Technological Innovation, Organizational Change, and Employee’s Resistance in Developing Countries

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ABSTRACT

This research falls within the field of technological developments and employee resistance to organizational change. It addresses the following issue: why have La Poste BF (Burkina Faso) employees resisted organizational changes following recent technological developments? A conceptual framework was mobilized, starting from the literature review, articulating the theory of cognitive dissonance and the theory of organizational justice. We generated two research proposals that suggest a link between employees’ age, abandonment of organizational routines, and resistance to change. These research proposals were empirically verified through forty-five (45) semi-structured interviews. Our research’s main findings
indicate that resistance is related to implementation process rather than the need for change. More specifically, employee resistance is not linked to a high average age but lacks involvement and consultation of field employees when implementing specific changes that affect them. They also indicate that changes at the organizational level have forced agents to abandon the routines to which they are attached, resulting in stress, frustration, and organized resistance.

**Keywords:** technological developments, organizational changes, resistance to change, state-owned firm.

**INTRODUCTION**

Since the 1960s, each decade has been characterized by new developments, even technological revolutions. These technologies facilitate access and dissemination of information, access to digital services, and even access to communication (Rigaud and al., 2014). However, their broadcasts can be understood in complementarity with organizational changes. One of these elements, transplanted into a different context, cannot be enough to trigger a virtuous dynamic. To this end, there is a complementarity between the adoption of ICT, innovative organizational practices, and skilled labor (Breshnahan and al., 2002). However, older employees are generally associated with the search for stability, and therefore they are more resistant to change (Bernadis and al., 2011; Aubert and al., 2006). As a result, organizational changes rarely occur without arousing resistance from employees (Reydet, 2019).

The context of our research is in the public sector, where employees are increasingly expressing their needs to participate in the management of public affairs. In addition, the degree of mobilization of these stakeholders’ conditions the total, partial, or
even the failure of organizational changes (Jaziri and Garbaa, 2016). However, in the face of technological progress, to adapt, improve its performance and remain competitive, both private and public companies, regardless of their size, must continually reinvent themselves in an almost perpetual manner (Arcand, 2008). Like many companies, La Poste BF is no exception to this certainty. With the rise of electronic mail, information exchange habits between citizens, businesses, and organizations have changed. Everything is done by email, scanning, telephone. Consequently, these new technologies were likely to overlap, at least in part, or even compete with La Poste BF’s core business, which puts La Poste at a crossroads.

Technological and organizational changes took place within this state-owned company. Shortly after these recent technological and organizational changes and twenty (20) months after the arrival of a new Director General (DG), a crisis caused a stir with the social partners. Beforehand, there were also many unsuccessful attempts at changes, which are completely blocked by the outright opposition of the staff who see it as a means of oppression rather than a desire to influence them, which is essential to increase the company’s performance. Sometimes strong on the part of employees, these reactions are commonly recognized as resistance to change (Bareil, 2008).

However, faced with a rapidly changing sector such as the post office, adjustments and changes are necessary for the company’s survival and, therefore, the safeguarding of jobs. If, despite this evidence, employees resist, there may be other plausible explanations. We, therefore, intend to provide some answers to the following question: why have La Poste BF employees resisted organizational changes following recent technological developments?
This main question remains central insofar as, most often, change meets resistance from these recipients (Moutousi and May, 2018) and does not change in a constantly changing national and international economic environment; it is to be doomed to disappear. The objective is to describe, on the one hand, the impact of a high average age of employees on their resistance following the implementation of technological changes and, on the other hand, to identify the causes of this resistance. As such, this contribution does not aim to test a hypothesis, but rather to enrich the still relatively undeveloped literature on technological developments and the resistance to organizational changes of employees in developing countries and in the public sector, as the authors such as: Boohene and Williams (2012); Benabou and al. (2015); Jaziri and Garbaa (2016) have stated this.

Therefore, we will first discuss the literature review to shed a theoretical light on the concepts and the link between technological developments and employee resistance to organizational changes and more particularly in state-owned companies. The objective is to theoretically develop research proposals which will then be studied empirically through a qualitative approach. The study is about the case of La Poste BF, a state-owned company responsible for operating the public postal service as well as promoting and mobilizing savings. We will present the research results before discussing them in the light of previous research work to highlight the various contributions.

THEORETICAL BACKGROUND

Resistance to organizational change has been the subject of several studies responding to practitioners' concerns in the field of management. To this end, many theories have been built around the concept of resistance to change. From these theories, we
mobilized for this study the theory of cognitive dissonance, developed by Festinger (1957), in the sense that in our case study the awareness of La Poste BF staff of a need for change to expand the company is one of the strengths of the 2013-2022 strategic plan. Compared to the theory of organizational justice, which states that the more an individual judges a change as unfair, the more he will resist the change (Steiner and Rolland, 2006).

According to cognitive dissonance theory (Festinger, 1957), when circumstances cause a person to act in disagreement with their beliefs, that person will experience an uncomfortable state of tension called dissonance, which will subsequently tend to be reduced, for example. By a modification of his beliefs in the direction of the act. Thus, for Burnes and Jackson (2011), if the proposed change and how it has been managed relatively to the recipients of the change's values, the change will be accepted, and if not, it will meet with resistance.

Technological innovation and employee’s resistance to organizational change. Technology is changing at an accelerating rate. It concerns all levels of the organization and is becoming more and more sophisticated. As a result, companies today operate in a changing, unstable, and unpredictable environment (Slimani and Boukrif, 2017). However, the McKinsey study found that only a third of organizational changes are successful (Meaney & Pung, 2008). Indeed, many reasons have been put forward for such a level of failure (Burnes and Jackson, 2011), but employee resistance has been one of the most cited problems (Erwin and Garman, 2010; Oreg, 2006; Rafferty and al., 2013).

The relationship between the high average age of the workforce and resistance to organizational change. There is a positive relationship between employee age and resistance to change (Chiu et al., 2020, Bernadis et al., 2011). According to these authors, the more the age increases, the more employees will have beliefs of loss
than gain during the envisaged change. Also, older employees are generally associated with high levels of stability seeking and therefore are more resistant to change. In the same perspective, Aubert et al. (2006) affirm that implementing new innovative organizational practices is associated with a higher proportion of young workers than seniors.

However, Kunze et al. (2013) demonstrate a negative relationship between employee age and resistance to change. The latter explain their results by the interaction between age and the function occupied by the incumbent. Indeed, the older the agent, the more likely he will have a functional job, and therefore the more he will be involved in the implementation of the change and, therefore, be less resistant. In the same vein, For Sévane and Patrick (2006), the diffusion of new technologies would have a negative impact on the employment of seniors. However, this observation must be qualified: organizational changes such as the decentralization of decision-making powers and the international opening calling on experienced employees would be more favorable to older people than to younger ones. Indeed, age and qualification are two closely related dimensions: employees of different age groups are distinguished both by their initial training and their experience, which are the two sources of human capital. Like opening to international markets being biased towards high skill levels, technological and organizational changes are likely to be favorable to older workers, who are on average more experienced and more skilled (Aubert, 2003). Technological innovations promote both the hiring of young employees and maintaining a core of older employees with a specific know-how in the establishment. Resistance is linked to changes in the way organizations operate and structure.

Technological change is materialized by a break with organizational inertia (Lahouel and al., 2015). Therefore, the
adoption of ICT necessarily implies changes in the definition and reformulation of tasks. However, the introduction of such changes does not happen without creating, in many cases, profound unease among employees. Such situations inevitably lead to resistance from employees. So even if a change is implemented for positive reasons to adapt to changing environmental conditions and stay competitive, employees often react negatively to change and resist change efforts.

A study carried out by the Strategic Analysis of Working Conditions in France in 2012 showed that ICTs have a strong impact on working conditions. For example, in the early 1990s, Le Groupe La Poste considered new technologies and developed new services around the Internet universe. This change had many consequences for postal workers. Indeed, for some postal workers, these transformations have been synonymous with a deterioration of their working conditions, which has led to the emergence of obstacles and resistance to cooperation. In the same vein, Caron (2008) proves that the integration of ICTs disrupts habits and working methods and always provokes certain mistrust and fears among the organization’s actors, which are manifested by resistance to change, likely to materialize soon. Resistance is related to a lack of involvement, participation, and communication with employees when implementing organizational change.

The literature review of work on the determinants of resistance to change distinguishes, in addition to reasons linked to the modification of structures and work organization, individual, collective, political reasons, and those linked to the quality of implementation, implementation of change to the organizational system in place and the change itself (Arora, 2016, Bareil, 2004). On the other hand, others distinguish between resistance linked to the individual, resistance linked to the social system, and resistance linked to the mode of introduction of change (Collerette
et al., 1997). In the same vein as these authors and in line with our research object, we will retain the resistance linked to the implementation of organizational change for this study.

It is often said: employees do not resist change but more to the way it is implemented (Bareil, 2004). Indeed, they can also resist raising their voice against the lack of consultation and involvement. The recipients will resist because the change is forced on them. These variables concerning participation and consultation strongly color many information technologies studies. With technological developments, the players in the field are demanding more fulfilling working conditions and more involvement in the decisions that affect them. Indeed, for Jaziri and Garbaa (2016), the quality of the information disseminated and employees' participation in decision-making are the main determinants of resistance to change in Tunisian public university institutions concerning the adoption of a new application called SALIMA (License and master's Administration System). When analyzing the change in public services, a good change project must be based on a clear vision, i.e., clearly defined objectives, shared by all stakeholders, and room for social dialogue (Colson, 2005). As for Johnson-Cramer and al. (2007), stakeholder spokespersons' involvement is essential for the success of a technological change project because they are the ones who help mobilize their peers. The traditional top-down approach is increasingly challenged (Marchal, 2014). It would also be entirely illusory for a company to claim that employees will embark "heads down" on an adventure that takes them away from an organizational reality that had, until then, adequately responded to their needs, their values, and skills. (Arcand, 2008).

Van der Voet and al. (2015) studied the implementation of change in public organizations. Their analysis indicates that communication and participation are the primary means of stimulating support for change in employees. Thus,
communication makes it possible to explain and sell the change and reassure stakeholders (Gilbert, 2010). Charpentier (2004) specifies that actors’ participation during a change operation depends on a certain number of elements such as the type of problem, the economic context, the local culture, and the leaders’ management style. In addition, a research carried out within subsidiaries of multinationals established in West Africa (in Benin and Nigeria) on the introduction of technology of Western origin; the results showed that the management styles adopted by the leaders to carry out the process are both panoptic (based on top-down management) and polyphonic (based on bottom-up management) (Worou, 2011). The combination of the two styles gives rise to the hybridization of Western and African managerial instrumentation, marked by the identification of influence holders, the mobilization of actors around the project, the negotiation of compromises, and the formalization of a common objective.

However, for Burnes (2014), organizations need to adapt their methods, rather than if one approach will work in all areas and circumstances. In the African context, some authors have stressed the importance of the African cultural context's specificity. Each cultural context influences patterns of adoption and use. Thus, the work of authors such as Henry (1998) in Mauritania and Iribane (1998) in Morocco have shown that approaches that consist of applying European managerial techniques as is in Africa without considering the culture of the environment are doomed to failure. Indeed, Henry (1998) explains that, despite using a participatory approach as a managerial tool for introducing organizational change, the results were ultimately mediocre. As for d'Iribane (1998), he shows that it is through moral reform that change has been achieved.
RESEARCH PROPOSALS

Considering the above literature review, we retain that introducing technologies into the organizational sphere is as disruptive as it is innovative (Lahouel et al., 2015; Caron, 2008). Indeed, they are likely to change professions and upset the way of working, coordination, and management. We also realize that the implementation of these technologies and their proper functioning largely depends on the actors in the field (Jaziri and Garbaa, 2016; Marchal, 2014). Also, if the average age of employees is high, they will not adapt to technological change (Bernadis et al., 2011; Aubert et al., 2006).

To carry out this work, we have formulated proposals to develop the investigation lines retained in this study. Thus, this research was built on the proposition of understanding the concept of technological evolutions and the resistance of employees to organizational change and other propositions which are as follows:

Proposition 1: The higher the average age of employees, the more resistance to technological change.

Proposition 2: The more the implementation of technological developments generates changes in the way organizations operate and structure, the more employees resist these organizational changes.

METHODOLOGY AND DATA COLLECTION

The literature has allowed us to understand the purpose of this study theoretically. Therefore, our field work is to understand the link between employees' age, abandoning organizational routines, and their resistance to change. Thus, this point is devoted to the
methodological framework where we will present our epistemological positioning and our mode of reasoning, our research methods, the description of the research tools, our survey population, the sampling, and the practical progress of the studies. Generally, we distinguish three (03) flagship epistemological postures in management sciences: positivism, constructivism, and interpretivism. Thus, subscribing to an epistemological stance corresponds to an affirmation of a scientific and epistemological identity (Cohen, 1996 taken up by Aissa, 2001). To this end, in the logic of our main objective, we are part of an epistemological paradigm of interpretivism. As for this study’s reasoning mode, it is abductive because we questioned both the field in the light of the literature and the literature in the light of the field throughout the research.

To understand our subject’s problem, we adopted a qualitative approach through a unique case study Yin (2003). As Wacheux (1996) underlines, a qualitative approach makes it possible to "understand the why and the how of events in concrete situations". The single case study as a research method allows an in-depth analysis of the phenomena in their context (Roy, 2009). Regarding the data collection method, the semi-structured interview seemed to be the most suitable technique because it allows the respondent to be free of expression while maintaining control over the topics addressed (Miliani, 2015). Thus, data collection was carried out over ten days in the city of Ouagadougou, more precisely at the General Directorate and at kilometers Four. The choice of the city of Ouagadougou is justified because it contains the headquarters of the general management of La Poste BF and most of the stakeholders of this state-owned company.

In total, forty-five (45) interviews were carried out, including nine (09) members of the management team, including the general manager that we have codified D1 to D9, ten (10) of the social
partners, made up of delegates trade unions, staff and agents' mutual insurance companies that we have coded P1 to P10; and twenty-six (26) of the agents that we coded A1 to A26 and we selected them based on criteria such as gender, age, professional category, availability, seniority in the company (worked as employees during the last five years), the area of competence, the fact of occupying a strategic position in the company. This selection allowed us to diversify points of view.

In addition to the semi-structured interview technique used, we used data from secondary sources through documentary analyzes. The documents used are the strategic plan 2013-2022, the operational plan 2018-2020, the new organization chart of La Poste BF to enrich our understanding. This technique plays a complementary role in qualitative methodology. The survey data's processing and analysis were carried out manually through thematic content analysis (ACT). The themes selected are those that we have previously defined based on the literature review: 1) high average age of the workforce to technological changes as a trigger for resistance 2) changes in the mode functioning and structuring of organizations as explanatory factors of employee resistance, 3) the lack of involvement, participation, and communication during the implementation of organizational change as a source of employee resistance.

**FINDINGS AND DISCUSSION**

From our empirical study, we present our results extracted from some verbatim and the literature review. From this table, our research's main results indicate that resistance is related to implementation rather than the need for change. More specifically, employee resistance is not linked to a high average age but a lack of involvement and consultation of field employees when
implementing changes that affect them. They also indicate that changes at the organizational level have forced agents to abandon the routines to which they are attached, resulting in stress, frustration, and organized resistance.

High average age of the workforce to technological change, as a trigger for resistance

The use of more sophisticated technology always involves a changing work. As a result, using ICT requires employees to concentrate, pay more attention and be more active in carrying out their activities which favors younger workers because older workers are generally associated with high levels of stability-seeking and are more resistant to change. These results go hand in hand with those found by Bernadis and al. (2011) when they underline that older employees generally have more belief to lose than to gain during the envisaged change. In the same vein, implementing new innovative organizational practices is well associated with an orientation towards the flexible business model. It would be more favorable to young workers compared to seniors (Aubert and al., 2006). However, for other authors (Sévane and Patrick, 2006), employees of different age groups are distinguished both by their initial training and their experience, which are the two sources of human capital. To this end, age and qualification are two closely related dimensions. These results confirm Aubert's research (2003) when he underlines that technological and organizational changes favor both hiring young employees and the maintenance of activity of a core of older employees with knowledge—be specific to the establishment. Therefore, our results are like these results according to the words of A1: "we, we the former, were more trained on the manual compared to the young people who are more trained in digital technology, and within La Poste, these two practices still exist above all. At the counters. So, I think we are complementary".
Therefore, our initial proposal to know: The higher the average age of the employees, the more the technological changes lead to resistance is not confirmed in this case study, because the age group is certainly not only young, but even the older age group does not oppose the principle of change, but because of the method used to introduce the change. Also, technological, and organizational changes are biased by high levels of qualification (Aubert, 2003). Indeed, they are likely to be favorable to older workers, who are on average more experienced, more qualified, and bearers of a specific know-how in the establishment. To this end, the age of the employees does not influence the resistance of the employees. Changes in the way organizations operate and structure, as explanatory factors for employee resistance.

There is a complementarity between the adoption of ICT, innovative organizational practices such as reducing hierarchical levels within the establishment; decentralization of decision making; skilled labor (Breshnahan et al., 2002). Thus, technological changes are materialized by a break with organizational inertia (Lahouel and al., 2015). However, the adoption of ICT necessarily involves changes in the definition and reformulation of tasks. This situation forces agents to abandon the routines to which they are attached. Such situations inevitably lead to resistance from employees. Therefore, these results can be likened to that of Reydet (2019), when he emphasizes that organizational changes rarely take place without eliciting resistance from employees. In the same perspective, for Caron (2008), ICT integration in organizations invades the professional environment and disrupts working habits and methods. This situation forces agents to abandon the routines they are attached to, which leads to resistance. The P2 proposition according to which: The more the implementation of technological developments generates changes in the way organizations operate and structure,
the more employees resist these organizational changes is valid and confirms the results of (Lahouel and al., 2015; Caron, 2008) when they underline that the integration of ICT in organizations invades the professional environment, disrupts habits and working methods. This situation inevitably leads to resistance from the employees. Individuals are by nature inclined to the search for stability as to upheavals; they are most of the time disturbed by the announcement of the adoption of new technology, as much as by its effective implementation, which requires reorganizations commitment However, any organizational change implies a critical questioning of the existing realities for the organizational actors.

CONCLUSION AND IMPLICATIONS

In a society subject to turbulence, innovation tends to become a core activity (Paulré, 2016). However, the announcement of adopting new technology, as much as its effective implementation, necessarily implies changes in the definition and reformulation of tasks. However, any organizational change requires an important questioning of the existing realities for the organizational actors. Our research aims to understand the reasons for La Poste BF employees' resistance to organizational changes following recent technological developments.

The results show that the implementation of technological developments requires internal reorganizations and, therefore, organizational changes. However, organizational changes affect the organization, modify the division of labor, distribute decision-making power, and circulate information. This situation forces officers to abandon the routines they were attached to, which has resulted in stress, frustration, and organized resistance. Moreover, older employees do not resist because of age but rather because of the method used to implement the changes. They believe that this
is a "top-down" type of method because they are not concerted, involved, and even participating in implementing changes that affect them.

Theoretically, this study contributes to enriching the literature on resistance to organizational change by relying on cognitive dissonance theory to show that employee resistance is not linked to a high average employee’s age, but the method used to implement it. Compared to previous studies that concluded that older employees are generally associated with the search for stability, they are more resistant to change (Bernadis and al., 2011; Aubert et al., 2006).

At a practical level, this research makes several recommendations to line managers of La Poste BF and social partners and all employees. To line managers, our results have shown that those in the field do not want to be only implementers but co-builders of the systems they participate in because for them, change is lived more than it is written. They demand more involvement, consultation, and communication in the decisions that affect them. For the social partners and all the agents, there must be a real and sincere involvement of La Poste BF’s social partners. To this end, we insist on establishing a structured dialogue with internal stakeholders to face their resistance. This research will also help employees arrange as economic agents and not passive subjects for the company's survival.

All research has its limits, and this is no exception. This research, despite the contributions, presents some limitations in terms of methodology and data collection. First, as the qualitative studies are very contextualized, the results cannot be generalized. And secondly, the data collected through a single company is an obstacle to the generalization of the results. To this end, through this unique case study, our results are potentially generalizable. In terms of research perspective, it is important to enlarge our sample
through a quantitative method to give external validity to our results. The research could also be conducted to see under what conditions resistance can help refine strategic plans and action plans to further improve the company's quality of decision-making.

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