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Master's Thesis of Public Administration

**Emerging technologies and the Reform of the  
DR. Congo Ministry of Public Service.**

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## **ABSTRACT**

There is currently very low use of new technology tools in the Congolese public sector. While the government is looking to invest more in these tools, there is still a knowledge gap on how emerging technologies can affect the country's public sector reform especially when it comes to civil servant recruitment and retirement. This study was done in hopes to fill this gap for policymakers, civil servants as well as Congolese citizens. The participants that took place in this study were picked through purposive and snowballing sampling. Out of all 18 interviews that were conducted, only 15 of them were retained for the study.

As for the analysis of the data, I used a grounded theory to find the main themes in the answers I obtained. Although more research and work need to be done, through this research I was able to affirm my hypothesis that indeed the use of emerging technologies could unlock the potential for the reform of the ministry of public service, especially in the areas that seem to have been experiencing the most challenges, recruitment, and retirement of civil servants. However, this is still a work in progress as there are more pressing issues at hand for the government.

**Keywords:** Public service, retirement, recruitment, public administration, Emerging technologies, public administration, ENA, CNSSAP

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# **1. INTRODUCTION**

## **1.1. Historical Background of the Democratic Republic of Congo**

Indeed, the Democratic Republic of Congo (DRC), with its 2345095 km<sup>2</sup>; 80 times Belgium, its former metropolis, 4 times France, will certainly have been, at the end of Belgian colonization, the best administered country, compared to certain countries of Africa, Europe, Asia and even North America. In 1959, on the eve of national independence, the Congo had a GDP per capita of US\$90, close to that of Greece and Portugal and equal to that of Canada, the highest in Africa; and exceeding that of many countries in the world; its increase was 4.8% per year. The DRC, which is emerging from several conflicts, is a vast laboratory where a whole series of international partners are experimenting with different state-building alchemies. Their goal is to rebuild this country, generally considered a textbook case of failed states. Security, poverty reduction, improvement of governance and the rule of law, macroeconomic management, decentralization and physical rehabilitation of infrastructure are among the main objectives of the construction and reform of the State.

However, despite considerable international funding, the talent and strategic thinking of international experts and consultants, and even the declared willingness of political leaders to embrace change, the hard evidence of success in rebuilding state and Congolese society are relatively few in number. Poverty indicators (such as education, health, food security, status of women) and vulnerability indicators (mainly physical security) remain poor despite important initiatives designed, funded and implemented by international partners of Congo. Many development and humanitarian actions have also produced undesirable side effects. One of the most optimistic scenarios once predicted a return to 1960 levels of development by 2030, provided growth rates remained high by then (Democratic Republic of Congo

2006: 11, 27).

The global financial crisis and the fall in copper, cobalt and diamond prices in 2008 rendered this estimate invalid. Internationally renowned monitoring sources, such as the Fund for Peace's Failed States Index, the World Bank's annual Doing Business in Africa assessment, the OECD's Human Development Indicators and the corruption of Transparency International, systematically condemn the DRC. The Food and Agriculture Organization (FAO) provides a striking figure: 50% of the Congolese population experiences malnutrition. The current main objectives of the government are: (a) to reunite, pacify and restore governmental authority throughout the Congolese territory, (b) reform the public service, (c) to reform the security forces by integrating the factions rivals, (d) achieve the sustainable development goals(e) set up new political institutions. (Karlsrud John, 2015). The DRC, which is emerging from several conflicts, is a vast laboratory where a whole series of international partners are experimenting with different state-building alchemies. Their goal is to rebuild this country, generally considered a textbook case of failed states. Security, poverty reduction, improvement of governance and the rule of law, macroeconomic management, decentralization and physical rehabilitation of infrastructure are among the main objectives of the construction and reform of the State. However, despite considerable international funding, the talent and strategic thinking of international experts and consultants, and even the declared willingness of political leaders to embrace change, the hard evidence of success in rebuilding state and Congolese society are relatively few in number. Poverty indicators (such as education, health, food security, status of women) and vulnerability indicators (mainly physical security) remain poor despite important initiatives designed, funded and implemented by international partners of Congo. Many development and humanitarian actions have also produced undesirable side effects. One of the most optimistic scenarios once predicted a return to 1960 levels of

development by 2030, provided growth rates remained high by then (Democratic Republic of Congo 2006: 11, 27). The global financial crisis and the fall in copper, cobalt and diamond prices in 2008 rendered this estimate invalid. Internationally renowned monitoring sources, such as the Fund for Peace's Failed States Index, the World Bank's annual Doing Business in Africa assessment, the OECD's Human Development Indicators and the corruption of Transparency International, systematically condemn the DRC. The Food and Agriculture Organization (FAO) provides a striking figure: 50% of the Congolese population experiences malnutrition. The current main objectives of the government are: (a) to reunite, pacify and restore governmental authority throughout the Congolese territory, (b) reform the public service, (c) to reform the security forces by integrating the factions rivals, (d) achieve the sustainable development goals(e) set up new political institutions. (Muzong 2007: )

## **1.2. Problem Statement**

Social scientists, governments, international organizations, and peace builders/keepers are increasingly adopting innovative technological methods because of traditional work environment shortcomings. The latter no longer seems to be efficient on its own. One example of these shortcomings is its inaccessibility. It is not always accessible for citizens as well as public servants to make things work the old-fashioned way using papers. The Covid-19 pandemic has also taught us that there are some externalities that would limit civil servants from getting to the office and making a handwritten or printed report. Other factors such as lower quality data, limited flexibility, lengthy process, high cost, non eco-friendliness also play a role in the shortcomings of traditional documentation or just simply doing work. The use of emerging technologies in public services delivery efforts seems to become inescapable in the era of technology revolution. Governments and decision makers strive to increase all



preventative methods to mitigate the risks that come with social, economical and political changes. For that reason, understanding the role that emerging technologies play in the reform of the D R. Congo Ministry of Public Service is increasingly being put in first place in the ministry's agenda. (Elizabeth Dow Goldman, 2017)

With that being said, I believe that the factor that makes today's Congolese public administration even less helpful to the citizens is when it comes to recruiting and retiring civil servants effectively. Civil servants are no longer satisfied with just knowing what is currently happening or what happened in the past, they want to be able to know what is going to happen in the future and prepare for it. Especially when it comes to their work. Having a platform where they can track their hiring process, or their retirement status reassures them and helps them prepare accordingly. With traditional documentation and reporting, one cannot predict future events while the use of new technologies such as the internet and its many databases can help them track their process.

The Democratic Republic of Congo has also come up with many initiatives to promote emerging technologies in various spheres of public administration which aim to respond to communities' needs, enhance accuracy of prediction of public service delivery as well to communicate adequately with citizens. Such projects have been undertaken at the national level as well as at the local level but one thing remains. How to best predict future changes in order to prepare for them?. As the saying goes, the first step in solving one's problem is by admitting you have and understanding what the problem really is. In the case of the DRC, scholars believe that this first step still needs to be taken. One of the many issues that the country faces is the lack of information and knowledge on what these issues really are. There is famine but there are no numbers to determine how many, where people are hungry. The Kivu Conflict has been going on for over two decades now but the number of perpetrators,

the number of victims and their location are unknown. No one understands the issues; therefore no one has the answer to solve. Traditional documentation can no longer answer these questions because the reports are lost and the new generations is not informed as to what happened twenty years ago.. Emerging technologies such as computers and the internet seem to be the only answers. (Markelova, 2017)

### **1.3. Purpose of the Research**

This study will serve three main purposes. The first being that it will inform policy makers specifically and the Congolese government in general of the importance of emerging technologies in achieving the countrys' development goals. The second, inform civil servants. The third purpose is to motivate civil servants to adopt the use of emerging technologies in their everyday professional lives because not only will these tools help improve their work but they will also help smoothen their transition to retirement. My hope is that the following will happen

- Inform **policy makers** of the importance of using emerging technologies in the ministry.
- Inform **civil servants** of the best use of emerging technologies in the reform of the public sector.
- Inform and encourage **Congolese citizens** on the importance or lack thereof of emerging technologies in the public service.

### **1.4. Significance of the study**

As a public administration student and a social science researcher , this research will serve two main purposes both for my academic and professional interests. First, academically I hope that this research will give me a deeper understanding about the importance of investing in emerging technologies and how this can affect the reform of the Congolese public service. I would like to satisfy my curiosity as a researcher by getting a better understanding on this

relatively new social phenomenon. Second, professionally I hope that this research will serve as a tool to motivate the Congolese government to invest more in research in general and emerging technologies for research in particular. Additionally, I hope that civil servants and social scientists like myself will be motivated to push for the use of new technologies in social and political research as I believe these new research technologies advancement will better inform decision makers on how to better deliver public services to citizens for whom we work.

The following literature review will look at previous works done by academics and civil servants on the impact and significance of emerging technologies in helping reform the public service in the Democratic of Congo. The review will also explore why emerging technologies can be the game changer in determining what are the best strategies for incorporating new technologies in the Ministry of Public Service in order to improve the ministry's civil servant recruitment and service delivery.

## **2. LITERATURE REVIEW**

### **2.1 Theories of the use of technological tools in NGOs**

The last few decades technological advancements have increasingly made human lives easier, especially when these advancements are taken up a notch by saving people time and money. Along with these technological advancements, Artificial Intelligence (AI) and robotics are brought into the picture. In recent years, AI has been portrayed as something big, vile, and robotic that will take over our lives and erase our existence. However, that is not all there is to these new research technologies. The use of AI and other technologies in world affairs is continuously increasing and getting better and better. Fortune 500 companies such as Amazon, Tesla and Microsoft have fully immersed themselves in the use of automation and

robotics. One cannot deny their success with this decision. It seems that the world of science and business have fully embraced this new way of living while the social science and political science world has been lagging. As they try to catch up, social science scholars have argued that while these technological advancements have been known to be used in negative elements, they can also be used to promote the United Nations (UN) sustainable development goals and help governments achieve their goals. (Nobrega, 2021)

Emerging technologies have been getting popular each day and the major sign of it is that a big number of countries and International Organizations' actions are now investing in them. To achieve the UNSDGs, more and more countries are relying on findings that new technologies such as AI's machine learning, Natural Language Learning and Robotics provide. Instead of using the old-fashioned research of using surveys, interviews, and questions to inform themselves, organizations are now using AI to not only understand social, economic, environmental, and political issues and changes but AI research helps predict these changes more accurately without the costs and biases that came with the old-fashioned research. An example of this is famine, an issue that many countries are currently facing. The United Nations, The World Bank, and humanitarian organizations have recently launched innovative and efficient plans to put an end to famine. This is being done by launching the famine action mechanism that is made for preventing future famines. (Future, n.d.) .

Technological disruptions are at the heart of the changes impacting the world. Governments and administrations at all levels are challenged to keep pace and use these upheavals to compete locally and internationally in attracting customers and talent to increase their economic and social prosperity. Leaders invest in technology to keep pace. In France, about half of public service executives (47-53%) plan to adopt, or have already adopted or tested, emerging technologies such as IoT, artificial intelligence, blockchain and robotics. In an era

of unprecedented change, the role of technology leaders (Chief Information Officers, Chief Innovation Officers, Chief Digital Officers or Chief Ecosystem Officers) is changing - they will need to support a more agile business, grow their ecosystems, improve the customer/user service and enhance operational efficiency.

All governments in the OECD face the challenge of modernizing and reforming public management. Given current developments – globalization, new budgetary demands, changing societies and heightened customer expectations – this process of reform must be continuous. Reforms have relied on ICTs in many areas. E-government can help build trust between administrations and citizens. ICTs can contribute to this, by facilitating the involvement of citizens in the political process, by promoting the openness and accountability of public administrations, and by helping to counter corruption. In addition, ICTs can help an individual make their voice heard in a general debate, they can be used to encourage citizens to think constructively about matters of public interest, and they can contribute to the assessment of consequences of using technology to de-compartmentalise the political process.

The most popular emerging technology especially when it comes to research is AI's machine learning and natural language processing. Machine learning (ML) involves computer algorithms that detect patterns from data to learn how to make predictions and recommendations, while natural language processing (NLP) involves computers learning human understanding of language. The UN Secretariat's primary concern is how these emerging technologies can be deployed for the benefit of humanity to defuse violence and strengthen international stability. This dates back to the Cold War, when scientists used multi-layered simulations to predict the magnitude and potential outcome of an arms race between East and West. Since then, governments and international organizations have

increasingly used advanced computer models and machine learning to try to understand repetitive conflict patterns and predict moments of fragility. (A.Pasligh, n.d.)

Researchers believe that AI has the potential to change the world for good soon. However, this is only possible if human control remains over all AI systems. It is essential to make sure it remains for peace instead of promoting self-interest. More specifically, they argue that this same AI when used appropriately can help in the fight towards achieving peace. They emphasize that if

considered seriously AI has the power to save the world and help build sustainable peace.

Nevertheless, to proceed with the idea of using AI as a solution it is crucial to stop viewing it as a gigantic robotic machine out to get people with a changed perception, better implementation, and more advancements. (A.Pasligh, n.d.)

AI is helping to eliminate problems that come with government and humanitarian interventions by getting rid of different societal barriers such as language barriers. AI's Machine Learning (ML), Natural Language Processing (NLP) and Robotics go beyond language barriers and inform decision makers on issues in any country. AI can aid in this area and help provide insight into potential problems and tackle them smartly. Armed conflicts and other issues that generate violence could be anticipated in advance and allow the international community to intervene preemptively to resolve these issues. (Research, 2019)

### **2.1.1. Theories of the use of technological tools in NGOs: The Case of ACLED**

The Armed Conflict Location & Event Data Project (ACLED) predicts unrest up to 6 months with at least 60% accuracy rate. The predictions can be on battles (violent between two organized armed groups), explosions and violence at a distance where the target's ability to

react is eliminated, violent events against civilians by armed groups, protest, riots and strategic development such as looting. (ACLED, 2021)

Acled Prediction on Violence against civilians in Syria.

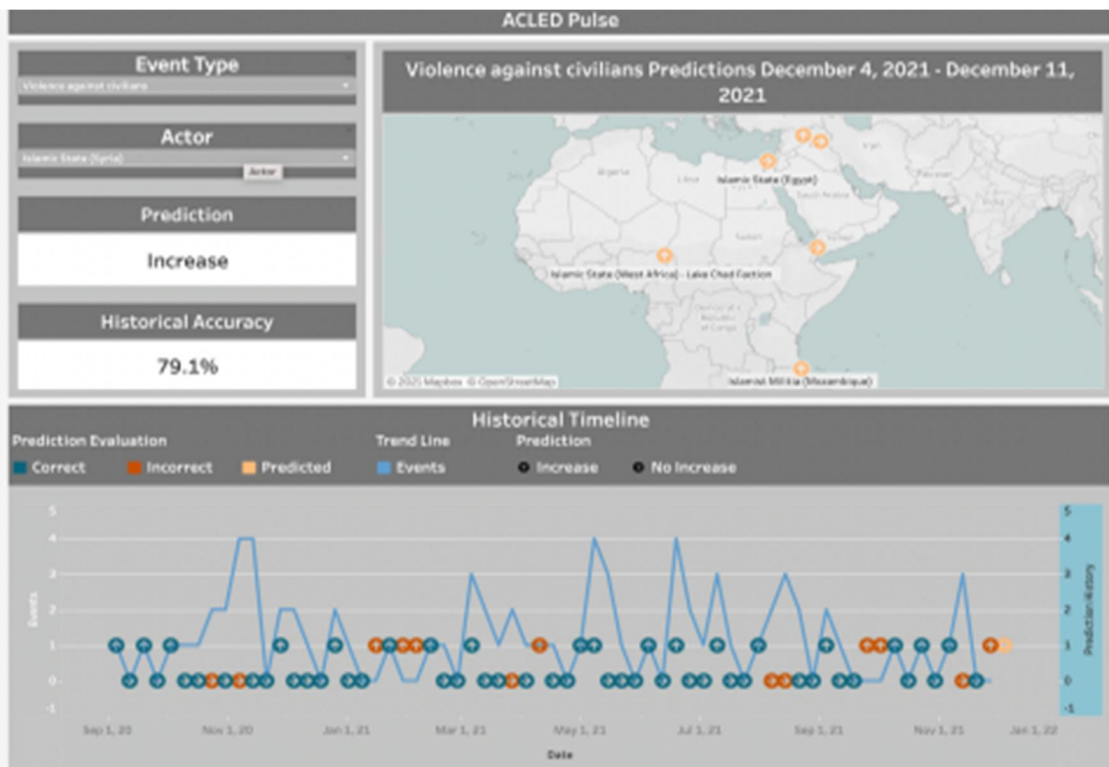


Figure 1: Prediction on violence against civilians in Syria from September 2020-January:2022. Source: ACLED

The figure above was retrieved from the ACLED website, and it shows one week prediction with 79% accuracy rate. Predictions such as the one above and those for a longer time can be purchased. (ACLED, 2021)

A recent research done by the UN shows the impact of AI usage in the promotion of peace. They interviewed stakeholders in Libya and Yemen that used an AI-powered chat service to tell the international body how they feel about issues. Here is some of the extract from their report. (Brown, 2021)

[...Over the past year, the United Nations has been working with AI startup Remesh on an algorithm that helps negotiate peace deals across Yemen and Libya as the two nations grapple with warring civilians and a pandemic. coronavirus. This tool has

been used as a website link to stakeholders in troubled areas. It is designed to evaluate the open Internet response of up to 1,000 people at a time and to build consensus in near real time. The software helped the UN understand which groups in conflict areas were most interested in face-to-face discussions with political leaders.

UN launch attempt in summer 2020 specifically in Yemen, where the platform is deployed to understand how people think that the pandemic was the impact of the conflict on the ground and how and who that they believe are responsible. The tool has also been used in Libya in October to determine the participants' thoughts about the UN proposal of a provisional government for nearly a decade after the North African country plunged into strife. Traditionally, to find out what people want in war zones, the United Nations Office of Peacebuilding Affairs asks staff to conduct a nationwide survey, either on foot or by phone, taking monthly and costing several hundred thousand dollars. "It's very expensive. And by the time you get the results back, the results may already be dated," said Daanish Masood, policy official at UN Innovation Cell. "But it helps to have a quick way to have a consistent conversation with people and see how their views are evolving."

The United Nations currently manages dozens of peacekeeping operations on three continents to reduce civilian suffering and maintain lasting peace. The United States is the largest financial contributor to these operations, providing more than a quarter of the organization's \$6.8 billion peacekeeping budget for 2021. Robotic could play some role in the future of disaster response. In January 2020, the agency kicked off its innovation cell for discovery, testing and scaling new technologies. This is where the partnership with Remesh begins. Founded in 2014, the New York-based market research firm works primarily with companies trying to understand the needs of their employees or customers. The UN absorbed this concept and applied it to its foreign diplomacy effort...] (Brown, 2021)

The concept of a peace machine has been proposed by Timo Hongkala that can support peace processes around the world, incorporating multiple disciplines such as computer science and psychology to find ways to end conflicts or violence in general. AI and peace organizations such as ACLED with the support of the World Bank and the U.S. The Department of Defense through the CCAPS program, and the European Research Council, have managed to have some sort of a monopoly over the field of using AI to understand and predict conflict based on data. They have been praised for their precision and accuracy in predicting unrest and violence in many cases, DRC included. However, without many competitors it is hard to determine how effective and ethical ACLED really is. As much as an advocate for AI research one can be, it is important to understand that although AI can likely be used as a force for good in post conflict DRC, people should keep in mind that the quality of data offered to all



the stakeholders is of more importance compared to the self-serving benefits decision makers from misusing this new tool. (UNESCO, 2020)

A huge number of conflicts are occurring in the DR. Congo because government leaders and top authorities are not able to predict their arrival this can either be because of a lack of effort from their end or the lack of technological resources to catch something before it occurs. They simply

lack the right information that will enable them to not understand the issues at hand but to also address them before they become fatal. Prediction regarding the increasing ethnic, social, environmental, and political tensions is difficult when using traditional research tools. It might be able to analyze the complex information, process it and provide overviews on potential dangers coming. (Witness, 2018)

## **2.2. Theories on emerging technologies and the Reform of the Congolese Public Service**

One of the fundamental weaknesses in the reform process concerns the use of the Congolese administrative structure. In the context of the crisis affecting the country, Congolese administrations are unable and often unwilling to work for reform. Instead of facilitating it, they undermine it. The state crisis in the Congo is characterized by a loss of legitimacy, a renunciation of the development agenda, an inability to ensure security (or the monopoly of coercion), failures in the management of political and technical priorities and a inability to mobilize, generate or manage internal and external financial resources. Despite these enormous problems, the Congo supports an administrative space with which state agents and citizens seem to have come to a complex but workable form of arrangement. It is also a

space where international partners continue to believe in the reform intermediary function of Congolese state agents.

Both citizens and international partners have a strange love-hate relationship with the administrative apparatus of the state, despite its brutality and corrupt methods at all levels. It seems somewhat paradoxical that the Bretton Woods institutions invited the government to reorganize the civil service by obliging people over retirement age to take it and not to increase the salaries of other civil servants - that is - that is, the individuals expected to implement the reform initiatives. They have, however, been relatively lenient about salary increases and often excessive in-kind benefits for political actors. The discrepancy between the way in which the experts of these institutions privilege political actors to the detriment of administrative agents is striking.

Even if the crisis affecting the state certainly handicaps the *modus operandi* of administrative services in the Weberian sense of the term, it has hardly made them disappear. They still clearly have a purpose for ordinary citizens, political elites and international reform experts. However, this crisis has considerably transformed the initial mission of these services. The administration is a powerful machine, which contributes to the perpetuation and reproduction of the State as a sovereign political and territorial entity. Although a World Bank report on governance in the DRC speaks of “administrative endurance and some pockets of functionality”, it also argues that the administration “seems to have abandoned its original objectives” (World Bank 2005: iii ).

Corruption, exploitation and predation are the main factors explaining the persistence of the DRC in general and the administration in particular (Trefon 2009b). The personal survival of

its workforce is indeed an obvious reason for the persistence of frontline bureaucrats in the administration. We have “privatized” what is officially a public service. This transformation is determined by how intelligently these administrative personnel take advantage of the advantages associated with their status or with occupying relatively influential positions. Agents continue to justify the importance of their work – and their own – by rendering services that are supposedly insignificant, such as issuing permits, certificates, letters of recommendation, and waving stamps and seals. representative of their authority. They respond pragmatically to their own needs and expectations before dealing with the services they are supposed to offer. Personal expediency usually governs their actions. Administrative service providers in Congo are therefore perceived as uncontrollable, unruly, self-interested, corrupt... and simply, useless.

The reform of the public sector has been on the DRC's political agenda since the country's independence in 1960. It was also an intractable problem that preoccupied Belgium during the colonial period. The size of the country, its complex ethnic mosaic, its ecological disparity and the complex nature of the national political economy seriously weaken its administrative organization. No sector of public service (justice, education, economy and finance, infrastructure, territorial administration and public service) has been spared. Administrative reform was also on the agenda of the National Sovereign Conference in 1993, but the resolutions adopted were never implemented. This historical debate essentially concerns territorial decentralization and the decentralization of the civil service (Kanyinda Lusanga 1984, Mukoka 1986, Delta I Consulting 2002, World Bank 2005). Programs and projects focusing on administrative reform are ongoing in the DRC. Three priorities are systematically identified, even if they have not been successfully applied. The main stumbling blocks concern the lack of political will and financial means. These priorities are:

(a) recruit civil servants on the basis of their qualifications as opposed to recruitment based on nepotism and patron-client relationships; (b) offer them decent wages; and (c) distribute human, financial and material resources equally between the center (Kinshasa) and the periphery (the decentralized administrative entities). One such program is the National Secretariat for Capacity Building (SENAREC), organized within the Ministry of Planning and funded by the United Nations Development Program and the African Development Bank. It has the (ambitious) objective of improving administrative efficiency.

Its mission, as in other African countries where a similar approach is implemented, includes the creation and strengthening of units responsible for formulating policy within different ministries and public bodies. It also includes the organization and financing of training aimed at improving the skills of civil servants (Delta I Consulting 2002: 26). SENAREC is also responsible for identifying priorities for the acquisition of equipment: the majority of public services in the DRC currently lack computers, photocopiers, fax machines and landline telephones. Most major donors (World Bank, European Commission and USAID) are involved in some form of concrete administrative reform. The Belgian Technical Cooperation (BTC), for example, is in the process of designing what it calls a “local administration”. The idea, once again, is to bridge the gap between service users and service providers by bringing the administration closer to the population and ensuring the transparency of procedures (Nlandu et al. 2005). The total or partial privatization of services is increasingly included among the priorities of the reform, as is the strengthening of the participation of international agencies and NGOs in the provision of services and the control of their quality.

It is far from certain that these well-intentioned initiatives are based on realities adapted to

the local level. Attempts at administrative reform have largely failed due to the lack of proper sociological feasibility studies. Not enough effort has been made to define the type of administration that best meets the needs of the Congolese. Furthermore, “good governance” initiatives, including anti-corruption measures (imagined in Washington, Paris or Brussels – and increasingly in London), mistakenly consider service delivery issues in Congo more like technical problems than political problems (Anderson 2005, International Crisis Group 2006, Trefon 2007: 23-29). The skepticism once expressed by Léon de Saint Moulin with regard to the relations between Mobutu and the administrations remains valid. He argued that initiatives to rethink the administrative apparatus tend to be tactical and do not express a desire to redistribute power (de Saint Moulin 1988: 221).

The reform planning process in the DRC is flawed. A link is missing. This missing link is a body of qualified, dynamic, honest and hard-working civil servants, properly equipped, remunerated, respected by the users of the services and motivated by the reconstruction of the country. This largely explains why the reform initiatives have not achieved the expected results. The legacies of wars and looting, the role of multinationals in the natural resource sector (and their corrupt management) (essentially the mining and logging sector), the protracted security problems in the Kivus and the relations between the Congo and its neighbors are all external obstacles to reform. The absence of reform or the slowness of reform is also explained by the fact that the massive presence of international reform initiatives has exonerated the Congolese government and Congolese state agents of their responsibilities. Instead of being accountable to the population, the authorities reassign the abstract notion of responsibility to their international partners. The authorities are relieved of the responsibilities associated with their fundamental mission, which is to facilitate the development program and improve the well-being of the population.

The failure of reform in Congo is therefore a shared responsibility. The international community implements fragmented and contradictory strategies, with insufficient financial means and without fully understanding the political and cultural context of the DRC. Congolese authorities are reluctant to buy into reform strategies they have not owned or strategies they fear threaten their positions of power. The analysis presented in this article confirms these assertions. While there are a few examples of commitment and effective institutional and technical reform initiatives, there is little evidence of positive change. There is no evidence that isolated successes or the famous “Congolese potential” have produced concrete results or led to social dividends. Emerging technologies have become more and more indispensable in both the private and public sectors. In the 21st century, any country that wants to develop or that engages in the process of modernization, takes into account the undeniable contribution of new technologies. The effectiveness of government action to improve social conditions, the mobilization of internal revenues, the management of natural resources, transparency in public management, etc. all require the efficient use of new techniques.

In the DRC where the challenges of national reconstruction are enormous, adaptation and technological integration must go hand in hand with the bet of the "Revolution of modernity" launched by the Head of State during of his investiture to the highest office for his second five-year term recently renewed. Even in so-called emerging countries, this technological revolution is considered a vital tool in the execution of social projects to make government action more effective. Although the DRC is a very beautiful and rich country, it is still ranked at the bottom of the poorest countries in the world. However, this country is full of so much potential and resources that can be transformed into wealth and capable of laying the solid foundations for the emerging country to take off over the next five (5) years.

Certainly, this requires a passionate revolution for the reform of key sectors of life and the fight against bad political practices that have taken root in our country.

The National Party for Reform, PNR in acronym, advocates fundamental reform to, among other things, adapt the efficient and effective integration of new technologies for the betterment of a new, strong and prosperous DRC. The country needs a 21st century vision for modern and transparent management in the exploitation of our natural resources capable of creating jobs for the Congolese and fighting poverty. The Congolese have suffered so much, they need men of vision, up to the task of national socio-economic challenges. To make social issues the priority in 2012, the stability of the macroeconomic framework of growth rate estimated at 6% this year is not enough on its own without rigorous reform measures. Creative and innovative initiatives and new ideas are needed to move the country forward, such as business climate improvement strategies to attract investors. The country cannot continue to do things the same way and expect different results. In view of the technological deficit situation in the DRC, it can be said without any exaggeration that the Congolese leaders have not yet become aware of the unparalleled role of this fascinating technological revolution in the country's development efforts.

### **2.2.1 Historical Background of the National School of Administration (and primary arguments surrounding the key issues)**

The National School of Administration (ENA-RDC) in the Democratic Republic of the Congo (DRC) was established in 2013 in accordance with Articles 3 and 4 of Decree No. 13/013 of the country's constitution. This public establishment has the following missions assigned to it: Ensure the training of Career Agents of State Public Services; Ensure the

initial training and continuous training of senior executives of the Public Administration and the various public services of the State; Ensure the training of senior officials of the administrations of the countries of the sub-region, in accordance with the agreements signed between the Government of the DRC and the foreign Governments concerned; Participate in the training of Senior Officials of the Public Administration and the various public services of the DRC. (ROSS A., 2016)

ENA-DRC wants to be a reference institution and a "resource center" on the national and international level in terms of recruitment and quality training of agents and executives of public and private administrations, from all strata of society. ENA-DRC aims to contribute to the emergence of an efficient, honest, transparent administration that is close to citizens for sustainable human development, in line with the current imperatives of innovation and modern management standards. In the seven years this institution has existed, it has recruited more than six hundred high ranking public officials and offered different training to more than five thousand existing public servants. The training system at the National School of Administration (ENA-RDC) is divided into two categories, The Initial Training which trains new public servants and The Permanent or Continuous Training which trains existing high level public servants. The development of training programs takes into account the following aspects: the identification of the training needs of the Public Administration Congolese; the adequacy that must exist between the training programs and the needs of Public Administration; the need to guarantee professional and practical training; solving the problem of deskilling and under- qualification of Public Administration personnel; the distinction between initial training and continuous training.

To better understand how ENA-RDC works, it is necessary to understand the two different



types of training, The Initial Training and The Permanent or Continuous Training. (RADIO, MAEN, RDC, 2017)

### *2.2.1.1 The Initial Training*

The Initial Training is the foundation of ENA-RDC. This training is aimed at both agents of the Public Administration and those of the public services of the State as well as candidates from universities and higher education institutions in the country, holders of a second cycle diploma or in other words holders of a Bachelor's degree. A bachelor's degree is thus required following the needs of the Democratic Republic of Congo to acquire agents capable of supervising, directing and solving complex problems which arise to date in the Congolese Public Administration. The role of design therefore becomes important on the part of these agents in the various fields of intervention of the public power. It is therefore through the initial training that the ENA will mainly fulfill its mission of training senior executives called upon to exercise design, supervision and management functions within the central, provincial and local administrative services, and in the companies and public establishments as well as in diplomatic representations and international institutions.

The Initial Training consists of the following steps: General training in "Common Core". This step is an essential prerequisite for the rest of the training. It is accompanied by approximately 855 hours of lessons, provided for approximately 12 months. During this period, the students will receive a multidisciplinary and versatile training relating to the main areas of activity of the life of the Nation. Specialized training in the various fields of Public Administration. In a specialization sector, the program provides 450 - 500 hours of lessons given over 6 months in the following sectors: a) Central, Territorial and Local

Administration; b) Diplomatic and Consular Administration; c) Economic and Financial Administration; d) Labor and Social Security Administration; e) Professional internships: This stage of training is compulsory for all students. For the “Trunque Commun”, the students will complete a 3-month internship; while in the sectors, the internship will last 6 months. (RADIO, MAEN, RDC, 2017)

#### *2.2.1..2 The Permanent or Continuous Training*

The Permanent or Continuous Training is all the training actions intended to fight against the deskilling of agents and to ensure their development. Continuous education therefore aims to remedy the shortcomings, deficiencies or weaknesses observed in the daily functioning of the Public Administration. If the so-called initial training is aimed at the upper category of civil servants and certain candidates coming directly from higher education and university institutions, permanent training, on the other hand, is designed for all categories of State personnel in active service. within the Public Administration.

By fulfilling this permanent training mission, the ENA-RDC wants to be a key player in the fight against deskilling by meeting the needs for action in upgrading, recycling and improvement. This training, generally à la carte, will be of variable duration (from a few weeks to several months). It may be provided either remotely or at the School's headquarters or at any other site chosen by the school management. The “Common Core” training has the following objectives: the deepening of knowledge in fundamental fields (law, economics, etc.); students' mastery of administrative tools (drafting of legal, technical, budgetary and fiscal texts, etc.); the development of the capacity for reflection and innovation, in particular through research carried out in small groups. The last two years ENA-RDC has been facing

stagnation in terms of efficiency and efficiency in their training system efficiency, and organization. This is said to have been due to the school not having the best training system. These two issues have caused delays and poor quality of training in the school the last two years. This totally goes against the school mission of fighting the traditional poor quality of recruiting and training of public officials. The problems mentioned above raise a question on how can ENA-RDC adopt a better training system that will ensure that high level and qualified people are well trained in the congolese public service.

### **2.2.2 Historical Background of the National Social Security Fund for State Public Employees (CNSSAP)**

The “Fund” is a public institution created by Decree No. 15/031 of December 14, 2015 on the creation, organization and operation of a public institution called the National Social Security Fund for State Public Agents, “CNSSAP” in acronym . The fund was established as a department or institution within the ministry of public service in order to overlook all matters regarding the retirement of civil servants. The fund's goal is to coordinate and administer the two main divisions of social security benefits:

The pension branch for benefits related to incapacity, aging, and survivorship; the occupational risks branch for benefits related to work-related illnesses and accidents. However, the Fund may also provide coverage for any additional branches that are later established by its Board of Directors with the Minister of Public Service's consent.

The CNSSAP ensures the efficient conduct of its business, which includes the phases of public official registration, recovery of social security contributions from such officials as well as from the State employer, and management of benefits or, better yet, of the social

security benefit. However, the Fund may also cover any other branch set up subsequently by its Board of Directors after approval by the Minister of Public Service. To concretize its object, the CNSSAP ensures the effective realization of its trade which comprises the stages of the registration of the public agents, that of the recovery of the social security contributions near the aforementioned agents as well as of the State employer and finally that of the management of benefits or better of the social security benefit. Career agents of the public services of the State, the military and police, teachers, contract civil servants of the State, trainees and apprentices bound by an apprenticeship contract who integrate the Public Administration are all subject to the social benefits organized by the CNSSAP. In terms of its organization, the Fund has three bodies including the Board of Directors, General Management and the College of Statutory Auditors, under the supervision of the Minister of Public Service.

The CNSSAP holds, at the base of its operation, its five fundamental values which form the acronym TRIPE. It is indeed Transparency in the administrative decision-making procedures, Respect in the respectful treatment of its subordinates, Integrity in its honest and rigorous management, Professionalism in the concern for the constant improvement of skills of its staff and finally Excellence in the quality of its services. With regard to its regulatory missions, the CNSSAP therefore undertakes to "offer public officials of the State and their families social security benefits on the basis of contributions collected from the State and to contribute, in the long term, to the economic and social development of the country" and thus aspires to become a National Reference Fund in Social Security for Public Agents in Africa.

#### *2.2.2.1 Registration to the CNSSAP*

Due to the fact that only Law No. 16/013 of July 15, 2016 on the status of career agents in the government Public Services devotes the management of social security benefits to the CNSSAP, this category of public servants is that which is currently the only taxable persons. This situation follows the absence of a special law on social security covering all public officials. It should be noted that the aforementioned public officials who are paid, in activity, on secondment and on availability are all required to register with the CNSSAP. At the beginning of the opening of the right to future payment of social benefits of an active public official is registration. It designates the administrative procedure by which the CNSSAP identifies its taxable persons, registers them in its books and assigns each a social security number. To register, simply go to the CNSSAP agency with the following documents:

- A birth certificate or identity card;
- A copy of the admission order under status;
- A copy of the biometric card issued by the Ministry of Public Service or A service certificate;
- A copy of the administrative act of appointment to the last grade;
- A passport photo.

The CNSSAP also provides the civil servant with a registration form to be duly completed and attached to the previous file to constitute a registration application file. The registration form can be obtained on site at the CNSSAP agency or printed online.

#### *2.2.2.2 Public Servant's Contribution*

The social security scheme organized by the CNSSAP is contributory and not granted. The contributing population is made up of public officials as well as the state-employer. These contributions are compulsory for all active agents and are used to finance social benefits.

Social contributions are the main source of funding for the CNSSAP. Contributions will be deducted monthly at source from the basic salary of all career agents in the State public services from 1 October 2017. The public employee's contribution rate is set at 3% of their basic salary, while that of the State-employer is 6%. The actual contribution period is not always equal to the length of career or the duration of insurance coverage by the CNSSAP. Any period of temporary exclusion of the agent with deduction of salary, for example, is not considered as a period of contribution, although it forms an integral part of the agent's career. A staff member who, after being suspended and deprived of their salary, is restored to their rights, will have their contributions deducted for the period in question upon payment of their due salary.

In the event of a penalty of deduction of one third of the salary imposed on the agent, their contribution rate remains unchanged on their full basic salary. The agent on secondment, like the one on availability, remains subject to the CNSSAP, they are required to inform the CNSSAP of their new administrative position and must ensure that his new employer pays the contributions in their favor.

Although the two departments or institutions (The National School of Administration and the National Social Security Fund for State Public Servants), were put in place to overlook and handle very important steps in the country's public sector, both are still struggling to take off and really make the impact that they are meant to make for the country. Therefore, the next chapters will study how these two institutions can make an impact with the use of emerging technologies.

### **3. RESEARCH METHODOLOGY**

**Hypothesis: The use of technological tools could unlock the potential for the reform of the DRC’s Ministry of Public Service”.** It is important that I point out that while I understand that emerging technologies might not be the solution to reform the Congolese public sector, I believe they also can hold power to rectify worsened situations and provide solutions for them. And we would never know until we try. Complete reform might not be attainable in the next two or three years but with sufficient effort (starting with emerging technologies) invested it can be attained.

**Independent Variable: Technological Tools**

- Emerging technology tools. (focus on IT tools)

**Dependent Variable: Reform of the Ministry of Public Service**

- Improved civil servant recruitment.
- Improvement of civil servant retirement.

The main questions I used during the interviews are:

1. *How long have you been working in this position?*
2. *What do you understand about the reform of the ministry of public service?*
3. *What is the current state of use of emerging technologies at the ministry of public service?*
4. *What do you think are the best technology tools that can mostly benefit the ministry of public service?*
5. *What do you think are the main challenges the ministry is facing in terms of public servant recruitment?*
6. *In terms of emerging technologies, how do you think civil servants’ recruitment can be improved in the public service ministry?*
7. *What do you think are the main challenges the ministry is facing in terms of sending people to retirement?*

8. *In terms of emerging technologies, how do you think the ministry can improve their service delivery most particularly when it comes to retirement?*
9. *Given the complexity of the current economic situation of the country, how much more do you think the government should invest in emerging technologies?*
10. *What do you think are the best strategies in incorporating emerging technologies in the ministry of every use and culture?*
11. *What is your take on how congolese public servants in general have welcomed emerging technologies?*
12. *How does the use of emerging technologies in the ministry of public service become sustainable?*

This research will be exploratory research as I am looking to learn more about the relationship between emerging technologies and the Ministry of Public Service in the DRC.

### **3.1 Data Collection**

A description of my participants involves people who are government officials in the digital ministry, IT experts, civil servants and development practitioners. My aim was to conduct interviews with at least twelve people. My research requires me to use the purposive sampling as well as the snowball sampling to select the participants. I have chosen these two forms of non-probability sampling because I can both rely on my own judgment and to ensure that I get participants that I may not have access to given the uniqueness of my topic. I figured that since I have to get the perception of government officials, emerging technologies experts, peacekeepers and development practitioners themselves in regards to the topic, it will be best and relevant to use the purposive sampling for my research to be accurate and valid.



Knowing that getting access to these people was not going to be an easy task that is why I have decided to bring in the snowball sampling in order to get a variety of perspectives on the subject. I went against other sampling methods such as convenience non-probability samples because I do not think they will accurately answer the questions that I have. Participants chosen using this sampling method most likely would not qualify to answer the questions and as such I may unconsciously be biased and approach some kinds of respondents and avoid others . A structured interview with some open-ended questions was designed to collect data about the use of emerging technology tools in the Congolese public administration. The duration of the interview for each participant ranged from thirty minutes to forty-five minutes. Following is a brief description of how I chose my participants.

- 15-20 participants will include (data scientists, public officials in the digital ministry, public officials in the budget ministry, officials in the public service ministry)
- Create interview questions. (8-12 questions):
- Conduct interviews with the 15-20 participants.:
- Organize data sets by types of interviewees.

Table 1  
**List of Study Participants**

ID	Age	Gender	Education	Occupation	Ministry	Years experience
1	30	Male	Bachelor	HR Officer	Public Service	5
2	35	Female	Bachelor	Recruitment Officer	Public Service	8
3	40	Male	Master's	Computer Scientist	Digital	10
4	32	Male	Bachelor	Recruitment Officer	Public Service	4

5	28	Male	Bachelor	IT Officer	Digital	3
6	30	Female	Bachelor	Financial Auditor	Budget	5
7	31	Female	Bachelor	Administrative Ass.	Budget	4
8	36	Male	Master's	HR Officer	Public Officer	11
9	33	Male	Bachelor	Financial Officer	Budget	7
10	33	Male	Bachelor	Recruitment Officer	Public Service	5
11	32	Male	Bachelor	Financial Officer	Public Service	5
12	42	Male	Bachelor	IT expert	Public Service	15
13	28	Female	Bachelor	HR officer	Public Service	3
14	38	Male	Bachelor	Computer Scientist	Digital	10
15	31	Female	Bachelor	Computer Scientist	Public Service	5

Table 2  
**Demographic Characteristics Sample of This Study**

**Age (years):**

> 25	0	0%
26-36	12	80 %
37-45	3	20 %

**Gender:**

Male	10	66.67%
Female	5	33.33%

**Education:**

Bachelor	13	86.67%
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Master's	2	13.33%
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**Occupation:**

Managerial (Recruitment, HR, Financial Officer)	10	66.67%
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Technical (IT, Computer Science)	5	33.33%
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**Ministry:**

Digital	3	20.00%
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Public Service	9	60.00%
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Budget	3	20.00%
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**Years  
Experience:**

1-5 years	9	60.00%
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6-9 years	2	13.33%
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10-15	4	26.27%
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### **3.2. Data Analysis**

Using the Grounded Theory method, I analyzed the data I collected in the following way.

**Data Analysis:** I used a thematic content analysis approach to find common patterns/themes across the data set. I started by familiarizing myself with the data. I then annotated the

transcripts by labeling relevant words, phrases, sentences, or sections with codes. After annotating the transcripts, I defined the themes found in the data set. Finally, I reported findings using the themes.

The data that I collected from all the participants was analyzed and put into themes since it was qualitative information. More specifically, I examined the data set to come up with codes. However, although my intention was to use all the data from the 18 interviews I conducted, some participants just simply did not answer some questions, therefore, I decided to remove their interviews from the data set. This meant that from the 18 interviews I conducted, I was only able to use 15 of them as part of my findings and research.

As to how I came up with themes and codes, I started by first analyzing the similarities in each answer given by the participants based on the questions. I then put the main themes into codes that explained the main ideas of the results. My findings were then discussed in the discussion part of the study.

#### **4. FINDINGS**

Table 3

<b>Phase</b>	<b>Coding Process</b>
Open Coding	<ul style="list-style-type: none"> <li>● Breaking data apart and delineating concepts to stand for blocks of raw data</li> <li>● Using in vivo labels</li> <li>● Units of coding include a passage, paragraph, sentence, and/or word</li> <li>● Multiple codes can be applied to any of the text</li> <li>● Comparing new codes with older ones, merging similar codes, and renaming codes to capture the core concept</li> <li>● The list of codes changed iteratively throughout open coding, helping to refine concepts and identify interrelationships</li> </ul>
Axial Coding	<ul style="list-style-type: none"> <li>● Interconnecting the first-order concepts that emerged through open coding, fitting them together to obtain</li> </ul>

	<p>more abstract second-order categories</p> <ul style="list-style-type: none"> <li>• Identifying potential comparison groups within the sample.</li> <li>• Identifying cases of positive and negative adaptation, highlighting the role of adaptation mechanisms • Differentiating levels of internalization (e.g., integration, compliance, and resistance) • Comparing first-order concepts from pre emerging technology use experiences that resulted in positive adaptation outcomes with those that did not</li> </ul>
Selective Coding	<ul style="list-style-type: none"> <li>• Unifying categories around central phenomena</li> <li>• Generating main themes of the phenomena</li> </ul>

Table 4

<b>First-Order Concepts, Second-Order Categories, Main Themes</b>		
<b>First-Order Concepts (Exemplary Quotes with Interviewee ID)</b>	<b>Second-order Categories</b>	<b>Main Themes</b>
<p>“ The formal recruitment carried out by the Civil Service through the ENA meets the criteria of objectivity and jurisdiction as required by law. However, administration officials are recruiting illegally agents called New Units (N.U). This makes it difficult to control the numbers and Payroll.” (#7)</p> <p>"The recruitment of public servants is a process that is carried out for the most part of the cases without respecting the regulatory texts. Only rejuvenation projects comply with recruitment regulations. (#2)</p> <p>“It is full of nepotism. Is sometimes done without a good study of needs and a good definition of the profile in upstream ..”( #14)</p> <p>“1. Recruitment is done without respecting GPEC standards; 2. It is done without taking into account general working conditions” (#16)</p> <p>“Recruitment within the public administration must respect the statute and the rules administration to enable it to be transparent and fair.” (#8)</p>	<ul style="list-style-type: none"> <li>- The recruitment of public servants is unorganized and done by untrained personnel.</li> <li>- The recruitment does not respect recruitment regulations or policies.</li> <li>- Nepotism in the system has resulted in the recruitment of unqualified civil servants.</li> </ul>	<p>Disorganized recruitment system</p>
<p>"Difficulties of the means for an honorable retirement,</p>		

<p>biased procedure" (#1)          "She doesn't seem to me to be rationally programmed. It's everyday improvisation." (#3)          "Too slow and a very big strain on the development of the administration" (#4)          "Good initiative to honorably evacuate those who are already eligible and thus allow the rejuvenation of public administration." (#7)          "It is a life-saving action that will facilitate the rejuvenation of the public service." (#2)          "Courageous policy of the State but the weak means do not allow to accelerate or to implement that. And also, the long absence of an effective retirement policy. The creation of          The CNSSAP, the security fund, aims to compensate for this but the meager funds do not yet allow support for all retirees at once. Hence the slowness in its application." (#9)</p>	<ul style="list-style-type: none"> <li>- Seen by all as a necessary step for the rejuvenation of the public service sector.</li> <li>- The retirement process is biased and extremely slow.</li> <li>- The lack of funds to send people to retirement has resulted in extreme delays.</li> </ul>	<p>Most aging civil servants are awaiting to be sent to retirement.</p>
<p>"The use of emerging technologies is very unsatisfactory. The agents are not well trained in these matters and the reluctance to changes in practices are numerous. the State does not encourage this way of working well" (#1)          "We are in the phase of the diffusion of ICT. As for the use, it is still in its infancy also. No appropriation yet." (#3)          "The old people don't care, the few young people recruited more or less rigorously make use of it. Especially in Budget, Finance, Planning, Civil Service, Foreign Affairs Administrations, etc." (#5)          "The young people recruited and trained in the reform program adapt well to it, to the great advantage of public administration that sees the quality of public services improve." (#7)          "It is precarious or almost non-existent. On the digitization side of public ASM, the Republic still has a lot to do." (#8)          "The situation is iterative. Unlike in past years, we feel the commitment of civil servants literate to want to master the computer tool. However, the poor execution of the investment budget leads to a lack of IT tools within our administrations. This has the consequence that the mastery of the tool even though we have undergone training" (#10)</p>	<ul style="list-style-type: none"> <li>- The use of emerging technologies by public servants is still in its infancy.</li> <li>- However, young people are increasingly embracing it.</li> <li>- There is a lack of trained people that can help teach civil servants the use of these tools.</li> </ul>	<p>Use of emerging technologies in its beginning stages</p>
<p>"The best technological tools that can help improve the Congolese administration service delivery are database</p>		

<p>management tools" (#2)  "Create digital platforms for submitting administrative documents such as passports or birth certificates for children." (#3)  "Computer, internet connection, management software" (#4)  "Any tool used in the sense of networking. Indeed, the Congolese public administration is very cumbersome, sometimes for nothing." (#5)  "Tablets, laptops, a high-speed internet connection..." (#9)  "All the tools that facilitate the dissemination of information in record time (computer, radio,...)" (#10)  "Digitization by computer and internet with the appropriate software" (#14)  "Computer, telephone, radio, television, mobile applications, etc." (#15)</p>	<ul style="list-style-type: none"> <li>- Communication tools such as phones, internet, radio and television.</li> <li>- Data management tools such as Microsoft Office and Amazon Web Services</li> </ul>	<p>Communication and Data Management Tools</p>
<p>"The main challenge that the public service ministry is facing in terms of recruitment is Politicization" (#1)  "Clientelism and political interference" (#2)  "The big challenge is that of respecting statutory procedures." (#3)  "The leaders of the political parties who impose themselves on the civil servants. And the civil servants find by the next opportunity to hire their own, using the same procedures." (#5)  "Politics and nepotism" (#6)  "The aging of the staff, the overflow of organic managers, the fraudulent recruitment of new units by the Administrations,..." (#7)  "Clientelism and nepotism, levity in the assessment of needs ... cumbersome recruitment process." (#14)  "Political interference, tribalism, nepotism, corruption, influence peddling, recommendations, regionalism, etc." (#15)  "Overstaffed, aging staff, very poor working conditions, tribalism, politicization of public administration, clanism, etc." (#16)</p>	<ul style="list-style-type: none"> <li>- Politicization poses a challenge in the recruitment of civil servants.</li> <li>- Aging personnel without retirement, nepotism, and tribalism are also challenges.</li> </ul>	<p>Politicization, aging personnel and tribalism</p>
<p>"The main challenge that the public service ministry is facing in terms of retirement is the shortage or lack of financial resources." (1)  "The challenge is financial and programmatic." (#3)  "Unavailability of important resources that could disinterest those concerned." (#6)  "Lack of substantial financial resources." (#7)</p>	<ul style="list-style-type: none"> <li>- The CNSSAP which is in charge of the retirement of public servants is still young and lacks experience. There is no retirement</li> </ul>	<p>The CNSSAP is not</p>

<p>"Meager financial means, a CNSSAP still young and weak." (#9)</p> <p>"Social security system to be restructured, salary level to be readjusted (rationalized), respect for laws and related texts." (#14)</p> <p>"The lack of means to return a large number of eligible persons with dignity in retirement." (#15)</p> <p>"1. Lack of political will; 2. Lack of financial means 3. Lack of control over the workforce of active and retired workers 4. Lack of training for professional retraining 5. Absence of a strategic retirement plan, etc." (#16)</p>	<p>plan</p> <p>- There is a lack of financial resources that may help move the process quickly.</p>	<p>well set up.</p>
<p>" The government needs to put significant effort into promoting emerging technologies by setting up a well-adapted legal and regulatory framework." (#2)</p> <p>"It must intensify the diffusion of ICT and its appropriation." (#3)</p> <p>"Selecting the right agents, and evolving with them." (#5)</p> <p>"Start from primary school , have an integral vision of the digitalization of the administration , promote NTIC." (#6)</p> <p>"The government must first be aware that the latter constitutes the backbone for all development of a country and therefore a substantial budget and good governance in terms of management of all the resources that will be allocated to its modernization."(#8)</p> <p>"A lot. The creation of the digital ministry can be useful in the sense that this ministry will have to implement this new vision or way of doing things. Train, initiate, develop, make available all tools needed to do this." (#9)</p> <p>"The budget is still very low for an under-administered state." (#10)</p> <p>"Sufficient financial resources must be allocated, including quality human resources through training." (#12)</p> <p>"We need more training, more equipment and materials, more incentives and awareness." (#15)</p> <p>"1. Acting political will 2. Have colossal financial resources 3. Take action." (#16)</p>	<p>- The government needs to understand the importance of emerging technologies in development.</p> <p>- In addition to financial resources, the government needs to promote training in ICT</p> <p>- The government needs to put into place a well-adapted legal and regulatory framework that promotes emerging technologies.</p>	<p>Set up of legal, financial and regulatory framework for the use of emerging technologies</p>
<p>"The best strategy that the government needs to apply in</p>		



<p>order to include the use of emerging technologies in the daily use of public servants is by first ensuring that there is administrative decentralization. This may allow the sector to facilitate internet integration." (#2)</p> <p>"The minister's office itself must start by using the Internet. A Protestant cannot preach Islam." (#5)</p> <p>"Creating agent career management software, for example." (#6)</p> <p>"First the training of agents and executives on the use of IT tools, the implementation of appropriate infrastructures to allow a comfortable working environment and the end to equip it with appropriate hardware and IT tools." (#8)</p> <p>"Train civil servants, rejuvenate the workforce because young people are impregnated with NICTs very early, and make the right tools available." (#9)</p> <p>"The Ministry of Public Service alone cannot do this. It must be a policy government and significant resources must be mobilized for training, the acquisition of hardware and maintenance." (#10)</p> <p>"Train agents, set up appropriate software and make their use mandatory. Above all, recruit young people who already master the use of this work tool." (#14)</p> <p>"Each public official must be trained and equipped with a computer tool." (#15)</p> <p>"You have to do the following:</p> <ol style="list-style-type: none"> <li>1. Training. 2. Purchase of IT equipment (computers and Internet: cables, routers, etc.)</li> <li>3. Setup. 4. Use." (#16)</li> </ol>	<ul style="list-style-type: none"> <li>- The best strategy is for the leaders to be the first to adopt the use of emerging technologies.</li> <li>- Set appropriate infrastructures and make the use of the tools mandatory.</li> </ul>	<p>Usage of emerging technologies laws</p>
<p>"I believe that some, yes, will welcome the use of emerging technologies but especially young people." (#1)</p> <p>"No. It takes awareness and good training in basic computer skills." (#2)</p> <p>"For some, yes, those recruited more or less regularly." (#5)</p> <p>"Those of the new generation, yes because the majority are young people." (#8)</p> <p>"50-50. Insiders are conquered. Computer illiterates have some trepidation about this." (#9)</p> <p>"Illectronism is the basis of the reluctance of those who belong to the old school." (#12)</p> <p>"Yes, yes as long as it lightens the work." (#14)</p> <p>"No. Moreover, an effective use of IT tools would lead to the revision of frameworks and organic structures and jobs within the Congolese public administration." (#15)</p>	<ul style="list-style-type: none"> <li>- It will require raising awareness for some people to welcome these tools.</li> <li>- Understanding that it will lighten the work and create more jobs can promote their use.</li> </ul>	<p>Breaking old beliefs and Raising awareness of the importance of emerging technologies</p>

<p>“Unless you are a wizard not to welcome the modernization of public administration with joy. a requirement, it should not be negotiated under the principle of the Administration's adaptability." (#16)</p>		
<p>"The use of emerging technologies in public service in public service can be made sustainable by the strengthening of legislation in this area." (#1)          "By putting a lot of financial means into it" (#2)          "Buy computers, consumables including different subscriptions. And, plan their amortization..." (#5)          "Promote the digitalization of the administration of the administrative circuit, for example for certain less sensitive files." (#6)          "By setting up a comfortable ergonomic environment." (#8)          "By training and providing the tools to said officials. And above all by rejuvenating its staff." (#9)          "There needs to be awareness and inter-ministeriality. She can count on the expertise of the Ministry in charge of Digital." (#12)          "Making computers and the Internet available, making it an essential way of working and training agents in the handling and use of the computer/internet. By developing useful apps/software." (#14)          "By making its daily use mandatory." (#15)          "The Ministry must first take up the challenge of knowledge of IT tools among its agents by quality training, then buy the computer equipment and install it in all the offices." (#16)</p>	<ul style="list-style-type: none"> <li>- The different ministries may join efforts to make the use of emerging technologies sustainable.</li> <li>- Strengthening the legislation and making the tools available to all</li> <li>- Making the use of these tools mandatory at work.</li> </ul>	<p>Government joint efforts.</p>

## **5. DISCUSSION OF FINDINGS**

This part of the paper will cover the main findings of my study. I will highlight the needs of the challenges that the two departments (The National School of Administration and the National Social Security Fund) are currently experiencing. By understanding the issues at hand, this will make it possible to eliminate the deficiencies or shortcomings observed at the level of the Public Administration. There are two levels to the administrations' lack of enthusiasm for creating programs that support the emergence of an electronic government. First off, as we've already mentioned, it's a result of the public administration's lack of a nationwide communications

infrastructure and appropriate equipment. According to Trefon (2010, p. 748): "the majority of public services in RDC are without computers, photocopiers, fax machines, and fixed phones." Implementing efforts related to electronic government is nearly impossible under these circumstances. Secondly, it comes down to a lack of political will on the part of the leaders and resistance, or at the very least, reluctance, on the part of many civil servants who profit from the opaque nature of the system; they have no reason to start taking actions that would deny them of "commissions" and other forms of corruption. Trefon (2010, p. 750) asserts in impassioned terms—and with good reason—that "They [politicians and civil servants] play the game by working in favor of the reform while veiling to not cut the branch on which they are seated." This statement alludes to the failure of various administrative reforms in the Republic of Democratic Congo. In general the current state is characterized in particular by the weaknesses of the quality of the public service and by a deficient management of the human, material and financial resources of the country. However the next four points explain the challenges in detail.

## **5.1. Main Findings**

### ***5.1.1 Department's Lack of Documentation systems***

The Congolese Public Administration has a serious deficiency in the field of Documentation and Archives. Whether it be in hard copies or soft, there is an immense lack of documentation in the Congolese public administration. Many administrative documents are found neglected, destroyed, when they are not used as packaging for the peanut vendors at the market. Often the ministry is confronted with a lack of information or follow-up on files because administrative documents are little or badly kept, badly managed. There is therefore a glaring deficiency that needs to be filled urgently. Indeed, the Public Administration must have a competent, equipped and efficient archives service. And this, at each of its levels, from the Central Administration to the smallest local office. However, the material aspect of documents and archives is not enough.

There is above all the man who is called upon to manage this material. The Congolese public official has long developed negative attitudes: negligence and more or less voluntary destruction of documentation and administrative archives, ignorance of their importance and their role.

### ***5.1.2 Lack of Trainers and lack French Language Proficiency in Civil Servants***

Second, although civil servants might be willing to learn how to use technological tools, there are no trainers to help them achieve this goal. The use of computers is relatively new to the Congolese citizens compared to citizens in western countries. The country is playing catch up and until there are enough trained people, most civil servants will remain without a training in the use of technological tools. It has also been established that Congolese Public Administration officials have less and less fluency in French, which is the official language of the administration, thereby reflecting the general situation observed for several decades among young secondary school graduates, or even the university. It follows a notorious inadequacy in the development and drafting of administrative documents. Training is urgently needed to fill this gap. Indeed, the Public Administration must have agents capable of writing in an acceptable language and style, and with logical consistency, any administrative document necessary for its optimal functioning.

### ***5.1.3 Lack of efficiency in both departments (ENA and CNSSAP)***

Third, the Congolese Public Administration has a serious deficiency in the field of civil status management. Many agents and civil servants, and even agents, fulfill functions which also make them civil status officers. They do not always have the required skills and often do not seem aware of the responsibilities entailed by the status of civil registrar. Employees of civil status services and counters have shown culpable negligence, intolerable irresponsibility and notorious incompetence for several decades. Civil status documents are issued anyhow, to anyone, under

dubious and even illegal conditions. In the DRC, with a little money, you can buy any identity or civil status document in the most official counters and services. The eternal question of “who is Congolese and who is not” finds its origin in this state of affairs. These agents do not realize the social and even political implications of their uncivil behavior. There is therefore a glaring insufficiency and deficiency that needs to be filled urgently. Indeed, the Public Administration, at all levels, must have a civil status service characterized by the competence and sense of responsibility of its agents and officials.

#### ***5.1.4 The Country’s Public Administration is itself in need of a reform***

Fourth, ENA/DRC is called upon to introduce management into all State services in order to provide civil servants with the capacity to lead (hold in hand) the organization or the public service, capable of initiative or creativity, of timing of activities and anticipation but also fed the principles of new public management, i.e. improving the cost/efficiency of public service, the quality of public service or public management based on the culture of results. But there is another problem that should concern the National School of Public Administration, the state of the Country’s Public Administration which is in need of reform. He was talking about the influence of traditional African culture, the management of human resources in the Congolese public administration, time management in the African universe, the role of NICTs in public administration, hyper religiousness to magic and finally to the misdeeds of orality.

To give substance to the idea of emerging technologies in the Congolese public administration, the government is calling for the participation of development partners in order to launch studies for a comprehensive reform of the state apparatus, whether it be the central government or regional and local administrations.

**The four main findings from the interviews are the following.** For emerging technologies to play a role in the reform of the ministry of public service, the government needs to: **first, they**

**need to establish a sound, modern, and effective government that could carry out its mandates and contribute to the country's development; second the government needs to encourage the emergence of a new breed of well-trained, capable, and valued civil servants; thirdly they need to make themselves capable of providing high-quality public services; lastly they need to promote good governance and ethics within itself.** A number of strategies have been considered in order to achieve these goals, including the creation and implementation of a national TIC policy to use TIC as tools for the modernization of government through the emergence of an electronic government.

## **6. RECOMMENDATIONS**

In this part of the research, I have collected the most common recommendations from myself as well as the ones from studies given by the different participants about how the recruitment and retirement of civil servants can be improved using emerging technologies. I am aware that much more can be done but I believe that these four recommendations are a good starting point.

### **6.1 Getting rid of The weight of traditional African culture and promote meritocracy**

The notion of corporate culture provides a useful answer to the question. The organization carries with it an invisible quality, more powerful than the will of a person or of such an official system. It is a set of beliefs, rituals, languages and expectations shared by members in an organization. Culture plays on the quality of the product or the work provided, guides the policy of public services vis-à-vis consumers or clients, defines the rules of the game to be followed in order to benefit from public services. The question is to know what is the influence of management on the Congolese culture of management or better on the Congolese environment of the administration and public services and or conversely, the influence of these

on management. Very often, with ENA-RDC, management seems to give way to the recruitment and selection of skills, the distribution of income, democracy and worker participation, compliance with legal and regulatory texts.

Therefore, the new Congolese administration must, if it wants to take up the challenge and encourage production, to swear on merit, excellence, work well done, order, justice, sanction. This needs to start by adopting reporting and tracking tools such as computers and the internet. The Ethics Commission of the National Consultation , advises in one of its recommendations to the president of the country, to use, for any appointment to positions of responsibility, the criterion of meritocracy, and not tribalism, clientelism and regionalism. I also believe that the government needs to also to resolutely ban impunity so that people that break recruitment regulations are punished. However, the virtues of the community spirit, such as solidarity, devotion to the community and to the other, search for consensus, primacy of the general over the particular... can be at the service of modern administration provided that having a visionary leader at the helm of the organization.

## 6.2 Management of human resources in the Congolese public administration

This recommendation deals with the management of human resources in the Congolese public administration. I say public administration in general because this should not only be restricted to the ministry of public service. Here are some of the strategies that need to be used in order to put this recommendation into action.

- That the Congolese government organize the analysis of jobs at the public service level because this essential tool for the management of human resources is more than important in this sector. One must not ignore that it is a long-term operation but one cannot claim to manage civil servants well without knowing beforehand what they must

do and without controlling their workforce. For all civil servants to adopt emerging technologies into their everyday work, the department of human resources need to lead by example and start using technological tools;

- That the ministerial cabinets discharge the attributions of traditional ways of public service, that they no longer allow themselves to instruct the general secretaries to apply decrees of commitment in which we continually inject the members' offices, friends, brothers and relatives who are unemployed. Instead, all ministerial cabinets should base their hiring process only on meritocracy and qualification;
- The Congolese civil service as the central manager of the public administration staff should organize training sessions for the adaptation of civil servants to new information and communication techniques. This goes without saying, people need to be trained on how to use these tools and how to make the use of it their own;
- I also recommend a reconstruction of the personnel file to better monitor the movements of civil agents, reports, the annual quotations according to the yield, and the performance..., preludes to forward-looking personnel management. Obviously, the best way to keep track of personnel files is by putting them in a virtual platform where they cannot get lost easily.
- That the authorities of the Ministry of public service make sure that they apply the provisions set out in the staff regulations of the public servants which moreover must be readjusted in taking into account the realities of the moment, with regard to monthly salaries for current civil servants, and retirement pensions for those that are retired..

### 6.3 African Time management

Although it did not come up during my interviews, I personally believe that one of the reasons the Congolese government has been slow in fully adopting technological tools into their



administration is because addressing the issue is being procrastinated. African time truly is cyclical. What cannot be done today will be done tomorrow (mosala ya leta esilaka te; which means public work knows no end). This is how people usually tend to explain their absences, lateness, or delays in learning new skills ... But productivity, like time, is money; and the money is business success. Among the principles of organization, working time remains the most centerpiece of management. The various reforms in the organization of work ensue from this. It is by breaking down this concept, by analyzing it with the help of timing the movements carried out by the civil servant, that one will be able to simplify, improve, save time and efficiency. The study of time elements is the keystone without which the ark could not hold. H. Fayol who formulated his "Theory of administrative doctrine", followed in the footsteps of F.W. Taylor in the application of scientific methods to the organization and management of administrations in order to achieve the best results professionals.

Time, or better the logic of the acceleration of time (production maximum accelerated with minimum time and energy) combined with the concern for reduction or better still for compression of space are today at the basis of globalization, of the aggressive conquest of space, of gaining time, efficiency, rationality of productive competition and economic, in short of better knowledge of oneself and of others. The logics of time and space compression have given rise to new management techniques: New Information Technologies and Communication (ICT). The field of telematics, that is to say IT, audiovisual, multimedia, internet and telecommunications enable users to communicate, access sources of information, store, manipulate, produce and transmit information in different forms: text, music, sound, image, video and interactive graphical interface. NICTs open up problems resulting from the integration of these techniques within institutional systems, covering in particular the products, practices and processes potentially generated by this integration.

#### 6.4. Understanding the Role of NICTs in public administration

Since the advent of computers, and more recently the Internet, the pressure exerted on the administrations so that they carry out better their tasks has increased, and information and communication technologies communication (ICT) gave them the ability to do so through electronic administration. Here, “e-government” means “the use of ICT, and in particular from the Internet, with the aim of improving business management for the public”. Its essential consequence lies quite simply in better governance; in other words, e-government is more a matter of administration than of electronics. It allows to obtain better outcomes in terms of public action, health services and better quality and greater citizen engagement. The judgment on governments and public administrations will remain, strongly legitimately, based on these recognized criteria of success. E-government initiatives are refocusing the debate on several questions: how can public bodies work together more effectively to solve common complexes? How to strengthen customer focus and build relationships with private sector partners? Public administrations must provide answers to these questions to remain receptive to the aspirations of the public. In the case of the DRC, understanding the importance of technological tools in the recruitment of new civil servants and retirement of seniors should be considered as the first step in the reform of the ministry of public service.

##### *6.4.1 Making sure that NICTs are included the regular operation of public services*

E-government is the state's use of news information and communication technologies to ensure the operation of public services, both for its internal functioning and in favor of users. This use presents realistic opportunities within the administration but more specifically, in the relations that this one interacts with citizens and businesses. It allows, among other things, to improve its services in terms of accessibility, quality and speed, and its image, in terms of

transparency and efficiency. Each client's needs are unique. New technologies, information and communication, especially the Internet, make it possible to build flexible systems, capable of providing personalized products and services. They also offer the possibility to the administration and the citizens to personalize access to services and state services. At the internal level of the administration, the NTIC makes it possible to go beyond the barriers, improve coordination and the flow of information between services, departments and public authorities and to reduce the administrative operating costs. They relieve them of the tasks administrative burdens for the benefit of advice and support work to the administrators.

#### *6.4.2 Putting an emphasis on advantages of e-government for administrations public*

ICT makes it possible to deal more effectively with the treatment of large quantities of files as well as tasks specific to the public administration. The use of Internet applications may result in savings in data collection and transmission, as well as provision of information and communication with customers. Sharing increased data within and across jurisdictions should lead to significant progress in terms of efficiency. Adopting a perspective that favors customer service is a key point central to reform programs. The effectiveness of the services offered depends on understanding the needs of users, and the services in line are no exception to this rule. A customer service-oriented approach relieves the user of the obligation to understand the structures and relationships of administrative complexes. The Internet can contribute to the achievement of this objective, by allowing administrations to present themselves as a unified organization, and to provide integrated online services. Like all services, those that rely on electronic administration must be developed according to the demand and their value in use, as part of a global strategy of provider channels. (BOURGOIN,1985)

#### *6.4.3 Decrease religiousness in the system*

Religion is a set of human beliefs and practices with a being supreme and or still with supernatural powers; creators and masters of the world. Hyperreligiosity tends to dispose of the mind to the desire of this world by trusting in supernatural powers for wealth, promotion, professional or elevation to high responsibilities, social success. The individual underestimates his own abilities and strengths, annihilates all initiative on his part because he believes that God or other supernatural forces and to certain moments magical forces would act. But productivity, the performance of an economic organization or service depends on simple, tangible principles.

#### *6.4.4 Being aware of harms of orality*

The tradition of orality, says B. Mbadu, has consequences harmful in a modern company or administration. Among these consequences, there is the imprecision of management objectives, the absence of a taste for reading management documents and memos, writing difficulties, frequent verbal sanctions, a taste for comments although the writings exist, the absence of archives, ... Africa is thus shared between the rational and the irrational, between the city and the country. And, it is the business leader (the manager) who is the most concerned by this confrontation between the traditional cultural heritage and the modern civilization. The executive manager must establish in Africa a real science of work, organization and management. Africa, being part of the great global village, is obliged to make its contribution in building globalization by embracing the News, Information and Communication Techniques and by engaging the dialogue of cultures. As A. Kabou keeps shouting, Africans must stop believing that their pre-colonial culture is the condition of development.

## **7. LIMITATIONS**

**Sampling of participants:** Starting with the sample of participants. Although my intentions were to have some of the participants be from the private sector so I can compare the mindset as opposed to the one of civil servants when it comes to the use of emerging technological tools, my time was limited in finding these participants and I ended up going with civil servants who are easier for me to reach. I believe having had computer scientists and data scientists weigh in on this topic would have enriched the study even more. However, I also do believe only having civil servants allowed the study to stay focused on public service and limited confusion with the private sector.

**Data Collection:** The second limitation as to the data collection method is where I believe the study lacks the most. One, the interviews were conducted on Zoom since all the participants are in the DR Congo, which made the interview run not as smoothly as I would have preferred because the internet connection in the country is not very suitable for the Zoom calls. The time difference also did not allow us to reschedule some of these interviews to a better connection time. Second, the interviews were done in French and my limitations in the language did not allow me to ask as many candid questions as I would have proffered.

**Data Analysis:** The data analysis has some limitations because this is my first time using grounded theory which meant that I spent much of the time of the study learning and getting comfortable with the theory. However, I do believe I was able to reach a level where I can use the theory to analyze my findings.

## **8. CONCLUSION**

From the above, three orientations can be drawn in the conclusion on the recruitment of new civil administrators and for the retirement of senior or aging civil servants. It is training in New Information and Communication Technologies Communication (ICT) or better it is

administration training digital public, - to management and – to New Public Management (NPM). The “Reform of the French Civil Service” project presented in the Council of Ministers makes it possible to restructure the ministry of public services for the next few years: - recruitment; – severance pay ; - salary or merit; - retirement pensions and several other measures including general philosophy is to make the public service a little more flexible by using technological tools such as computers and the internet. Again going off the NPM theory which is based on a starting postulate that consists in saying that everyone will try to seek an advantage of their own. There is the idea of strong economic rationality. Thus, any civil servant, any head of service will have in mind to maximize its interest, to try to have the most possible budgets for its service, the most services to be delivered. A way of saying how to manage public administration or institutions subsidized by the public authorities so that they work best possible. (BOURGON J, 2007)

Furthermore, the NPM proposes to reduce the size of the government; introduction of a new public-private partnership. The idea is that the state and the market should work in partnership. It is equivalent to meeting the missions of the State on users as well as the quality of services and services provided; - introduction of the concept of profit in the public sector for example the development of car parks or public toilets, subcontracting, public slaughterhouses, fish ponds and state farms, but also the "value for money". This means that to achieve development civil servants need to start acting and working like private sector employees. Private management rules must be adopted and management made a more flexible community, develop community-oriented policies, controlled and sometimes managed by users. Priority to objectives (BOURGON J, 2007). Every minister who takes office, every public official must define the program of his ministry or service, the objectives to be achieved in the short, medium and long term, ensure budgetary means and other means of achieving them and the control mechanisms in relation to the results. The National

School of Public Administration, ENA/DR Congo and the National Fund for Social Security, NCSSAP must prepare the public administration for this new framework, which has an impact only on the government budget but also on the control of the workforce and the management of civil servants and public officials of the country. Everywhere, throughout the world, public administrations operate to the rhythm of initiatives, innovations, modernization, strengthening of institutional and human capacities to better serve populations and the government.

The modernization of the Congolese administration and the state apparatus by public management has remained a wishful thinking. It is through it, however, that Congolese society can take advantage of new information and communication technologies (NTIC), improve the management of public affairs, ensure the regular operation of services in terms of accessibility for the citizen, simplification of administrative procedures, speed, transparency, and efficiency. New Public Management (NPM) makes it possible to improve the cost-effectiveness of the public service, thanks to increased modernization and great pragmatism in the management of public administrations, and to promote a new order and spirit of public management based on the culture of results (POLLITT M, 1995). The need for training of executives and civil servants of the Congolese State is essential.

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## 10. 국문초록

# 기술 도구가 콩고 공무부 내 퇴직 공무원 채용 개선에 미치는 영향

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글로벌 행정전공

현재 콩고민주공화국 공공 부문에서 신기술 도구의 사용이 매우 저조하다. 정부가 이러한 도구에 더 많은 투자를 하려고 하지만, 특히 공무원 채용과 퇴직에 있어서 신기술이 국가의 공공 부문 개혁에 어떤 영향을 미칠 수 있는지에 대한 지식 격차가 여전히 존재한다. 본 연구는 콩고민주공화국 시민뿐만 아니라 정책 입안자, 공무원들을 위해 해당 격차를 채우는 목적으로 수행되었다. 본 연구의 대상자들은 목적적이고 눈덩이처럼 불어난 표본추출을 통해 선정되었다. 실시된 18 개의 인터뷰 중에서, 단지 15 개만이 연구를 위해 유지되었다.

자료 분석에 대해서는 근거 이론을 이용하여 얻은 답변에서 주요 주제를 찾았다. 비록 더 많은 연구와 작업이 필요하지만, 이 연구를 통해 나는 특히 공무원의 가장 많은 도전과 채용, 그리고 퇴직을 경험하고 있는 것으로 보이는 분야에서 신기술의 사용이 실제로 공무원 부처의 개혁 가능성을 열 수 있다는 나의 가설을 확인할 수 있었다. 하지만 정부가 당면한 더 시급한 문제들이 있기 때문에 이것은 여전히 진행 중인 일이다.

키워드: 행정서비스, 퇴직, 채용, 공공행정, 신기술, ENA, CNSSAP

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