

## Organizational Commitment as A Hard Core of Governments' Digital Transformation: Evidence from African Social Care Services

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### **Abstract:**

Organizational commitment is the hard core of the digital transformation process implementation, where digital technology investments, employee training, and employee satisfaction are the common basis. Following, this paper aims to investigate the organizational commitment of the World Bank to the digital transformation process of African social care services. Principal Component Analysis, applied on a large scale comprising 700 observations and 10 variables, aims to analyze the inter-correlation between work environment, job satisfaction, and involvement, and work-life balance aimed at increasing organizational performance. Results indicate that the World Bank is engaged in the African social care services' digital transformation implementation by investing in digital technology infrastructure and employees' training. In doing so, it aims to provide a great work environment, job satisfaction, and involvement, and work-life balance for employees. Results show also that organizational commitment in the digital transformation process rises organizational performance.

**Keywords** : Digital transformation; Organizational commitment; Employee satisfaction; Technology infrastructure; Organizational performance.

**JEL classification codes** : M15; M54; O33.

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## الالتزام التنظيمي باعتباره الجوهر الصّلب للتحوّل الرقمي للحكومات: أدلة من خدمات الرعاية الاجتماعية الأفريقية

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### الملخص:

الالتزام التنظيمي هو النواة الصلبة لعملية التحوّل الرقمي، حيث تكون استثمارات التكنولوجيا الرقمية وتدريب الموظفين ورضا الموظفين هي الأساس المشترك. تهدف هذه الورقة إلى التحقيق في التزام البنك الدولي بعملية التحوّل الرقمي لخدمات الرعاية الاجتماعية الأفريقية. هذا البحث يعتمد على تحليل المكونات الرئيسية لتحليل الترابط بين بيئة العمل والرضا الوظيفي والمشاركة والتوازن بين حياة العمل والخاصة التي تهدف إلى زيادة الأداء التنظيمي. تشير النتائج إلى أن البنك الدولي منخرط في تنفيذ التحوّل الرقمي لخدمات الرعاية الاجتماعية الأفريقية من خلال الاستثمار في البنية التحتية التكنولوجية الرقمية وتكوين الموظفين. من خلال القيام بذلك، تهدف إلى توفير بيئة عمل مريحة ورضا الموظفين عن العمل والمشاركة فيه وتحقيق التوازن بين حياة العمل والخاصة للموظفين. تظهر النتائج أيضًا أن الالتزام التنظيمي في عملية التحوّل الرقمي يزيد أيضًا من الأداء التنظيمي لهذه الخدمات.

**الكلمات المفتاحية:** تحول رقمي، التزام تنظيمي، رضا الموظف، بنية تحتية تكنولوجية، أداء تنظيمي.

**رموز تصنيف JEL:** O33، M54، M15.

## **Introduction**

Digital transformation (DT) is a commonly used expression over the current decade. It is a strategic process that transform the overall economy, not only organizations. At the organizational level, DT is the sum of significative changes undergone by organizations including their business model after introducing digital technologies. At a high level (i.e., economic level), DT presents the profound changes that affect fabrics, societies and governments through the use of digital technologies (Vial, 2019, p. 118). This process is challenging for both economy and organizations in terms of its implementation. It should be considered that this process does not only concern digital technologies but also the satisfaction of employees and partners. DT process requires full organizational commitment to ensure its success (Zopiatis, Constanti, & Theocharous, 2014, p. 131). This process contributes to the increase in several aspects of organizational performance, including business growth, financial performance, innovation, and reputation (Lee, Choi, Lee, Min, & Lee, 2016, p. 653).

The digital economy development contributes meaningfully to the acceleration of the digital transformation of various industries, which has a significant impact on the development of agriculture, industry and services industries. Organizations and economies that are engaged in DT process are often driven by customer behaviors and expectations changing, changes in the competitive landscape and digital shifts in industries (Osmundsen, Iden, & Bygstad, 2019, p. 5). One of the main objectives of DT is to guarantee digital readiness to stay competitive, generate more revenue and to keep up with the new digital context where they evolve.

Consequently, this paper attempts to address the following issue: *How can organizational commitment support the digital transformation of governments?*

The fundamental idea underlying this research question goals to formulate the after mentioned hypotheses:

-Organizational commitment in the DT process is appreciated through digital technology investments.

-Employees' satisfaction is the basis of organizational commitment when implementing the DT process. However, employee satisfaction is based on employees' training in the use of digital technologies, job satisfaction, work involvement, work environment satisfaction, and work-life balance.

-Organizational commitment in the DT process implementation enhances the organizational performance.

Therefore, this paper has two main contributions. On one hand, this paper aims to identify the organizational commitment regarding DT process both in terms of digital technologies investments and employees' satisfaction. On the other hand, it illustrates the impact of this commitment on improving the performance of the organization.

Therefore, this paper makes two key contributions: (1) It measures how governments across organizational commitment which is appreciated through employees' satisfaction, can support the digital transformation process implementation. (2) It illustrates organizational performance as an output to organizational commitment, technology infrastructure's investments and employees' satisfaction. With appropriate adjustments, our proposed approach can be used by practitioners when designing digital transformation process for governments to improve their

services efficiency. It can also be used by academics to further analyze issues related to DT process implementation both in organizations and economic level.

The rest of this paper is structured as follows. After reviewing the overview of digital transformation and organizational commitment literature in the first section. The second section treats the methodology used. In the third section, the results of our study will be addressed. And the fourth section conclude the research paper.

## **Literature Review**

### **Approaching governments' digital transformation process**

Digital transformation affects the entire economic landscape due to the emergence of the new digital context. It is imposed by the introduction of digital technologies in all industries regardless of their sector of activity. The only difference between these fabrics in terms of DT is their implementation stage. For this, it is imperative to distinguish between digital transformation and digitalization (Savić, 2019, p. 38). Although a consensus has not been reached on the definition of DT. For this, Vial (2019) has summed up 23 definitions to build a common construct. He describes it as a continuous process “*that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies*” (Vial, 2019, p. 118).

Digital transformation implementation contributes mainly to generating revenue for organizations through cost savings, increased connectivity and mobility, greater agility, and adaptability in an increasingly competitive environment. (Martínez-Carrea, Cegarra-Navarro, & Alfonso-Ruiz, 2020, p. 4). For instance, digital technologies remove all barriers regarding space and time, which allows organizations to take better advantage of their employees. Therefore, it must ensure to provide a satisfying work environment to achieve work-life balance by drawing boundaries between work and private life. (McCloskey, 2016, p. 56).

### **Organizational commitment based on employees' satisfaction**

To take full advantage of digital technologies, the uses of these tools are closely linked to employees' satisfaction. It is crucial to consider the degree of employees' satisfaction to achieve organizational performance. It is appreciated through employees' training regarding digital technologies uses (Hanaysha, 2016, p. 301), job satisfaction (ANG & KOH., 1997, p. 170), job involvement (Zopiatis, Constanti, & Theocharous, 2014, p. 131), work environment satisfaction (Dittes, Richter, Richter, & Smolnik, 2019, p. 650), and work-life balance (McCloskey, 2016, p. 54).

Employees' satisfaction depends mainly on the digital technology training insured by organizations. This training aims to improve employees' skills and competences (Sousa & Rocha, 2019, p. 225) and to guarantee a better user experience (Wang, Wang, Zhang, & Ma, 2020, p. 349). Therefore, it can enhance the overall work experience (i.e., job satisfaction and job involvement, the work environment and work-life balance). As a consequence, it increases the organizational performance, improve customer experience, create new business models, and streamline services operations. On the other hand, it closely related to performance rating based on individual productivity improvement and reduction of errors, absenteeism, turnover, and so on (Zopiatis, Constanti, & Theocharous, 2014).

The employee satisfaction is not only based on employees' needs to achieve near-term tasks, but also consider their requirement for work environment satisfaction to guarantee work-life balance (McCloskey, 2016, p. 56). Because of jobs takes a large part of people's lives, so it is important for companies to ensure work life balance which is the fit between job satisfaction and life satisfaction (Wang, Wang, Zhang, & Ma, 2020, p. 342).

Organizational commitment in the digital transformation implementation is based on job involvement of employees because it enhance the overall employee satisfaction. Job involvement can be conceptualized as the active participation in the workplace, or the degree to which employees are actively engaged in it, in order to fulfill their inherent needs. achievement of these needs enables the accomplishment of the satisfaction at the individual level. Job involvement also offers the opportunity for employees to make decisions that enable strengthening their job involvement.

### **Digital transformation implementation relying on organizational commitment**

Investigating and understanding DT process in governments requires shedding light on the organizational context. It is considered as a strategic process for governments that strive to improve the efficiency of their services. The implementation of DT process claims the commitment of the organization whether at the organizational or economic level (Fischer, Imgrund, Janiesch, & Winkelmann, 2020, p. 2). This commitment is one of the success keys of DT implementation. Organizational commitment presents the degree to which governments identify, with a particular organization, the DT process implications and its goals by prioritizing these requirements and hopes to maintain the advantages of this process (Gong, Yang, & Shi, 2020, p. 4).

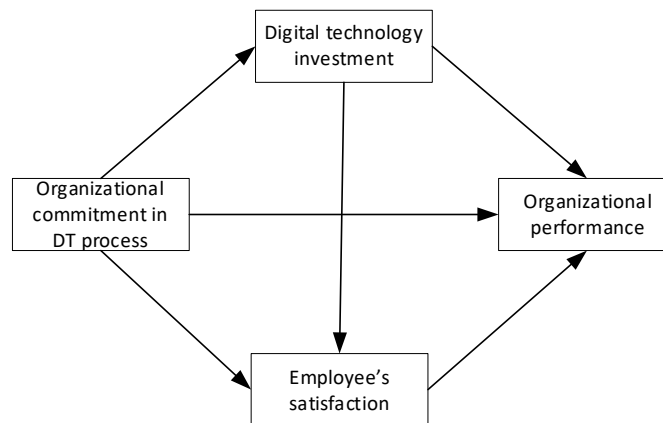
Wang et al (2020) state that there is a close relationship between digital technology satisfaction and job satisfaction. It comes down specifically to the experience of using digital platforms that becomes a central part of employees' overall work experience. Satisfied with digital technology infrastructure, employees can competently adapt to the constantly changing work conditions imposed by the digital context and eventually improve their job satisfaction (Dittes, Richter, Richter, & Smolnik, 2019, p. 652). Therefore, digital technology satisfaction may turnover onto overall job satisfaction and the organizational performance enhancement, as given in Figure 1.

In the digital age, employees can work anytime and anywhere, in real space or through a virtual platform (Howard, Rose, Alabama, College, & States, 2019). A digital job environment is widely known as an important organizational asset for increasing employee productivity and satisfaction. In this new context, organizations are under pressure to create and offer a satisfying digital working environment (Dittes, Richter, Richter, & Smolnik, 2019). The digital work environment can allow providing more autonomy and agility because it enables employees to use digital resources when they manage their tasks and collaborate regardless of time or their location. With the changing nature of work, organizations need new approaches to facilitate a digital work environment successfully (Dittes, Richter, Richter, & Smolnik, 2019, p. 654).

In this paper, organizational commitment in DT process is appreciated through the investments made by the World Bank in the digital platforms and to the importance given to the employees' satisfaction to increase the organizational performance as illustrated in Figure (1). Despite all studies conducted on DT process, empirical evidence remains limited on how governments are approaching DT in their services and how agility is created to enable organizational performance. In this paper, organizational commitment (OC) concerns the World Bank commitment in implementing the DT process in African social care services (economic level). Indeed, it is an

extending to the previous model proposed by (Rahimi, Møller, & Hvam, 2016, p. 143) regarding the requirements to successfully implement the DT process. This paper stands for employees' satisfaction based on job satisfaction, job involvement, work environment satisfaction, and work-life balance proposed by (Zopiatis, Constanti, & Theocharous, 2014, p. 131) using the PCA method.

**Figure N° 1**  
**Research framework based on governments' DT process implications**



**Source:** performed by authors

In this paper, we investigate the role of organizational commitment to the digital transformation of governments. Previous researches state that this process is considered strategic for governments that struggle to improve the efficiency of their services by identify the requirements for the digital transformation process and its goals. In the literature, this commitment is appreciated through employees' satisfaction. Based on what learned from the literature review developed above, our study fills an important research gap as it provides the different dimensions forming employees' satisfaction framework (i.e., job satisfaction, job involvement, work environment satisfaction, and work-life balance); as the related works investigate these dimensions in isolation without explaining how they are interrelated. Furthermore, there are no studies in the literature that operationalize how this commitment can support the implementation of governments' digital transformation.

## **Methods and Materials**

In this section we present the PCA-based methodology to determine the organizational commitment of governments in DT process and its impact on organizational performance. First, we exposed the overview of the methodology then we present the case study applied to African social care services which provide from World Bank digital transformation project.

### **Methodology framework and content**

#### **Developing organizational commitment dimensions**

To approach the organizational commitment (OC) of governments in the DT process, it is necessary to consider digital platforms and ensure employees' satisfaction through increasing the overall work experience as explained in the first section. The proposed methodology allows us to describe the technology infrastructures' investments across the use of several platforms. It also

enables us to appreciate their contribution to the transition from the digitalization to the digital transformation process. Also, we present how employees' technological skills development and their satisfaction from their job can potentiate digital transformation process based on organizational commitment.

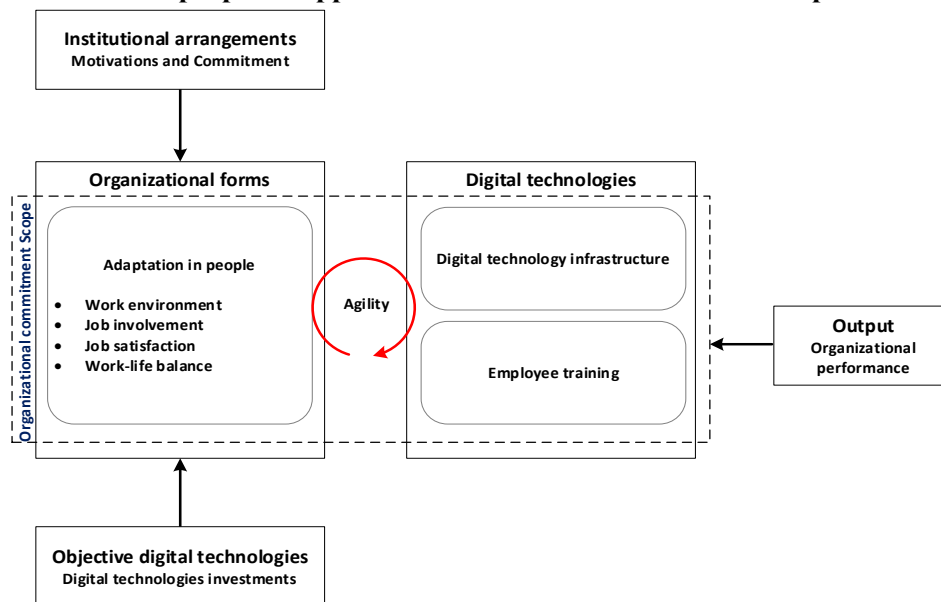
Figure. 1, illustrates the digital transformation process implications. In this paper, we focus on digital platform, employee training, work environment, job satisfaction, job involvement and work-life balance that are the adopted dimensions of organizational commitment. Technology infrastructure is the foundation of all technology investments, including the communications network, shared customer data, computers, data center and servers. The implementation and beneficial exploitation of digital technologies requires specific knowledge, expertise, skills and competences which workers can mainly acquire through education and training. The implementation of DT process when based on organizational commitment has the organizational performance as an output (see Figure.2).

### **Proposed framework based on Governments' DT implementation**

The organizational commitment scope integrate two principal elements to guarantee its success, the organizational forms and digital technology that have different scopes. While the organizational forms take into account the adaptation in people that influence principally the use of digital technologies (Earle, Pagano, & Lesi, 2006, p. 478), digital technologies scope shed light on the technology infrastructure and on the employees' training regarding the digital technology uses (Pradhan, Mallik, & Bagchi, 2018, p. 93). In contrast, the organizational forms framework rallies the internal elements that enable the employees' satisfaction to guarantee the achievement of organizational commitment in the DT process implementation (Hanaysha, 2016, p. 302). Integrating both frameworks can allow the success of DT process implementation, where employees are completely satisfied and engaged as an output to the organizational commitment, as a result, it enables the achievement of the organizational performance.

In this paper, we assume that employees' satisfaction framework is composed of job satisfaction, job involvement, work environment satisfaction, and work-life balance (as illustrated in Figure 2). In the management and information system literature, each of these elements is studied in isolation and it indicates that it does not explain how the three elements are interrelated. In contrast, digital technology infrastructure scope offers more details on the interrelationships between digital technologies and organizational performance.

Figure N° 2  
Conventional and proposed approach based on Governments' DT implementation



Source: performed by authors

### PCA-based methodology applied to the World Bank DT project

Principal component analysis (PCA) is a commonly used tool in data analysis when working on digital economy issues. It is a classical linear transform statistical method (Mkrttchian, Gamidullaeva, & Aleshina, 2019, p. 185). We apply this statistic method to analyze how organizational commitment can support the implementation of DT process in African countries.

The use of PCA method, conducted using R Studio software, enables us to identify and retain just the most relevant information, thus reducing the problem dimensionality and improving the performance of the digital transformation process presentation. In the rest of this section, we describe the case study. The choice of this method is justified by the large-scale used which is made up of 700 observations and 10 variables where only one variable is qualitative (it is considered as an additional variable). The variables used in this study are project cost, hardware, software, total costs, training costs, environment satisfaction, job satisfaction, job involvement, work-life balance, and performance rating (see Table. 1). These variables are appreciated using a scale from 1 to 4 (i.e., from low to a high level).

To evaluate the performance of the proposed methodology, we consider the World Bank digital transformation project. This project aims to guarantee financing to governments for activities that create the physical/social infrastructure necessary to reduce poverty and create sustainable development through Investment Project Financing (IN). Further, to fund policy reform, often through rapidly- disbursed budgetary support, rather than project-based physical investments through Development Policy Lending (AD) (The World Bank, 2018). In our case, the project is about digital technology infrastructure for assistance and social care services. The world Bank makes investments in technological infrastructure both hardware and software. These investments concern the server that records big data concerning customers and the Open Communication Platforms. Also, it supports the employee training costs. The World Bank engaged all its means and competencies to guarantee the employee satisfaction in order to implement successfully the DT process in African social care services.



The World Bank guarantees financing to African governments for activities that create the necessary physical/social infrastructure to reduce poverty and create sustainable development such as social care services (The World Bank, 2018). The investments made by the World Bank concern countries with needed financing. To identify these countries, it takes into account the country's economic situation, governance, environmental/ natural resource management, and poverty and social aspects. There are two clusters. The first one gathers countries that lead off the digital transformation process (IN). The second cluster concerns countries that are still in the digitalization phase (AD).

The World Bank launched the digital transformation project in 58 African countries. All of these countries are concerned by the digital transformation process and only 18 are affected by both digitalization and digital transformation. It comes down to the great need of these countries to develop their social care services to ensure the development and sustainability of their governments.

To conduct our case study, we have analyzed the data according to the following design methodology. First, we applied a descriptive analysis to provide a summary of the variables retained in this study. Then, we applied Principal Component Analysis (PCA) to identify and retain only the most relevant information, as we have, as mentioned above, a large scale comprising 700 observations and 10 variables.

## Results and discussion

This paper aims to investigate the implementation of DT process in governments and its impact on their services performance. To reach this, the World Bank project in African social care services has been taken as example. The World Bank supports the African countries in their digital transformation process regarding the social care services. In this regard, it develops two types of project which are Investment Project Financing (IN) and Development Policy Lending (AD). Most of the investments concern the financing of investment projects (IN) with 96.43% of the total of project. The World Bank makes efforts to satisfy social care services employees to guarantee the success of this process. It focuses on the work environment, job satisfaction, job involvement, and work-life balance.

We use the different costs to explain the digital transformation investments made by the World Bank. These costs concern the digital technology investments regarding hardware and software (i.e., the sum value of these two costs) and employees' training regarding as illustrated in Eq.1.

$$OC = \frac{\sum_{i=1}^3 Ct_i}{Pc} + \sum_{j=1}^4 Es_j \quad (1)$$

Where **Ct** is the employee training, software and hardware costs and **Pc** is the project cost. **Es** is the employee satisfaction which includes environment work satisfaction, job satisfaction, job involvement and work-life balance.

**Table N°1**  
**Descriptive analysis**

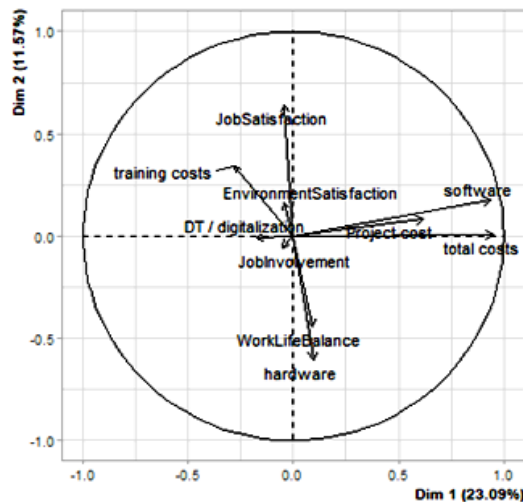
	<b>Var. type</b>	<b>Mean</b>	<b>Sd</b>	<b>p-value</b>	<b>Obs.</b>
Project type	F	-	-	-	2
DT	N	-	-	-	-
Project cost	N	137714386	836417787	< 2.2e-16	700
Hardware	N	58 192 86	37 4664 64	< 2.2e-16	700
Software	N	67652629	110124388	< 2.2e-16	700
Total costs	N	72764771	112045596	< 2.2e-16	700
Training costs	N	3665771	13365251	< 2.2e-16	700
Environment satisfaction	N	2.7085714	1.1261926	< 2.2e-16	700
Job satisfaction	N	2.7314286	1.1140336	< 2.2e-16	700
Job Involvement	N	2.7171429	0.7216202	< 2.2e-16	700
Work life balance	N	2.7485714	0.7273018	< 2.2e-16	700
Performance rating	N	3.1628571	0.3694993	< 2.2e-16	700

**Source:** illustrated by authors

As illustrated in Table (1),  $p\text{-value} < 2.2e-16$  so the null hypothesis is rejected at the critical value  $\alpha=0.05$ . So, there is a significant difference between the observed distribution and the forecast distribution. Therefore, the population is not evenly distributed in each category of the project. It means that some countries are concerned only by the IN project (cluster 1) and the rest are affected both by IN and AD projects (cluster 2). Consequently, this imply that some social care services are in the digital transformation phase and others are still in the digitalization phase.

Figure (2) opposes the 9 variables characterized by a strongly positive coordinate on the axis (to the right of the graph) to individuals characterized by a strongly negative coordinate on the axis (to the left of the graph). It presents the labelled variables that are best represented on the map. These variables contribute to the construction of the PCA plan. As shown in this figure, the plan is constructed on the basis of the different costs and the digital transformation process (DT/digitalization) in addition to a high-values for the variables Job Satisfaction, training costs and Environment Satisfaction are strongly coordinate, this means that digital transformation process require the development of employee skills and expertise in terms of digital technologies to ensure a satisfactory work environment and job satisfaction. For this reason, world Bank engages investment in employee training.

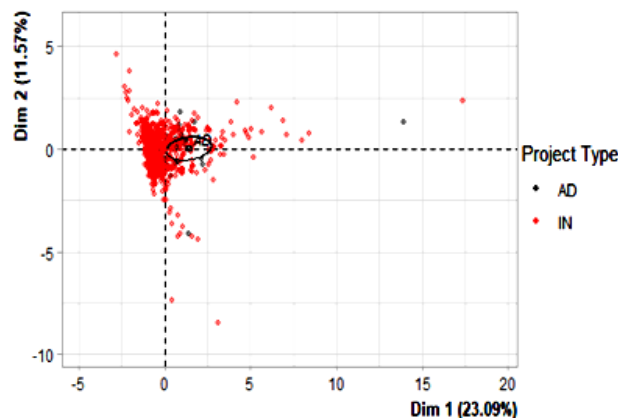
Figure N° 3  
Variables factor map (PCA)



Source: illustrated by authors

Figure (3) shows the labeled variables with the higher contribution to the plane construction colored after their category for the variable Project Type, i.e., the strongest variables described in figure (2) are more sensitive in IN project. These axes present an amount of inertia equal to the 0.95-quintile of random distributions (35%).

Figure N° 4  
Individuals factor map (PCA)

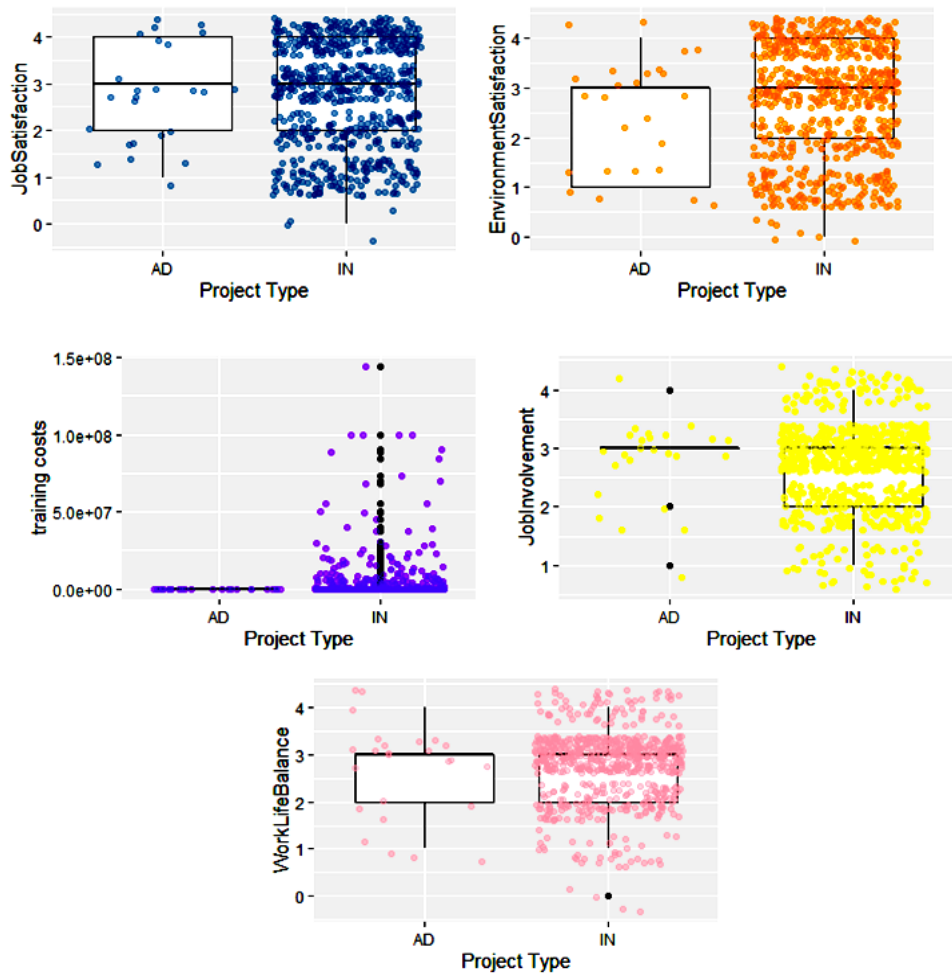


Source: illustrated by authors

The World Bank engages all its competences and means to offer a great work environment for social care services employees when it approaches the DT process. The aim of this commitment is to ensure job satisfaction and implication, in return to enable employees to realize a balance between work and private life. For this, World Bank makes investment in digital technologies and employees' training (see Figure (4)). In consequence to succeed the DT project. As a result, it attains the organizational performance.

Figure N° 5

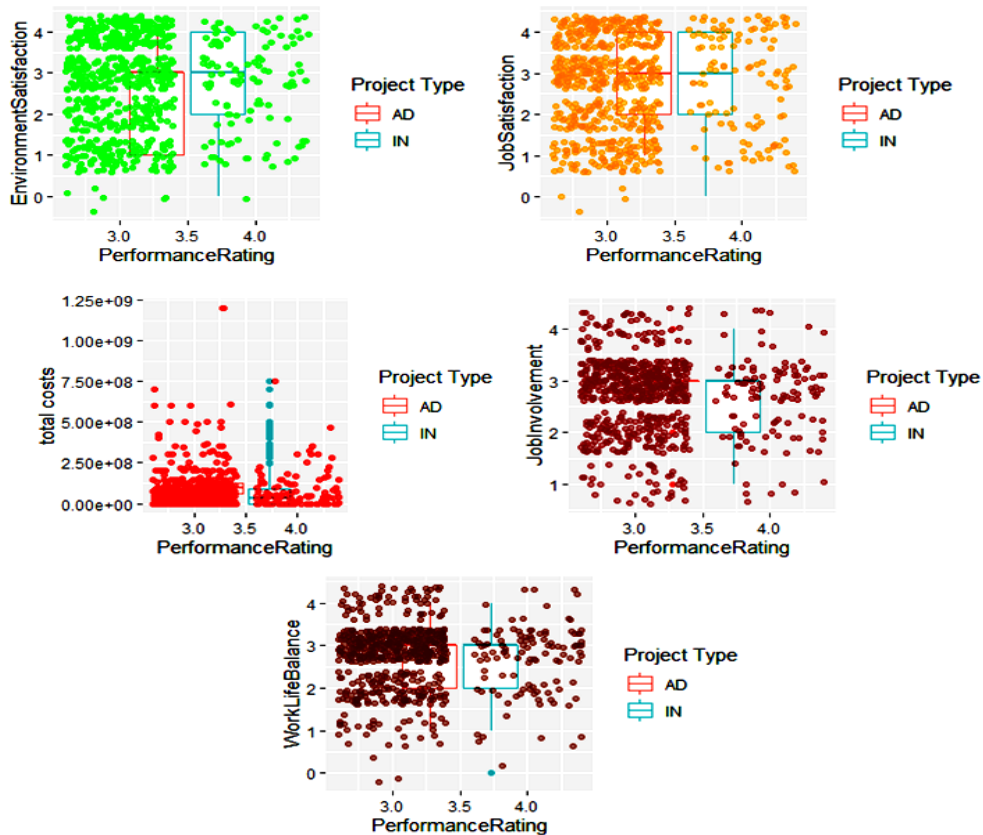
Organizational commitment in DT process



Source: illustrated by authors

Figure (5) illustrates the correlation between employees' satisfaction, investments made by the World Bank and organizational performance. In other words, the impact of organizational commitment in the DT process and the achievement of organizational performance. As shown in this figure, the employee satisfaction is a motivation source to increase organizational performance. A satisfactory work environment enhances the job satisfaction and the job involvement of employees, so they can balance between the work and their private life. In consequence, they become more focus on their tasks and they make sure to increase financial performance, generate new revenue, save costs and organization grow.

Figure N° 6  
Graphs of correlation



Source: illustrated by authors

The digital transformation of the economy zooms in on how and what work is done, not where and when it is done. For this, governments increasingly offer new and innovative digital technologies to provide the environment that effectively facilitating digital work. However, the digital job environment means more than just using new digital technologies. Along with rising agility, employees also crave balance and satisfaction when, for instance, it comes to the fuzzy boundaries between private and work life. In this respect, the organizational commitment in the DT process implementation is based on employee satisfaction that organizations need to overcome to set up the DT process effectively. Further, digital transformation when implemented successfully in governments allows enhancing the organizational performance.

With this study, we have attempted to investigate how organizational commitment contribute to the success of DT process implementation based on technology infrastructure and employees' training investments, also through their satisfaction. This research complements previous literature by providing robust statistical evidence on the impact of this commitment on the digital transformation process implementation. In doing so, we provide new insights into the difference between digital transformation and digitalization and we cannot use them interchangeably in all situations. In addition to the role of organizational commitment in providing a great work environment, job satisfaction, job involvement, and work-life balance. We also addressed the impact of this commitment in the increase of organizational performance. The World Bank data regarding African social care services enabled us to examine the implications of digital transformation process in governments through two projects which are Investment Project

Financing (IN) and Development Policy Lending (AD) , focusing on different investments made in technology infrastructures and employees' training and their satisfaction.

The first important result shows that the implementation of the digital transformation needs more than a technology infrastructure, the employee skills and competences are the key to modify entirely the business model of social care services. Further, the organizational commitment is the hard core of digital transformation success. The organizational commitment is supported by employees' satisfaction. The results thus obtained are compatible with the finding of Hanaysha (2016) regarding the existence of a positive relationship between organizational commitment and employee satisfaction. The second important result indicates that the organizational commitment in digital transformation process is the main source to increase all aspects of organizational performance. While Zopiatis et al (2014) found a direct relationship between organizational commitment and employee satisfaction, our study shed light on the strong relationship between these two constructs in the context of the digital transformation implementation.

## **Conclusion**

This paper addressed a method for measuring the importance of organizational commitment in the digital transformation process implementation. We presented a framework that enables governments to design and apply the organizational commitment which is paramount to guarantee organizations' agility and sustainability through the digital transformation process. First, we reviewed the relevant literature on digital transformation, employee satisfaction under all its aspects, and organizational commitment to predict the implications of digital transformation process implementation. We chose 5 evaluating indicators to propose the initial evaluation model, and we applied the PCA method to carry out the empirical study on a dataset of 700 ongoing projects in different countries of Africa. These projects concern countries with needed financing. The PCA method is formulated for measuring digital transformation process regarding the both projects (IN et AD) set up by the world bank in the African social care services. Results indicate that, In the Investment Project Financing (IN), the digital infrastructures, employees' training and their satisfaction are the drivers of the implementation of the digital transformation process. Employee satisfaction is mainly based on job satisfaction, job involvement, job environment satisfaction, and the balance between work-life balance. Ensuring organizational commitment through employee satisfaction contribute significantly to the improvement of organizational performance. Therefore, in the Development Policy Lending (AD) projects, the technology infrastructure investments are enough to digitalize organizations without making major changes in their processes.

This study enables us to provide suggestions to governments that realize the need to implement the digital transformation process. Therefore, governments need to make additional efforts taking into account more variables to strengthen the organizational commitment of the World Bank in such projects such as the alignment between the digital technologies and the global governments' strategies, adapt the technology to the employees' needs, and so on. They also may make reflections about promoting the process sustainability by ensuring that appropriate technical skills to operate and maintain digital infrastructure are increasingly available in the country.

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