

Impact of dematerialization on the governance of Customs and Excise Administration in Morocco

Ismail HAMDAOUI, (PhD student)

*Research Laboratory in Finance, Accounting, Management, and System of Information for Decision-making
National School of Business & Management (ENCG)
Hassan 1st University, Settat, Morocco*

Yahya AISSAOUI, (PhD, Professor)

*Research Laboratory in Finance, Accounting, Management, and System of Information for Decision-making
National School of Business & Management (ENCG)
Hassan 1st University, Settat, Morocco*

Correspondence address :	University Hassan 1st National School of Business & Management (ENCG) Km 3 Rte de Casablanca, Morocco Settat BP 658 +212 5 23 72 35 77
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Abstract

The purpose of this research work is to present the contribution brought on by the introduction of dematerialization on the improvements to the governance of the Moroccan tax system and on the improvement of the quality of services provided to users. Let us draw inspiration from the digital experience of the Customs and Excise Administration (CEA).

Reflections on Morocco's economic development strategy have been the subject of numerous programs aimed at the development of digitalization; these programs contribute to the creation of a dynamic in all sectors, in particular, the upgrading of public administration so that it is at the service of users by providing them with quality services at appropriate timelines. Many organizations, including government agencies, are beginning to digitize their document holdings, making dematerialization a reality. Moreover, we see a wide range of dematerialization projects motivated by various goals and technical options.

Dematerialization can fundamentally influence the flow of administrative documents (such as contracts) between different partners. The fact remains that, if properly managed, dematerialization can facilitate information sharing and thus authorize specific synergies (for example, by increasing maintainability) within an organization.

Today, the completion of several dematerialization projects for its procedures has allowed it to re-energize trade facilitation. Customs clearance in Morocco has now reached a completely new level, with easy access to and use of data, security of transactions, transparency, traceability, speed, reduced costs of archiving, and streamlined control.

The dematerialization of the fiscal perimeter has been accompanied by a reduction in administrative formalities, two measures that, when combined, will allow operators to lower the cost of customs processing.

The Moroccan tax administration in turn has taken up the challenge of digital transformation by complying with the requirements of new public management by introducing dematerialization, in order to give more intensity to its governance.

The main objective of this empirical research article is to explain and understand the reality and test the hypotheses from existing theories, our research methodology adopted is mixed, a descriptive exploratory methodology based on the technique of documentary analysis of reports and studies of the CEA and semi-structured interviews with CEA managers

Keywords: Dematerialization, Public Administration, Governance, Digital, Fiscal governance.

JEL Classification: H10, H50, H83.

Paper type: Empirical research

1. Introduction:

Dematerialization is now a reality for many organizations, including public administrations, which are starting to digitize their document holdings. Today, we see a wide variety of dematerialization projects being adopted in the public sector that are motivated by different objectives and technical choices.

The flow of administrative documents (such as contracts) between different partners can be affected by dematerialization. This refers to the process of removing the physical layer of communication, such as a document, so that it can no longer be read or stored. This term is not used for the exchange of documents within organizations.

Dematerialization is therefore a real source of productivity for organizations. The combination of technology, regulatory compliance, affordable financial positioning, and questions about specific operational expectations of companies have become popular. As the rise of collaborative work and the multiplication of exchanges in organizations become commonplace, it should become a perennial standard.

The first steps towards dematerialization within the Moroccan Customs Service dates back to 1978 with the computerization of customs accounting. However, the implementation of the customs declaration by computer processes marks its real start. This will be done at the end of 1991 when the Single Goods Declaration (SGD) replaces the numerous forms that were previously in force. The business processes were automated gradually. In 1998, a decisive step was the introduction of automatic selectivity processes in the automated customs system. For almost thirty years, the computer system underlying the customs clearance circuit has thus evolved to enter a new era in 2019, that of total dematerialization. Economic operators and government agencies involved in the control of international trade have taken part in this movement. Since January 1, 2019, the majority of actors in the foreign trade ecosystem are participating in the gradual and evolutionary process of digital transformation.

Moroccan Customs has long included among its strategic choices the use of new information and communication technologies in order to continuously improve the service provided to its users. Today, the completion of several dematerialization projects of its procedures has enabled it to give a new impetus to the facilitation of trade. From now on, customs clearance in Morocco has taken on a completely new dimension: easy access to and use of data, speed, transparency, traceability and security of transactions, streamlined control, and reduced archiving costs. Dematerialization has been accompanied by a reduction in administrative formalities, two measures that, combined, will allow operators to reduce the cost of processing customs operations.

We all know that customs revenues are an essential contributor to the state budget. Indeed, Customs collect a significant share of the budgetary tax revenues (more than 40% annually), so the customs revenues exceeded MAD 111 billion in 2021, 93% of which were collected electronically according to the activity report of the Customs and Excise Administration.

Therefore, our research theme is of particular importance as it deals with the modernization of the tax administration through digital technology in order to achieve good governance of the tax system in Morocco.

Throughout this research paper, we will analyze theories and practices to answer our research question, which is as follows:

To what extent could dematerialization contribute to the improvement of governance when it pertains to the Moroccan customs and excise administration?

To answer our central problematic, it is appropriate for us to ask many questions that we will try to answer through this study:

- What are the determining factors of the success of the dematerialization of the administration and more particularly the Moroccan tax administration?

- What are the changes introduced by dematerialization on the governance mode of the tax administration?
- What is the contribution of the development of the dematerialization of the tax administration on the increase of tax revenues and on the improvement of the quality of services rendered to users?

The answer to our research problem deserves to be apprehended in 3 axis; we will devote the first axis to the literature review and to the research hypotheses, of which we will expose the general framework of the concept of dematerialization and of the concept of tax governance by taking into account the strategy of digitalization of the public administration applied in Morocco. Then the second axis will be devoted to the case study of the Customs and Excise Administration as a field of study to highlight the benefits of its successful experience of dematerialization. To arrive in the third axis, in which we will present and discuss the results of the exploratory documentary analysis of the activity reports of the CEA covering the period from 2017 to 2021, and those of the semi-directive interviews with the CEA managers, in order to draw tracks of improvement that should follow this dematerialization, widen the base of the tax revenues and to guarantee the quality of the service provided to the users.

2. Literature review and research hypotheses:

2.1. Background

Many different materials have been used throughout history. Some materials became more popular, while others became less popular. This does not mean that we are declining in our use of materials. Newer, more advanced materials have come into use in the past, just as older, less advanced materials have.

In the late 1800s, typewriters became popular. This made it easier for people to write letters, reports, and other documents. The typewriter was invented in the 1700s, but it was not until 1872 that the release of the Remington model that it became the standard way to write. With a typewriter, you can write quickly because you can type up to 150 words a minute. Carbon paper lets you make multiple copies of a document at the same time, so you can keep track of your work.

By the 1960s and 1970s, computers were improved, with screens and keyboards attached. This made it easier for people to program them. These tools ended up playing a big role in the document layouts too.

Over the course of a few decades, computers have been reconceived as new tools. Digital certificates are a newer way to transfer information electronically. Companies have been moving away from producing hard-copy certificates in recent years, instead of registering and transferring information electronically. And thus digitalization became not only the preferable element to acquire for an efficient governing process but today takes the role of a minimal requirement to good governance as it offers a better user experience to the different stakeholders involved as well as allow administrations to keep track of their all-encompassing work.

The word "governance" means different things within different contexts, but it can have many different meanings depending on the level of governance we are discussing, the goals we are trying to achieve, and the way we are going about doing it.

The concept of running a government is a long-standing one that has been used in a variety of contexts.

As a result, governance becomes more than just the government, it covers all of the different concepts related to the state, the government, stakeholders, fiscal responsibility, and good

government. In other words, many of the things that make up good government are part of the way governance is understood.

To sum it up, Governance means making sure public affairs are managed effectively and it is used to measure how well a country's government is doing. It is also a way to look at how different countries have done in the past.

2.2. Conceptual Framework

During the last decade, the Kingdom of Morocco has adopted under the enlightened leadership of His Majesty King Mohammed VI, may God glorify Him, several national programs aimed at the development of the digitalization of administrations and local governments. These programs contribute to the creation of an important dynamic in all sectors, including the upgrading of the public administration so that it is at the service of users by ensuring a high quality of service.

The digital transformation of the Moroccan public administration is today facing a crucial challenge, with a considerable ambition making digital the main basis for the transformation of public action. This transformation must take into account the provisions of the regulatory texts in force, in particular the law n°55-19 on the simplification of administrative procedures and steps.

Thus, the Moroccan tax administration has taken up the challenge of digitalization by complying with the requirements of the new public management by introducing ICT, in order to give more efficiency to its governance.

On the conceptual level, many researchers have focused their thoughts on the concept of dematerialization and digital transformation of public administration since the appearance of new information and communication technologies. Of which we will expose the general framework of the concept of dematerialization and that of the concept of tax governance by taking into account the strategy of digitalization of the public administration in the case of Morocco.

2.2.1. The Dematerialization Concept

Business process dematerialization is a relatively new concept in scientific research. Nevertheless, indications of their implementation can be found, particularly in the public sector through the topic of e-governance.

The process of scanning paper documents to get electronic documents is called dematerialization. It helps to reduce the amount of paper that is used, which makes it easier to manage information.

When it comes to the dematerialization of business processes, it simply means that instead of dealing with paper documents, businesses can use technology to manage their workflows more efficiently. This means that the information associated with those processes is stored in digital form, so it can be quickly accessed and managed. By dematerializing business processes, you can easily find what you are looking for, and everyone can use the same document at the same time, no matter where they are. This is especially important for businesses that need to exchange information regularly.

As a result, Dematerialization of business processes can help improve customer service by giving information more readily available on computers. It can also save time and money, and improve the quality of processes and their outcomes.

2.2.2. The Governance Concept

Most authors mention the undefined aspect of the concept of governance, or its "catch-all" aspect. For Gaudin (2002), governance refers to the modification of the relationship between politics and economics, while for Hamel and Jouve (1970); it refers to the questioning of the

governability of traditional Western democratic societies based on a single central decision-making authority. However, for Lamy (2005), governance refers to the ideal of a society in which there is no leader, and in which the decisions taken by elected officials are the result of a fair and democratic process. Representative democracy would no longer be able to meet the expectations of societies that demand more government, more accountability and more participation.

The dictionary of international relations by Smouts & al (2003). Also offers a broader definition of governance. For these authors, governance describes a model of public action through the interaction of private and public actors across territorial boundaries. In this problem, governance has four defining properties: it is not a system of rules or an activity but a process; it is not formalized but based on continuous interactions; it is not based on domination but on accommodation; it involves both public and private actors.

Where there is no agreed definition, we refer to those proposed by international bodies such as the World Bank, the Organization for Economic Cooperation and Development, the European Commission, and the International Monetary Fund.

Table 1: Definitions of governance according to different international organizations

Organizations	Definitions proposed according to the different international organizations.
World Bank 1993	“The manner in which power is exercised in the management of a country’s economic and social resources for development.”
United Nations Development Programme (UNDP) 1997	“The exercise of economic, political and administrative authority to manage a country’s affairs at all levels. It comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences”
Worldwide Governance Indicators 1996	“The traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government “to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them.”
Institute on Governance 1996	“What determines who has power, who makes decisions, how other players make their voices heard and how account is rendered.”
International Monetary Fund 1997	“Governance is a broad concept covering all aspects of how a country is governed, including its economic policies, regulatory framework, and adherence to rule of law”

Source: Elaborated by authors on the basis of the definitions of international organizations

2.2.3. Fiscal governance

Fiscal governance can be defined as the process of making smart and calculated decisions about the use of public funds. Fiscal governance is important because it helps guide important decisions about taxes, government spending, and debt. Fiscal policies are made through a lot of different people and organizations, and it is important to have good fiscal management in order to make sure everything works together properly.

In short, Fiscal Governance is a way to make sure that the government budget is managed responsibly, and it includes rules about how the government can prepare, approve, implement, and monitor its spending.

For Fiscal Governance to be effective, governments need the following:

- Fiscal rules on a national level: simply put, there are limits on how much the government can spend in each year, which means it cannot spend too much money or else it will have to borrow more in the future. This means that the government cannot get into trouble with its debt, and be able to continue to spend money on important things like education and health care.
- Fiscal transparency: The fiscal policy-making process is open and widely available, with independent public institutions providing analysis and assessment of fiscal performance. This helps ensure that fiscal policy is effective and transparent.
- Fiscal policy is important because it helps to manage our economy and keep us safe. Fiscal policy can be implemented in a number of ways, depending on the situation. The government usually establishes medium-term fiscal policy by setting targets for how much it wants to spend, raise taxes, or reduce spending. Then, the government works to make sure that these targets are met.

A country's fiscal framework is successful if it has norms of responsible budgeting and financial oversight. This means that lawmakers and other public bodies must be competent in financial management so that it can be a win-win situation for all parties involved by implementing a responsible management of fiscal institutions.

2.3. Research hypothesis

Through the literature review and in order to carry out our empirical investigation and answer our problematic, we have formulated the following hypotheses:

H1: The use of digital communication tools will improve the quality of service to customers-users.

H2: The Introduction of ERP facilitates electronic exchange within the administration and with the different actors of foreign trade

H3: The dematerialization of customs procedures has a positive impact on the improvement of customs revenues.

3. Research methodology and study context

At the methodological level, the qualitative method is adopted in the field study, following a two-stage research process:

The first step leads us to statistically describe the results of the exploratory documentary analysis of the CEA's activity reports covering the period from 2017 to 2021. Considering that dematerialization allows us to acquire practical tools likely to increase the volume of additional tax revenues and to collect taxes in a flexible and efficient way while improving the quality of services rendered to users.

The second step consists of analyzing the content of the semi-structured interviews conducted with CEA officials. In particular, the Head of the Human Resources Division, the Head of the Budget and Equipment Division, the Head of the Accounting Centralization and Recovery Monitoring Department, and an authorizing officer at the level of deconcentrated Service. The objective is to process the data collected during the interviews using the method of content analysis of the interviews to determine the contribution of dematerialization to the governance of the CEA.

3.1. Study field and data

Our study focuses on the case of the Customs and Excise Administration in Morocco based on the results and statistics presented in its annual activity reports, and semi-structured interviews conducted with CEA officials.

This analysis covers the period from 2017 to 2021. The choice of this period is motivated by the fact that the CEA's dematerialization process did not begin until 2016 and was generalized from 2017. In addition, to take into account the international context, the study focused on international reports and studies. We estimated that the performance of the Moroccan tax administration is manifested firstly, the ability of the CEA to present quality services and gain the trust of users and secondly in the ability to improve tax revenues.

Moroccan Customs has been using new technologies to improve its services for a long time. Recently, they finished several dematerialization projects that have made it easier to trade. Now, customs clearance in Morocco is more efficient because you can access data quickly, see the progress of your transactions, and reduce the cost of processing Customs operations.

3.1.1. The changes introduced by the dematerialization of the customs and excise administration in Morocco.

In 1978, Moroccan customs used physical objects to track transactions. However, the system did not become fully automated until 1991, when the Single Goods Declaration (SGD) replaced the dozens of forms in use at the time. Over time, business processes became more automated, and in 1998, the Customs clearance circuit began transitioning to a new era with the introduction of automatic selectivity processes. In January 2019, most of the stakeholders in foreign trading began involvement in the slow, steady, and ever-evolving process of digital transformation.

Before "paperless" customs clearance became a reality, a lot of groundwork had to be done to make it possible. Customs services had to cooperate, and various technical, procedural and legal requirements had to be met. The digital transformation strategy adopted aims to improve efficiency and communication between stakeholders, as well as speed up clearance operations.

The circuit for Customs clearance has been completely revamped, making it easier and faster to process customs declarations. The declaration and any other document required by the administration are submitted online and logged automatically in BADR (Base Automatisée de Douane en Réseau / Automated Networked Customs Database). The computer system sends the declarant a notification that they have been registered for a course. When you declare your goods, the control phase begins. This is when the data from your declaration is analyzed and crosschecked, and, if necessary, legal proceedings may be started. In addition, payments may be made and your goods may be removed. Those operations that are conducted on an occasional basis will now be registered on the Customs database systems.

Customs have changed a lot since the days when people had to stand in line to get their paperwork processed. Now, everything is done electronically through the system. This means that operational managers can complete all of their work activities from their screens, Inspectors use two screens to view all the information they need to do their job and if needed they can enlist help from other teams to speed up Customs clearance.

3.1.2. The effects of dematerialization on the improvement of customs revenues and the quality of service to customers/users

In order to help forward agents and economic operators, a series of meetings were held. These meetings allowed people who use it to get information about the advantages of using this service, as being able to consult the declaration circuit, get notification of the release, and

have their Customs procedures audited by the availability of these services online has facilitated:

- The ability to communicate with customers through electronic means. Which means the ability to do things like, check the accuracy of declarations, control payments, and release products;
- The custom process can be simplified by the introduction of non-customs control measures. This is done by notifying the authorities in charge of auditing, who will then be able to check the results electronically;
- Providing the ability to see what has happened in the past and to be alerted about future events through electronic notifications, alerts and logging histories;
- Remote monitoring offices are a new way of doing things on an organizational level, and they allow people to check goods coming into or going out of a country without having to be there in person;
- Trying to reduce the amount of human intervention in the processes so that more tasks can be automated. This includes verifying data consistency, helping people to enter declarations, and checking documentation or privileges related to Customs.
- The customs enforcement and inspection services have access to all the data and documentation related to the clearance of the customs operations at any given time, ensuring adequate control of activities.

The interconnectivity of different software tools with BADR

The software tools and the clearance system work together to make it easy to find adequate responses and makes it possible to:

- Provide customs officers with the right tools, so they can complete tasks outside of the office, which makes their jobs easier and reduces the time it takes to process operations;
- Develop a sound risk management strategy; you need to collect accurate information. This study is focusing on how to improve risk management by incorporating predictive analysis and additional data.
- Provide a model for a new communication approach in the form of a national claims portal for better traceability and monitoring.
- Make it easy and provide real-time access to electronic documents and operations history as well as various online services, which eases monitoring activities and operations by economic operators via a digital platform called "Diw@nati";
- Publicly introduce an application named "Bayyan Liy@," which helps in the fight against counterfeiting, forgery and smuggling by allowing consumers access to a number of details for personal verification;

The advent of multi-channel payment solutions

Customers/users can pay their Customs debts through a variety of quick, secure payment methods. Some methods include paying with a bankcard online, through a mobile phone app, at an automated teller machine (ATM), or at a bank branch. There are also local service points where you can pay your debt in person.

The Dematerialization of Bank Security Documentation

The automated payment management system has been in place since October 2017. This system saves time for economic operators who rely on bank security documents. Banks input bank security directly into the BADR system, eliminating the need to issue operators with a document. This document is then handed over to Customs services.

Electronic signature

The electronic signature on the BADR clearance system is just as legally valid as a signature on a physical document signed by hand.

Using this solution ensures the identity of the signatory, his non-repudiation of the signed document as well as the authenticity of the signed document itself.

Computerized litigation proceedings management

The litigation process can be organized and managed to use computers. This includes things like filing a lawsuit, getting updates on the case, and resolving disputes.

Requirements for New Data

Since 1 October 2019, haulers have to include specific information about the tariff headings for the goods they are bringing into the country in their summary declarations. This helps Customs officials speed up the clearance process.

In addition, customs now have access to export declarations for goods from countries that have signed the Agadir Agreement (Tunisia, Egypt, Morocco and Jordan). As a result, it can improve risk management by comparing import and export declaration data.

Dematerialization of Certificates of Origin

When exporting goods, you need to apply for a certificate of origin. The computer system will automatically collect the information you have already entered on the declaration and will only ask you to input the information required for the application to be processed. This way, there is less chance of making mistakes when submitting the declaration.

The electronic certificate generated in this way is registered on the Moroccan Customs Internet portal. Any administration wishing to confirm the authenticity of a certificate issued by Morocco can just visit the Customs website.

In January 2021, this new system went into effect gradually. It was implemented in cooperation with other countries, with the goal of making it easier for them to accept certificates of origin. At the same time, IT development work began on an app that will help operators verify certificates of origin.

3.2. Research model and data processing

Because of our problematic and our objective being to explain and understand the reality and to test the hypotheses resulting from the existing theories, our research methodology adopted is mixed, a descriptive exploratory methodology based on the technique of documentary analysis and the semi-directive interviews.

This technique seemed to us to be the most adequate to the requirements of our problematic. Moreover, F. Wacheux (1992) states that the interview and the documentation are "two essential sources when one is interested in the actors, the organization and the behaviors of the actors in the organization". The literature review requires a comprehensive literature search. In the framework of our research work, we have opted for exploratory data analysis through the exploitation of data from reports and interviews, which allows us to highlight the relationships between dematerialization and fiscal governance in the form of tables or graphic representations. In addition, this method allows us to analyze the data forming our research problematic; in order to reach precise scientific conclusions.

4. Results and Discussion

The results of this analysis and exploration work will allow us to understand the dematerialization strategy carried out by the administration of customs and excise and explain

the evolution and performance in terms of tax yield and the quality of service provided to these users. From this perspective, we have noted that the customs and excise administration has undertaken numerous actions to control the tax base. Thus, according to the "Doing Business" ranking published in 2020, Morocco has achieved a good performance in the "Payment of taxes" indicator, moving from 42nd place in 2017 to 24th place in 2020. These actions carried out by the CEA have directly influenced customs revenues. In addition, for the same reason they have contributed immensely to the increase in the fiscal revenues.

4.1. Descriptive statistics

The analysis focused on the annual activity reports of the administration of customs and excise for the years 2017 to 2021, a period that has seen the generalization of online services to all taxpayers, and the implementation of information systems for ease of payment and use. The results of this analysis and exploration work will help to understand the impact and will allow us to understand the strategy of dematerialization carried out by the administration of customs and excise and explain its impact on its governance, not only in terms of the revenue generated but also in terms of the quality of the service rendered to users.

4.1.1. Breakdown of customs revenue by heading: 2017 to 2021

Customs revenue reached MAD 111.2 billion in 2021, up from MAD 91.3 billion in 2020, a 21.8% increase and a new high. This increase is primarily due to the resumption of consumer goods imports, which increased by 23.5% compared to 2020.

In comparison to the 2021 Finance Law forecasts, customs revenues have exceeded them by 115%.

Figure 1: Evolution in customs revenues over the last five years



Source: Annual report of Customs and Excise Administration in Morocco 2017-2021

Figure 2: Breakdown of budgetary revenue by heading in the past five years

HEADING (in billion DH)	Established duties					Change in %	Collected duties			Change in %
	2017	2018	2019	2020	2021		2019	2020	2021	
Import duties	8,6	9,5	9,6	9,3	11,7	25%	9,4	9,2	11,6	26%
Domestic consumption tax (DCT) including :	27,4	28,3	29,9	27,4	31	13%	29,4	26,9	30,8	15%
DCT on energy products	15,7	15,7	16,6	14,4	16,4	13%	16,3	13,9	16,7	20%
DCT on manufactured tobacco	9,9	10,8	11,3	11	12,2	11%	11,2	11,1	11,8	6%
DCT on other products	1,7	1,8	1,9	2	2,4	22%	1,9	1,9	2,4	24%
Value Added Tax (VAT) including :	51,4	54,7	56,1	49	61,1	25%	54,4	48,6	60,5	25%
VAT on energy products	8,5	9,9	9,8	7,3	10,4	41%	9,6	7,2	10,3	43%
VAT on other products	42,9	44,8	46,3	41,7	50,7	22%	44,8	41,4	50,3	21%
Gas pipeline fee	1	1,5	1	0,5	0,8	68%	1	0,5	0,8	68%
TOTAL BUDGETARY REVENUE	88,8	94,5	97,1	86,6	105	21%	94,6	85,6	104,3	22%
Revenue allocated to special treasury accounts	5,3	5,6	5,9	5,2	6,1	19%	5,7	5,1	6,2	22%
Revenue transferred to other organizations	0,6	0,7	0,7	0,7	0,8	13%	0,7	0,7	0,8	16%
TOTAL CUSTOMS REVENUE	94,7	100,8	103,7	92,5	111,9	21%	101,1	91,3	111,2	22%

Source: Annual reports of Customs and Excise Administration in Morocco 2017-2021

- Revenue from import duties increased by 24.9%, owing to a 23.5% increase in goods released for consumption, combined with the added value generated by Finance Act 2021 measures (MAD +81 million for the fiscal year 2021).
- VAT earnings increased by 24.6% to MAD 61.1 billion, up from MAD 49 billion in 2020. This rise can be explained by:
 - VAT on energy products: increase of 41.3% or MAD +3 billion due to the increase in the consumption of energy products in value by 52% and in volume by 8.5%.
 - DCT revenues increased by 13% or MAD +3.57 billion compared to the previous year considering the following elements :
 - DCT on energy products recorded a revenue of MAD 16.4 billion, up 13% compared to the year 2020, due to the increase in the consumption of fuel volume by 13%.

Figure 3: Evolution of the number of declarations by family of customs procedures

	2017	2018	2019	2020**	2021*	Cha.
NUMBER OF SGDS AT IMPORT, INCL.	692 678	736 854	776 070	683 993	885 218	29%
▶ Simple imports	475 777	500 230	525 057	468 882	546 118	16%
▶ Imports under CEP	136 305	145 876	146 350	119 286	164 867	38%
▶ Transit at import	74 657	82 983	95 707	87 609	157 660	80%
▶ Re-importation under CEP	5 531	7 354	8 577	7 905	16 166	105%
▶ Internal transit	408	411	379	311	407	31%
NUMBER OF SDGS AT EXPORT, INCL.	273 563	291 312	308 302	282 005	542 014	92%
▶ Simple exports	127 856	141 034	153 307	145 335	282 965	95%
▶ Exports under CEP	145 707	150 278	154 995	136 670	259 049	90%
NUMBER OF SGDS OF INTERNAL PROCEDURES, INCL.	40 379	41 390	43 396	40 216	47 587	18%
▶ Disposals	31 598	32 550	34 381	32 087	37 495	17%
▶ Release for consumption after CEP	3 856	3 904	4 109	4 132	4 516	9%
▶ Transshipment	1 553	1 607	1 616	1 642	2 076	26%
▶ Indirect taxes (DCT)	1 346	1 263	1 269	1 096	1 557	42%
▶ Others	2 026	2 066	2 021	1 259	1 943	54%
TOTAL NUMBER OF SGDS	1 006 620	1 069 556	1 127 768	1 006 214	1 474 819	47%

(**): Updated data
(*): Provisional data

Source: Annual reports of Customs and Excise Administration in Morocco 2017-2021

The BADR customs information system has recorded a 47% increase in the number of declarations between 2017 and 2021. This is especially noticeable in the number of exports, which has almost tripled (+92% or +260 thousand SGDs). The import program accounted for 37% of the declarations, followed by 19.2% for the simple export regime and 17.6% for the export regime following CEP.

4.1.2. Digitalization of customer relationship for an improved user experience and better service

Following more restrictive measures in terms of welcoming visitors in 2020, particularly limiting their access into customs premises, the year 2021 marked the beginning of a return to a more normal life (an increase in the number of visitors of +13%). However, the distancing rules and the requirement to wear a facemask remained in place, and the use of digital contact channels was equally encouraged.

Thus, the CEA has consolidated the progress made in terms of digital alternatives provided by the Digital Development Agency, particularly the "Digital Order Desk" and the "Electronic Signature Pad," which allow for the digitization of administrative mail and, as a result, the reduction of visitors' displacement to deliver their physical mail. The nationalization of the electronic signature pad, following its initial trial run in a pilot regional direction, allows for an increase in the volume of electronically internal mail exchange (68595 emails in 2021 rather than 16895 in 2020).

This system, in conjunction with new products such as Diw@nati and "Customer advisors," as well as the strict monitoring of deadlines and the quality of responses to electronic requests, as well as the mobilization of the team in charge of telephone reception (who delivered a 90% response rate in 2021), has enabled the Administration to improve customer satisfaction.

Indeed, the satisfaction rate (76%) recorded in 2021 resulting from a survey of users of electronic platforms (digital order desk and e-requests).

4.1.3. Transparent information access in accordance with national law on procedure simplification

In accordance with the requirements of Law 55-19, relating to the simplification of procedures and administrative formalities, the CEA has proceeded in 2021 to the elaboration of 95 administrative decision binders (some of which have already been published on the portal www.idarati.ma) and the dissemination of the circular n°6179/530, stipulating to users the non-requirement of the production of more than one copy of the documents constituting their files, the legal to ensure wide dissemination of information, promote data accessibility, and facilitate understanding of customs procedures, the CEA published 50 new flowcharts of customs procedures on the Internet portal in 2021, relating to several areas, including economic customs regimes, special regimes, excise taxes, and temporary measures.

4.1.4. Positive results of data exploitation in 2021

With a more sustained recovery in trade flows expected in 2021, Customs has put its digital arsenal to work to control the increase in trade, more effectively target high-risk operations, and better structure its control system, based on data analysis collected via customs systems and crosschecking information shared with partners.

- MAD 4.1 billion of duties and taxes adjusted in 2021, compared to 3.6 billion in 2020.
- MAD 212 million paid by business for duties and taxes on royalties in 2021, compared to 144 million in 2020.
- 183 fraud notices to new features offered by BADR.

Table 2: Number of certificates of origin by the electronic process between 12/01 and 31/12/2021

Type of certificate	Number of certificates
Certificate of origin - EUR.1	253 401
Certificate of origin - EUR-MED	20 068
Certificate of origin - Arab	8 843
Certificate of origin - United Arab Emirates	327
TOTAL	282 639

Source: Annual reports of Customs and Excise Administration in Morocco 2021

4.2. Qualitative results

4.2.1. Content analysis of semi-structured interviews with CEA managers

The data was collected through four semi-directive interviews with CEA managers. In particular, the Head of the Human Resources Division, the Head of the Budget and Equipment Division, the Head of the Accounting Centralization and Recovery Monitoring Department, and an authorizing officer at the level of Deconcentrated Services. The objective is to process the data collected during the interviews using the method of content analysis of the interviews in order to determine the contribution of dematerialization to the governance of the CEA. They confirmed the questionnaire before answering.

The guide includes questions about the dematerialization within the CEA, the changes introduced by the latter on the mode of governance, its contribution to the increase of customs tax revenues, and the quality of services provided to users. The guide also aims to evaluate the key success factors of the dematerialization process, as well as the constraints faced by the CEA's dematerialization project.

We then presented the results of the interviews with theme summarized as follows:

Table 3: The results of the interviews with theme

Main themes of the semi-structured interviews	Content of the results
1. Dematerialization introduced changes to the tax administration's governance mode and mainly the CEA.	<ul style="list-style-type: none"> - Improved managerial accountability and decision support tools. - Synchronization of relations between CEA and citizen stakeholders and other institutions. - Organizational transformation of customs clearance offices into remote control offices. - Optimization of public expenditure by reducing documentary requirements. - Effectiveness and efficiency in terms of customs control and speed in terms of achieving objectives.
2. The contribution of dematerialization to the increase of customs revenues.	<ul style="list-style-type: none"> - More rigor and control in the collection of customs revenues thanks to the digital tools introduced by the CEA, including the diversified electronic payment methods. - The fluidization of the passage through customs thanks to the elimination of physical deposits of declarations and replacing it with the dematerialized circuit of customs clearance. - Increased exploitation of the DATA for optimized control.
3. The contribution of dematerialization to improving the quality of services provided to users.	<ul style="list-style-type: none"> -Reduced contact with customers: declaration, control, payment, and release formalities are all carried out remotely, except in the case of physical verification. - Easy access to information in full transparency via digital tools made available to users. - Dematerialized management of mail (digital order desk, E-request platform ...) - Time and cost savings.
4. The contribution of dematerialization to the optimization of human capital.	<ul style="list-style-type: none"> -Reorganization of the workforce. -Eliminating the use of paper has promoted speed, efficiency and transparency. - Promoting ethics and fighting corruption. Redeployment of personnel following the elimination of certain tasks thanks to digital progress.
5. Factors determining the success of dematerialization within the CEA.	<ul style="list-style-type: none"> - Adaptation of the work organization. - Promote training and qualification of human capital to develop these technical skills. - Investing more in hardware and IT tools developed. - Implementing business repositories adapted to the requirements of digital transformation.

<p>6. The expected benefits of dematerialization.</p>	<ul style="list-style-type: none"> - Reduction of customs clearance time. - Increase in tax revenues. - Exchange of information between CEA and other organizations and administrations. - Efficient internal communication. - Ensure quality service to customers-users.
<p>7. Constraints that limit the success of dematerialization within the CEA.</p>	<ul style="list-style-type: none"> - Risk of breakdown. - Lack of competence and lack of mastery of computer tools by certain personnel. - Rigidity of some partners not involved in the dematerialization logic.

Source: Elaborated by authors on the basis of the semi-structured interviews with CEA managers

4.3. Discussion and hypothesis testing

In light of the data, three contributions of dematerialization emerge in relation to tax governance: the first is the introduction of online services through the use of digital communication tools that have facilitated the administrative procedures of users and have served to create flexibility in access to information in full transparency by reducing contact and travel to the administration. This simplification procedure has allowed building a relationship of trust with the customers-users, which is based on the guarantee of their rights and the reinforcement of the principles of ethics and tax citizenship, which has contributed to the increase of the operations of teledeclaration and telepayment. These digital services will allow economic operators to monitor closely, on a daily basis and in real time, their activities and customs operations via the digital platform called "Diw@nati". This platform will provide access to the history of operations, electronic documents associated with them (SGD, release, certificate of discharge, authorization, receipt ...), various online services (settlement of customs receivables, request for a given authorization, filing a claim), notifications from the customs, and a messaging service with a customs advisor. Customer-users can pay customs debts via various simple, fast and secure payment methods. In addition to the online payment method by credit card, payment by online banking (E-banking), by cell phone (M-banking), by ATM or via bank branches and money transfers (Local Service Points) is offered. Thus, the customers-users have well adhered spontaneously to these online services, the satisfaction rate of users has reached 76% in 2021. therefore the first hypothesis H1 (**The use of digital communication tools will improve the quality of service to customers-users**) is confirmed.

The second contribution lies in the electronic exchange of data between the CEA links, commonly referred to as crosschecks. They constitute Enterprise Reporting Planning (ERP). They allow an analysis of the data contained in the various operations in the possession of the customs administration; they proceed all together to a kind of compilation and then an analysis of the tax data, in the form of dynamic cross tables, which allows detecting discrepancies between the customs declarations. The files on these discrepancies are scheduled for a rigorous control, which allows generating additional tax revenues. In this context, the CEA fights against the fraudsters and acquires an important database which can be exploited by all the services of the CEA, such as the service of the economic regimes in customs, the service of recovery and litigation, the service of control of the value, the service of the audit and inspection. As a result, we see the fruits of this ERP in the increase of tax revenues generated following verification missions whether by the revenue services or the verification brigades. Thus, the CEA is equipped with an integrated, powerful, automated information system (BADR), and other powerful electronic platforms.

On the other hand, digitalization allows the CEA to exchange information with the various actors of foreign trade at the national level (the Exchange Office, port authorities, port

operators, shipping agents, freight forwarders, importers / exporters, control bodies, banks, etc.) or internationally through the automatic exchange of information for tax purposes with OECD countries. For this reason, Morocco signed in June 2019 a multilateral tax convention for the implementation of measures relating to the BEPS project (erosion of the tax base and profit shifting), dedicated to the fight against fraud and tax evasion. This performance can be explained by the impact of the CEA strategy to promote tax compliance to improve tax revenues. Therefore, the second hypothesis H2 (**The introduction of ERP facilitates electronic exchange within the administration and with the different actors of foreign trade**) is confirmed.

The third contribution lies in the improvement of customs revenue through the simplification of procedures and control mechanisms based on technology, in 2021 the customs revenue reached MAD 111 billion of which 93% were collected electronically.

In addition, with the online services, the payment operation is associated with the declaration operation, which was not the case before, this has contributed to reducing the outstanding amounts at the CEA and to replenish the State's coffers. Moreover, by dematerializing the recurring services provided to users, the CEA have the time to concentrate on checking the declarations filed by operators and to follow up and regularize the defaulters. This is an important asset for the tax administration, which is reflected in the evolution of the files programmed for control and the fight against customs fraud. In fact, MAD 5.4 billion is the amount of additional revenue following the various controls based on the exploitation of the DATA. It should be noted that among the measures of dematerialization is its generalization on all services of the CEA and not just to the control and verification agencies as before the launch of the digitalization strategy of the tax administration. Nevertheless, this migration to the teleservice must be accompanied by a strengthening of inter-connectivity with the integrated system (BADR) to better process all data and documents related to customs clearance operations as a source of cross-checking. Therefore, we find that the effect of digitization on the tax control system is significant because it allows the CEA to have a powerful and automated integrated information system. The third hypothesis H3 (**The dematerialization of customs procedures has a positive impact on the improvement of customs revenues**) is confirmed.

5. conclusion:

Moroccan Customs' radical overhaul of the system in terms of dematerialization has also profoundly changed the relationship between the Customs officer and the economic operator or its representative. That once-physical relationship has, for all intents and purposes, transformed into a virtual one. These new management methods have relieved operators of any unnecessary and costly trips, while also allowing Customs officers to work in a more pleasant environment. This does not imply that communication channels have been silenced. On the contrary, they are more powerful and effective.

COVID-19 has acted as a catalyst, hastening the pace of change in the procedures and conduct of stakeholders in the international trade system. It has also allowed us to fully assess the changes made. In the midst of a health crisis, Morocco has had no trouble obtaining supplies of essential products and basic necessities (such as food, healthcare products, medicines, and hydrocarbons); and the effective transition from flow management to teleworking, facilitated by an efficient computing ecosystem, has had a significant and positive impact on the situation.

Based on the above, we can say that dematerialization has become an essential element of the system of modernization of public administration, the desire to increase the efficiency of administrative management is one of the factors that have pushed the Moroccan public

administration to use modern techniques, in this case dematerialization to advance the process of administrative management and in order to meet the administrative needs of citizens and improve its performance. Indeed, dematerialization occupies a great importance in this era based on knowledge and digital transformation in all sectors, including the tax administration, insofar as it has become an indicator of measuring its governance in tax matters necessary to finance the development of our country and a tool against tax avoidance practices. Through this article, we have tried to understand the contributions of the dematerialization of the Customs and Excise Administration on the improvement of customs revenues and on the quality of service rendered to customers-users. By adopting a mixed research methodology, a descriptive exploratory methodology based on the technique of documentary analysis of reports and studies of the CEA and the content analysis of semi-directive interviews with resource persons of the CEA. This research will allow us to explore closely the reality of the relationship dematerialization-customs revenues. To this end, we have referred to the various reports of the CEA for the years 2017 to 2021, a period that has seen the launch of the dematerialization of the procedures for remote declarations and remote payment and the use of ERP.

The exploration of data from these reports and semi-directive interviews via the use of statistical tables and graphs to visualize and understand the relationship studied. Through the results of this exploration, we found that the introduction of dematerialization in the management mode of the CEA has contributed to the control of tax management because it is a mechanism for cross-checking and analysis of data by the real-time transfer of data and information inside and outside the CEA and in relation to its users, it is a lever for the development of tax potential. It has also contributed to the expansion of the tax base through the customs control based on new technologies to fight against fraud and tax evasion, the CEA has an automated and integrated information system (BADR) allowing the electronic exchange of data. This has contributed positively to the increase in customs revenue. Nevertheless, the CEA has become obliged, with all its components and its organizational and technical structure, to adapt to this digital era by developing modernized working methods based on automated information systems. It is obvious that to take advantage of the digitization process pursued by the CEA, in terms of development of tax revenues, it was necessary to involve human capital, given its role in driving this technological change. Investment in digital infrastructure can become a burden without a strategy to develop the capacity and skills of CEA's human resources. Finally, in terms of avenues of research, it is useful to note that the subject is now a major concern for public authorities. Several interesting avenues of research remain to be explored. For example, the contributions of Big Data on the performance of the customs control system.

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