

Digital Transformation to Improve the Taxpayer's Experience

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CONTENT

1. IDC OPINION.....	4
2. NEGATIVE SUM: THE LOW TAX PERFORMANCE AND A HIGH FISCAL EVASION.....	5
3. THE DYNAMICS OF THE ECONOMY IN LATIN AMERICA.....	6
4. DIGITIZATION TO IMPROVE THE TAXPAYER'S EXPERIENCE.....	8
Connectivity between taxpayers and government.....	9
Simplification of processes and services.....	13
Security and Reliability.....	15
5.CREATE AN EFFICIENT, SECURE COLLECTION INFRASTRUCTURE, DYNAMIC AND RESILIENT SUPPORTING NEW TOOLS AND INFORMATION TECHNOLOGIES.....	16
6. INVESTMENT DISTRIBUTION IN ICTs.....	19
7. DEFINITIONS.....	20



The conversion process towards tax digitalization has begun in Latin America, through initiatives such as electronic invoicing, taxpayer registration, and online tax payments. However, there are still processes that must be digitized and automated for better compliance with tax obligations, ensuring the confidentiality of information in tax platforms, enabling transparency in the collection management, and improving the taxpayer's experience. All this, in function of increasing the efficiency in the collection that generates a positive economic and social impact for the region.

IDC has conducted the Socio-Economic Impact of Digital Taxation in Public Sector, 2018 based on in-depth interviews with tax collection agencies, businessmen and executives of representative companies in Latin America. In addition, interviews were conducted with entities involved in the evaluation and regulation of tax management processes at a national and international level, such as: chambers, associations, councils, and financial and fiscal committees in Argentina, Brazil, Chile, Colombia, Mexico and Peru. The findings of the study allow us to know the current and future efforts in function of, in addition to providing a series of recommendations for tax entities to continue their digitization initiatives for a better performance of their mission.

1.- IDC Opinion

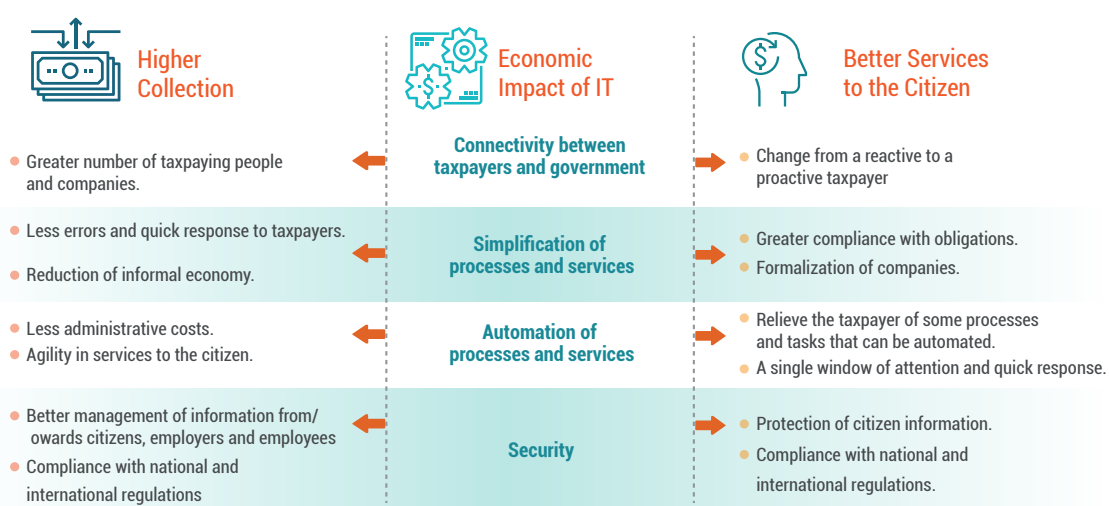
The collection agencies of Latin America have begun to digitize some processes and interactions with taxpayers. However, efforts have not been sufficient to face the current dynamics of the increasingly complex, digital and globalized regional economy:

- The tax income in Latin America for basic products has been decreasing in recent years, so today there is a greater dependence on indirect taxes (49%).
- On average, out of every \$ 10 that can be collected as Value Added Tax (VAT), only \$ 5.7 USD is collected.
- Local revenue (municipalities or departments) only covers 30% of the expenditure of subnational governments.

IDC believes that new information technology tools such as the use of Cloud resources, Big Data, Artificial Intelligence, and Mobility, among others, will contribute to creating an efficient collection model, with mechanisms that adapt to the circumstances of the taxpayer and the economic environment. A more balanced tax management can be achieved, instead of resorting to the implementation of fiscal punishment practices. The result of this change will have a social and economic impact, formalizing economies and improving the taxpayer's experience - Figure 1.

FIGURE

Social and economic impact of the information technology on tax digitization



Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017

To analyze what has been done in terms of Tax Digitalization in Latin America and where the collecting organizations should go based on Information Technologies, IDC conducted interviews between December 2017 and January 2018 to: officials of collecting agencies, people with business activity, entrepreneurs and executives of large companies, as well as organizations associated with tax collection processes at the local, regional and global levels - see Definitions and References in the respective sections, at the end of the document. This document reflects the results of that study.

2.- Negative sum: low tax performance and high tax evasion

In most Latin American countries, initiatives have been implemented to facilitate the registration and fulfillment of taxpayers' tax responsibilities: web portals to interact with the tax authority in a tax platform, portals designed for the payment received from the taxpayer, interfaces banking, signature and electronic invoice, among others. However, it has not been enough yet:

- Today, tax revenue in Latin America depends more on indirect taxes (49%), due to the fall in income from basic products. On average, tax collection as a percentage of GDP in Latin America is currently 22.8% (Figure 2), well below the average in OECD countries (34.3%).

FIGURE 2 Tax collection vs. GDP

Source OECD - Organization for Economic Cooperation and Development - Revenue Statistics: 1965-2016 (published in Nov 2017).

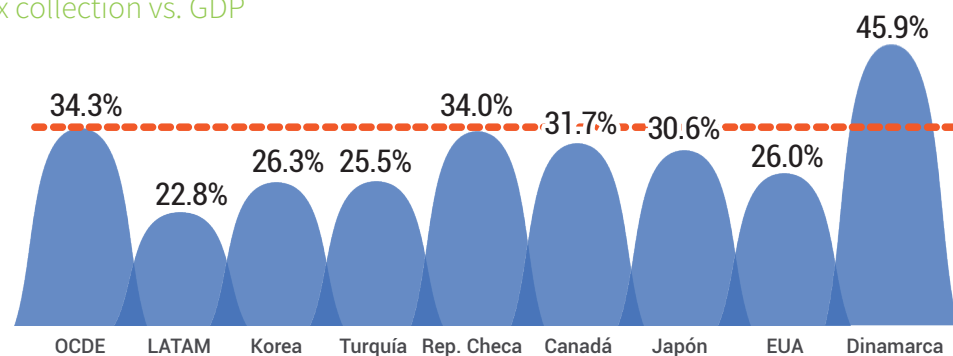
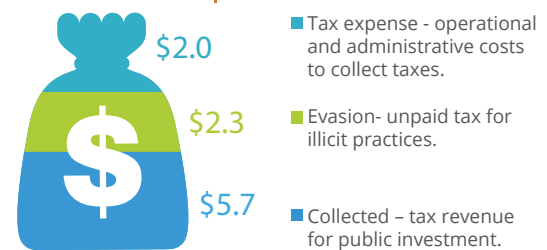
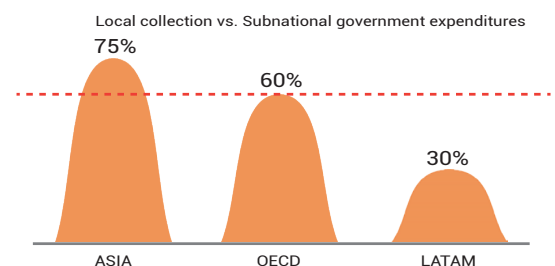


FIGURE 3 Tax collection on VAT for every \$ 10 USD



Source OECD - Organization for Economic Cooperation and Development - Revenue Statistics: 1965-2016 (published in Nov 2017).

FIGURA 4 Collection inefficiency (over VAT)



Source OECD - Organization for Economic Cooperation and Development - Revenue Statistics: 1965-2016 (published in Nov 2017).

- The collection on the Value Added Tax (VAT) at the national level has been costly: out of every 10 dollars that could be collected, only 5.7 are actually collected, 2 are cases of exemption (tax expense), and the rest, 2.2, are not collected by tax evasion or inadequate tax management (Figure 3).
- For the collection agencies of the region, the local tax system has not had the corresponding emphasis. OECD notes that, in Latin America, local revenue only covers 30% of the total expenditure of subnational governments. This is less than the average in emerging countries in Asia and the OECD on average, which cover 60% and 75% of local spending respectively- Figure 4.
- According to figures published in January 2018 by the International Labor Organization, the informal market in Latin America is 130 million people, young adults or over 49 years old; that is, 47.7% of the labor market. Informality has an important impact on the production and generation of income that currently escapes the accounting and tax system. In monetary terms, informality represents \$ 340 billion dollars; that is, 6.7% of the regional GDP.



3.- Economy dynamics in Latin America.

According to the International Monetary Fund, moderate economic growth is expected in the region, of 2.6% by 2019, in a more open and globalized environment:

- Electronic commerce will grow 24.5% at the end of 2018, reaching a value of 106 million dollars.
- In particular, cross-border e-commerce (products and services) has had a 2-digit growth, with a value of 16 billion dollars. This represents great challenges for the collection management:
 - Rules of origin, residence and double taxation (in imports and exports)
 - New forms of tax evasion (eg, BEPS² practices).
 - Indirect transfer of assets to another country (offshoring)
 - Distribution of income in different locations.
 - Deductibility of taxes for certain sectors (financial).
 - Intangibles difficult to assess/value, more if consumed or paid in different locations with different tax rules (digital companies, for example).
- Collaborative economy (travel services, shared transportation, accommodation, food, virtual currencies and micro-patronage, professional services, among others) has been gaining ground. There are still no figures for the region, but its presence and the complexity that these types of transactions can have from the fiscal aspect are undeniable. For a reference, PricewaterhouseCoopers published a study called The Sharing Economy, 2015 in which it projects a market valued at 335 billion dollars per year 2025.

² BEPS (Base Erosion and Profit Shifting)- prácticas que toman provecho de los vacíos legales en reglas de tributación.



The digital transformation is being promoted in all companies, regardless of their size, and in all industries. Technology is introducing innovative and disruptive business processes, increasingly necessary to succeed in an environment of global competition. Similarly, taxpayers rely increasingly on technology to improve the management of their income and taxes.

- More than 80% of the countries in this study have implemented electronic invoicing in a mandatory manner. This becomes relevant since the revenues of the governments of the region tend to depend more on indirect taxes (consumption tax) – up to 49%.
- Large and medium-sized companies begin to experience Digital Transformation with disruptive technologies such as the Internet of Things - IoT. The investment in these projects will reach 40% of the total IT investment in 2020.
- The use of resources in the cloud continues to gain ground, reaching 11 billion dollars by 2021. 50% of the application development will be on cloud platforms.
- By 2020, there will be a 129% increase in spending on Big Data and Analytics to improve the customer experience. In IoT, investment will grow by 102%.

Consistent with this development, Information Technology has been included as an indispensable element in the agenda of international organizations, such as the OECD and CIAT, with aim of improving inspection techniques, increasing revenue and implementing better internal and external tax administration.



4. Digitization to improve taxpayer experience

To cope with the new economic environment, collecting agencies should consider undertaking initiatives towards digitalization. At the same time, information technologies that have been adopted by company and person taxpayers must be used to integrate them into their business processes. Building a productive exchange between the collecting agencies and the taxpayer, based on new methods of tax management and automation is necessary to create a better taxpayer experience

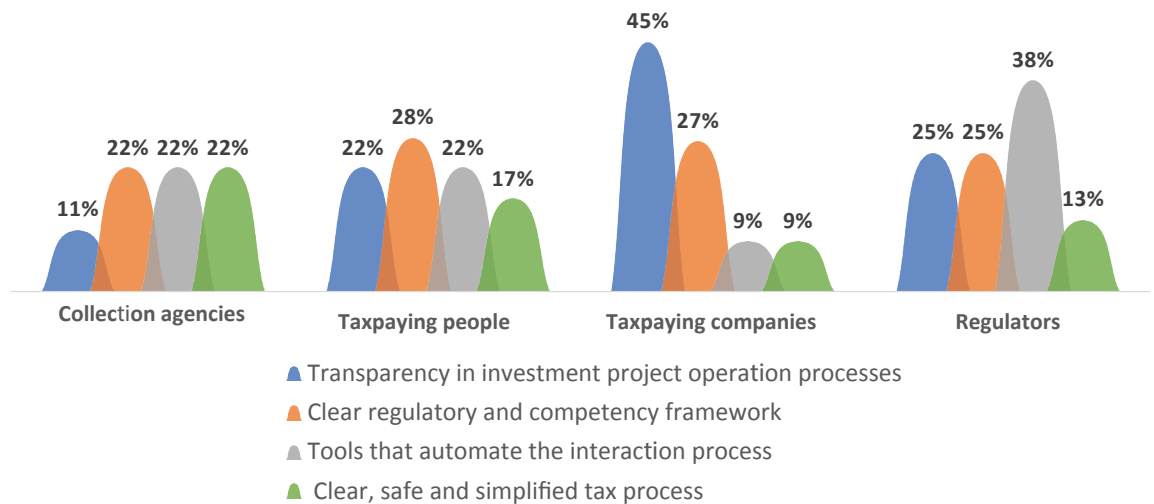
and a positive social and economic impact in Latin America. The bases of this change are: 1. Increasing connectivity between taxpayers and government, 2. Simplifying processes and services, 3. Automation of tax operations, and 4. Security and reliability in the processes and data generated.

Connectivity between taxpayers and government

Generate a clear, safe and simplified tax process. Company and person taxpayers see the need to enable simpler, more integrated, clearer and safer processes, in addition to having the tools that allow them to automate some interactions with the collection agencies. (Figure 5).

FIGURE Top priorities in tax collection

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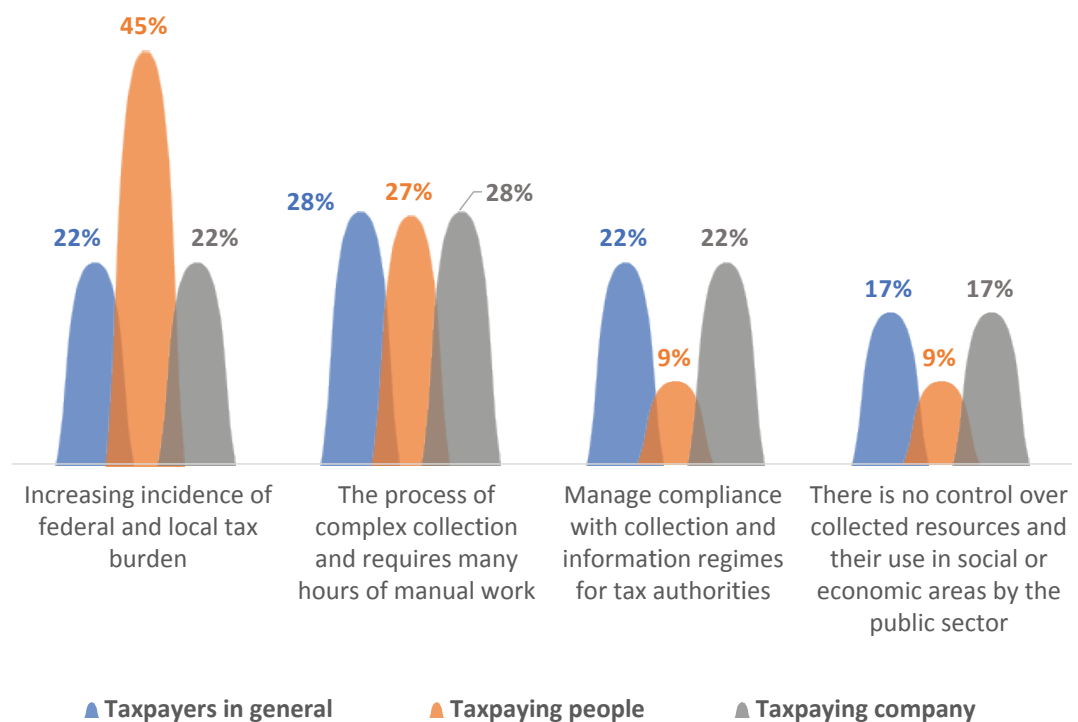


Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from collection agencies, regulators, collecting persons and companies.

Address the main problems in the collection indicated by taxpayers. 45% of taxpayer persons (Figure 6) consider the federal and local tax burden significant, since they often process their tax obligations by themselves or with little support from systems or professionals in accounting or tax matters. In contrast, the medium-sized taxpaying company often relies on financial and professional systems in accounting and tax matters to comply with its tax obligations. Where taxpaying company and persons agree is in the perception of a collection process that requires a heavy investment in time for processes that are still followed manually.

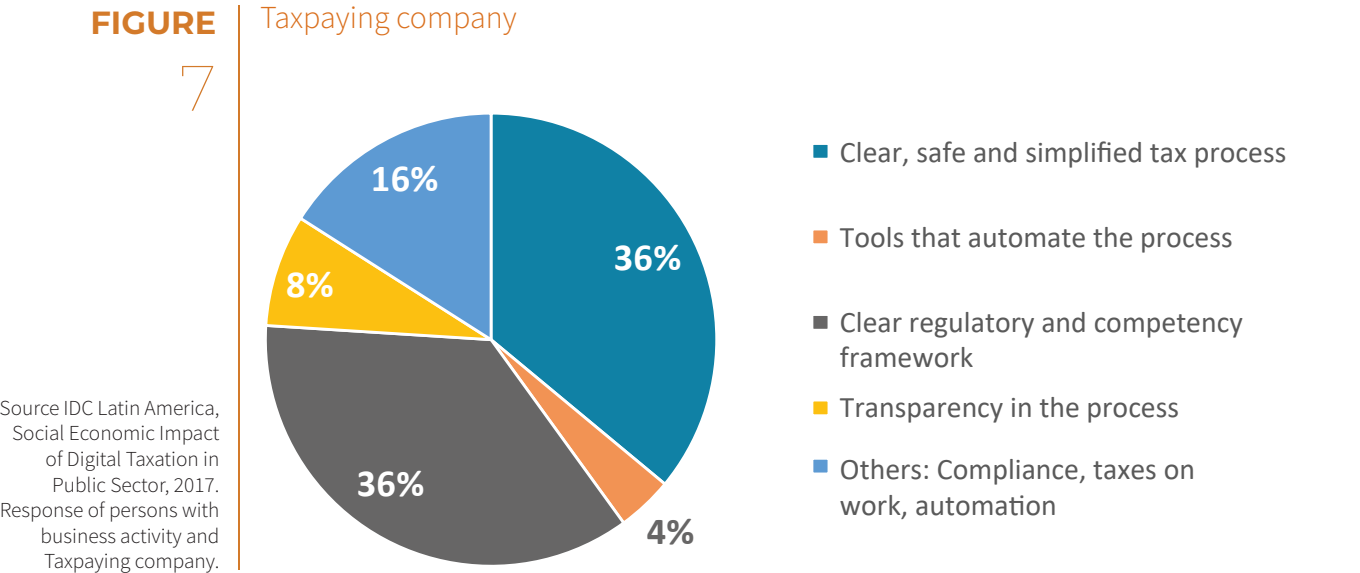
FIGURE Top issues in the collection of taxes

6



Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from collecting agencies, taxpaying people and companies.

Promoting electronic invoicing to accelerate digitization in companies and the collection process. The taxpaying company will be more willing to adopt practices that the collection authority indicates if more clear, safe and simplified tax processes are achieved; to the same extent that a regulatory framework and defined competencies are guaranteed (Figure 7).

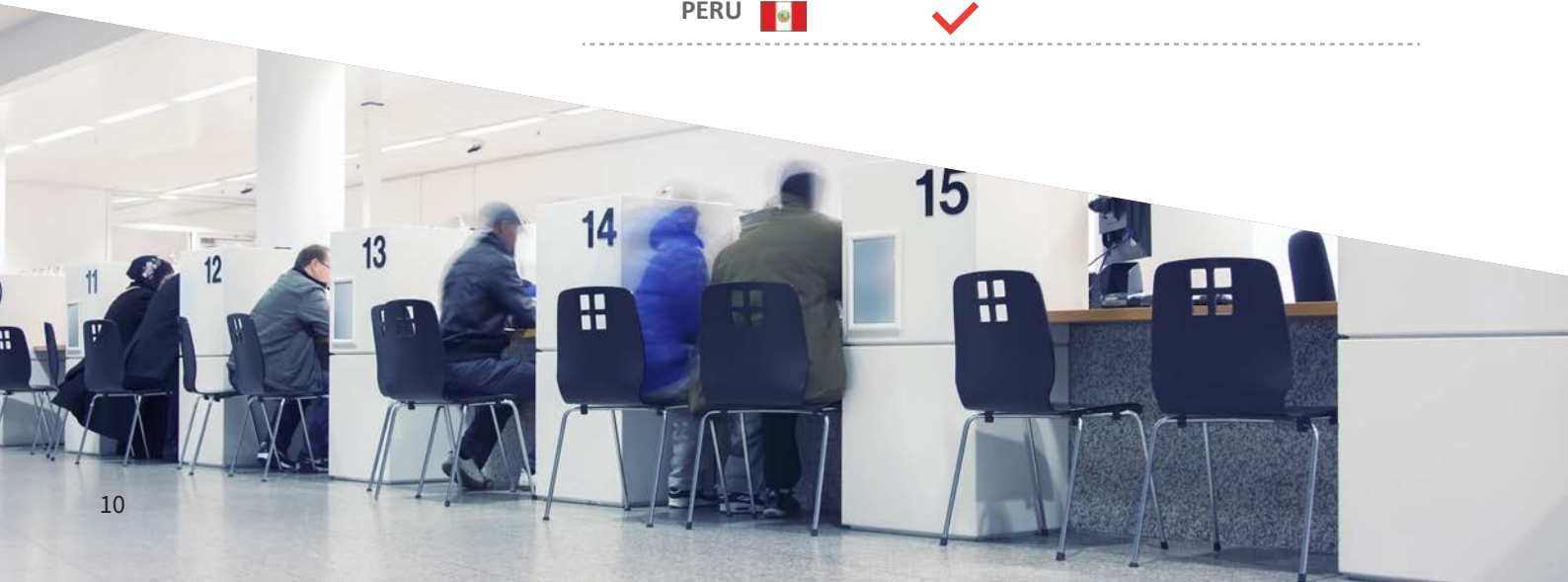


Collection agencies that belong to CIAT - Inter-American Center of Tax Administration, have promoted electronic invoicing and the management of Value Added Tax (VAT) as elements to accelerate the accounting and fiscal digitization in Latin America. Hence, electronic invoicing is now mandatory in most of the countries included in this study-in Colombia, it will enter into force throughout 2018 (Table 1).

TABLE
1

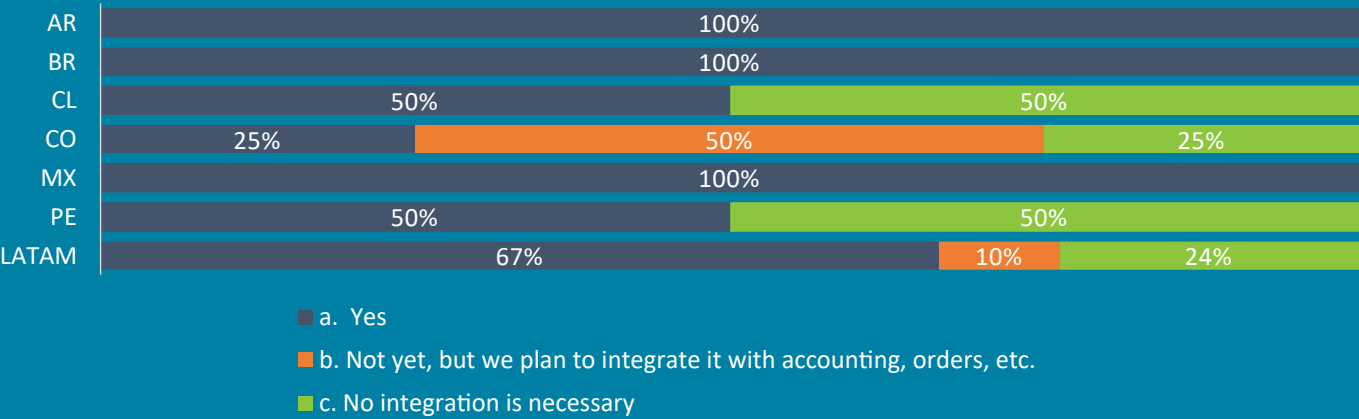
	Invoicing is already mandatory	Not yet, but it will be mandatory in the next 6 months
ARGENTINA	✓	
BRAZIL	✓	
CHILE	✓	
COLOMBIA	✓	✓
MEXICO	✓	
PERU	✓	

Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from collection agencies.



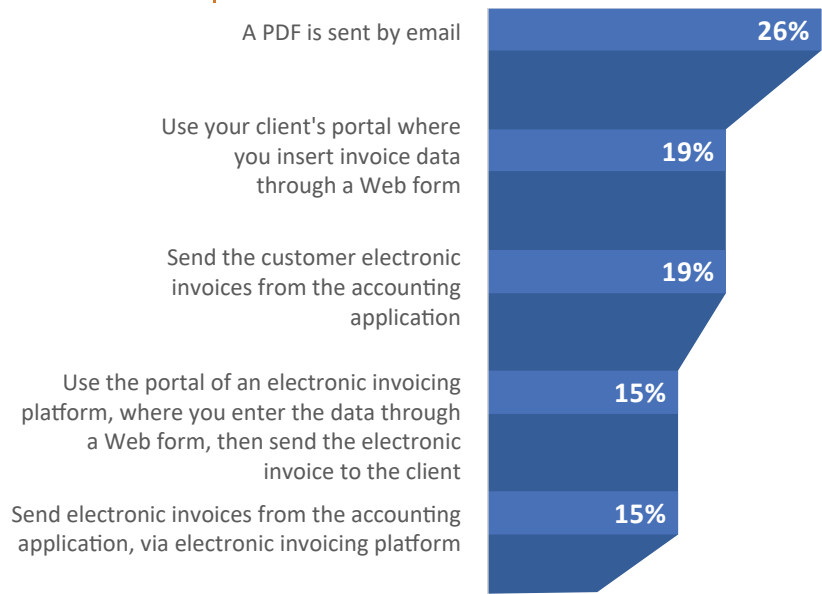
At the regional level, only 67% of companies in Latin America (Figure 8) have integrated electronic invoicing with their internal processes - 19% can issue invoices from their accounting application; 27% already integrate electronic payment services (Figures 9 and 10).

FIGURE 8 | Has your organization integrated electronic invoicing with its internal systems?



Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.

FIGURE 9 | Electronic invoicing type

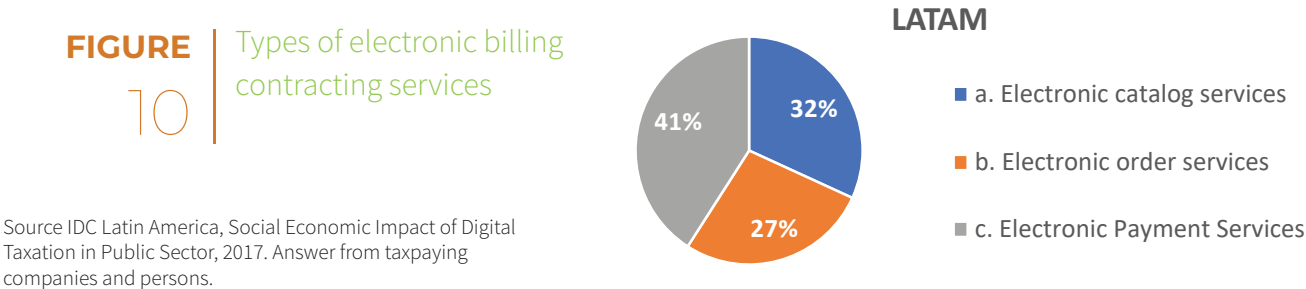


There are new challenges: for example, helping the small business to leverage their financial operations; and establishing a more direct relationship with the taxpayer, without intermediaries.”

-Collection agency.

Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.








FIGURE 10 | Types of electronic billing contracting services



Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.

There are several reasons for which a more integrated and widespread adoption has not yet been achieved throughout Latin America - as shown in Figure 11. Complexity and the need of high investment to integrate it into fiscal systems, as well as the availability of internal systems, legal uncertainty on national regulations, are among the most important factors.

FIGURE 11 Potential problems of implementing electronic invoicing

		Complexity	Expensive/Requires large investment	Those related to the return on investment	Availability/compatibility with internal systems	Availability/compatibility with the client	Uncertainty legal in cu *** the acceptance the fac ****
ARGENTINA		High	High	High	High	High	Low
BRAZIL		Low	Medium high	High	Low	Low	Low
CHILE		High	Medium high	High	Medium Low	Medium high	Medium high
COLOMBIA		Low	High	Low	Low	High	High
MEXICO		High	Low	Low	Low	Low	Low
PERU		High	High	High	High	High	Low
LATAM		High	High	High	High	High	High

Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.



The objective is to improve collection rates through the crossing of information, without necessarily increasing the level of individual control.”

-Collection agency.

Developing a compliance profile. On the one hand, taxpayer persons and small companies (micro enterprises and self-employed workers) require simple systems of self-management and consumption, while companies seek to integrate with local systems, and if their scope is transnational, comply with international financial and fiscal standards. Collection agencies must evolve the tax regulations according to the new cases of use in a digital environment with complex operations and transactions.

It is imperative to rely on analytical and cognitive tools to profile the taxpayer based on:

- Circumstances of tax jurisdiction, by economic nature and geographical location, field of action, among others.
- Metrics and risk assessment to prevent double or no taxation.
- Assumptions of obligation and connection of company or persons with other economic units.

Such profiling could be used to implement better tax practices, rather than a “punishment audit” to increase collection. An illustrative example is the Digital VAT model, followed in Japan, with a tax exemption scheme no longer based on goods and services of a social nature but on the identification of the population that wishes to benefit with exemptions in certain products and services. Another example, also associated with VAT, is Customized VAT, adopted in Canada, where taxpayer profiles are used to monetarily offset the effects of VAT on certain clearly specified taxpayers.

Simplification of processes and services

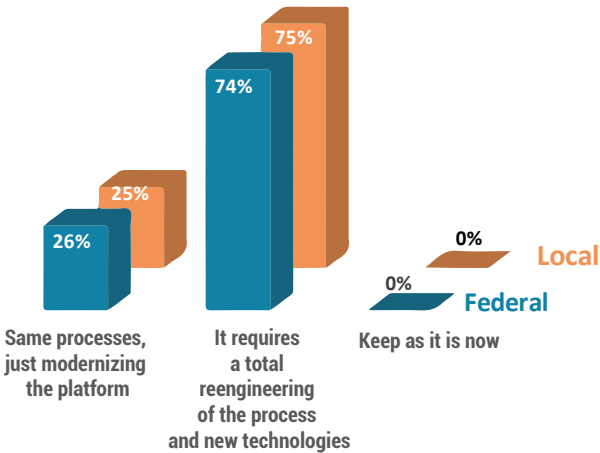
Implementing a processes reengineering. From the aspect of local and federal systems, at least 74% of taxpayers (Figure 12) have pointed out that beyond a modernization of processes, reengineering is required based on new technologies. That is, a change in the collection model is desired, more in line with the individual reality and the environment in which it is economically developed. This opinion is in line with the understanding that digital transformation goes beyond the automation of existing business processes, and that technology has the potential to catalyze transformation in companies and public organizations.

FIGURE | Modernizing or reengineering with new technologies
12



“The tax model is the same limiting factor”

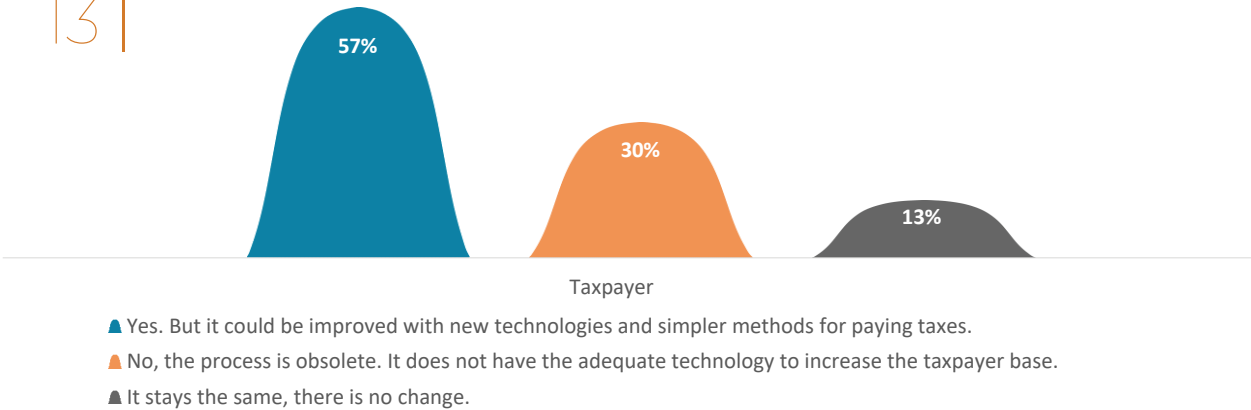
-Collection agency.



Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.

This change in the collection model becomes more relevant when a third of the taxpayers - persons and companies, points out that there are obsolete processes and that the current technology is not adequate to increase the taxpayer base (Figure 13).

FIGURE | Could the current collection process expand the taxpayer base?
13

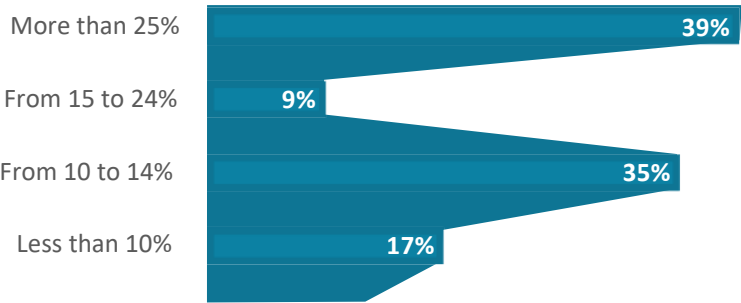


Source IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.

Digitization and automation of operations. An initial approach is to automate processes such as pre-tax returns, one-stop shop, file integration and on-line audits, among others. Taxpayers consider that they could save at least a quarter of their time invested to meet their tax obligations (Figure 14). Another element appreciated by taxpayers is the simplification and self-service from portals enabled by the collection agency. For collecting agencies, automation with cognitive processes may result in the reduction of administrative and operational costs, as well as achieving an agile and accurate response to the taxpayer with fewer errors.

FIGURE 14 | Time saved if the platform is 100% automated and digital

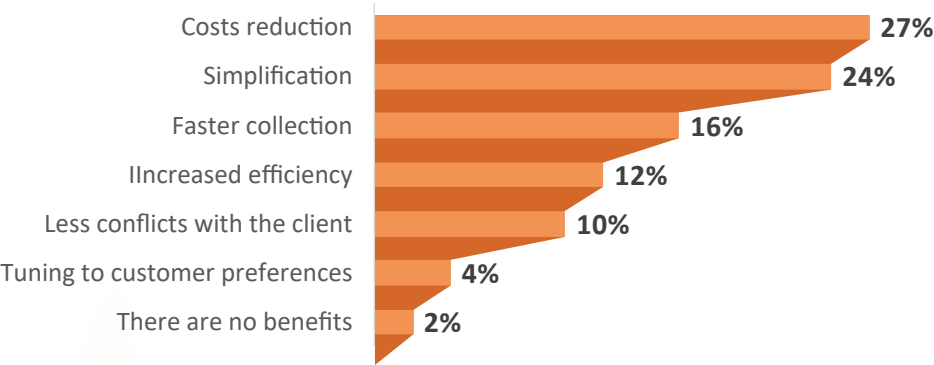
Source: IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from collecting and regulatory agencies.



Promoting integrated invoicing to tax systems. Regarding invoicing, taxpayers consider that obvious benefits have been achieved: cost reduction, operational simplification and even better management of the flow of their income through a more agile collection and better management of documents with customers and suppliers (Figure 15).

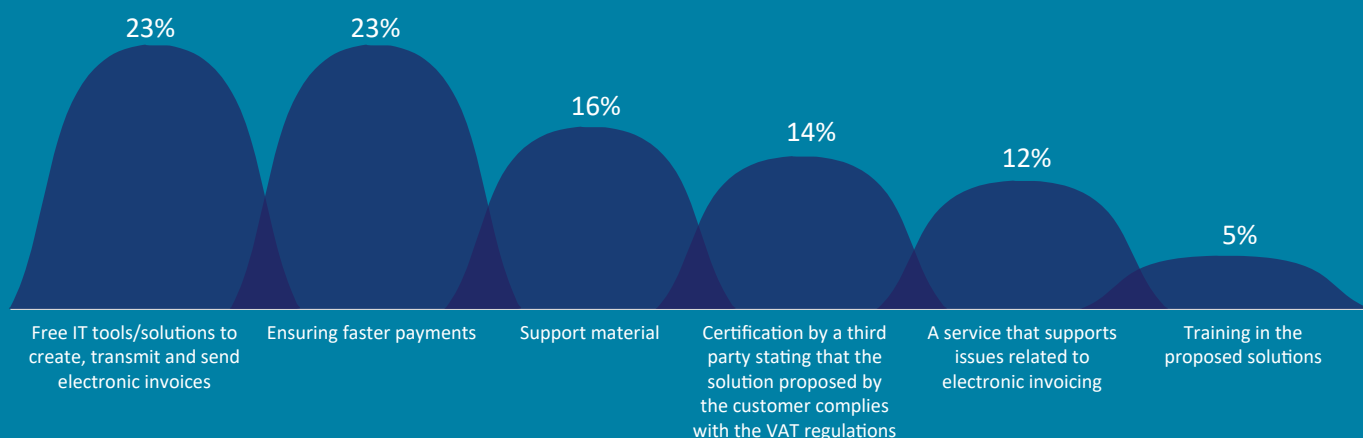
FIGURE 15 | Benefits of the electronic invoice

Source: IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer from taxpaying companies and persons.



To expand the use of electronic invoicing in the base of taxpayers who have not yet adopted it, the main elements that companies value to implement should be taken into consideration: 1) providing tools to create, transmit and send electronic invoices free of charge, integrated with fiscal platforms, 2) guaranteeing the speed of collection, and 3) having support material in its creation and management, among others (Figure 16).

FIGURE 16 | What element are considered when adopting electronic invoicing?



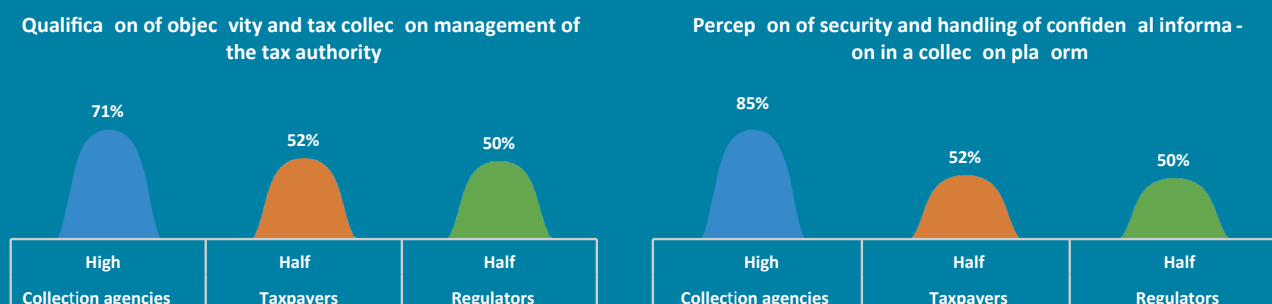
Source: IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answer of taxpaying companies.

Also in the adoption of billing and digital accounting processes, tax service providers contribute with value-added solutions: accounting systems according to financial and fiscal requirements, certification of the billing solution in accordance with local and federal regulations, support and advice in billing, support in IT investments, among others.

Security and Reliability

Collection agencies have been taking actions that have led them to improve the perception by taxpayers and regulatory organizations of objectivity and technical knowledge in the collection management of their employees, although their rating is still average - Figure 17. The same applies to the handling and security of confidential information in which it resides in the collection platform.

FIGURE 17 | Rating on objectivity and collection management of the official in the collection agency, and the management of information security of the taxpayer



Source: IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017. Answers from collecting and regulatory agencies

Given the nature of the information of the taxpayers, it is recommended to enable predictive and intelligent computer security, also considering the increase in computer attacks that are increasingly sophisticated. According to studies conducted by IDC, the government sector in the region invests little in security solutions. Government organizations in Latin America only spent 11% of their budget on Security in 2017, the lowest value of all industry sectors. Phishing and Malware are the most common attacks on the technological infrastructure of the governments of the region, with an average of 12 attacks per year, that is, an average of 1 attack per month.



5. Creating an efficient, secure, dynamic and resilient collection infrastructure based on new tools and information technologies

The strategy of information and communication technologies (ICTs) will play a fundamental role in the modernization and transformation strategy of tax collection in any country in Latin America. This has to be applied in the long-term and transcend periods of government, regardless of the political ideology in place, and preserve the fundamental axes that are mentioned below:

- **Reengineering and rationalization of current and future applications** of the entire collection process, thinking of a model of reuse of services that can be enabled quickly and without friction (adoption of DevOps practices).
- **Standardization of computer platforms** with an open computing approach to support the online platform, real-time transactions with taxpayers, implementation of accounting and financial standards, and regulatory compliance.
- **Developing an analytical and Big Data first level layer** that guarantees the support to the taxpayer in the different stages of the tax process, that reduces the costs of tax collection and increases the collection through the incorporation of new taxpayers and reduction of tax evasion.
- **Prepare the tax and collection technological platform in accordance with the new business models of the digital economy**, the emergence of new sources of income generation by technological advances, which will be a constant in the coming years. It is important to plan a resilient technological platform, capable of quickly adapting. The availability of resources in the cloud provides a flexibility and speed of information that should be exploited.
- **Providing predictive and intelligent IT security** on the tax collection platform that takes increasingly sophisticated computer attacks into consideration.

In summary, the technological platform of tax collection in the era of digital transformation has to consider three main premises: increasing efficiency in tax collection, expanding the taxpayer base and implementing new methods of tax management - Figure 18. The impact of this change will be of a social and economic nature.

FIGURE

18

Information
Technology for
economic and social
development

Source: Prepared by
IDC Latin America,
Social Economic
Impact of Digital
Taxation in Public
Sector, 2017.



Tax Efficiency

- **Standardization of computer platforms** with an open and flexible computing approach, enabling the resources in the cloud as much as possible, with the aim of supporting the online platform, real-time transactions with taxpayers, implementation of accounting and financial standards, and regulatory compliance.
- **Reengineering and rationalization of current and future** applications of the entire collection process, thinking of a model of reuse of services that can be quickly enabled and without friction (adoption of DevOps practices).
- **Making taxation and use of resources transparent.** Enabling the exchange of information with governments and institutions, in joint actions to prevent crime and increase the country's competitiveness.



Expanding the taxpayer base

- **Attracting the informal market to public finances.** Digitalizing accounting of small taxpayers to be integrated in tax records. If possible, implement free accounting, integrated and automated, to discourage tax evasion.
- **Develop an accounting culture and financial discipline.** Take the message to the taxpayer that you can improve your income and taxes management based on technology.
- **Improving the taxpayer's experience with new tools and information technologies.** Considering mobility and intuitive portals available to the taxpayer regardless of their location and access platform. If possible, relieving the taxpayer of some tasks that can be automated.



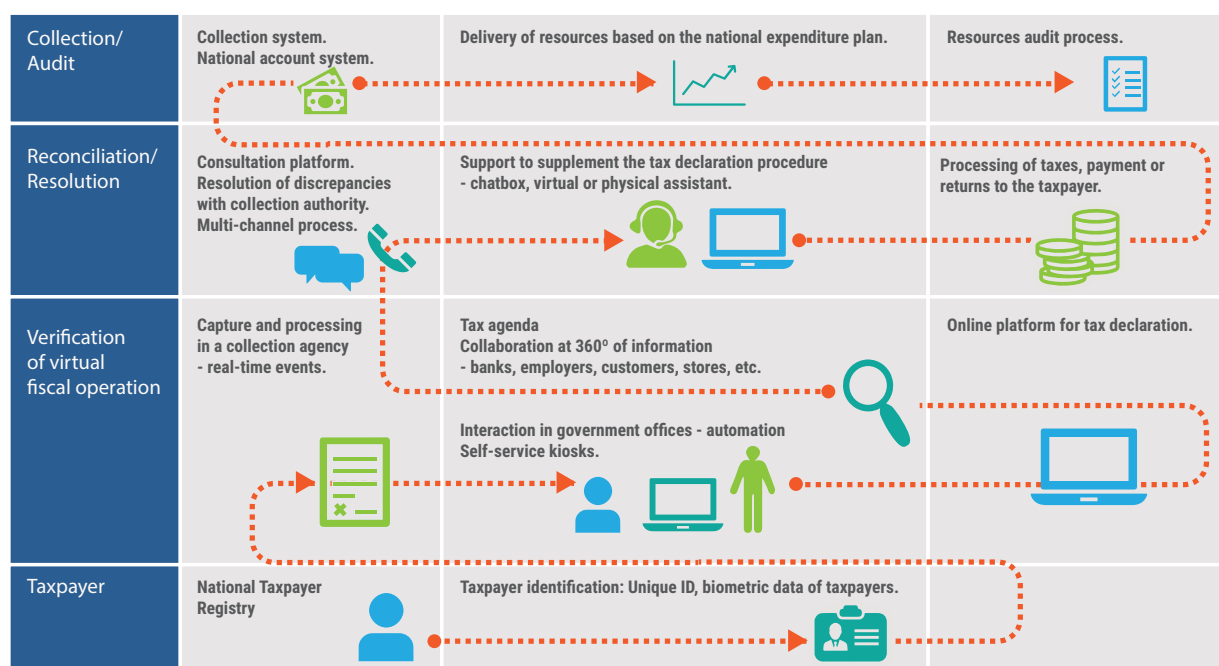
3 Implementing new methods of tax management.

- **Developing an analytical and Big Data first level layer** that guarantees support to the taxpayer in the different stages of the tax process, that reduces the tax collection costs and increases collection through incorporation of new taxpayers and reduction of tax evasion.
- **Preparing the technological tax and collection platform in accordance with the new business models of the digital economy**, the emergence of new sources of income generation by technological advances, which will be a constant in the next years. It is important to plan a resilient and flexible technology platform, capable of adapting quickly, taking advantage of cloud technology.
- **Enabling predictive and intelligent IT security** in the tax collection platform that considers increasingly sophisticated computer attacks.

For the information and communications technology plan to be solid and prepared for the long term, it is important to have a clear understanding of the taxpayer's route (Figure 19) throughout the collection process and as new technological elements, such as chatbox, machine learning and artificial intelligence solutions and Cloud applications, can be incorporated to modernize or add value to the collection process.

FIGURE | The taxpayer experience route.

19



Source: Prepared by IDC Latin America, Social Economic Impact of Digital Taxation in Public Sector, 2017.

6. Investment distribution in ICTs

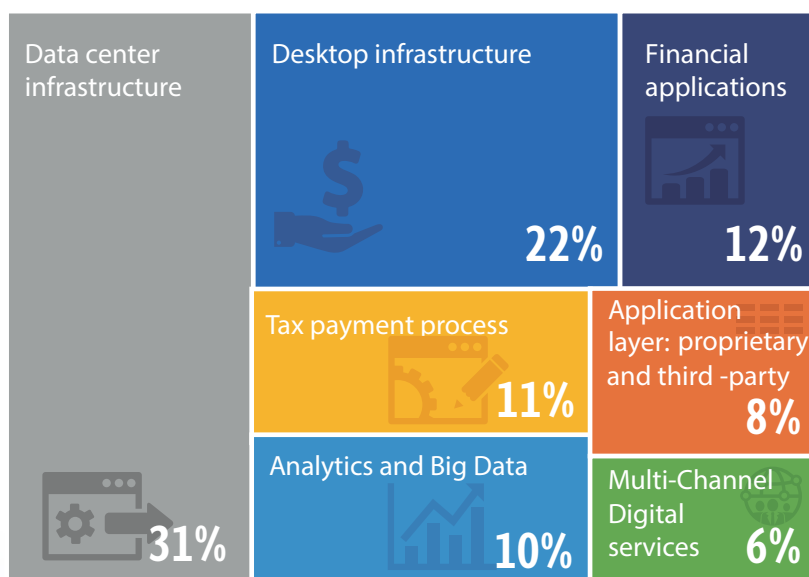
Based on information from the IDC Vertical Spending Guide and other public sources of spending on ICTs in the public sector of Latin America, specifically from ministries of finance and tax collection, IDC estimates the distribution of spending performed for information systems in the different technologies used for the collection process.

As can be seen in Figure 20, by 2018, data center spending represents just over one third of the annualized technology budget for the tax collection process; 22% corresponds to software applications and developments related to the central tax payment process; and only 16% of spending is exercised for Big Data solutions and the digitization of the multi-channel strategy. Although a 50% growth is expected in 2021 in Big Data investment and analytics, IDC considers that it is still low compared to other countries in the world.

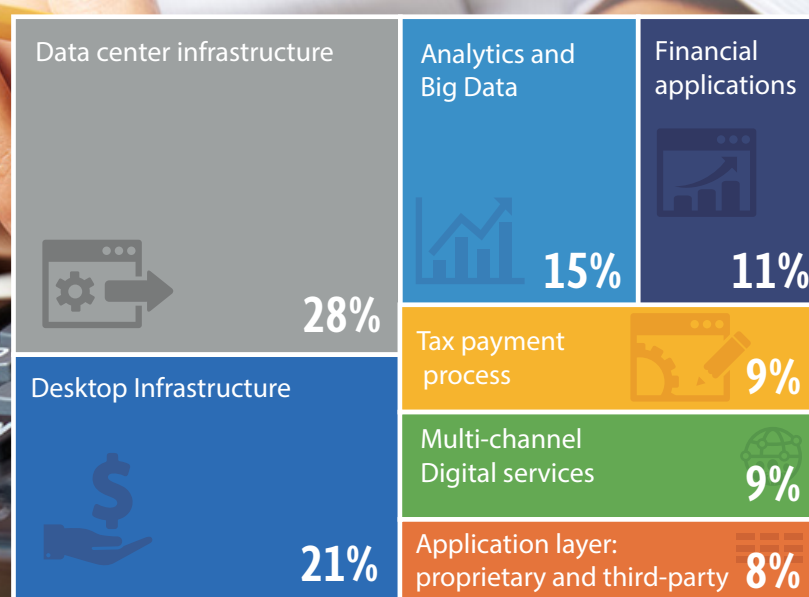
FIGURE | Distribution of technology expenditure by type of component in the tax collection process - perspective 2018 - 2021.

20

2018



2021



Source: IDC based on IDC Vertical Spending Guide and public sources of spending on ICTs in the public sector of Latin America, specifically from ministries of finance and tax collection



7.- Definitions

Collection agencies- Federal, local and regional entities in charge of collection, processing and tax management.

Regulators - national and international organizations and associations that have collaborators and organizations that study, regulate, evaluate and influence tax tasks and matters.

Taxpayers - individuals or companies with tax rights and obligations before a federal or local collection authority. For the present study, by taxpayers we mean persons and companies indistinctly. By Taxpayer Person we mean a natural person. By Taxpaying company we mean a company or organization.

Informal market - can be underground, of undeclared goods or services; or illegal, product of illicit actions.

CIAT - Inter-American Center of Tax Administrations. Argentina, Brazil, Chile, Colombia, Mexico and Peru are members of this non-profit organization for specialized technical assistance in strengthening the institution, updating and modernization of tax administrations. www.ciat.org/

OECD- Organization for Economic Cooperation and Development whose objective is to promote policies that improve the economic and social well-being of people around the world. Currently in execution of the Strategic Plan 2017-2021. <http://www.oecd.org>

IADB - Inter-American Development Bank. International financial organization to finance economic and social development projects, and promote the commercial integration of Latin America and the Caribbean. <https://www.iadb.org/>

CEPAL- Economic Commission for Latin America and the Caribbean. Regional Commission of the United Nations for the economic development of Latin America, strengthening economic relations with the other nations of the world. <https://www.cepal.org/es>



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