New World, New Technologies: The Modernization of Tax Administrations in Latin America and the Caribbean

By:

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In Inca times, the Tahuantinsuyo empire occupied six countries within South America: Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina. One of the most outstanding aspects was its different type of works, which were divided into three. The *ayni*, which functioned as a reciprocal work between people (today for me, tomorrow for you); the *minka*, a work in favour of the community to which everyone belonged; and, finally, the *mita* that was done in favour of the nation, for example, through the construction of roads and temples, in return of goods and services from the state.

The *mita* could be considered today as the equivalent of the taxes that we all pay. The principle of reciprocity has been strongly present since the 15th century in the region however, as societies have evolved, the state has had to

adapt itself to new realities in order to enforce the aforementioned principle.

Today, the influence of technology on the economy is not platitudinous and it has been deepened through the current Covid-19 crisis. In the same way, the tax administrations (TAs) of Latin America and the Caribbean (LAC) have not been oblivious of this trend and have sought to adapt technological changes to the tax collection process. Within the world there are different levels of progress in the incorporation of digital services in TAs however, it is important to note that there is no universal solution for all countries, as there is also influence of the country's own conditions, for example, levels of evasion and informality, technological infrastructure, the behaviour of taxpayers, institutional capacity, etc.

Initiating: Current situation in LAC

On average, around 60% of workers in the LAC region work in the informal sector [1], which implies greater evasion and lower tax collection (in 2017, it represented 24.8% of the GDP, 11 percentage points less than the OECD average [2]). In the current context of economic slowdown, the lower collection has been accentuated in the initial months of 2020, with notable cases being Panama and Peru, which suffered a reduction of 54% and 37% in April compared to the same period of last year [3]. The need for tax revenue increases considering that the public spending used to combat the pandemic in countries like Peru and Brazil reaches levels of 9% and 8% of the GDP, higher than the world average of 3.7% [4].

A strong candidate to be a source of tax revenue is the imposition of direct and indirect taxes on the digital economy. However, it will not be the solution to alleviate fiscal deficits, but significant changes are necessary within TAs and this is where technology, information management and subsequent decision-making processes appear.

Many applications of technology in taxation are seen outside the region that could be replicated by countries of the new world. For example, in Spain, the use of chatbots; in the UK, the collection of data from different sources in order to identify potential fraudulent transactions (HRMC Connect) or the pre-populate annual tax returns; and in Estonia, the information exchange systems

such as X-Road.

Updating: Digitization in LAC

LAC is not unaware of this development and its TAs already apply some of these tools, through which they seek to implement orthodox economic measures such as expanding the taxpayer base; and reducing tax evasion and fraud. Among the best known are the implementation of electronic invoicing (EI), big data, blockchain and artificial intelligence.

The first one is widely used in LAC. A clear example of its use, in conjunction with big data, is Chile which allows an automatic VAT return through pre-population, additionally it is capable of detecting the tax credit that does not correspond to the core business [5]. Another case to highlight is Ecuador which has implemented the immediate refund of VAT to the elderly and people with disabilities when making a purchase. Through this mechanism, the identity of the user is validated in a constantly updated database and the refund is made if it corresponds [6].

Likewise, in the current crisis, the TA of the South American country has made it possible to detect which economic sectors have been strongly impacted through the level of EI and to assess the appropriate decision-making process. Likewise, in Brazil, acknowledging the behaviour of invoices volumes´ has enabled a mobile application that provides information about the price level of products and conglomeration schedules with the purpose of optimize the purchase process [7].

Another salient example is the electronic audits carried out in Mexico. This has been possible thanks to e-accounting, which allows the validation of the information and later electronic notification of inconsistencies to taxpayers, who can upload the supporting documentation in response to the observations made by the TA. The result has been a lower number of audits, but a higher level of effectiveness in finding deviations [8].

Both technologies show that information is the bedrock for TAs and its traceability is one of the paths that are being chosen to combat tax evasion. It is here where one of the tools stands out among the others: blockchain. The

security against the falsification of data and the exchange of data between governmental, commercial and financial institutions spawn guarantee in the use of the information collected. Despite the great investment needed, the blockchain is not something far away for LAC, the most remarkable case is the Brazilian TA which has implemented a system that allows to exchange the Registry of Natural Persons with the different levels of government [9].

Another fact of no less relevance due to its impact on monetary savings and its simplicity for procedures is the digital signature, which is available in a plethora of countries in the region such as Uruguay and Puerto Rico [10]. The potential of the digital signature is great if it is considered that the savings could reach 2% of the GDP as in Europe [11]. Finally, Argentina has innovatively incorporated drones in the verification of properties, which in some cases are not properly declared in order to avoid the payment of taxes by the owners [12] .

The incorporation of digital transformation departments in TAs in LAC countries is a milestone in the entire process. Furthermore, with all the information obtained, the actions should not be limited. There is an opportunity to expand, for example, the use of blockchain in invoices, to generate predictive models of fraud and avoidance behaviour or to form risk profiles of debtors in order to take better advantage of the available data.

Error: old practices found

Despite these advances in TAs, there are still 19th century methodologies that have not been part of this evolution. For example, the face-to-face audits through a random sample of invoices to detect bad use of tax credit are not only inefficient in time and resources, but also does not achieve the objective. Another case in the region is the massive verification operations for the issuance of invoices as part of the strategy against informality, in which a fictitious purchase is made from a store to check if it issues said documents. The number of taxpayers to be investigated, resources used and the possible recidivism of taxpayers make this mechanism obsolete.

In view of this situation, applying world trends can be useful to save time and take advantage of the experience carried out in other countries however, the

high degree of inequity in the region with respect to technological advance is an obstacle to a uniform solution. According to the Electronic Government Development Index, Uruguay (0.85) and Argentina (0.83) lead the region, while those with the lowest index are Cuba (0.44) and Haiti (0.27) [13]. Likewise, access to the internet is uneven not only within the region, but also within each of the countries. On average, 60% to 80% of the population of South America is covered with this service; on the other hand, the Caribbean has countries in which the percentage is only 20% [14].

In the same way in which the telecommunications infrastructure has to be considered, there are different ingrained past habits and thoughts, such as that doing the paperwork face-to-face accelerates waiting times and achieves "things get done". Taking this into account, it is of utmost importance to know how taxpayers would react to the change of traditional procedures, an example of this is what has been done in the UK as a way of assessing the impacts of new measures [15].

Another relevant habit is cash payment, which is found in a wide number of daily activities, for example, public transport, small shops and repair services. The problem with this is that the lack of banking in the system impedes the traceability of operations not only to combat tax evasion, but also financial crime. In this plight, it is difficult to demand banking if part of the population does not even have a bank account, so the expansion of this financial product and the financial education are crucial. This situation must be known by tax officials who should be constantly trained and aware of the reality they face for the development of tax policies [16].

Reforming: the governmental institutions

Substantial changes are necessary for the implementation of these reforms. The change of governments, political interests and bureaucracy are impediments to the long-run achievement of technological revolution in TAs. This is the reason why the institutions are the heart of this new stage in taxation, a solid institutionality allows certainty and continuity in case of conflicts or dissents in this process.

These same institutions must ensure the transparency of digital services and

related processes. Aspects such as security and privacy are implicit due to the current criticism to technology. Without going too far, the Central Bank of Costa Rica suffered an information theft related to 11MM credit card transactions [17] . Cyberattack is a technological problem, so it is essential that taxpayers are aware of attacks such as phishing, but more important TAs systems must tackle this type of vulnerability and there should exist legislation that provides clarity of the rights, risks and responsibilities for failures in the systems [18].

Moreover, the legal framework must apply to privacy aspects. It is very likely that TAs can be perceived as shadows of taxpayers, creating a feeling that they will follow them everywhere violating their privacy. The potentiality of obtaining data from different sources (including social networks, banking and digital applications) raises the question of at what extent the state has access to the information of each person. This feeling can be counteracted with the delimitation of its scope, a clear legal support and respect for financial secrecy.

Finally, a strong institution is able to provide adaptability and solution to other problems that may arise, especially taking into account that cutting-edge systems suffer defects when they go live. For instance, procrastination, the amount of information to be collected and deadlines can cause greater traffic on the last day; hence, a system crash. In Peru, the first submissions of the Local File collapsed the TA website, in response, the deadlines were extended in order to not harm taxpayers' compliance. In this sense, the systems and equipment adapted in the TAs are expected to cover the capacity of taxpayers in a peak day [19].

Conclusion

No matter how high is the quality of an electric car, it will not be able to function properly in a country without the adequate infrastructure. In the same way, although the TAs in LAC are not being relegated in terms of technological modernization, the optimal application of new technological tools needs to consider the characteristics of each country (internet access, user behaviour, education, infrastructure, etc.). The investment, without a doubt, is large and long-term, thus the results will probably not be seen in the current governments, but with proper planning, a positive change in society could be created.

For this, it is of the utmost importance to consolidate the institutional framework in government agencies, without this the long-term objectives could not be met and could be obstructed by bureaucracy or by simple political divergence.

An appropriate question is how these tools that imply a costly investment could be implemented, while there are fundamental problems that afflict society, for example, lack of quality of education, infrastructure in the health system or access to basic services. These disruptive technologies must go hand in hand with the improvement of the basic conditions of an acceptable standard of living for the population, otherwise, what would be the purpose of having information to apply tax policies if the vulnerable population is not within the data collected?

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