards. Specific interest groups are serviced in close cooperation with public and private stakeholders, thus assuring a growing alignment with taxpayer natural systems, including those of a non-digital nature.	Because most taxpayer services are part of taxpayer natural systems, accessibility by design is generally assured, Where it is not yet possible to incorporate all touchpoints into taxpayers' natural systems, advanced analytics and behavioural insights are used to prompt and assist with the flow of relevant information in the light of the taxpayers' circumstances and preferences.

Taxpayer Touchpoints	Emerging	Progressing	Established	Leading	Aspirational
	Although most services are being delivered at the tax office by tax administration staff, there is no formalised client-centred culture in place, and there is limited flexibility to respond to difficult cases. In case of disputes or process flaws, taxpayers can experience challenges while trying to exercise their legal rights.	The administration culture is increasingly focused on supporting taxpayers. Taxpayer dispute and complaints processes are not supported digitally. Errors in digitally filed forms generally have to be corrected via paper processes. Tax administrations start to digitally facilitate tax practitioners in their support of taxpayers, e.g., by offering email facilities and specific call centre options.	The tax administration has adopted a customer-centric approach, although this may not be consistently recognised by taxpayers. The majority of appeal and objection procedures are digitally supported, and both case and progress information can be accessed via taxpayers' personal portals. Taxpayers who want to address specific complicated issues may run into problems in respect of standardised digital PIT and VAT processes. Tax practitioners are being supported by a suite of digital services.	Tax administration works to the principle of taxpayer-centric design. 'The human in the loop' is a key design and fall-back principle of all digital services implemented. Compliance by design solutions help diminish errors and disputes. More complex cases are being identified and addressed at an early stage and settled via human intervention if needed. Tax practitioners are still an important channel for some tax administration services, although there are a growing number of pre-filled services and integrated cloud-based business systems.	Tax administration, like other parts of government, is focused on reducing burdens on citizens through the introduction of seamless services and processes, meeting or exceeding accessibility standards. In all circumstances taxpayers can intervene and challenge tax administration processes and decisions; in most cases via natural systems touch points and trusted third parties. AI-augmented systems support both taxpayers and tax administrations in jointly creating upstream tax certainty and the prevention and settlement of disputes.

Data Management and Standards

Tax administration is, at its heart, a data processing operation heavily reliant on the availability and quality of data. With increasing digitalisation, more tax related data from taxpayers and third parties has been increasingly taken in to the tax administration and processed (for example data from e-invoicing, online cash registers and financial account information). To maximise the value of the data, tax administrations have at their disposition, they also need to consider how to share it effectively and responsibly with other agencies and ecosystem partners. While transforming, the location of the data (which can be in business systems, the cloud, third parties etc.) is driven by the objective of using taxpayers' natural systems rather than requiring the development of new systems. As more interconnections between natural systems becomes possible, taxation processes can increasingly be incorporated within taxpayers' natural systems.

Mirroring the Tax Administration 3.0 Vision, **the Data Management and Standards path of growth** presented in the matrix below can be characterised as:

- moving away from centralised bulk data processing to more taxpayer centred, granular and real time data processing;
- shifting from managing and storing the data towards increasingly managing the availability, quality and accuracy of data to be drawn remotely from taxpayers' wider natural systems, subject to taxpayers' consent;
- increasing awareness, monitoring and prevention of data security and data privacy breaches; and
- adopting open and global standards in facilitating interoperability and data re-usage.

Data Management and Standards	Emerging	Progressing	Established	Leading	Aspirational
Descriptor / **Indicative Attributes**	*Data management processes are carried out within tax administration functions rather than centrally, leading to inconsistences in the use of data and data standards as well as issues with data quality. Some parts of the administration are more advanced in their use of digital data, although there remains a lot of paper-based processing. Training in data protection is provided, but implementation in practice is patchy.*	*Data management processes are centrally defined, and most data is stored in digital form, including some third-party data. Not all functional systems within the administration are able to access all administration databases, leading to some fragmentation and data quality issues. Data analytics is increasingly used to support risk assessment and auditing. Data protection is taken seriously throughout the administration, although there are some known weaknesses in application.*	*The administration has a joined-up data management system which can be accessed and updated by all administration functions. Data exchange standards are in place, and the administration has access to an increasing number of government and third-party data sources, including bulk data. A data quality framework is in place. Increasing use is made of analytics to support administration capabilities. First aspects of data security are digitised, with data access and usage partially logged and monitored.*	*The administration's data sources cover most tax relevant information and are increasingly entered directly into administration systems via machine-to-machine processes, such as APIs. While bulk data is still used by the administration in some processes, more attention is being given to the incorporation of tax processes into taxpayers' natural systems. AI is increasingly used to support analytics processes. Taxpayer data access and use are continuously monitored by digitised tax administration systems with real-time flagging of issues.*	*Increasingly taxation processes are embedded within taxpayers' and third parties' natural systems with assurance processes built into those systems as well as options for tax administrations to carry out remote audits supported by AI. Increased use of global open standards reduces taxpayer costs and provides for more seamless cross-border taxation processes. Taxpayer trust in the use of data is enhanced by taxpayers' ability to understand the use of data and to allow or restrict access. AI is increasingly used to prevent unauthorised data use in real-time.*
	Data management is generally done within each tax function	A common data management system has been developed,	Both internally and externally generated data on individual	Most taxable income is reported to the tax	Substantial amounts of tax administration relevant data are

Data Management and Standards	Emerging	Progressing	Established	Leading	Aspirational
Data availability and standards	according to their needs and available resources, although high-level identification and final tax liability information is generally consolidated on a central database. Significant amounts of data remain in paper format, although some functions are using databases. Tax administration officials will often manually update and combine different databases while addressing taxpayer-centred issues (such as registration, record keeping and audits). Data quality is not monitored consistently across the administration, nor enforced centrally.	although not all systems are connected to it and ad hoc exchange of individual data and data sets is still required in some areas, leading to issues with the quality of data across the organisation (in particular outdated information) which leads to difficulties in matching. Different IT systems or programmes are used by different functions, and data accessibility data across different systems or programmes can be an issue. Data standards for quality and availability have been developed, although they are not yet consistently implemented.	taxpayers are contained in a central database or connected databases and is digitally available to relevant tax administration functions to support service delivery, audit, and enforcement processes as appropriate. New information automatically updates the database(s), and changes are logged so that prior information can be recovered. A transparent set of (tax type specific) data exchange standards has been implemented, and taxpayer declaration data can in most cases be directly integrated into tax administration databases.	administration, supported by a suite of APIs, and data can increasingly be entered directly into relevant tax administration systems, in many cases providing an up-to-date and holistic view of taxpayers and tax liabilities. While bulk data is still processed within the administration to determine tax liabilities and for risk assessment purposes, an increasing number of tax administration processes are being incorporated into taxpayers' natural systems.	based on real-time outputs provided to the administration from taxpayers' natural systems (subject to taxpayers' consent). The administration has primarily adopted an oversight and assurance role regarding this data, with the tax administration increasingly co-managing the framework for the availability, quality, and accuracy of taxpayers' systems in a public/private partnership. Bulk (transaction) data exchange from taxpayers' natural systems is still being supported in specific cases where burdens are minimal. The need for centralised internal databases beyond the outputs of taxpayers' natural systems and digital identity information is much reduced.
	While information from large employers on employee income and some other third-party reporting is received in standardised formats, there is no systematic process for entering data into tax administration systems, and significant manual work is required to check and input data. First data exchange with some domestic governmental organisations is emerging, in	All employers are required to send data on employee income to the administration. Some implementations of third-party data exchange are in place, with banks and some domestic governmental bodies using standard formats. A strategy is in place to increase the availability of third part data. Data management is being standardised, generally allowing for smooth integration	In addition to data received from employers, an increasing range of third party and wider government information is being received in standard formats, enabling increased pre-filling by the administration of parts of tax returns. Some regular bulk exchange of information is in place under international standards although it is mainly used for risk assessment rather than	Where applicable, tax administration-determined standards are increasingly being substituted by industry agreed standards for data capture and quality assurance, making it easier for processes to be incorporated into natural systems and reducing data quality issues. A network of interdependent generic governmental databases support taxpayer-centred	Tax administration has become an integrated part of governmental services and processes, using and managing joint data sources. Taxpayers can check and query the origin and accuracy of the data used and can grant or deny access to personal data sources not needed for tax purposes. Global open standards are increasingly being used to reduce

Data Management and Standards	Emerging	Progressing	Established	Leading	Aspirational
	most cases on an ad hoc and audit-triggered bases, e.g., related to personal and business identity and property registrations.	of external data into tax administration systems and identification of data quality issues, which still often requires manual intervention to rectify.	capable of being integrated into tax calculation processes. Some data quality issues are present (e.g., inconsistent data, incomplete fields, human error etc.) and data cleansing activity is carried out, increasingly on an automatic basis.	service delivery, e.g., pre-filling, benefits programmes, job transitions and debt management. There is public transparency on which data sources have been used by which organisation.	administrative burdens for businesses.
Data security and privacy	The administration's IT systems are not updated with the latest security protocols and standards. Much of the data exchange with taxpayers and storage of taxpayer information is paper based. Data protection is part of the technical training programmes done by ICT specialists and database managers. Mitigating safety and security measures are being integrated into paper-based and postal processes.	Risks of electronic data breaches are more significant as most taxpayer data are available in digital formats and data exchange is being broadened to external parties. Mitigating data security measurements focus on logging and granting access to devices and databases. Training programmes include awareness for data privacy and security risks. A data protection culture is developing, fuelled by the growing importance of data and data management functions, both internally and within wider government.	Regulatory and procedural requirements govern the way in which data security is being managed both structurally and as regards incident management. Data privacy and security are an important part of on-boarding programmes, management, and risk management training. Chief Data Privacy and Security Officers nurture awareness and culture. Data breaches have to be reported to senior management and relevant data regulators, together with plans for addressing the underlying causes and learning lessons.	Privacy and data protection by design assure data quality and integrity and minimise data leakages. Any breach of data protection will be subject to internal audit and, where necessary, systems changes are made as a matter of urgency. A strong data protection culture, as well as transparency mechanisms around the use of data and privacy protections, support public trust in data (re-)usage and exchange. This is supported by private systems facilitating personal and business data governance and permission management.	Enhanced reliance on trusted outputs rather than bulk data from taxpayer systems reduces data exchange leakage risks, although the administration will still retain information about tax paid by taxpayers (as displayed in taxpayer personal accounts). There is a strong data protection culture at all levels within the administration as well as within the entire ecosystem. Data ownership and privacy assurance frameworks, as well as transparency and permission mechanisms nourish societal trust. This is coupled with a strong internationally accepted AI ethics framework to facilitate any testing and development with international partners, where appropriate.
	Poor data security management is often observed increasing the risk of data leaks or the alteration of data. For example, there may be little	Identification and access management requirements and procedures are documented and communicated to relevant staff but there may be	Control and management measures for secure storage and logged access to data assure confidentiality and data integrity. These are subject to	Cybersecurity tools and best practices have been adopted to continuously monitor the use of data and the identity and permissions of data users to	There is real time management of data protection risks through AI enabled systems; these ensure that data cannot be accessed or used without

Data Management and Standards	Emerging	Progressing	Established	Leading	Aspirational
	training or monitoring of ongoing security issues leading to the regular sharing of passwords, unattended files or not locking computers during breaks. As a result, incidental and targeted data leakage may occur and are hard to signal and trace.	weaknesses in oversight and patchy adherence to standards. It is generally possible to trace access and changes to data to identified individuals. However, unauthorised transfer of data (for example to an external drive) is not automatically prevented or detected.	regular checks and comprehensive testing by the data protection professionals. Disclosure standards, regulations and policies are being established to ensure that security and data risks are well-managed and allow for timely detection of data breach incidents or any cybersecurity threats. However, there may still be some weaknesses, particularly when staff are working remotely (e.g., use of unsecure email, papers not secured).	prevent data breaches. Coverage of security testing has expanded to assess security efficacy and identify vulnerabilities in systems in a timely manner to improve detection of anomalous activity. Where access to or use of data goes beyond permissions, this is flagged in real-time as a potential breach and integrity risk to management and data protection officers. Standard operating procedures are in place (e.g., incident reporting, mitigation measures, business continuity plans) to allow for swift responses and accurate updates	appropriate consents and which automatically restrict access to data and issue real-time reports to management when potential misuse of data is identified. Security controls and principles are embedded in multiple layers of the technology architecture in order to improve cybersecurity resilience beyond incident prevention. This is supported by collaborations with various public, private, and international stakeholders to create a safer cyberspace.

Tax Rule Management and Application

Currently tax rule management and application is primarily undertaken within tax administration-driven or supported processes. This usually involves a number of steps including guidance on tax law compliance and deadlines, the use of forms and e-forms which require the input by the taxpayer of specific tax relevant information, and the finalisation of the relevant processes within the administration (for example, the registration of the taxpayer, computation of the final tax liability, acceptance of payments etc.). Digital transformation of tax administration will enable a more decentralised and distributed way of rule application, supporting upstream compliance and the provision of tax certainty at an earlier stage. Creating and distributing tax laws in administrable and verifiable formats allows for stakeholders to integrate tax rules within their own preferred systems, including as they evolve, while providing robust and increasingly remote reassurance to the administration.

Mirroring the Tax Administration 3.0 Vision, the **Tax Rule Management and Application path of growth** presented in the matrix below can be characterised as:

- tax rule design and drafting increasingly becomes a co-creative effort between policy and administrative experts and governmental and private stakeholders;
- a shift from mere translation of tax rules from paper into system designs, to incorporation of "rules as code" with transparency and testing framework in place; and
- migrating from centralised execution of tax rules within the tax administration to a more decentralised network of 'tax agents' in that the tax administration provides the technical rules and information needed for elements of tax processing to take place within taxpayers' natural systems.

Tax Rule Management and Application	Emerging	Progressing	Established	Leading	Aspirational
Descriptor **Indicative Attributes**	*The tax administration is not generally involved in the development of tax law, although it does provide downstream feedback to policy makers. Tax law is often difficult to administer, and frequent legal changes place burdens of taxpayers and create tax uncertainty. The administration produces guidance on the application of tax law in common circumstances. Assurance is mainly done through individual audits and trends identified in functional areas.*	*The tax administration is increasingly involved in the development of tax law to help ensure administrability and to identify major implementation issues for taxpayers. The administration proactively produces extensive guidance and engages with taxpayer representatives on possible improvements to tax administration systems. Analytics is increasingly used for high-level assurance of the application of tax rules in addition to individual audits and identification of trends.*	*The tax administration is heavily involved in the development of tax law and seeks to address issues of implementation, compliance burdens and tax certainty upfront. The administration uses sophisticated analytics to detect non-compliance and measures overall tax administration performance and taxpayer patterns and behaviours. Co-creation with developers of software implementing tax law is increasingly being explored as well as the publication of some tax administration APIs.*	*Co-creation of tax law with policy makers and stakeholders is the norm. The law increasingly provides for greater standardisation of some processes, including within taxpayers' natural systems, to enable more seamless outcomes and interactions. Advanced data analytics are increasingly used for tax law assurance purposes. A framework for the development of machine-readable rules-as-code legislation is being explored.*	*Tax law is increasingly being designed via a rules-as-code principle, allowing for direct importation into taxpayers' natural systems. There is a transparency and testing framework in place, supported by AI. Assurance that taxpayers' systems have implemented tax law correctly is increasingly done through remote processes involving AI, as is the identification and resolution of remaining areas of tax uncertainty.*
Tax rule development	Tax law is generally developed by policy makers and will often not involve the tax administration to any significant extent, or only after enactment of the legislation. This means that issues around the administrability of the law are	The tax administration is increasingly consulted on draft tax law, allowing for some amendments to be made to enable smooth implementation and avoid major administrability issues as well as to address major loopholes and areas of	Tax law is usually co-developed with the tax administration to increase precision in drafting and to address administrability and taxpayer burden concerns upfront. Tax law is usually non-prescriptive as to the	Tax law is increasingly co-developed with stakeholders. To smooth implementation, tax law contains more prescription on the functions that need to be included in some networked systems required by law (such as e-invoicing or online cash	The administration works closely with tax policy makers and stakeholders on the drafting of tax laws in the form of machine-readable rules-as-code software where possible to allow their direct incorporation into taxpayers'

Tax Rule Management and Application	Emerging	Progressing	Established	Leading	Aspirational
	only identified after the law is in place, which may result in uncertainty and additional law changes.	tax uncertainty. The administration has established an internal group to provide input on tax policy proposals and to develop implementation approaches.	functionality of the systems used by taxpayers to comply, other than specified requirements around record keeping, reporting formats and taxpayer assurance processes.	register systems), to ensure accuracy, integrity, compatibility, and auditability. These functionalities may be embedded in APIs developed by the administration to assist with integration into taxpayers' natural systems.	natural systems. This agile process incorporates extensive testing and development with stakeholders, including internationally where appropriate, to ensure that the code is complete and works as intended.
	The tax administration provides limited guidance on its website or in printed form on how to meet legal obligations. Taxpayers need to proactively contact the administration where they do not understand how the law applies to them; they may often not be given definitive advice and are left to bear the legal risk.	The tax administration, in consultation with taxpayer representative groups, provides extensive guidance on its website as to the application of the law in different scenarios. The administration guidance is frequently updated to take account of new issues and situations not envisaged when the law was drafted.	A consultative and transparent consultation process is in place on draft tax law and related ongoing guidance to minimise burdens and tax uncertainty. For more complex circumstances, there remains scope for disputes on the correct reading of the law, and revisions may need to be made to the law or guidance following appeals decisions.	As some elements of tax law become more prescriptive as regards aspects of implementation, the law is increasingly subject to prior testing, including through piloting, before coming into force, and can generally be amended quickly where issues arise. The scope for disputes is decreased as there is less room for different readings of the law.	A framework is in place for creating standardised machine-readable tax laws in an agile manner, to ensure transparency as to the intended application of the law in multiple scenarios, as well as the testing and correction processes. Remaining ambiguities in tax law are increasingly identified by AI, both within the administration and in taxpayers' natural systems, with recommendations given for resolution.
	While there is no systematic mechanism for identifying difficulties that taxpayers have with the implementation of tax law, when the administration becomes aware of major implementation concerns it will seek to work with taxpayer representatives on identifying possible workarounds. The tax administration also shares feedback from taxpayers with	The tax administration works with taxpayer associations on major implementation issues and possible areas for simplification of rules. A consultative process has been established to consider possible adaptations of tax administration systems, in order to make it easier for taxpayers to interact electronically.	Some co-creation is beginning with software developers of the implementation of some more straightforward tax rules into programming language. The tax administration incorporates simple tax rules into APIs it has developed allowing for the automation of some tax rule processes. The administration may also certify or approve some private sector	The administration has started exploring the processes involved in the development of legal provisions which are machine-readable, either in the form of algorithms or software code, with policy makers and stakeholders. Some examples have been developed for testing purposes and to stimulate debate, including on the role of AI in systems	AI is embedded in the systems used for the development, verification, test, and refinement of tax rules with transparency as to issues found and recommendations for change. Tax rules can be updated seamlessly across natural systems when changes are made (subject to the same testing frameworks).

Tax Rule Management and Application	Emerging	Progressing	Established	Leading	Aspirational
	tax policy makers.		applications.	assurance.	
Assurance of application of tax rules	Returns are manually entered into the tax administration's IT system which runs automated assessments. Based on predetermined risk markers, returns are selected for manual intervention by staff (including audits). Apart from these automated assessments, the majority of taxation processes are paper-based. Most decisions on the application of rules are done by tax officials based on their knowledge and experience (which may not be consistent across the administration).	Tax type specific IT systems support the digital processing of most individual and business tax returns. While somewhat patchy across the administration, in some areas professional data analysts are using combinations of internal data sources as well as some external data sources to assist in assessing taxpayer risk profiles and audits, as well as uncovering major anomalies in the general application of tax rules. Business have become important 'agents of tax administration' especially regards VAT and first implementations of PAYE-like solutions.	PAYE-like systems and, in some cases, pre-filled tax returns enable frictionless application of tax rules in some areas of taxation. Business management systems are supporting tax management and reporting, and they offer possibilities for the introduction of compliance by design solutions supported by reporting of transaction data. Sophisticated data analytics techniques support the integration and exploration of available internal and external data sets of tax administrations to detect anomalies, risks, and potential underlying problems with tax law, with an increasing use of automation to flag issues for further investigation.	Digital platforms in addition to traditional businesses are agents of tax collection and, by means of withholding or compliance by design features, support taxpayers in fulfilling their obligations. Artificial intelligence tools and algorithms start to support the characterisation and assessment of liabilities and increasingly support decision-making as part of taxpayer systems. Analytics are built into a wide range of business processes within the tax administration, increasingly supported by AI to identify issues and to take automatic actions (such as taxpayer prompts) or make recommendations for actions by tax officials.	Data analytics has become an integrated part of taxpayer natural systems and processes, providing seamless assurance to the tax administration. AI is used in this assurance process, providing recommendations as to where issues need to be addressed or where enforcement processes may be needed. Taxpayers are also informed upfront regarding tax consequences and liabilities, and it will be clear which rules have been applied to which data, reflecting facts and circumstances. Smart contract-like solutions, integrated in natural systems, are increasingly used to settle tax liabilities in real-time.

New Skill Sets

The skill sets within the current system of tax administration have been adapting over recent years to support more customer-centric e-services and the greater use of analytic capability across the organisation, including for risk assessment and remote verification. However, to support the functional processes of current tax administration, a large percentage of tax administration staff are reported as engaged in auditing, in debt management functions, in customer support and registration, and in tax return and payment processing.

In the aspirational stage of Tax Administration 3.0, these processes will ordinarily be run automatically (and AI-enabled) within the tax administration, including through inputs from other organisations, or within taxpayers' natural systems. The skills required will be more focussed on supporting the

operation and evolution of the tax administration system as a whole. This could entail expansion in resources and capabilities relating to strategy development, IT, data analytics and behavioural insights. Tax professional roles will remain highly important, inputting to the development of domestic and international rules, the identification of possible compliance issues, and dealing with more complex cases, including internationally where differences in tax rules or their application may cause issues.

The Maturity Model description focusses on the processes needed to accommodate the workforce planning, recruitment and development of new skills sets. Mirroring the Tax Administration 3.0 Vision, the **New Skill Sets path of growth** presented in the matrix below can be characterised as:

- shifting from ad hoc and decentralised to holistic and continuous processes for workforce planning and recruitment, informed by detailed analysis and horizon scanning, as well as placing greater emphasis on organisational and individual agility;
- move from reactive execution of tax administration processes to proactive, AI-augmented, co-creation and co-governance of overall tax system performance and resilience; and
- moving from reliance on self-learning and learning on the job to more structured and continuous organisational learning.

New Skill Sets	Emerging	Progressing	Established	Leading	Aspirational
Descriptor	*Workforce planning is generally decentralised. Skill levels and competencies required for individual tax administration positions are generally understood by managers, although more focused on the current situation than on future needs. Addressing such gaps is generally left to individual managers, with no centralised monitoring or evaluation. Some basic training opportunities are in place, although there is significant reliance on self-learning for the development of new skills.*	*There is some centralised workforce planning focused on known skills gaps and expected vacancies in individual business areas. The core competencies needed in tax administration generally are identified centrally and communicated to staff. These include some competencies relevant to expected developments, for example the increased use of analytics. Staff and managers have a joint responsibility to identify and take steps to address individual skill gaps. There is a broad training programme covering a set of basic as well as some more advanced*	*An assessment is done with the support of the HR function of current and expected gaps in competencies over the medium term, both in individual areas and within the tax administration as a whole. Plans are developed to help address any shortcomings and to monitor outcomes, although these are often based on the administration maintaining current business areas in broadly the same form. An established partnership is in place between staff, management and HR which allows for greater tailoring of training options to match job*	*An assessment of likely changing skills needs over the longer term is carried out periodically, involving HR as a strategic partner. This considers changes expected in the use of technology and data analytics and elements of the digital transformation of the tax administration, including how this will affect how the administration operates. The administration is proactive in defining characteristics and competencies of tax administration positions likely to be required in the future. A broad-ranging set of policies, a robust organisational structure, and*	*A workforce development approach is adopted to assess current and future skills needs for taxation processes (within and outside of the administration). This assessment is carried out covering a multi-year period involving outside stakeholders and considers changes needed to meet the evolution of taxpayers' natural systems. A strategic and multifaceted framework of strategies, methods and AI-supported tools is in place for continuous skills and knowledge development, to help the administration to prepare and adjust to future*

Indicative Attributes		*skills, and staff are encouraged to undertake training development opportunities.*	*requirements and changing skills needs.*	*a suite of data analytics applications is in place to assess and motivate staff to enhance skills and knowledge on a proactive basis across the administration.*	*changes. The administration is able to bring in the right skills by adopting different contractual approaches where necessary.*
HR strategy and function	HR is aware of critical IT capabilities. However, the HR function is mainly focused on documenting basic HR processes, for example for hiring, performance measurement, and disciplinary issues, as well as for meeting legal requirements.	HR has an emerging awareness of disruptive digital impacts on staffing. HR strategy is mainly internally focused, identifying priorities for improving the efficiency, effectiveness, and consistency of HR corporate services.	HR awareness of disruptive digital impacts on staffing capability informs the high-level HR goals and strategies for supporting the achievement of the administration's objectives over the medium term. The strategies of individual business areas within the tax administration are largely independent and do not take account of possible organisational changes in response to digitalisation.	HR acts as a change agent and strategic partner working closely with senior management on HR strategies to support the changing tax administration environment. HR strategy and sub-strategies for proactive support reflect the strategic priorities and challenges facing the administration as a whole, rather than focusing on individual business units.	HR is an integrated aspect of the organisation's leadership, and the HR and change management strategy are an integral part of a holistic administration strategy. This strategy is dynamic in nature, both adapting to and helping to shape the changing tax administration environment.
	In many instances, HR only becomes involved in workforce planning at the point of formal notification of new recruitment, lay-offs, redeployments etc. HR may sometimes struggle to respond in a timely manner when multiple requests are received at the same time and assistance is generally confined to reactive administrative processing.	On the basis of reported expectations, HR will assist business units through planned recruitment and training activity throughout the year. However, unexpected events may often result in some posts remaining unfilled for long periods, with possible increases in overtime working and/or backlogs.	HR draws up an overview of workforce planning needs, both outcomes sought and improvements to HR processes. A more detailed operational plan is drawn up by HR on how to achieve these goals, including the expected role of individual business units, managers, staff and HR. There is some consideration given as to how to improve future workforce supply, mainly focusing on building positive perceptions of the administration and the job offer.	HR, in consultation with individual business areas, draws up an operational plan as to how to build its future workforce, both through internal improvements (e.g., to recruitment and retention, career and talent management, general and bespoke training programmes) and through helping to attract a talented workforce (e.g., through wider outreach, external partnerships, facilitating different ways of working). Targeted outcomes are sought	A multifaceted and dynamic operational plan is developed. This looks both at improvements in internal processes to meet future workforce demands, including facilitating different working arrangements, life-long learning programmes etc., as well at how best to influence external constraints, including different ways of expanding the potential workforce through different contractual arrangements.

					for the changing skills mix.
Skills development	The overall skill set of tax administration staff reflects the stable set of organisational tasks and outputs. Legal and administrative expertise and competences are key inputs to the quality-of-service delivery. IT deployment and IT skill development is organised in a separate organisational silo.	Digital skills sets are becoming a more apparent and integrated part of some tax administration units and functions, such as customer services and exchange of information. In some areas, tax experts are joining up with Electronic Data Processing (EDP) auditors in conducting taxpayer assessments. Large IT departments support the development of often siloed digital systems supporting tax professionals and their processes.	Digital professionals and skill sets are being recognised as key contributors to the overall tax administration performance and quality. Although some IT development is still being executed within dedicated departments, tax administration staff is joining up in designing digital customer experiences supporting compliance. Data analytics units are engaging with tax administration departments to jointly develop products and insights.	Tax administration specialists team up with digital and corporate functions to co-create support tools for internal and external purposes in an agile manner. These solutions are increasingly aligned with the main systems used by taxpayers. Tax administrations' processes are supported by AI-augmented tools in areas such as decision-making and risk assessment. There is an administration-wide focus on new skill sets, such as the digitalisation of business processes tied to tax rules and compliance risks, the use of data, and the importance of behavioural science, cybersecurity, and data protection.	Tax administration processes and systems are being adapted to a continuously changing environment. A team of tax administration professionals manage the change, in most cases in co-creation with external parties. Tax administration employees are supported by a suite of intelligent tools and systems which are continuously updated and refined. Integrated teams of behavioural, digital, and organisational experts assist in optimising system performance There is an additional focus on skill sets for systems auditing and the ability to steer different ecosystems, support ecosystem actors, facilitate their innovations and co-develop solutions.
	The existence of skills gaps may be noted in discussions with individual staff, objectives and/ or appraisals, but there are no centralised plans as to how they can be rectified, and actions are mainly left to individual staff and managers. There is a clear high-level objective on the importance of training and development, but this is not fully supported in practice.	The need to address skills gaps is included in individual objectives together with descriptions of actions that should be taken. But this will not always lead automatically to training being provided nor consequences if training is not undertaken. Training and development is encouraged by senior managers, including in actively making time for formal and informal training.	Development areas will be recognised in individual job objectives and subject to periodic discussion between staff and managers. Achievement against development objectives will be covered in the appraisal process. An active learning culture is encouraged by all managers. Training and development is known to be valued at the organisational level, including by its	Individual training plans are drawn up for all staff in partnership with managers and linked to appraisals. These will set out how development needs are to be addressed (which may be through formal or informal training). Smart data analytics instruments assist in areas such as identifying talents and in understanding key drivers of employee motivation. Senior	An organisation-wide assessment of current and future skills needs is carried out covering a multi-year period, considering expected changes in the organisation, including the introduction of new technologies and the shift in the nature of tax administration. A culture of continuous learning and knowledge and skills transfer is actively promoted at all levels within the tax

			contribution to career development and/ or pay.	management will have measurable objectives relating to the training and development of staff see themselves as skills champions and role models.	administration and is supported by data analytics and AI-tools. Performance and outcomes are also effectively measured by periodically monitoring and assessing the tangible outcomes.
	Basic introductory sessions provide training on general working skills and practices as well as a general understanding of the responsibilities of tax administration staff. These sessions may not always be provided on a regular basis nor be mandatory.	Orientation courses for staff who are new to the tax administration are regularly held to familiarise them with the basic job requirements and expectations. Training is largely confined to functional areas.	A set of training and development courses covering tax administration competences is in place, equipping employees for roles in other parts of the administration as well as generating a wider understanding of the administration's operations and strategy.	There is a catalogue of regular in-house and external courses available to cater for the training needs of staff and management allowing individual training plans to be drawn up, monitored and evaluated. The quality and range of courses and potential opportunities for external learning meet organisational skills needs.	A multifaceted approach is developed for training and development. (e.g., IT boot camps, hackathons, cross-functional projects, rotation schemes) as part of a comprehensive, ongoing training curriculum to support interactive learning. There is dynamic feedback from staff to inform future development.
Workforce planning	Workforce planning, including headcount, skills-gaps and training, is primarily the responsibility of individual business units. Some known events (e.g., expected vacancies or new roles) may be communicated to HR for planning purposes, but this will often be patchy in nature and done inconsistently between business units making it difficult for HR to plan.	There is a high-level annual forecasting process through which business units communicate expectations for the year ahead to HR. Workforce planning focuses on providing support to address known gaps, including skills gaps, as well as to respond to expected patterns of personnel movements based on experience from previous years (resignations, redundancies, maternity/ paternity leave etc.).	The HR function works with individual business units on their expected workforce needs, including any new skill sets, over the agreed budget cycle and to identify any significant concerns with current HR processes. This is done in a standardised format allowing HR to compile a view across the administration of current skills gaps and expected skills gaps in different business areas, training and recruitment needs, workforce balance issues etc.	In addition to looking at current workforce needs, longer-term workforce planning is done on a whole of administration basis. This is based on agreed assumptions as to future workforce requirements. Supporting analysis is undertaken of the current position, including organisational skills gaps, the current effectiveness of recruitment, training and retention tools, changes in age profile, and workforce balance. Consideration is also given to the main constraints on current	Workforce planning forms an integral part of the development of administration's strategic plan, identifying areas where workforce constraints might impact transformational opportunities and how these might be overcome by enhancing organisational agility and by active interventions, including through changes to existing policy constraints (for example, tax policy simplification, pay, allowable contractual arrangements, use of artificial intelligence etc.). Strategic

				and expected future workforce supply.	workforce planning is supported by comprehensive analytics.

Governance Frameworks

The way in which tax administration is governed depends on political, cultural, societal, and technological factors. This is not only relevant the organisation and control of the tax administration itself, but also includes cooperation with businesses, other governmental organisations, and non-governmental organisations, including taxpayer representative groups. In many jurisdictions, businesses have become important partners, 'agents' of taxation, and administer VAT and salary taxes. Along with societal changes, new tax governance frameworks have enhanced transparency and accountability, including formal consultative processes, taxpayer rights mechanisms, offices for tax simplification, and co-operative compliance programmes.

The nature of the transformation to Tax Administration 3.0, requires the joining-up of systems and processes across the public and private sector, as well as internationally. This calls for a strategic approach and a structured form of governance if it is to succeed, bringing organisations together to partner in the management of change.

Mirroring the Tax Administration 3.0 Vision, the **Governance Frameworks path of growth** presented in the matrix below can be characterised as:

- broadening the digitalisation focus from IT-Strategy, addressed in a digitalisation strategy, to tax administration business transformation, addressed in a digital transformation strategy;
- shifting from a solitaire hierarchical bureaucracy to a partner within a 'system of (tax) systems; and
- moving from reactive to proactive and towards an embedded assurance of the tax system.

Governance Frameworks	Emerging	Progressing	Established	Leading	Aspirational
Descriptor	*The administration's development of digital tools and technology is generally delegated to individual business units and mainly focuses on improvements in the use of existing systems and tools rather than in the*	*The digitalisation strategy is primarily focused on enhancing the efficiency of internal tax administration processes, including around compliance risk management. Increasing priority is also given to the*	*The main focus of strategy and governance frameworks is to enhance taxpayer services and engagement. This includes the wider utilisation of increasing amounts of third-party data for pre-filling of some tax*	*A tax administration-wide digital transformation strategy is in place. The administration is making increasing use of big data in analysing the performance of the tax system, in compliance assurance*	*The tax administration's role focuses primarily on assurance of the overall tax system, which now relies largely on taxation processes embedded within taxpayers' natural systems, making it possible to develop*

Governance Frameworks	Emerging	Progressing	Established	Leading	Aspirational
Indicative Attributes	*development of new approaches. Governance of the overall tax system is largely based on high-level information on overall revenue and timeliness of actions by taxpayers, and taxpayer engagement is mainly confined to a small number of stakeholders rather than the wider taxpayer community.*	*development of more online services and online communications to support voluntary compliance by taxpayers and reduce costs. The administration is undertaking analysis of the taxpayer environment and seeking to build more trusted relationships with taxpayers, including through the introduction of consultation, transparency, and accountability frameworks.*	*returns, improving the targeting of risk management processes, and uncovering wider trends and patterns in taxpayer behaviours. There is some co-design and co-governance of new digitised systems, including on an international level. Analysis of the changing environment facing taxpayers is undertaken in a structured and transparent framework.*	*processes, and in understanding the wider taxpayer environment. Simultaneously, a process is in place bringing together selected public and private partners to create a framework for the greater embedding of taxation processes into taxpayers' natural systems. This includes looking at issues around new methods of engagement, co-creation, transparency, accountability, and assurance issues.*	*more compliance by design processes, in the context of a wider digital ecosystem. Joined-up with other parts of government, the private sector, and civil society, there are more seamless processes across society which take account of societal concerns around access to and use of data as well as accountability and control mechanisms.*
Strategy setting: context and process	There is an annual information and communication technology (ICT) plan to improve the functioning of ICT processes within some tax administration functional areas. This is driven by the administration's objective for improving tax revenue collection in certain areas seen as underperforming, rather than driving the digitalisation strategy (if it exists) of the administration. In general, ICT improvements are not considered from a taxpayer perspective, and the development of self-service options is not seen as a strategic priority.	An administration-wide digitalisation strategy is in place, primarily focused on improving the efficiency and effectiveness of internal tax administration processes by digitalising paper processes as well as starting to collect third party data electronically. This allows greater matching of taxpayer data, improving risk assessment and compliance monitoring and enforcement. The administration is also increasingly moving towards a taxpayer-centric approach, aiming to improve taxpayer experiences through improving online service options.	The digitalisation strategy is mainly focused on implementing an e-administration model aimed at improving voluntary compliance. This includes for example comprehensive online self-service options, wider digital communication channels, and better engagement with taxpayers to help them understand their obligations. In addition, the strategy envisages the development of increasingly sophisticated use of analytics and behavioural insights to identify, influence and tackle non-compliance. A large element of the strategy is around the collection and	The administration continues to improve aspects of the e-administration model, including better joining-up across government and with a wider range of third-party data providers (including internationally) to further improve compliance and reduce burdens. At the same time, the administration is pursuing and increasingly operationalising a longer-term digital transformation strategy. The digital transformation strategy is focused on moving more taxation processes into taxpayers' natural systems in order to create more compliance by design outcomes and significantly	As taxation processes are largely embedded in taxpayers' natural systems, the tax administration's strategic plan is now part of a wider ongoing public-private strategy to exploit the full potential of digital technologies and tools to create more seamless processes for taxpayers and citizens across both government and the private sector. The main focuses are to fill remaining gaps in the compliance by design system, in particular for complex multinationals, and horizon scanning so that the administration can easily adapt to changes over time, including changes in technology usages,

Governance Frameworks	Emerging	Progressing	Established	Leading	Aspirational
			internal processing of third-party data, including from other administrations, which is used for the pre-filling of returns where and if possible.	reducing burdens by making tax processes work more seamlessly with taxpayers' natural systems.	citizen preferences (for example as regards data privacy) and government policy. The strategic plan envisages the increasing co-creation of international solutions.
	Individual business units work with ICT colleagues and software providers on mapping and prioritising where better digital processes would be of most assistance to address identified revenue concerns. The ICT function considers where there may be synergies between the requests of different business units, but otherwise there is little central planning. Many changes involve the introduction or adaptation of commercially available software packages rather than the development of new systems.	The digitalisation strategy is set top-down and contains the high-level objectives for reform. Working level groups are set up in functional areas to assist ICT colleagues to identify priority areas for reform, including in some cross-administration systems. There is some consultation with taxpayer representatives, including through surveys, although most analysis is internal or with consultants (including from current ICT providers).	The digitalisation strategy, including recommendations for sequencing of activity, is joined-up through a cross-administration senior group drawing on expertise and ideas from across the administration as necessary. It is underpinned by detailed internal analysis of the main compliance and compliance burden issues, including as a result of problems with administration systems and gaps in third party data.	The digitalisation and digital transformation strategy are drawn up in parallel to help ensure that incremental improvements align where possible with longer-term goals. The combined strategy relies on detailed analysis and observation of the customer journey, including interactions across government, and co-identification with stakeholders of the barriers to more seamless tax administration. Important elements of this strategy are the creation of a culture of change and the exploration of new methods of engagement with private stakeholders.	The outcomes from the strategy are transparent, and the ongoing maintenance of the strategy is supported by a stakeholder group representing other parts of government and a broad range of societal views. The stakeholder group initiates debate on cross-cutting issues such as privacy, governance, accountability, and transparency, ensuring that informed and evidenced decisions can be taken against the common goal of enabling seamless solutions for taxpayers and citizens.
Governance models and mechanisms	While individual teams may consider ways to make more effective use of digital tools for performing their functions, there is no shared culture within the tax administration of realising the wider benefits of digitalisation for the administration and taxpayers, and this is not actively	There is a growing appreciation across the administration of the benefits of digitalisation for the administration and taxpayers, particularly at the senior management level who have taken on a promotional role. However, the main culture of the administration remains largely guided by	Making effective use of digitalisation and technology tools is actively promoted by senior management, and a customer-centric culture is promoted at all levels of the tax administration.	Managers at all levels see themselves as champions of digital transformation, and there is an active programme in place to motivate staff and foster a culture of innovation and change.	The administration culture at all levels is focused on achieving and managing seamless taxation and on exploring opportunities for the tax administration to support the realisation of wider societal digital transformation.

Governance Frameworks	Emerging	Progressing	Established	Leading	Aspirational
	promoted by senior management.	considerations of short-term compliance, yield, and tax administration operating costs.			
	Responsibility for the implementation of digitalisation projects generally rests at the business unit level. Central involvement happens on a reactive basis when major issues arise affecting public perceptions of the administration, such as significant budget overruns, failures of existing systems, legal problems, or high levels of taxpayer complaints. The administration does not have a structured process in place to enhance awareness of the wider environment facing taxpayers, including how they are using new technology tools and compliance burdens.	Responsibility for implementation of the strategy largely rests with the administration's senior management team operating within established internal and external accountability frameworks. The administration is undertaking analysis of the environment in which taxpayers operate, including their use of technology tools, and identifying the key opportunities for greater proactive engagement. There is also increasing analysis of the impacts of tax administration on taxpayers.	The administration works closely with taxpayer representatives, other government agencies and third-party data providers on implementation plans. Through analysis and extensive engagement, the administration has a good understanding of the wider environment within which taxpayers operate and the main issues facing taxpayers, including overall compliance burdens. As a result, in some areas, implementation is starting to be co-designed across some government agencies and with some third-party data providers, taxpayer representatives and software developers.	In implementing the combined digitalisation and digital transformation strategy, the administration is developing and consulting on methods and standards to support priority areas. It is also focused on developing trusted relationships with a wide range of external stakeholders to help guide implementation issues. This includes articulating key accountability aspects regarding public/private cooperation on the building blocks of digital transformation, and cross-cutting issues of on-going societal interest such as data protection, the role of artificial intelligence, transparency, and consent.	The implementation of the strategy is a continuous process carried out by the administration through public/private partnerships, including increasingly at the international level, aimed at ensuring the interaction of connected systems to support societally acceptable compliance by design processes built into taxpayers' natural systems. The administration has a detailed understanding of the domestic and international environment in which different taxpayer groups operate, and how that environment is changing over time, allowing the administration and tax policy makers to be both proactive and agile in order to stay aligned with new developments.
	Building trusted relationships is not a tax administration priority, although there is increasing engagement with very large businesses and taxpayer representative groups. Effectiveness is measured by	In addition to legislative requirements, expectations of taxpayers and the tax administration are being set out in taxpayer charters, supported by taxpayer feedback, and in the increased use of	A number of soft law best practices and supportive interactions which reduce the risks of audit are in place, such as taxpayer education programmes, cooperative compliance regimes, tax	Traditional compliance risk management processes are enhanced by the use of big data and advanced analytics, which also provide greater information about the functioning of the tax system	Analytical processes, which are embedded within and across taxpayers' natural systems, are focused on identifying and taking forward actions to address weaknesses in how the systems operate and

Governance Frameworks	Emerging	Progressing	Established	Leading	Aspirational
	taxes collected as well as the few factors that tax administration can monitor in regard to taxpayer behaviour, such as the timely returns and payments and the number of audit adjustments compared to previous years. The role of digitalisation is not considered beyond the performance of existing systems. In general, taxpayers are not seen as customers. Some use is made of technology tools in assisting the selection of audits, although there are still large numbers of random audits undertaken.	relationship managers for some taxpayers. Audits are increasingly targeted through the increasing use of digitised risk assessment. The increasing use of data from a limited number of government sources and third-party data providers is governed under legal frameworks and through cooperative relationships with data providers. Along with audits, feedback from taxpayer representatives and taxpayers are an important part of the overall tax system quality assurance process.	control frameworks, and transparency expectations. Tax administration processes are becoming more proactive in identifying and responding to compliance risks and unintended burdens. The administration works closely with stakeholders on the design and governance of domestic and international digital reporting systems, including through co-creation processes.	overall. At the same time, the tax administration is increasingly working with both domestic and global stakeholders, on (a framework for the assurance of) embedded taxation processes as well as digital auditing of systems. This framework supports the increased rolling-out of taxation processes into taxpayers' natural systems. The tax administration is also implementing new transparency and decision-making frameworks to maintain taxpayer trust.	interact, including vulnerabilities to unauthorised actions, and whether they are producing the intended outcomes. These processes are supported by extensive use of artificial intelligence and the real-time transparency of processes and outcomes to taxpayers and third parties. Quality is assured at the transactional level through the extensive implementation of tax rules by code. Tax administration focuses its audits on taxpayer systems and the implementation of rules instead of customers' data.

Glossary of terms

Algorithms. A set of rules to be followed in calculations or decision-making operations, especially by a computer. An example of how an algorithm might work would be the instructions set out in a recipe as to precise measurements, the sequencing and detailed descriptions of tasks, cooking heat and time etc.

Application programming interface (API). A digital interface that defines interactions between multiple software systems. For example, when using a price comparison App on a mobile phone, the API is what allows for interactions between the App and the databases containing the price lists of various companies which are used to assemble the price comparisons.

Big data. Sets of data characterised by such a high volume, variety and velocity that specific technology and analytical methods are needed for their transformation into information and knowledge.

Building Blocks. Regards this Maturity Model, the building blocks refer to the six main components of the FTA Tax Administration 3.0 vision and architecture. The six Maturity Model themes mirror these six building blocks.

Co-creation. The collaborative design (co-design) process in which different stakeholders work together by sharing ideas and jointly improving results.

Data analytics. The process of analysing raw data to answer questions and find trends and patterns. The analysis is supported by specific statistical (often scientific or, advanced) methods and techniques.

Digital identity (Digital ID or DI). A set of attributes related to an entity (individual, organisation or electronic device) that exists online, for example unlocking digital services with unique SMS authentication and electronic passports containing embedded fingerprints.

Digital (online) platform. A digital service that facilitates interactions between two or more distinct but interdependent sets of users (whether firms or individuals) who interact through the service via the Internet.

Digitalisation. Converting data into digital, computer-readable, formats. This allows for the substitution of paper-based business processes by digital data processing applications, enhancing overall efficiency levels.

Digital transformation. Refers to the (disruptive) economic and societal effects of digitisation and digitalisation. It is changing the way people interact with each other and society more generally, raising a number of pressing issues in the areas of jobs and skills, privacy and security, education, health as well as in many other policy areas.

High-Level Descriptors. Text blocks concisely characterising maturity levels. Per Maturity Model theme, descriptors distinguish each of the five maturity level statuses.

Indicative Attributes. Identifiers detailing and specifying the Maturity Model theme's high-level descriptions. Each indicative attribute contains several story lines illustrating the development process and characterising the maturity level stepping-stones.

Pay-as-you-earn (PAYE) systems. In general refers to a system of income tax withholding by employers.

Real-time processing: Refers to the actual time during which a taxpayer transaction takes place. From a taxpayer perspective, a payment or change request, i.e. is being executed instantaneously and a result is reported back almost instantaneously. Thus supporting seamless taxpayer experiences. Some administrative back-off processes may lag behind, however not influencing the quality of the taxpayer engagement process.

Rules as code. The process of drafting rules in legislation, regulation, and policy in machine-consumable languages (code, machine-readable formats) so they can be read and used by computers.

Storylines. Narratives detailing the indicative attributes in the Maturity Model, often focussing on one specific aspect to help specify and understand the nature and characteristics of the development process.

Tax agent. An organisation executing tax administration processes and task, e.g. businesses supporting VAT and PAYE processes.

Tax identification number (TIN). A specific string of numbers uniquely identifying a taxpayer in addition to other identifying elements such as date of birth, place and date of incorporation, name, address etcetera.

Taxpayers' natural systems. Often termed ecosystems, are the set of interconnected elements through which they engage with customers, other businesses, third parties as well as their own accounting, software and technology solutions.

Taxpayer touchpoints. Services facilitating the engagement of taxpayers with tax administration processes, e.g. via websites, call centres or software interfaces embedded in natural systems.

Tax professional. A person with the knowledge, credentials, and hands-on experience to assist taxpayers with their tax preparations and declarations. These persons often represent a company offering tax professional services representatives. Synonym for tax representative or tax practitioner.

References

OECD (2020), *Tax Administration 3.0: The Digital Transformation of Tax Administration*, [1]
https://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/tax-administration-3-0-the-digital-transformation-of-tax-administration.htm.

Annex A. Digital Transformation Maturity Model: Self-assessment record sheets

Jurisdiction name:

Contact person:

Process check-list

Please complete the appropriate boxes related to process:

Appointment of facilitator	Please choose: Yes / No
Number of staff in the self-assessment group	
Appropriate distribution of grades	Please choose: Yes / No
Involvement of official(s) from different areas of the tax administration	Please choose: Yes / No (please comment)
Time taken in hours to complete the self-assessment	

Self-assessment record

Please complete the following:

- conduct a self-assessment of the maturity of your organisation's digital transformation approach program using the above Maturity Model.
- complete the tables below by marking the appropriate boxes with an "X" based on your self-assessment. Please only include one "X" per row (the one that best fits your level of maturity).
- send the completed tables to the Forum on Tax Administration Secretariat at FTA@oecd.org.

Please also consider the open questions at the end of the document. Your insights and feedback will be invaluable inputs for enhancing this Maturity Model.

♦♦♦♦♦

Please send the completed Self-Assessment Record Sheet to the Forum on Tax Administration Secretariat at FTA@oecd.org.

Record sheet

Digital Transformation	Emerging	Progressing	Established	Leading	Aspirational
Digital Identity Descriptor					
Creation of digital identity and the unlocking of service options					
Uses of digital identity within the administration and by taxpayers					
Taxpayer Touchpoints Descriptor					
Types and uses of taxpayer touchpoints					
Accessible services					
Data Management and Standards Descriptor					
Data availability and standards					
Data security and privacy					
Tax Rule Management and Application Descriptor					
Tax rule development					
Assurance of application of tax rules					
New Skill Sets Descriptor					
HR strategy and function					
Skills development					
Workforce planning					
Governance Frameworks Descriptor					
Strategy setting: context and process					
Governance models and mechanisms					

Additional Questions

Question 1.   Are there some of the indicative attributes or descriptors which you feel are misplaced or wrong, or are there important indicative attributes that you think are missing?

Question 2.   Are there areas where you think there is a lack of clarity with regards to the difference between adjacent maturity levels?

Question 3.   Are there areas where you think the language is unclear or ambiguous? If so, please provide specific recommended changes to language.

Question 4.   Is there any additional feedback you would like to provide regarding the Digital Transformation Maturity Model, including the usefulness of discussions during the self-assessment?

FORUM ON TAX ADMINISTRATION

OECD Tax Administration Maturity Model Series

Digital Transformation Management Maturity Model

The OECD Tax Administration Maturity Model Series sets out descriptions of capabilities and performance in particular functions or sets of activities carried out by tax administrations across five discrete maturity levels. The intention of this series is to provide tax administrations globally with a tool to allow them to self-assess their current level of maturity and to facilitate consideration of future strategy, depending on a tax administration's unique circumstances and priorities.

The *Digital Transformation Maturity Model* covers the key building blocks of future tax administration. This model is one of the first outputs following the OECD FTA's publication of the Tax Administration 3.0 Vision in 2020. Digital transformation refers to the fundamental changes in the way that tax administrations operate, responding to the changes in how taxpayers interact and conduct business with each other. In particular, this transformation is centred around the increasing migration of taxation processes into taxpayers' natural systems, i.e. the systems they use in their daily lives and/or businesses. The model was developed by a group of Forum on Tax Administration (FTA) members and refined through a pilot undertaken by nearly thirty FTA and non-FTA members. This report also sets out the results of that pilot which allows administrations using the model to compare their own maturity in the different aspects of digital transformation to that of their peers.