

Understanding and Modeling Academic Performance: A Theoretical Approach

Comprendre et Modéliser la Performance universitaire : Approche théorique

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Abstract

Performance is a concept frequently mentioned both in daily life and in professional settings. It has become an obligation for various actors, regardless of their fields of activity. Thus, the performance of public organizations is an issue that has generated extensive discussion, particularly in recent years, which have been marked by significant transformations in management tools and the institutional principles of governance for public entities. The improvement of performance in higher education institutions and the introduction of management tools derived from the private sector into the management of public institutions have led to the emergence of certain public management reforms grouped under the term "New Public Management." This framework allows for the exploration of various factors influencing the organizational performance of universities. Through a literature review, this research article aims to analyze these determinants, highlighting the challenges and opportunities faced by educational institutions in their quest for efficiency and excellence.

Keywords: Performance; New Public Management (NPM); Universities; Governance; Public Organizations.

Résumé

La performance est une notion fréquemment évoquée aussi bien dans la vie quotidienne que dans la vie professionnelle. Elle est devenue une obligation pour les différents acteurs, quels que soient leurs domaines d'actions. Ainsi, la performance des organisations publiques est une question qui a fait couler beaucoup d'encre, notamment dans ces dernières années qui ont été marquées par des transformations majeures des outils de management et des principes institutionnels de la gouvernance des organismes publics. L'amélioration de la performance des établissements universitaires, et l'introduction des instruments de gestion issus de la sphère privée dans le management des établissements publics, permettent l'apparition de certaines réformes de la gestion publique regroupées sous l'expression du "Nouveau Management Public". Ce cadre permet d'explorer les divers facteurs influençant la performance organisationnelle des universités. À travers une revue de littérature, cet article de recherche se propose d'analyser ces déterminants, mettant en lumière les défis et les opportunités qui se présentent aux établissements éducatifs dans leur quête d'efficacité et d'excellence.

Mots clés : Performance ; NPM, Établissements Universitaires ; gouvernance ; Organismes Publics.

Introduction

The quest for organizational performance has always been a key concern for organizational leaders and their internal and external partners. Studies on organizational performance have occupied a central position in the foundational works of strategy researchers such as Chandler A.D. (1962), Ansoff I. (1965), and Andrews K. R. (1971). Understanding the underlying mechanisms remains a fertile area for organizational science researchers. Indeed, numerous studies have focused on analyzing the relationship between different aspects of an organization and its performance, with the primary aim of identifying the sources of organizational performance. However, the results are not always conclusive. For instance, the book by Peters and Waterman (1983), titled “In Search of Excellence,” asserted that the most successful companies were those with a strong market position and high-quality products.

However, a few years later, it was observed that most of the companies considered “excellent” faced numerous challenges (Miller D., 1992).

This led to the examination of numerous parameters from a deterministic perspective to explain and justify the sources of an organization’s performance. However, the unidimensional approach to organizational performance was quickly rendered obsolete by the evolving environment, which transformed the concept of performance into a dynamic and relative one. Thus, an organization is neither definitively nor universally performant; rather, it is so at a specific moment and in relation to a given environment.

Moreover, adopting a systemic approach to organizational performance has highlighted that it cannot be reduced to a single variable but is instead the result of a variety of diverse and complex variables. Consequently, it is essential to consider the contribution of each variable and its interdependence with others. According to Lebas M. (1995), performance is expressed as a balanced set of complementary, and sometimes contradictory, parameters that describe both the outcomes and the processes enabling the achievement of these outcomes.

In the literature, many researchers have explored the determining factors likely to enhance the performance of public organizations, particularly universities (Andrews, Boyne, and Walker, 2011; Boyne, 2003; Forget et al., 1995; Pesqueux, 2006; Flizot, 2013; Bernier et al., 2000; Gomes et al., 2013; Labaronne, 2013; Song-Naba, 2016; Chan, 1994, etc.).

Despite the diversity of theoretical work in this field, there is no consensus among researchers regarding the set of variables that impact the performance of public organizations. Some researchers emphasize the importance of external factors, such as socio-economic conditions and the rules and laws governing public organizations (Andrews et al., 2005). However, other

researchers argue that this approach is limited (Boyne and Walker, 2005). Indeed, numerous studies have highlighted the impact of management on the performance of public organizations (Andrews et al., 2005; Boyne, 2004).

In this context, our central research question is as follows: **What are the determinants of organizational performance in universities?**

To address this question, a review of the literature has allowed us to synthesize various studies proposing different explanations for the performance of universities.

1. Performance: A Portmanteau Word and a Polysemic Concept

The definition of “performance” does not appear to be universal, as it remains relative depending on the context and field in which it is applied. It can encompass concepts such as efficiency, productivity, return on investment, and input/output ratios.

Achieving performance is the fundamental objective of any organization, regardless of its nature or field of activity. However, precisely defining this notion proves to be complex and has sparked numerous debates over the years. As Saucier (1994) highlights: “Performance must be specified every time one wishes to use it.” Indeed, this ambiguous concept holds a central position within any organization. It raises multiple questions and generates various definitions.

Performance is generally understood through dimensions such as effectiveness, efficiency, efficacy, productivity, and relevance. As such, the notion of performance is a constructed concept an abstract idea shaped and conveyed by organizational theorists.

From an economic perspective, a company’s performance is represented by the value-cost relationship, corresponding to the ratio between resources consumed and value created. According to Lorino (1997), performance refers to the means used to achieve strategic objectives: *“A company can only be considered performant if it improves the net value creation ratio. Conversely, actions that reduce costs or increase value in isolation will not necessarily be regarded as performance unless they enhance the ratio between value and costs”*.

Bocco (2010), on the other hand, examines performance in terms of the organization’s evolution and growth. Similarly, Otley (1999) emphasizes that performance is an ambiguous term without a single, universally accepted definition.

Bourguignon (1995) proposes a definition of performance by distinguishing three aspects. First, “result performance” focuses on the level of goal achievement by comparing the results obtained with predefined objectives, emphasizing criteria such as profitability, profitability,

and productivity. Next, “action performance” is understood through the means, skills, and processes implemented to achieve these results. Finally, “success performance” varies depending on the organization itself.

According to Bourguignon, it is challenging to precisely define performance due to the various dimensions it encompasses. Indeed, this complexity arises from the use of the term in different fields such as politics, entertainment, and sports. Over time, this concept has undergone three major evolutions: it has shifted from a focus on financial performance to a more holistic approach to organizational performance, moving from a unidimensional character to a multidimensional framework. Furthermore, it has transitioned from an objective conception of performance to a more subjective view, and from a simple management tool to a more comprehensive measurement tool¹.

2. Managerial Approach

A multitude of researchers, such as Guérard and Scaillerez (2008), Gortner et al. (2000), Chan (1994), Bouquin (2001), Boyne (2004), Brewer and Selden (2000), Meier and O’Toole (2002, cited by Boyne and Walker, 2005), among others, support the managerial perspective and argue that the performance of public organizations primarily depends on considerations related to their management.

According to proponents of the managerial perspective, certain parameters are particularly important, such as human resource management and its crucial role in the performance process. Guérard and Scaillerez (2008) emphasize that the development of human skills is an essential condition for public organizations to achieve performance.

Other researchers have concluded that the way public organizations are managed and the personal involvement of managers play a key role in achieving performance. Thus, according to some scholars, the underperformance observed in public organizations is primarily attributable to managerial shortcomings. In this perspective, researchers like Hafsi and Bernier (2005) highlight the connection between entrepreneurship and innovative practices as the main lever for the performance of public organizations.

However, another aspect related to the specificity of public organizations is also considered responsible for the achievement or lack thereof of performance. This pertains to the

¹ This concept was formalized in the 1980s within the field of management control, incorporating non-financial factors. This marked a shift from financial information, traditionally intended for shareholders, to extra-financial information aimed at encompassing all stakeholders involved.

intrinsically complex nature of public organizations. These organizations are structurally burdened by numerous constraints of various types, primarily related to their political, economic, legal, and social environment.

Numerous studies have been conducted on the environment of public organizations and its impact on performance. Among these studies, the research by Bernier et al. (2000) is particularly interesting, as it highlights a list of variables that play a role in determining the performance of public organizations. The authors analyzed the performance of 10 public organizations in Quebec and identified four main axes:

- Economic axis, which includes the economic cycle, sector-related factors, and monopoly.
- Sectoral axis, which concerns product prices.
- Political axis, which encompasses the government's financial needs, the political will for reform, and the relationships between policymakers and management.
- Management axis, particularly entrepreneurship.

These variables provide a solid foundation for understanding the factors that influence the performance of public organizations. The study by Bernier et al. (2000) highlights the importance of considering these aspects when evaluating and improving the performance of public organizations. This observation has led a number of researchers to challenge the notion that private organizations are systematically superior to public organizations in terms of performance.

Forget (1999), another researcher, shares this opinion by emphasizing the inaccuracy of the negative judgments often made about public organizations. According to him, this inconsistency arises from the fact that studies on the performance of public organizations primarily rely on comparisons between public and private organizations. However, this researcher argues that these two structures fall under non-comparable models, and their comparison does not take into account the distinct environments that characterize them differently.

Furthermore, this researcher mentions that comparisons are usually made between public and private organizations, rather than between privatized public organizations and those that remain public. According to him, this does not reflect the same realities.

3. Institutional Approach

Considerations related to competitiveness and commercialization are part of the key ideas developed within this perspective, which has fewer representatives than the previous one.

Dunsire et al. (1991, cited by Bozec, 2004) are among the researchers associated with the institutional perspective. These authors hold a unique position regarding privatization, as they believe that the efficiency achieved by most public organizations following their privatization is not the result of this change in status, but rather due to the new competitiveness rules that these organizations are compelled to adhere to.

Other researchers refer to the mode of state control and government policy as variables that can explain the performance of public organizations. They believe that the performance of these organizations can either increase or decrease following a change in the type of control exercised by the state (whether through increased or reduced control) (Boubakri and Coss, 1998).

In the same vein, and given that the public organization is financially dependent on the government authority to which it is attached, the appointment of its governing body, as well as the roles and functions of its members, falls to this same government authority. This authority has the ability to intervene in varying degrees more or less directly and more or less intensively in the daily operations of the organization.

Thus, the interventions of the government authority will take place at both the control and financing levels, as well as in various managerial modalities and decisions (Bernier et al., 2000; Pesqueux, 2006; Flizot, 2013). These different mechanisms have an impact on the performance of the public organization: political autonomy, funding, pricing of services provided to citizen users, management, and the managerial capabilities of the leader.

4. Research Methodology Adopted

To thoroughly address our research problem, which focuses on identifying the key factors influencing organizational performance in the Moroccan University context, we have opted for an exploratory qualitative methodology. This approach, primarily centered on a literature review, will allow us to deeply examine the challenges related to digital transformation while highlighting the specificities and obstacles that Moroccan universities face in this process.

The literature review proves highly relevant, as it provides a robust methodological framework for analyzing existing studies, prior research, and emerging concepts related to organizational performance. By exploring the contributions of other researchers, we aim to identify trends, best practices, recurring challenges, and major opportunities. This process will

enable us to gather a wide range of sources, such as academic publications, institutional reports, and case studies, to gain a comprehensive and nuanced understanding of the topic.

The qualitative dimension of our methodology also offers the necessary flexibility to deeply understand the experiences, perceptions, and reflections of key stakeholders involved in evaluating organizational performance within Moroccan universities. Content analysis will be a fundamental tool to give voice to these stakeholders, including university leaders, faculty members, students, and other influential actors. By exploring their experiences and perspectives, we can better grasp the dynamics at play and the factors influencing institutional performance.

By adopting this approach, our aim is to better understand the specificities of the Moroccan context while drawing valuable insights into factors that may either facilitate or hinder the process of improving organizational performance. We will particularly focus on analyzing challenges related to institutional governance, human resource management, and the integration of digital technologies. This deeper understanding of local particularities will contribute to formulating contextual and realistic recommendations, thereby guiding Moroccan universities toward practices that enhance organizational performance.

2. Analysis and Discussion of the Results

2.1. University Institutions Performance: A Governance Issue

Performance refers to the outcomes of both internal and external governance mechanisms, and these feedback implications can be observed at three successive levels (Jones, I & Pollitt, 2003): Positive performance tends to reinforce existing internal and external governance mechanisms. The reason is that positive performance confirms the status quo and reduces incentives for change (neither principals nor agents are likely to promote governance changes if declared objectives are achieved). It is thus proposed that positive performance tends to reinforce internal and external governance mechanisms (Weir, Laing & McKnight, 2002), even if these components are shown to be detrimental to long-term performance.

Negative performance is likely to create momentum for change and reform of internal and external governance mechanisms. However, this momentum for change and reform may not necessarily occur, as agents may lack the incentive or the necessary information to promote change (McMillan & Chan, 2006). This is where external governance mechanisms play an important role in promoting robust corporate governance (Foley, 2002) and university

performance. If external governance mechanisms are relatively effective (though the notion of “relative” is difficult to quantify), then negative performance would likely lead to changes in corporate governance systems. Thus, there is a strong mediating effect of external governance mechanisms on the ability of negative performance to drive corporate governance change (University of Oxford, 2006; Williamson, 1998).

There are evident links between internal and external governance mechanisms (Weir, Laing & McKnight, 2002), but the two remain conceptually and empirically distinct. However, correlations between explanatory factors can be expected, as there are intuitive associations between external and internal factors. For example, the presence of higher fees for services (Marginson, 2006) is more likely to foster frequent financial information and audit transparency. According to Klapper and Love (2004), the role of a regulatory authority (an external governance mechanism) is also important for encouraging the combination of internal governance mechanisms.

All potential measures of university performance and productivity have limitations (Worthington & Lee, 2005). Empirical evidence regarding the relationship between performance indicator measures and governance attributes is mixed, and there is considerable debate over the most reliable measures. However, in a meta-analytic review of the corporate governance literature, there is no consensus on the effectiveness and reliability of one measure over another (Daily et al., 1998). As a result, any rigorous analysis of university performance must adopt multiple methods (Guthrie & Neumann, 2007) to develop a better understanding not only of university performance but also of the processes that promote superior university performance.

2.2. ICT Viewed as One of the Determinants of Performance

Our objective is to analyze the role of information and communication technologies (ICT) in university performance, using the theoretical framework of the resource-based view (RBV).

2.2.1. ICT through Resource-Based Theory

We adopt the resource-based view (RBV) perspective (Penrose, 1959; Wernerfelt, 1984) to analyze university performance based on their internal resources, particularly information and communication technologies (ICT). ICT represents tangible resources that encompass techniques for processing and communicating information. They are involved in all areas of university activity, from pedagogy to administration (human resources, finance, accounting, value creation, etc.). Their value depends on how they are utilized by the actors. The

university is thus an organization that leverages and integrates its resources, particularly ICT, to develop specific capabilities. These capabilities are reflected in distinct organizational processes that enable decision-making, control, and value creation. Value creation, in particular, is demonstrated through the enhancement of the degree's value and, consequently, the value of the graduating student. The use of ICT has varied effects. We view these as potential outcomes rather than confirmed ones, as organizational processes are influenced by numerous factors.

2.2.2. The Potential Effects of ICT in Universities

In the digital age, the emergence of innovative information and communication technologies has disrupted the way teaching and learning are conducted (Smaili, 2024). Our research falls within the scope that examines the effect of information and communication technologies (ICT) on organizational processes, the individual and collective impact of work, and the performance and value creation of the organization. We rely on the integrated analytical framework developed by researchers in ICT management, which considers the structure, activity, and strategy of the organization. According to Zuboff (1988), ICT presents an essential duality: automation and information. The use of ICT allows for more effective, faster, and cheaper communication, as well as better data utilization that facilitates high-value decision-making. It also leads to improved coordination based on the formalization and standardization of procedures (Bharadwaj, 2000; DeLone and McLean, 2003). Furthermore, by changing the conditions for accessing information, ICT influences the definition of roles within the organization. Indeed, the use of ICT involves task enrichment with an aspect of self-control.

The use of information and communication technologies (ICT) is not without drawbacks, as highlighted by Caseau (2007). ICT users may encounter issues related to hardware, software, and security. Additionally, the functioning of ICT can be slowed down by mandatory controls, such as the establishment of access rights to applications. These controls aim to comply with a legal framework that includes various standards. Furthermore, these changes lead to transformations in the dynamics, content, and meaning of work, which impact the final performance of our study (Elie-DitCosaque, 2011). This can create frustration for the end user, who is no longer recognized as a knowledgeable and skilled actor performing a profession, but rather as a user who must integrate technology into their practices according to imposed modalities (Lamb and Kling, 2003). This situation can be described as a

dispossession of knowledge. In this case, the structuring of tasks through ICT is perceived as a threat, limiting autonomy and leading to a degradation of work. These difficulties can result in decreased productivity and, consequently, negatively affect performance.

Information and communication technologies (ICT) have become an essential element of organizational strategy. Higher education institutions are increasingly adopting a logic of continuous improvement ranging from training to research, pedagogy to professional integration, and from students' living and study conditions to relationships with the socio-economic world. Thus, for universities, the goal of using ICT is to structure the institution's activities, enhance its attractiveness, improve the quality of services provided, particularly for students, better control costs, redefine the roles and missions of personnel, and facilitate the sharing and dissemination of information. This represents a localized exploitation coupled with internal integration, as noted by Reix et al. (2011).

Conclusion

The performance of higher education institutions is shaped by a diverse set of determinants that interact in complex ways, influencing the quality of teaching, research, and the overall impact of the institution. Considering the above, we can conclude that the governance of a public organization represents the set of mechanisms that govern its daily operations and various implications: political and social context, decision-making processes, control mechanisms, levels of responsibility and power, as well as the management of assets and resources, among others.

It is also clear that the performance of public organizations is strongly influenced by these factors, which can often present obstacles to achieving the desired performance outcomes. We can summarize these considerations as follows:

The state, represented by relevant authorities, along with stakeholders such as the Board of Directors, managers, employees, partners, and creditors, are the key actors in public organizational governance.

Public organizational governance results from institutional arrangements among these stakeholders, managerial and organizational mechanisms, as well as control and accountability frameworks established between them.

Management plays a crucial role in influencing the performance of public organizations. The adoption of control systems (internal control, management control) is essential for enhancing performance and defining leadership powers. However, the political and social demands imposed by the state can weaken conditions conducive to optimal performance, thereby limiting the capacity for action and performance, particularly in financial and economic terms. The performance of higher education institutions is a critical factor influencing their ability to achieve strategic objectives related to teaching, research, and overall impact. In today's dynamic and increasingly complex environment, universities face numerous internal and external challenges that shape their performance outcomes. These challenges include governance structures, the role of information and communication technologies (ICT), and the influence of political, social, and economic factors.

However, our study has certain limitations. Firstly, the diversity of institutional contexts makes it difficult to generalize the results. The complexity of interactions among various stakeholders may require more nuanced methodological approaches to better understand these dynamics.

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