

## The dematerialisation of public procurement procedures : The case of some Public Administrative Establishments (EPAs) in Algeria (2024)

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### Abstract :

Over the last few years, the economic world has been in a state of flux. It's a digital age, in which the majority of organisations are using digitisation to improve their performance.

Digital technology is undoubtedly the driving force behind innovation and the creation of wealth and jobs. While the Algerian government is committed in the Digit Algeria plan to aim to put in place a set of measures to initiate a "digital transformation" that it classifies as a national emergency, an imperative for a change towards a modern economy.

This communication aims to better understand the dematerialization of public procurement procedures in a digital environment that is changing dramatically. Firstly, we discuss the evolution of the business environment, namely the development of the Internet and technological convergence, the development of a globalized economy and the development of economies based on knowledge and information.

Next, we discuss the Algerian public authorities' effort to promote the use of ICTs in Algerian establishments. Finally, we present a specific field study on the real contribution of the dematerialization of data to the improvement of the management of public contracts within a few Algerian establishments.

The article incorporates a series of discussions to understand the main impacts on the culture, behavior and actions of actors in the digital ecosystem.

### Keywords :

Digital era, dematerialization of public procurement procedures, digital transformation, digital environment, digital ecosystem, management of public contracts.

**JEL Classification Codes :** M15 ; K23

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## **1. Introduction :**

### **General context and importance of the research :**

For several years now, companies have been faced with radical changes in their technological environment, which has changed in an impressive way (ISAAC H, 2006). Faced with these constant challenges, companies are faced with the question of survival : adapt or disappear. Many companies have been able to respond to these challenges by investing in new solutions that have enabled them to achieve dominant positions in their business sectors, and to be more efficient internally and more flexible and responsive externally (BESSEYRE DES HORTS C-H, 2008).

Today's organisations are changing in a particularly unstable, complex and dynamic environment. In this context, the need to be well informed is becoming a central concern for managers. Information is becoming a key strategic resource for the future (KALIKA M, 2006). It effectively is a key factor in development. Only organisations that can put in place systems to manage information flows will be able to anticipate changes in the behaviour of players in their environment, forecast trends, detect and understand technological innovations and make the right decisions (DELELIS Philippe, 2004).

In this respect, the challenge for Algerian companies is threefold. Firstly, by putting in place the technological tools that enable information to be managed, processed, transmitted and shared in a reliable and timely manner. Secondly, it will encourage new forms of working (virtuality, collaborative remote working and process automation, etc.) at an organisational level (GILLES de Bagneux et FRANÇOISE Vergriète-Matringes, 2018). In addition, it will promote coordination, integration and control on a relational level (BOULIFA, Brahim, 2016).

### **Problematic :**

This research takes several dimensions into account, namely: the human dimension (expectations, wishes, desires and behaviours of managers and staff), the organisational dimension

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(organisational mode, company structure), the technological dimension (adoption of new technological tools) and the cultural dimension (employee mentality) (MENARD B, 2010). The literature review clearly raises questions about the impact of ICTs on organisational performance. Based on the above, our first questions are as follows:

- Why is it important for Public Administrative Establishments (EPAs) to adapt to the forces of a rapidly changing technological environment ?
- What contribution can the dematerialisation of data make to improving the management of public contracts within Algerian establishments ?

### **Research hypothesis :**

In our research, we put forward the hypothesis that there really is a very significant link between the dematerialisation of data, in particular ICT, and the effectiveness of the management of public contracts within Algerian establishments. We link four (04) types of criteria to this relationship :

- Efficient decision-making,
- Reduction in operational management costs,
- Improved information management (availability, reliability, data security),
- Improving the quality of services provided to key stakeholders (internal and external).

This hypothesis will be assessed on the basis of a survey using a qualitative analysis based on interviews with people with greater knowledge in this field. To do this, we asked these people to tell us what they thought after the use (observed effects) of dematerialisation of data, in particular ICTs.

### **Research objectives :**

The aim of this research is to assess the link between the dematerialisation of data, in particular, ICTs and the efficiency of the management of public contracts within Algerian establishments, which can reorganise and reposition the internal organisation of the company and, consequently, can make it

more efficient in terms of decision-making, cost reduction, improved information management but also the quality of the services provided towards its main stakeholders (internal & external).

Algeria, like other countries, has launched policies to promote the dissemination and introduction of these technologies and their integration into the business economy (OECD, 2019) (\*). The aim of this paper is to examine the challenges posed by these ICTs and the policies of the Algerian public authorities. It is then a question of (DAJ, 2012) :

**Measuring changes in the business environment;**

- **Relate the policies of the Algerian public authorities to promote the use of ICTs in businesses;**
- **Present the field of study.**

**2. Changes in the business environment : Conceptual Foundations**

Three factors can be used to measure the evolution of the current business environment:

- The development of the Internet and technological convergence,
- The development of a globalised economy,
- The development of knowledge and information-based economies.

**2.1 The convergence of the Internet and technologies :**

We are in the midst of a radical transformation of networks and communications, strongly encouraged by the development of the Internet, the technologies associated with it, but also new management models and processes (ISAAC H, 2006).

Three major industries are driving digital convergence : the computer and software industry, the consumer electronics industry and the telecommunications industry (fixed and mobile telephone networks). The Internet is bringing about a convergence of technologies, impacting and disrupting markets,

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(\*) OECD (2019), Review of the public procurement system in Algeria: Towards an efficient, open and inclusive system, OECD Reviews on Public Governance, OECD Publishing, Paris, <https://doi.org/10.1787/49802cd0-en>.

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entire industrial sectors and businesses (BESSEYRE DES HORTS C-H, 2008).

Traditional boundaries and economic markets are being transformed, others are disappearing and new ones are emerging. Markets and distribution channels are being reconfigured, while new markets are being created (BRISSET, Karine; MARECHAL, François; MORAND, Pierre-Henri., 2003).

Companies' relationships with employees, customers, suppliers and partners are becoming increasingly computerised. For example, as a supplier or subcontractor, you cannot maintain business relations with large companies (Carrefour, Airbus, Renault, etc.) if you are unable to exchange information electronically with them.

As a consumer, you will greatly increase your interactions with sales staff in a computerised environment. As an employer, you will be communicating more electronically with your employees, to whom you will be providing new computerised work tools.

### **2.2 Internationalisation of trade and business :**

A growing proportion of the developed economies of Europe, America, Africa and Asia depend on imports and exports. Foreign trade accounts for more than 25% of the goods and services produced in the United States, and even more in countries such as France, Canada, Japan, England and Germany. By way of example, Algeria ranks 7th in Africa and 86th in the world (2022) ICT rankings. Algeria only moved up two places in the rankings drawn up by the International Telecommunication Union (ITU) (International Telecommunication Union (ITU), 2022) (\*).

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(\*) The International Telecommunication Union (ITU) is the United Nations' specialised agency for information and communication technologies (ICTs). It promotes innovation in the ICT sector, alongside its 193 Member States and more than 900 private sector entities and academic institutions, among others. Founded more than 150 years ago, it is the intergovernmental organisation responsible for coordinating the shared use of the radio-frequency spectrum worldwide, encouraging international cooperation by allocating satellite orbits, strengthening the communications infrastructure in developing countries and defining global standards that ensure the seamless interconnection of a wide range of communications systems.

A company that spans several countries, communicating with distributors and suppliers, operating 24 hours a day in different national environments, coordinating work teams on a global scale and meeting needs both locally and internationally, is a human, organisational and technical challenge. It requires a willing and progressive mindset.

Today, large foreign companies find it easier to locate the basic functions of product design, manufacturing, finance and customer support in foreign countries where labour is cheaper.

### **2.3 Development of the information economy :**

The major industrial powers are becoming knowledge- and information-based service economies, as an increasing number of manufacturing activities are located in areas where labour costs are lower. The essential role of knowledge and information in economies emerged at the turn of the 20th century and continues to grow.

*"In knowledge- and information-based economies, the market value of companies is largely based on intangible assets, proprietary knowledge, unique business methods, brands and intellectual capital in general. Knowledge and information form the basis of many new products and services, such as financial services (such as telepayments, credit cards or global reservation systems)" (HUBRECHT Hubert –Gerald, 2001).*

The information that circulates between the links in the value chain is becoming a key element in the creation of value for companies, because a good flow of information means greater responsiveness and lower costs. In fact, information enables production processes to be improved, and therefore higher value to be created. It also makes it possible to put together offers that are better adapted to customers' needs.

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**TABLE 1 - The changing business environment :**

<b>New technologies for low-cost business</b>
E-management, E-commerce and E-administration,
Rapidly changing markets and market structures,
Increased obsolescence of traditional business models,
Business transformation,
Flattening of hierarchies,
Decentralisation,
Flexibility,
Location independence,
Low transaction and coordination costs,
Collaboration and teamwork.
<b>Globalisation</b>
Management and control on a global scale,
Competition in global markets,
Global workgroups,
Global supply chains.
<b>Development of the information economy</b>
Knowledge and information-based economies,
New products and services,
Knowledge seen as a major asset in terms of production and strategy,
Competition based on speed of action,
Shorter product life cycles,
Complex, turbulent and uncertain environment,
Limited employee knowledge.
<b>Emergence of the highly computerised company</b>
Computerised relations with customers, suppliers and employees,
Core business activities based on the use of electronic networks,
Computerised management of the company's main assets,
Flexibility in perceiving and reacting to change.

Source: Kenneth-C Laudon, Jane-P Laudon, Eric Fimbel and Henri Isaac (2006: 10)

### **3. The Algerian government's efforts to promote the use of ICTs in SMEs :**

As most countries have become aware of the importance of using ICTs as an essential part of the information society, and of integrating them into the economic life of businesses in order to face up to the international market, the Algerian public authorities have not remained on the sidelines of this e-economy.

Indeed, major investments have been made in this sector since the introduction of the Internet in 1997, such as the purchase of operating licences (737 million dollars have been invested), the acquisition of tangible and intangible investments in equipment and production (more than 162 billion dinars have been invested), investments in operating operations such as network installation and maintenance, as well as marketing (over 288 billion dinars of investments) and investments in training and know-how transfer, as well as investments in the development of modern technical infrastructures, testify to the interest shown in this sector. These investments have been made mainly as part of the programme to support economic recovery, which includes the development of telecommunications.

A number of projects have been selected for this purpose, including :

- *The economic recovery support programme ;*
- *The SME/SMI modernisation programme;*

#### **3.1 The Economic Recovery Support Programme :**

The Economic Recovery Support Programme (Ministry of Finance, 2021)

has a number of objectives designed to improve the country's social and economic environment. A number of actions affecting several sectors of activity have been defined in order to provide support for businesses, public administrations, productive agricultural activities, transport, local development and the development of human resources.

In the telecommunications sector, the main action has been the creation of a Cyber Park at Sidi Abdellah, which brings



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together the research centres and laboratories of the main public and private companies, both national and foreign. The objectives are to

- Creating a technology park specialising in cutting-edge technologies;
- The creation of a technology park to encourage research and development in cutting-edge technologies, by attracting young graduates;
- The creation of small businesses to develop new technical processes;

The creation of a working and collaboration space between university researchers and industrialists (\*) (Strategy Paper and National Indicative Programme, 2007)

### **3.2 The SME/SMI modernisation programme:**

Known as SME II, which focuses on quality and the adoption and use of ICTs to increase the competitiveness of Algerian businesses on both the national and international markets. This programme was launched in 2009 by the Algerian authorities, in collaboration with the European Union, under the authority of the Ministry of Industry, SMEs and Investment Promotion. PME II is intended for institutional beneficiaries such as :

- The Ministry of Industry, SMEs and Investment Promotion;
- The Ministry of Post and ICTs, organisations and agencies working under the aegis of the two aforementioned ministries;
- SMEs/SMIs in targeted sectors that have launched modernisation programmes.

The aim of this programme is to put in place the means to support SMEs/SMIs and related research and development activities in order to strengthen their mastery of ICTs. With a budget of €40m (European Neighbourhood and Partnership Instrument, 2007) (†), this programme also aims to finance activities to upgrade SMEs/SMIs through technical assistance,

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(\*) Algeria Telecom SPA., (2005). "Information notice. Algeria Telecom bond loan". COSOB visa n°05-05 of 10/17/2005, pp.68.

(†) European Neighbourhood and Partnership Instrument, "Algeria. Strategy Paper 2007-2013 and National Indicative Programme 2007-2010", pp.35-39, <http://ec.europa.eu/world/enp/pdf>.

consultancy and training, studies and assistance to improve quality and institutional development (Algeria Telecom SPA, 2005) (\*).

#### **4. The dematerialisation of public procurement procedures: The case of a few Public Administrative Establishments (EPA) in Algeria**

##### **4.1 Objectives and field of study :**

The aim of the study is to examine the determinants of the relationship between the dematerialisation of data, in particular ICTs, and the efficiency of the management of public contracts within a few Algerian Public Administrative Establishments (EPAs). The dematerialisation of public procurement involves different functional processes (transactional, decision-making, communication) and different levels of use (individual, collective and organisational). They thus constitute information systems of extreme 'capillarity' operating at local and global levels. The aim is to examine

- The scope and role of the dematerialisation of data, particularly ICTs in EPAs,
- The place of dematerialisation among the other sources of company structure and the process of interaction with the players,
- The importance of the contribution of dematerialisation of data, in particular ICT, to the efficiency of Algerian establishments.

The study was conducted among eight (08) Public Administrative Establishments (EPA) on the basis of semi-directive interviews. It covers the period from May 2021 to August 2021. The establishments studied have all gone beyond the project phase proper and are now seeking to make the investments they have already made profitable.

The functions of the people interviewed are diverse : information systems managers, project managers (providers of

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(\*). Algeria Telecom SPA., (2005). "Information notice. Algeria Telecom bond loan". COSOB visa n°05-05 of 10/17/2005, pp.68.

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IT solutions), project managers (users) and heads of public procurement departments. The characteristics of the survey conducted can be summarised in the following table :

**Table 02: Presentation of the establishments surveyed**

<b>Establishments surveyed</b>	<b>ICT equipment used in the establishments surveyed</b>
Directorate of Local Administration (DAL) Oran	Internet, telephone line and electronic portal.
Directorate of Housing and Equipment (DEP) Oran	Internet, telephone line and electronic portal.
Directorate of Public Works (DTP) Oran	Internet, telephone line and electronic portal.
Directorate of Commerce (DC) Oran	Internet, telephone line and electronic portal.
Directorate of Youth and Sport (DJS)	Internet, telephone line and electronic portal.
University of Oran 1 (VRDPO)	Internet, Electronic Messaging and electronic portal.
University of Oran 2 (VRDPO)	Internet, Electronic Messaging and electronic portal.
Directorate of Health and Population Oran	Internet, telephone line and electronic portal.

**Source : Carried out by ourselves on the basis of data collected.**

**Table 03: Status of ICT equipment used in the establishments studied**

<b>Rate of use of ICT tools (n=08)</b>	<b>Answers</b>
1. ERP software	<b>00</b>
2. Electronic document management (EDM)	<b>01</b>
3. Electronic platform	<b>06</b>
4. Datawarehousing software	<b>00</b>
5. Internet	<b>06</b>
6. Intranet	<b>00</b>
7. Extranet	<b>00</b>
8. Electronic messaging	<b>06</b>
9. Telephone line	<b>08</b>

**Source : Compiled by us from data collected**

From reading the table showing the state of ICT equipment used in the establishments studied, we can see that the technological tools (dematerialisation) used in these establishments are limited compared with those we have proposed.

**4.2 The role of ICTs in some public procurement processes within the establishments studied (\*) :**

These approaches were only identified through the observations we made through participant observation in the establishments studied. So they are really effective. We can now present some of the processes linked to the management of public contracts within the establishments studied (Presidential Decree No. 15-247, 2015) (Law No.: 23/12, 2023).

**Figure N° 01 : Process for identifying needs and requesting registration of an operation**

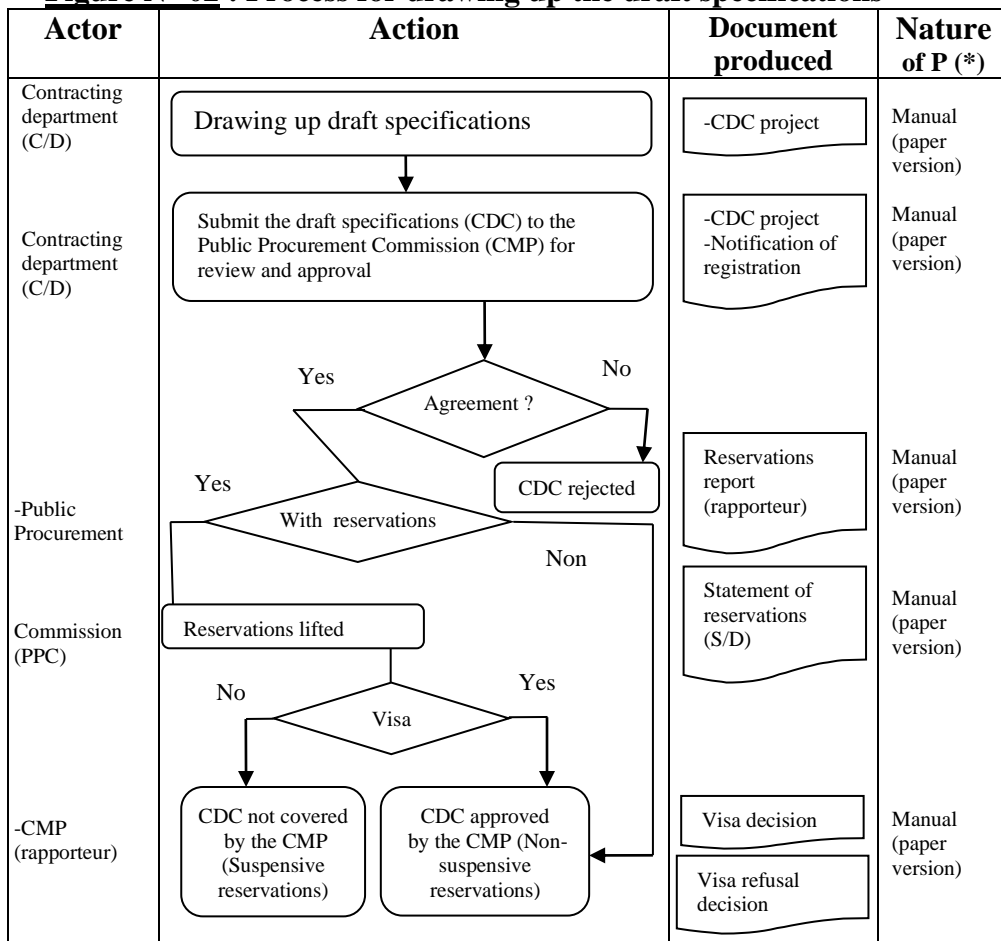
Actor	Action	Document produced	Nature of P (†)
Contracting department (C/D)	Preparing a data sheet	Technical file	Manual (paper version)
Contracting department (C/D)	Seek prior funding from the supervisory		
	Agreement ?		
Trustees	Application for funding rejected	Notification of reiection	Manual (paper version)
Trusteeship	Registration of the operation	Notification of registration notified	Manual (paper version)
Trusteeship	Notification of registration of the operation unconditional		

(\*) Presidential Decree No. 15-247 of 16 September 2015 regulating public contracts and public service delegations & Law No.: 23/12 dated August 5, 2023 determines the general rules for public procurement.

(†) Type of data processing : M : Manual (paper version), A : Automated, ICT : Information and Communication Technology.

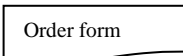
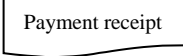
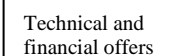
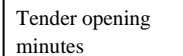
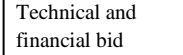
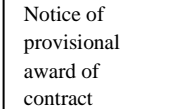
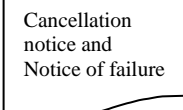
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**Figure N° 02 : Process for drawing up the draft specifications**



(\*) Type of data processing : **M** : Manual (paper version), **A** : Automated, **ICT** : Information and Communication Technology.

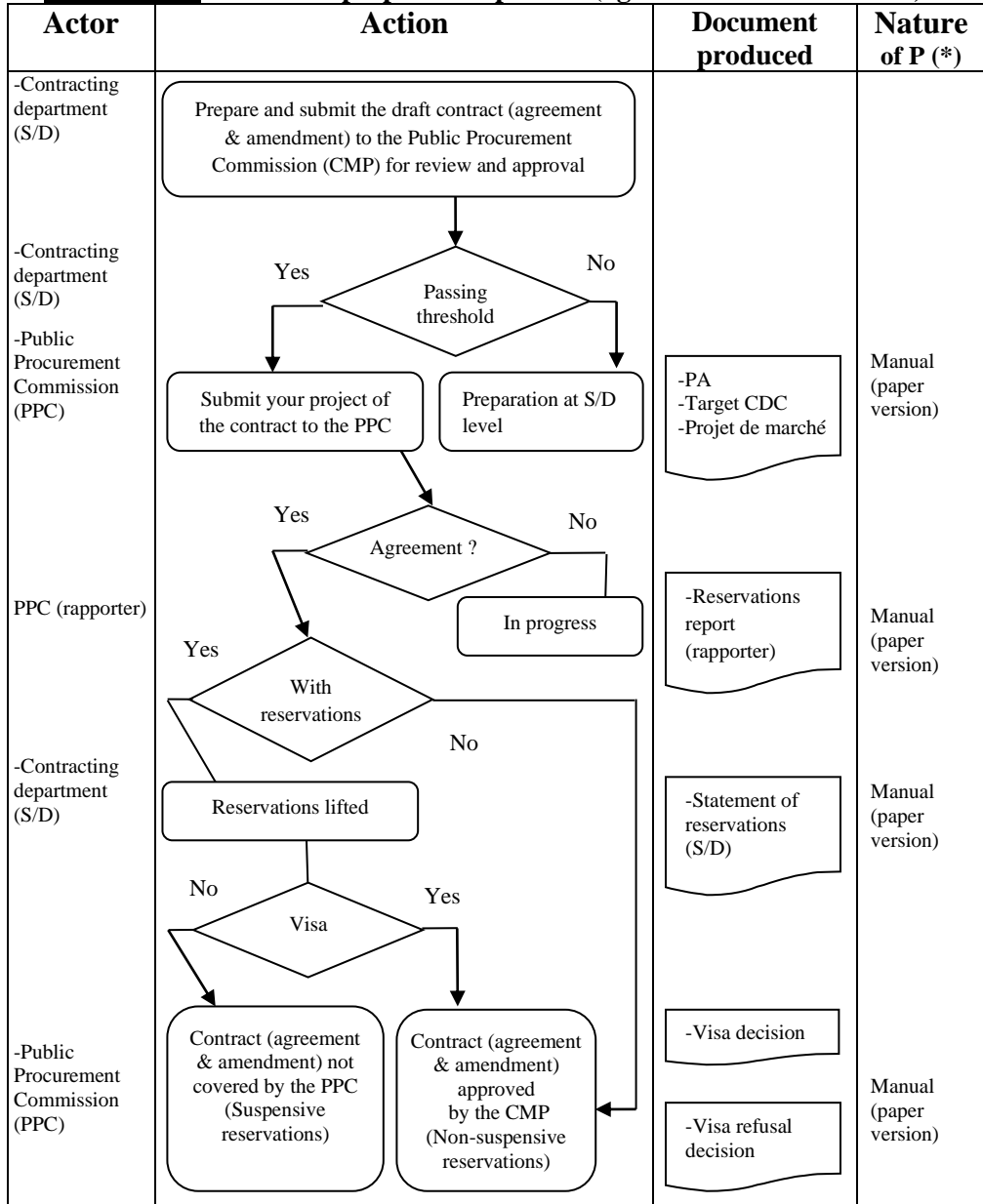
**Figure N° 03 : Process for issuing a call for tenders and reviewing bids**

Actor	Action	Document produced	Nature of P (*)
-ANEP	Publication of the tender notice in the : Arabic-language newspaper French-language newspaper-portail électronique BOMOP		Manual (paper version)
-Co-contracting partner (C/C/P)	Withdrawal of specifications (CDC)		Manual (paper version)
-Co-contracting partner (C/C/P)	Submission of technical and financial bids after the bid preparation period has expired		Manual (paper version)
-Tender Opening and Evaluation Committee (TOEC)	Opening of the folds (Decision diamond: No leads to Extension of time; Yes leads to Opening of bids)		Manual (paper version)
-Tender Opening and Evaluation Committee (TOEC)	Evaluation of technical and financial bids (Decision diamond: No leads to Cancellation of the transaction; Yes leads to Provisional award of the contract)		Manual (paper version)
-Contracting department (S/D)	-Cancellation of the transaction -Operation unsuccessful Provisional award of the contract		Manual (paper version)
-ANEP	Insertion of the notice of cancellation or invalidity in the press + BOMOP Publication of the provisional contract award notice in the press		Manual (paper version)

(\*) Type of data processing : **M** : Manual (paper version), **A** : Automated, **ICT** : Information and Communication Technology.

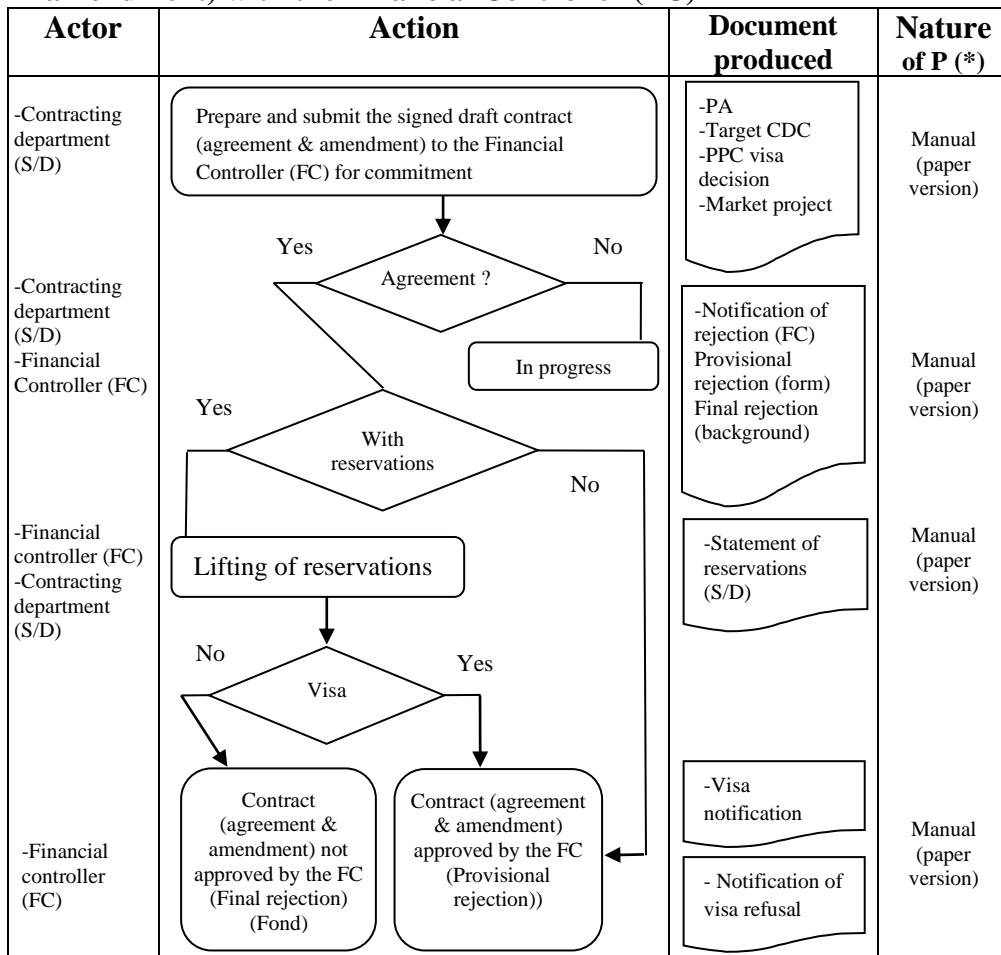
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**Figure N° 05 : Contract preparation process (agreement & amendment)**



(\*) Type of data processing : M : Manual (paper version), A : Automated, ICT : Information and Communication Technology.

**Figure N° 06 : Contract commitment process (agreement & amendment) with the Financial Controller (FC)**

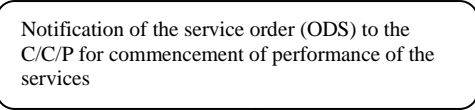
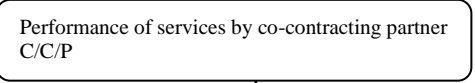

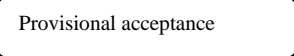
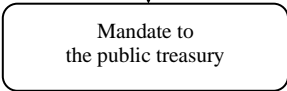


(\*) Type of data processing : M : Manual (paper version), A : Automated, ICT : Information and Communication Technology.



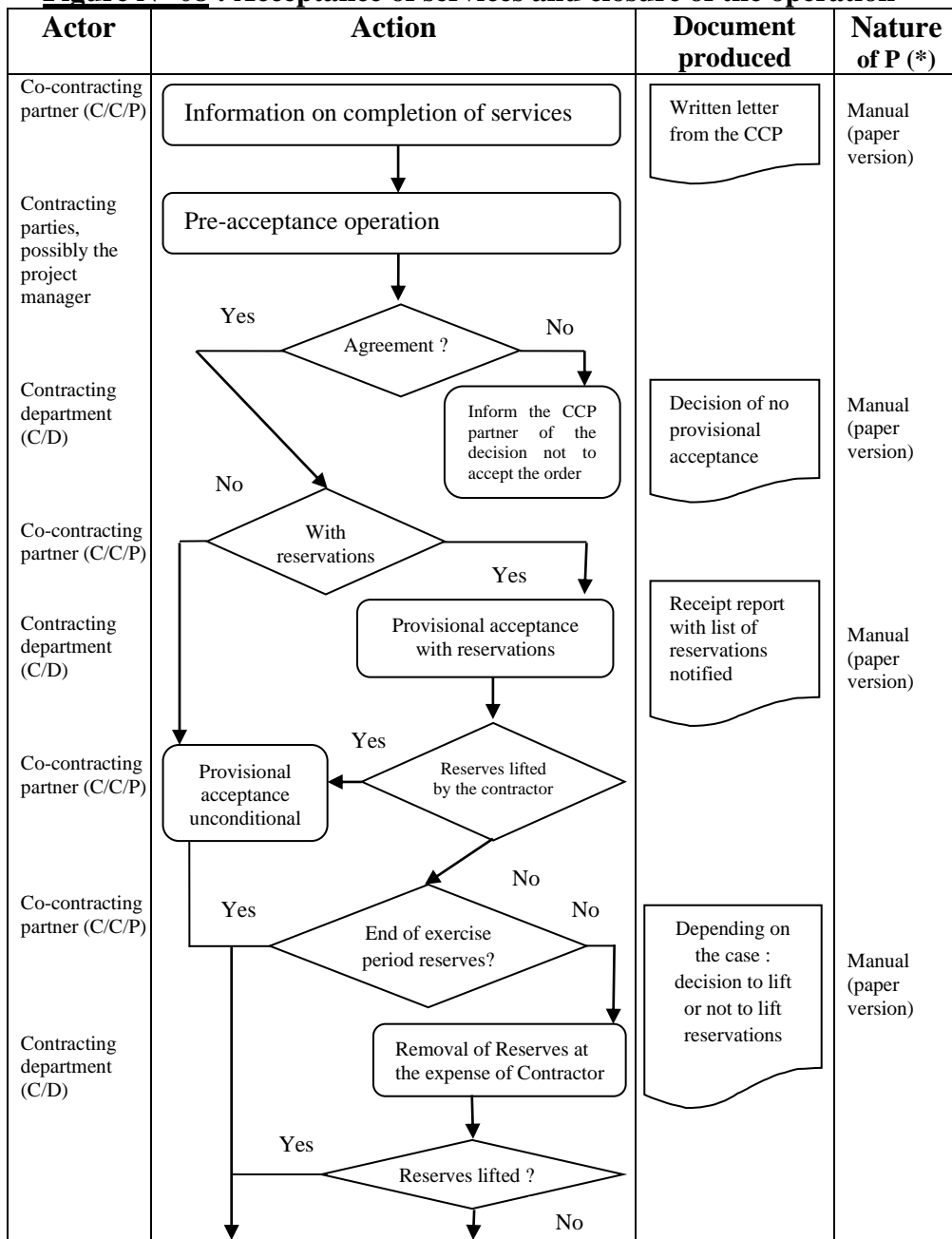
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**Figure N° 07 : Process for performance of services by the P/C/C and payment to the Treasury**

Actor	Action	Document produced	Nature of P (*)
-Contracting department (S/D) -Co-contracting partner (C/C/P)		-PA -Target CDC -PPC visa decision -Market project	Manual (paper version)
-Co-contracting partner (C/C/P)			
			
-Contracting department (S/D) -Co-contracting partner (C/C/P)		-Record of receipt	Manual (paper version)
-Contracting department (S/D) -Treasury		- PPC visa decision -Decision approved by FC -Contract approved by the FC - Payment appropriations (PA)	Manual (paper version)

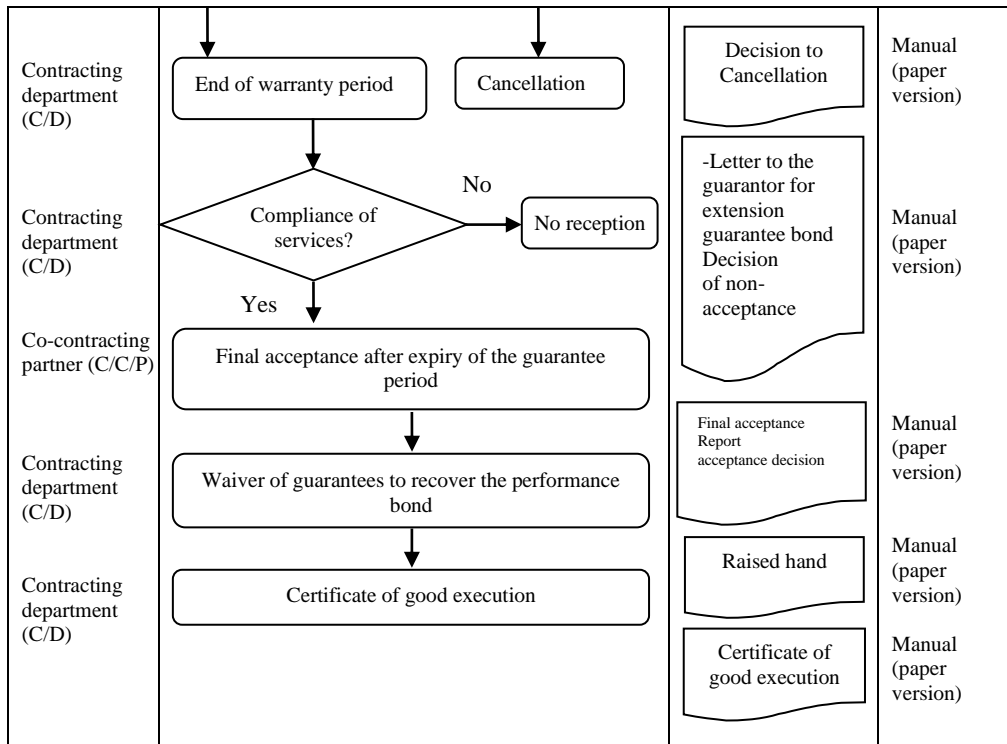
(\*) Type of data processing : M : Manual (paper version), A : Automated, ICT : Information and Communication Technology.

**Figure N° 08 : Acceptance of services and closure of the operation**

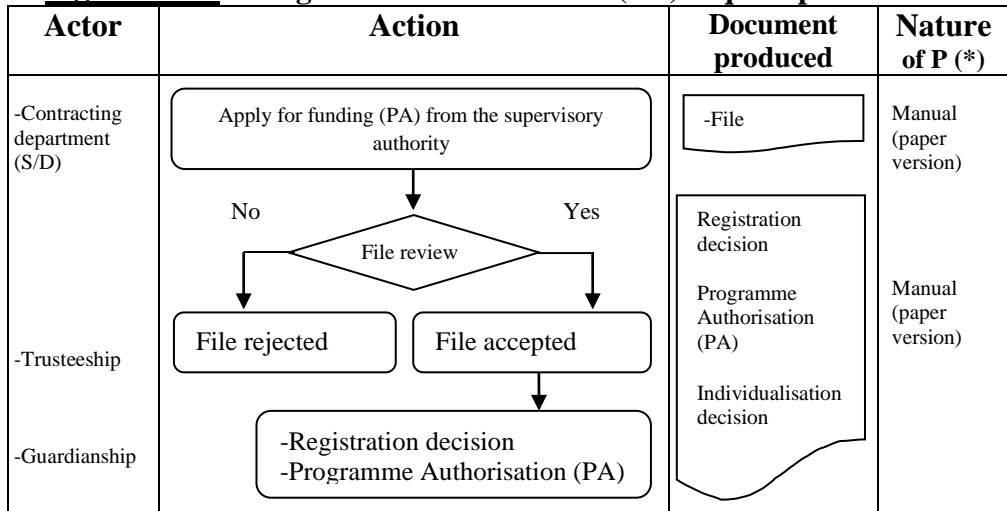


(\*) Type of data processing : M : Manual (paper version), A : Automated, ICT : Information and Communication Technology.

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**Figure N° 04 : Programme Authorisation (PA) request process**



(\*) Type of data processing : **M** : Manual (paper version), **A** : Automated, **ICT** : Information and Communication Technology.

### **4.3 Scope and role of the dematerialisation of data, particularly ICTs in the establishments studied :**

We can distinguish two types of population in an organisation: 'operational' users of ICTs to carry out their activity (users) and managers using ICTs to steer it (managers).

For managers, ICT is first and foremost a means of facilitating the flow of information (reporting) and making it more transparent, more available, more reliable (by minimising the margin of error due to the complexity of its production) and therefore more exploitable to improve the organisation's performance (standardisation of practices in terms of information flow, to improve the quality of relations with its main external public stakeholders).

Managers' interest in ICT therefore relates more to the spirit of the technology. There are some fundamental questions that need to be asked in this regard, namely :

- for what purpose? why ?
- What can it do? What ?

For users, ICT describes a way of doing things, proposing a standard process to be followed (e.g. how to manage an administrative file, how to respond to queries from co-contracting partners, etc).

Users are very sensitive to the changes that the dematerialisation of data will bring to their work processes, and to the players who will be involved. The purpose of the tool is rarely communicated to them, and the training they receive generally focuses on the technical and hardware aspects.

If the difference between the vision of managers and that of users is perceptible in the initial responses of the interviewees, each player is more or less aware of the vision of the other. Except that the actions implemented to reduce this difference are not always effective: communication on the project's objectives concentrated on the project launch phase, objectives sometimes forgotten under the pressure of the technological complexity of certain projects, training often focused on the hardware features

and the use of the tool, difficulty in getting the players concerned to adhere to the project, etc.

Furthermore, the role of dematerialisation of data relating to the management of public contracts at the time of deployment is not perceived by everyone in the same way. The use of dematerialisation in public establishments is generally motivated by the desire to harmonise work processes, standardise them and/or rationalise them in order to make information more reliable, more transparent, to increase productivity, etc. These standard processes form the generic layer of the system.

These standard processes form the generic layer of data dematerialisation, responding to the needs of several organisations using tried and tested solutions based on best practice, which are all standard management rules. The specific layer, which is configurable and therefore customisable, is designed to take account of the specific characteristics of the organisation through a long and tedious process of parameterisation.

The dematerialisation of data relating to the management of public contracts is then deployed to meet a need for change. However, even if all the players involved clearly perceive the impact of this change, the degree and scope of the change are not always shared.

#### **4.4 The place of dematerialisation in relation to other sources of company structure :**

The performance of an organisation or one of its entities with dematerialised data depends on several variables, including the tool. This observation, which is unanimously shared, poses two main problems: on the one hand, identifying the other critical variables that condition the performance of the organisation (or of the function in question), and on the other, the way in which these variables relate to each other through the activity of the players.

These problems were clearly raised by the players interviewed, particularly the managers responsible for steering the performance of their teams. The answer is far from obvious to them. For us, this first exploratory phase, which certainly enabled

us to highlight this issue, could not allow us to go into it in greater depth. Nevertheless, at this stage we can propose some results relating to the identification of other sources of company structure that are critical to its performance.

In some organisations, monitoring the performance of an entity with dematerialised data is considered to be a source of company structure. In this case, the indicators have a dual dimension: cognitive and normative. Monthly performance monitoring, for example on the basis of a dashboard of indicators, enables the players involved to become aware of their current situation (through the performance achieved) and of where they want to be (through the target performance objectives).

Thus, performance monitoring, contrary to what theoretical approaches put forward, is not a result of the institutionalisation of interactions between actors and the structural properties of the company (or sources of structure), but one of the structural properties (as cognitive and normative tools) identified as critical to the successful deployment of data dematerialisation.

The contribution of performance monitoring to the structuring of teams equipped with dematerialisation is recognised by the players in these teams and even demanded (a user who has not received the latest dashboard due to a manufacturing delay says that he "lacks quantified benchmarks (Order of the Minister responsible for Finance, 2013) (\*).

## **5. Conclusions and prospects for future research**

The exploratory study carried out in eight (08) Algerian Public Administrative Establishments (EPAs) confirmed the principles on which our approach to analysing the contribution of data dematerialisation, particularly ICTs, to improving the management of public contracts in a number of Algerian establishments is based.

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(\*) Order of the Minister responsible for Finance of November 17, 2013 establishing the content of the electronic public procurement portal, the terms of its management as well as the terms of exchange of information electronically. JORADP, n° 21, April 9, 2014". Article 4.

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The application of our analytical approach to data dematerialisation projects led us to the following main conclusions:

- The players involved in the project do not have the same perception of the role and scope of data dematerialisation. This difference leads to reluctance to change, under-use of the tool and loss of productivity.
- The dematerialisation of data is only one source of organisational structure. Its contribution to performance depends on its combination with other sources (the work process, the skills of the people involved, their culture, the structure of the teams, involvement, etc.).

In this context, we have found that performance monitoring is a critical source of structure, constituting both a resource and a constraint for day-to-day practices within the organisation or function in which the dematerialisation of data has been deployed. This exploratory study has therefore enabled us to :

- Confirm certain aspects of our approach to analysing the contribution of dematerialisation of data to improving the management of public contracts in a number of Algerian establishments,
- shed light on other aspects (such as performance as a result of practices versus structural ownership).

The complexity of the global business environment, characterised by strong competition and changing customer expectations and requirements, has forced companies to consider the challenges of using ICT to improve their various functions and increase their ability to cope with changes in their environment (Mouloud SABRI, Khaled AOUDIA et Mouhamed LALLEM, 2000).

The importance of the dematerialisation of data in economic development continues to prove itself in today's economy, which has become a digital economy based on human skills.

A future line of research involving an in-depth study will make it possible to analyse the functioning of the team

responsible for dematerialising public procurement data, in order to distinguish the various critical structural properties that contribute to their performance, and to understand how these properties become institutionalised over time to form stable routines (PARENT Julien, 2017).

## 6. Bibliography list :

- Algeria Telecom SPA. (2005). Information notice. Algeria Telecom bond loan. Alger: Algeria Telecom SPA.
- BESSEYRE DES HORTS C-H. (2008). L'entreprise mobile. Paris: Éditions PEARSON Education.
- BOULIFA, Brahim. (2016). Marchés Publics «Manuel méthodologique. Paris: Berti Editions.
- BRISSET, Karine; MARECHAL, François; MORAND, Pierre-Henri. (2003). La commande publique par enchère électronique inversée. Paris: Public Econ.
- C-H, B. D. (2008). L'entreprise mobile. Paris: Éditions PEARSON Education.
- DAJ. (2012). Dématérialisation des marchés publics. Paris: Dunod.
- DELELIS Philippe. (2004). La dématérialisation des marchés publics : principaux aspects juridiques et organisationnels. Paris : LEGICOM.
- European Neighbourhood and Partnership Instrument. (2007). Strategy Paper 2007-2013 and National Indicative Programme. Algeria: European Neighbourhood and Partnership Instrument.
- GILLES de Bagneux et FRANÇOISE Vergrière-Matringes. (2018). Dématérialisation et numérique dans les marchés publics. Paris : MEDEF.
- HORTS, B. D. (2008). L'entreprise mobile. Paris: Éditions PEARSON Education.
- HUBRECHT Hubert –Gerald. (2001). Droit public économique. Paris: Dalloz.
- International Telecommunication Union (ITU). (2022). International Telecommunication Union (ITU) Report. Genève.
- ISAAC H. (2006). Évolution des taux d'équipements en TIC. Paris: Editions Liaisons.
- KALIKA M. (2006). TIC et performance. Paris: Editions Liaisons.
- MENARD B. (2010). L'entreprise numérique. Paris: Éditions Nuvispublishing.
- Ministry of Finance. (2021). Guide to public procurement. Algiers: OECD.
- Mouloud SABRI, Khaled AOUDIA et Mouhamed LALLEM. (2000). Guide de gestion des marchés publics. Alger: Edition du Sahel,.



## **The dematerialisation of public procurement procedures : The case of some Public Administrative Establishments (EPAs) in Algeria (2024)**

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OECD. (2019). Review of the public procurement system in Algeria: Towards an efficient, open and inclusive system, OECD Reviews on Public Governance, OECD Publishing, <https://doi.org/10.1787/49802cd0-en>. Paris: OECD Publishing.

PARENT Julie. (2017). La dématérialisation des procédures de passation des marchés publics locaux. Paris: Éditions liaisons.

### **Text of the law :**

Law No.: 23/12. (2023). Law No.: 23/12 dated August 5, 2023 determines the general rules for public procurement. Algeria.

Presidential Decree No. 15-247. (2015). Presidential Decree No. 15-247 of 16 September 2015 regulating public contracts and public service delegations. Algeria.

Order of the Minister responsible for Finance. (2013). Establishing the content of the electronic public procurement portal, the terms of its management as well as the terms of exchange of information electronically. Algeria: JORADP, n° 21, April 9, 20.

Strategy Paper and National Indicative Programme. (2007). Strategy Paper 2007-2013 and National Indicative Programme 2007-2010. Alger: European Neighbourhood and Partnership Instrument.