

The Informatization of Scientific Process Management and Its Impact on Institutional Development: A Study at the Faculty of Economics, Kimpa Vita University (2022-2025).

Amoussou Dorothee

Ph.D, Kimpa Vita University

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SUMMARY

This study analyzes the computerization of scientific process management and evaluates its impact on institutional development in Higher Education, using the Faculty of Economics at Kimpa Vita University as a case study, from 2022 to 2025. It is based on the premise that, in the knowledge society, Information and Communication Technologies (ICTs) constitute strategic tools for boosting scientific research, optimizing academic management, and strengthening institutional affirmation. Computerization is not limited to data digitization, but implies a structural and cultural transformation, requiring innovative practices and valuing knowledge as an essential asset for socio-economic progress. The Faculty of Economics faces technological and financial challenges, but also opportunities to strengthen its academic and scientific identity, expanding its national and international visibility and credibility. Methodologically, the research adopts a mixed-methods approach, combining questionnaires applied to the academic community and interviews with faculty and managers, allowing for a holistic understanding of the impacts of computerization. The results point to gains in administrative efficiency, promotion of scientific production, knowledge sharing, and improvement in the quality of teaching. It is concluded that computerized scientific management is not only a contemporary requirement, but also a necessary condition for the future sustainability of Higher Education in Angola.

Keywords: Information technology; Scientific management; Institutional development; Higher education; Kimpa Vita University.

ABSTRACT

This study analyzes the computerization of the management of scientific processes and assesses its impact on institutional development in higher education, taking as a case study the Faculty of Economics of Kimpa Vita University during the period 2022–2025. It is based on the assumption that, in the knowledge society, Information and Communication Technologies (ICT) constitute strategic tools for stimulating scientific research, optimizing academic management, and strengthening institutional positioning. Computerization is not limited to data digitization; rather, it implies a structural and cultural transformation, requiring innovative practices and the appreciation of knowledge as an essential asset for socio-economic progress. The Faculty of Economics faces technological and financial challenges, but also opportunities to strengthen its academic and scientific identity by expanding its national and international visibility and credibility. Methodologically, the research adopts a mixed approach, combining questionnaires administered to the academic community with interviews conducted with lecturers and managers, allowing for a holistic understanding of the impacts of computerization. The results indicate gains in administrative efficiency, promotion of scientific output, knowledge sharing, and improvement in the quality of teaching. It is concluded that computerized scientific management is not only a contemporary requirement but also a necessary condition for the future sustainability of Angolan higher education.

Keywords: Computerisation; Scientific management; Institutional development; Higher Education; Kimpa Vita University.

INTRODUCTION

Digital transformation has brought about structural changes in organizational and educational practices, posing new challenges to the management of Higher Education Institutions (HEIs). In the context of the knowledge

society, Information and Communication Technologies (ICTs) assume a strategic role in the organization, management, and dissemination of scientific research, making the computerization of scientific processes a determining factor for institutional development, administrative efficiency, and the academic standing of universities (Castells, 2003; Tapscott, 2015).

In higher education institutions, the computerization of scientific management goes beyond the mere digitization of data, configuring itself as a process of organizational and cultural transformation that involves the adoption of integrated project management systems, scientific publication platforms, researcher databases, and collaborative tools. The literature shows that the strategic use of these technologies contributes to improved administrative efficiency, increased productivity and quality of research, and enhanced institutional visibility—essential elements in an increasingly competitive and globalized academic context (Silva & Almeida, 2019; OECD, 2018; Ferreira, 2020).

Despite this recognition, many higher education institutions in Angola still face significant constraints in the computerization of their scientific processes. In organic units such as the Faculty of Economics at Kimpa Vita University, research processes remain largely dependent on manual and poorly integrated procedures, which hinders the systematization of scientific information, compromises the monitoring of research projects, and limits the sharing and visibility of academic output. Although there are institutional structures responsible for coordinating scientific activity, such as the Center for Scientific Research and Development (CICD), the Department of Scientific Affairs (DAC), and the Office of the Vice-Dean for Scientific Affairs (GVDAC), the lack of effective digital integration continues to be an obstacle to fully realizing the benefits of computerization.

In this context, the following research problem arises: how does the computerization of scientific process management influence the institutional development of the Faculty of Economics at Kimpa Vita University? The answer to this question is fundamental to understanding to what extent the adoption of computerized systems contributes to improving administrative efficiency, increasing scientific productivity, and strengthening the scientific visibility of the organic unit.

Thus, the main objective of this study is to analyze the impact of the computerization of scientific process management on the institutional development of the Faculty of Economics at Kimpa Vita University, from 2022 to 2025. It is hypothesized that the computerization of scientific management contributes positively to improving the institution's administrative efficiency (H1) and that the systematic use of ICT in the management of scientific processes is associated with increased productivity and quality of research, reflecting in the strengthening of institutional visibility and academic competitiveness (H2).

The relevance of this study lies in its contribution to understanding the challenges and potential of computerizing scientific management in Angolan Higher Education, offering empirical evidence that can support the definition of institutional policies and strategies aimed at modernizing academic management. By articulating empirical analysis and theoretical reflection, the study aligns with international agendas for innovation and quality in Higher Education, reaffirming the computerization of scientific management as a necessary condition for institutional sustainability and for the affirmation of Higher Education Institutions in the national and international academic space (Harvey, 2007; UNESCO, 2021).

METHODOLOGICAL FRAMEWORK

The methodology defines the scientific approach adopted for the collection, analysis, and interpretation of data, ensuring the validity and rigor of the research (Coutinho, 2014). This study, focused on the computerization of the management of scientific processes and its impact on the institutional development of the Faculty of Economics at Kimpa Vita University, adopted a mixed-methods approach, integrating quantitative and qualitative methods.

The study is descriptive in nature, characterizing the level of computerization of scientific processes and the perceptions of the academic community; exploratory, as it focuses on a phenomenon that is still poorly systematized in the context of Angolan Higher Education; and explanatory, as it seeks to understand how the use of Information and Communication Technologies contributes to administrative efficiency, scientific productivity, and institutional visibility (Creswell, 2010).

The research is spatially limited to the Faculty of Economics at Kimpa Vita University, temporally to the period from 2022 to 2025, and thematically to the analysis of the computerization of scientific management and its impacts on institutional development.

The study's universe corresponds to the academic community of the Faculty, including teachers, administrative staff, and students. The sample was selected by convenience, obtaining 404 valid responses, considered sufficient to achieve the proposed objectives and capture diverse perceptions about the phenomenon under analysis.

Regarding data collection techniques, questionnaires were used, applied to teachers, students, and administrative staff, structured in sections relating to the respondents' profile, degree of computerization, institutional impact, and perceived challenges, with closed questions on a five-point Likert scale. Additionally, semi-structured interviews were conducted with institutional leaders involved in scientific management, allowing for a deeper understanding of the processes and challenges associated with computerization.

The questionnaire was previously validated by experts in the fields of scientific management and ICT. Participation was voluntary, guaranteeing anonymity, confidentiality, and adherence to the ethical principles of scientific research.

Quantitative data were analyzed using descriptive statistics, employing frequencies, percentages, and measures of central tendency, with the support of SPSS and Excel software. Qualitative data from the interviews were processed through content analysis (Bardin, 2011), allowing the identification of relevant categories for the interpretation of the results.

Among the study's limitations are the use of convenience sampling, which restricts the generalizability of the results, and the predominant reliance on descriptive statistics. Nevertheless, the sample size and the triangulation of quantitative and qualitative methods reinforce the robustness and credibility of the results obtained.

The choice of a mixed approach is justified by the complexity of the phenomenon under analysis, since the computerization of scientific management simultaneously involves technical, organizational and cultural dimensions, requiring an integrated reading for a more comprehensive assessment of its institutional impact (Flick, 2015).

THEORETICAL FRAMEWORK

The theoretical framework of this study underpins the analysis of the relationship between the computerization of scientific process management and institutional development in Higher Education, based on the assumption that the organization, monitoring, and evaluation of scientific research increasingly depend on the strategic use of Information and Communication Technologies (ICT).

Knowledge Society and Digital Transformation in Higher Education

The emergence of the knowledge society has introduced profound transformations in the ways scientific knowledge is produced, disseminated, and used, placing knowledge at the center of economic, social, and institutional development (Castells, 2010). In this sense, Higher Education Institutions assume a crucial role as appropriate locations for the generation of science, innovation, and qualified human capital, capable of contributing to the resolution of social problems.

In the network society, information and knowledge assume centrality as institutional resources, making computerization a structuring element of academic and scientific governance (Castells, 2003). In the context of the knowledge society, information has come to be recognized as a strategic asset of organizations, directly influencing decision-making processes, innovation, and institutional competitiveness (Drucker, 1999).

- Computerization of Scientific Process Management: Concept and Dimensions

According to Laudon & Laudon (2020), the computerization of scientific process management can be understood as the systematic use of Information and Communication Technologies (ICT) to plan, organize, execute, monitor, and evaluate scientific research activities, academic production, and knowledge dissemination. This process encompasses several dimensions, including:

- Research project management;
- Recording and monitoring of scientific output;
- Academic database management;
- Platforms for submitting and evaluating scientific papers; □ Institutional repositories and indexing systems.

In Higher Education, the computerization of scientific management contributes to the rationalization of administrative procedures, the strengthening of academic production, and the expansion of knowledge dissemination, reinforcing institutional visibility. From this perspective, Nonaka and Takeuchi (1997) argue that knowledge is a dynamic resource, produced and expanded through social interaction and technological support, which reinforces the importance of digitizing scientific processes.

The literature also highlights that computerization is not limited to a technical dimension, involving organizational and cultural transformations. Lévy (1999) emphasizes that cyberculture redefines the forms of interaction between researchers, institutions, and society, requiring changes in traditional knowledge management models. Complementarily, Creswell (2010) emphasizes that the clarity and systematization of research processes are essential conditions for scientific quality, aspects that can be enhanced by computerized scientific management systems.

Scientific Management and Institutional Development

According to Altbach, Reisberg & Rumbley (2009), institutional development in Higher Education is linked to the capacity of universities to produce important knowledge, respond to social needs, and assert their academic and scientific identity. Scientific management plays a fundamental role in this context, acting as a driver of academic quality, innovation, and institutional reputation. Universities that adopt modern and flexible scientific management models tend to show greater adaptability to changes in the global context, strengthening their organizational sustainability (Clark, 1998). The computerization of scientific management contributes to this process by allowing greater control, coordination, and evaluation of research activities.

Beyond this aspect, computerized scientific management favors the internationalization of Higher Education by facilitating the visibility of academic production on digital platforms, scientific databases, and international research networks (Marginson & van der Wende, 2007). This visibility is fundamental for institutions seeking to establish themselves in the national and international academic landscape. In the African context, Higher Education Institutions face structural and technological constraints that limit the full implementation of digital systems. However, studies show that the progressive adoption of computerized practices has contributed to strengthening scientific production, increasing institutional transparency, and consolidating academic credibility (Mouton, 2010; Santos, 2017). Computerized scientific management systems also allow for reducing bureaucracy, improving the monitoring of research projects, and facilitating the evaluation of the scientific impact of institutions (Oliveira, 2019).

Furthermore, the computerization of scientific management is a relevant factor for the internationalization of Higher Education, as it favors institutional visibility, integration into global academic networks, and the scientific competitiveness of universities (Altbach, Reisberg & Rumbley, 2010). In the Angolan context, this dynamic is linked to the objectives of sustainable development and the need to modernize university governance. In the specific case of Angola, the institutional development of HEIs depends, to a large extent, on their capacity to structure effective scientific management systems, aligned with national science, technology and innovation policies (MESCTI, 2020).

Impacts of Computerization on Academic and Scientific Efficiency

Several studies indicate that the computerization of academic and scientific management has significant impacts on administrative efficiency, teaching quality, and scientific productivity (OECD, 2019). Process automation reduces bureaucracy, minimizes errors, and optimizes the use of institutional resources. Regarding the scientific field, computerization facilitates collaboration among researchers, data sharing, and knowledge dissemination, fostering a more dynamic and integrated scientific culture (Borges, 2016).

However, computerized systems also allow for systematic monitoring of scientific performance indicators, which are fundamental for institutional evaluation and academic accreditation. According to Mintzberg, Ahlstrand, and Lampel (2009), the effectiveness of computerization depends on the existence of an organizational culture favorable to innovation, as well as the continuous training of human resources. Resistance to change, lack of technological training, and scarcity of investment can compromise the expected benefits of these strategies.

Computerization as a Strategic Factor in Angolan Higher Education

With regard to Angolan higher education, the computerization of scientific management constitutes a strategic vector for institutional consolidation and for improving the quality of teaching and research. According to Silva and Pereira (2021), the modernization of Angolan universities requires an integrated approach that combines technology, academic governance, and the enhancement of human capital.

The Faculty of Economics at Kimpa Vita University, as an academic unit dedicated to economic and scientific training, sees in computerization an opportunity to strengthen its institutional identity, improve knowledge management, and increase its scientific and social relevance.

Despite financial and technological limitations, the progressive adoption of computerized systems can contribute to greater organizational efficiency and institutional sustainability in the medium and long term.

RESULTS

The results presented are derived from the analysis of questionnaires administered to faculty, students, and technical-administrative staff, with the aim of evaluating the degree of computerization of scientific processes and its impact on the institutional development of the Faculty of Economics at Kimpa Vita University.

The organization of this section follows the correspondence between the specific objectives of the study and the dimensions of empirical analysis.

Table 1: Correspondence between the specific objectives of the study and the sections of the results.

Specific objectives of the study	RESULTS Section
To analyze the degree of computerization of scientific processes at the Faculty of Economics of Kimpa Vita University.	Degree of Computerization of Scientific Processes
Evaluate the impact of computerization on administrative efficiency.	Impact of Computerization on Administrative Efficiency
To examine the influence of computerization on the productivity and quality of scientific research.	Impact of Computerization on Scientific Productivity
Identify the main challenges associated with the computerization of scientific processes.	Main Challenges to Computerization

Source: Author's own elaboration (2024).

Profile of Respondents

The sample characteristics are presented in Tables 1 to 4, showing the distribution of respondents according to functional category, gender, academic degree, and length of service at the institution.

Table2: Distribution of Respondents by Functional Category

Category	n	%
Student	304	75.20
Teacher	59	14.60
Administrative Worker	41	10.10
TOTAL	404	100

Source: Research data (2025).

The sample consisted of 404 participants, mostly students (75.2%), followed by faculty (14.6%) and technical administrative staff (10.1%), reflecting the structure of the Faculty's academic community.

Table3: Distribution of Respondents by Sex

Category	n	%
Masculine	272	67.30
Feminine	132	32.70

Source: Research data (2025).

A predominance of males was observed among the respondents (67.3%), reflecting the current composition of the institution. The majority hold a master's degree, and a significant group has been institutionally affiliated for more than six years, indicating a consolidated familiarity with the administrative and scientific processes of the Faculty.

Table4: Distribution of Respondents by Academic Degree

Category	n	%
Teacher	34	57.60
Licensed	23	39.00
Doctor (PhD)	2	3.40

Source: Research data, 2025.

Most respondents hold a Master's degree (57.6%), followed by Bachelor's degree holders (39.0%) and PhD holders (3.4%), indicating a predominance of advanced education.

Table5: Length of Time Respondents Have Been Associated with the Institution

Category	n	%
More than 6 years	26	44.10
4 to 6 years	16	27.10
Less than 1 year	10	16.90
1 to 3 years	7	11.90

Source: Research data (2025).

Most respondents have been employed for more than six years (44.1%), suggesting a well-established understanding of institutional practices.

The sample included faculty, students, and administrative staff, allowing for the capture of diverse perceptions about scientific and administrative processes and reinforcing the validity of the results.

Degree of Computerization of Scientific Processes

The degree of computerization of scientific processes was analyzed based on indicators such as perceived level, familiarity with digital systems, prior use, and digital skills. Table6:**Degree of Computerization of Scientific Processes**

Category	n	%
Average	213	52.70
Low	70	17.30
High	45	11.10
Very high	27	6.70

Source:Research data (2025).

The results presented in Table 6 indicate that the majority of respondents rate the current level of computerization as medium (52.7%), followed by low (17.3%) and high (11.1%) ratings. These data show that the computerization of scientific processes is in an intermediate phase, characterized by the coexistence of digital practices and manual procedures.

In order to complement the analysis presented in the previous table, a graphical representation of the degree of computerization of scientific processes is used, allowing for a more immediate visualization of the distribution of responses.

Figure 1 shows that the level of computerization of scientific processes is predominantly perceived as medium or high, indicating significant progress in the digitization process, although there is still room for improvement.

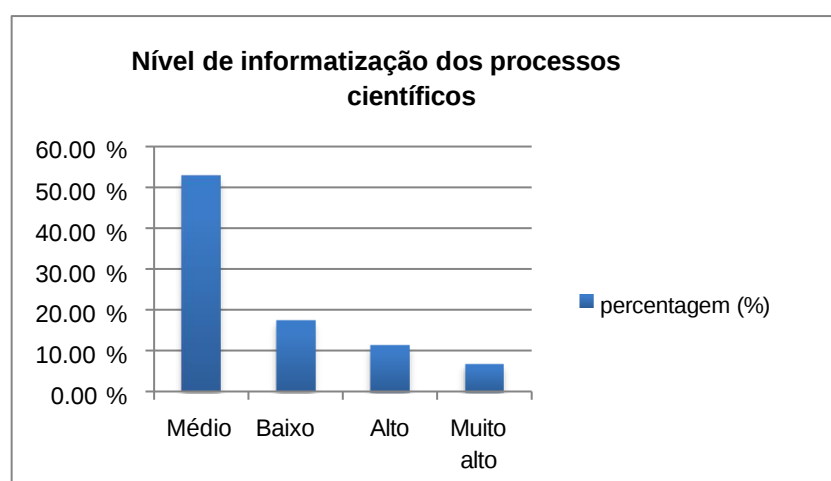


Figure1– Degree of computerization of scientific processes

Source:Research data (2025).

Figure 2 shows the distribution of respondents regarding their familiarity with computerized systems applied to scientific management, revealing that the majority stated they had no prior experience.

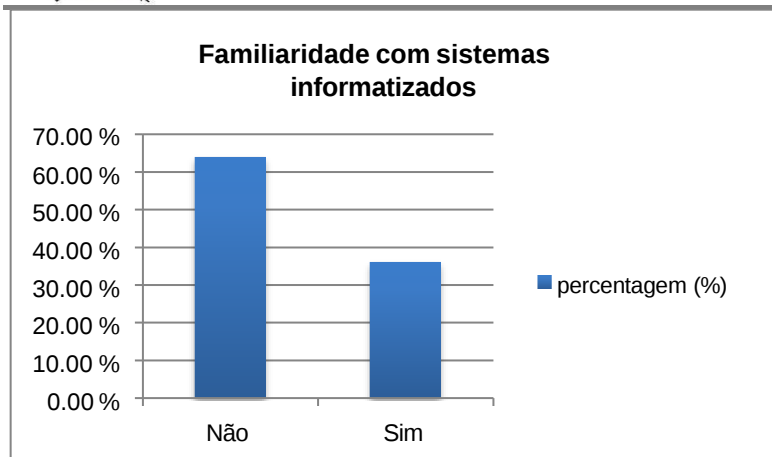


Figure2– Respondents' familiarity with computerized systems

Source: Research data (2025).

Figure 3 shows that more than 60% of participants have never used computerized systems in scientific management, while less than 40% have used such tools, suggesting that computerization is not yet fully integrated into institutional practices.



Figure3Prior Use of Computerized Systems in Scientific Management

Source: Research data (2025).

Figure 4 shows that most respondents consider themselves to have adequate or partially adequate digital skills, which indicates favorable conditions for the computerization of the management of scientific processes within the Organic Unit.

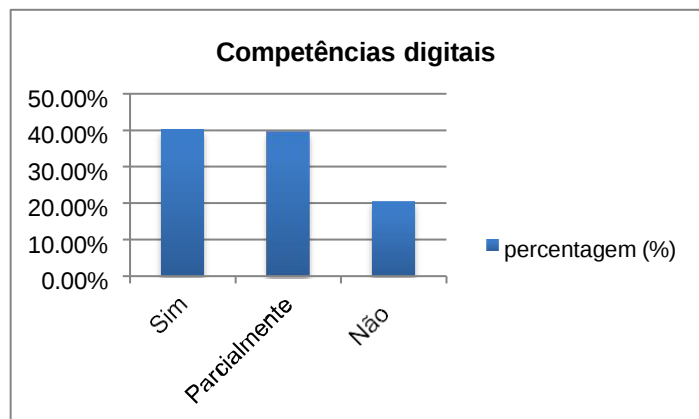


Figure4– Digital Skills of Respondents

Source: Research data (2025).

Taken together, the results reveal recognition of the importance of computerization, but also obstacles such as limited familiarity, reduced prior use, and asymmetries in digital skills.

The data reveals that most respondents acknowledge the existence of initiatives to computerize scientific processes, particularly in academic records, institutional communication, and administrative management. However, the results indicate that these processes are only partially computerized, with digital practices coexisting with manual procedures.

Overall, there was a moderate to high level of agreement regarding the perception that computerization contributes to improving the organization and systematization of scientific information, although not in a fully integrated way.

Impact of Computerization on Administrative Efficiency and Scientific Productivity

The assessment of the impact of computerization on the main institutional dimensions is presented in Table 7, based on the averages obtained on the Likert scale.

Table 7: Impact of Computerization on Institutional Dimensions

Dimension	n	Average	DP	CV(%)	Trend
Administrative Efficiency	387	3.30	1.28	38.79	Moderate Positive Agreement
Communication between Departments	387	3.44	1.26	36.63	Moderate Positive Agreement
Scientific Productivity	387	3.37	1.35	40.06	Moderate Positive Agreement
Quality of Investigations	387	3.47	1.28	36.89	Moderate Positive Agreement
Institutional Visibility	387	3.47	1.28	36.89	Moderate Positive Agreement

Source: Research data (2025).

Table 7 presents the assessment of the impact of computerization on institutional dimensions. All averages are above the midpoint of the Likert scale, indicating a generally positive perception. Communication between departments, quality of research, and institutional visibility stand out, with averages close to 3.5, characterizing moderate positive agreement.

Most respondents agreed with the positive impact of computerization on administrative efficiency, with a high percentage of responses concentrated in the "Agree" and "Strongly Agree" categories.

Figure 5 summarizes the main perceived benefits, including greater transparency, reduced bureaucracy, and faster information flow.

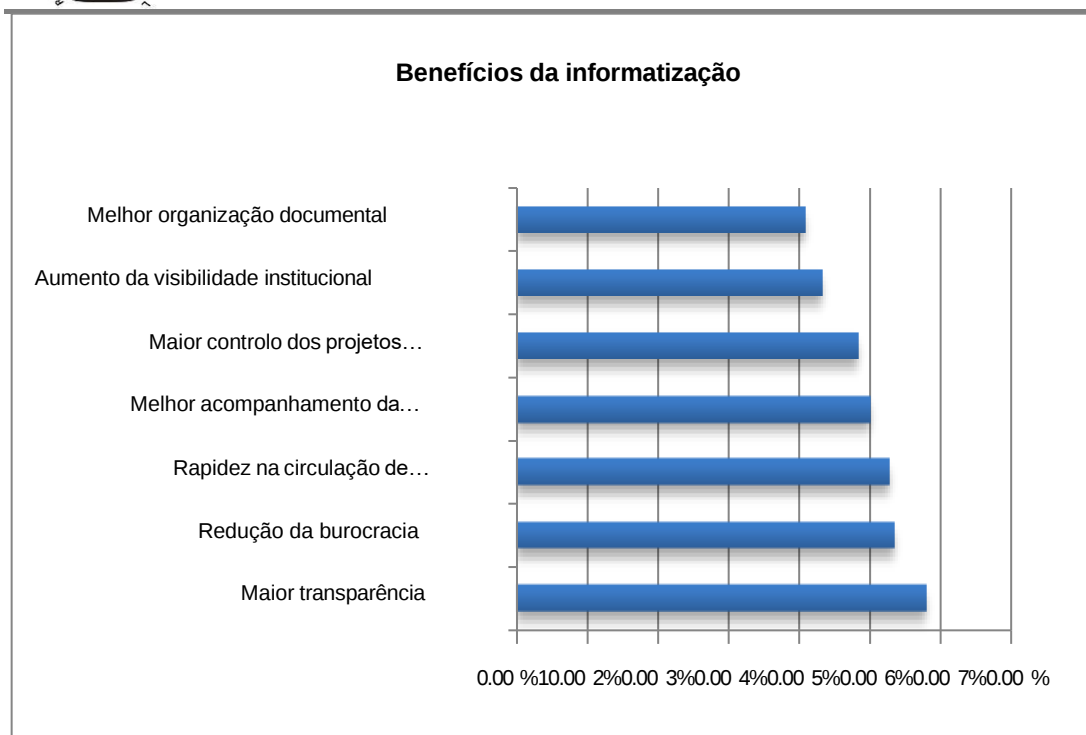


Figure5– Main Perceived Benefits of Computerization

Source: Research data (2024).

It is observed that greater transparency, reduced bureaucracy, and faster information flow are the most valued benefits.

The analysis of the average scores obtained in the questions related to administrative efficiency and institutional visibility revealed values above the midpoint of the Likert scale, indicating a favorable perception regarding the computerization of scientific processes.

Overall, the results show a trend of moderate to high agreement regarding the benefits of computerization, especially with regard to administrative efficiency and the organization of scientific processes.

Regarding the impact of computerization on institutional performance, the data indicate an overall positive assessment by respondents, highlighting perceived contributions to:

- **Greater administrative efficiency;**
- **Improved communication between departments;**
- **Increased scientific productivity;**
- **Improving the quality of investigations;**
- **Strengthening institutional visibility.**

Overall, the results show that computerization contributes to greater administrative efficiency, improved interdepartmental communication, increased scientific productivity, higher quality research, and enhanced institutional visibility.

Main Challenges to the Computerization of Scientific Processes

Figure 6 presents the main challenges associated with the computerization of scientific processes, according to the respondents' perception. Financial and technological constraints stand out as the most recurring factors.

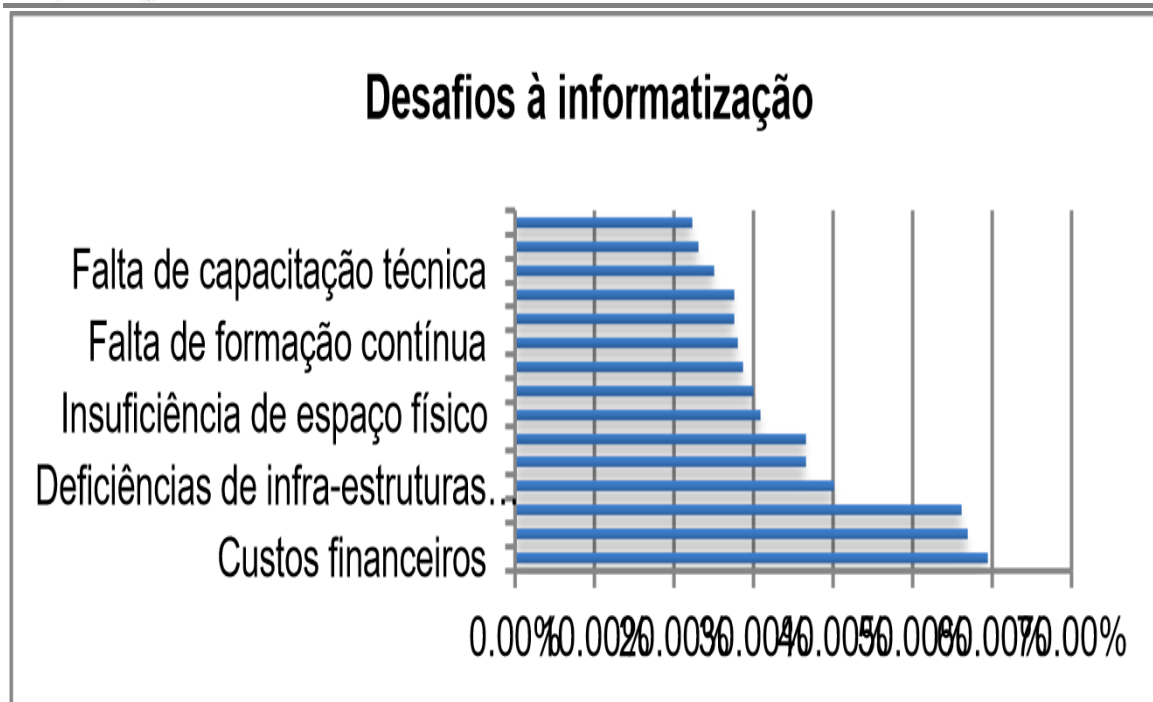


Figure6– Main Challenges to the Computerization of Scientific Processes

Source: Research data (2024).

Despite the generally favorable assessment, significant challenges were identified that hinder the effectiveness of the computerization of scientific processes. Among the main constraints are financial and technological limitations, insufficient adequate infrastructure, the need for continuous user training, instability in access to digital systems, and resistance to organizational change. These factors help explain the still partial nature of the computerization process and highlight the need for a more integrated and sustainable institutional strategy.

Appropriate Technologies

Figure 7 presents the technologies considered most suitable for the computerization of the management of scientific processes in the institution.

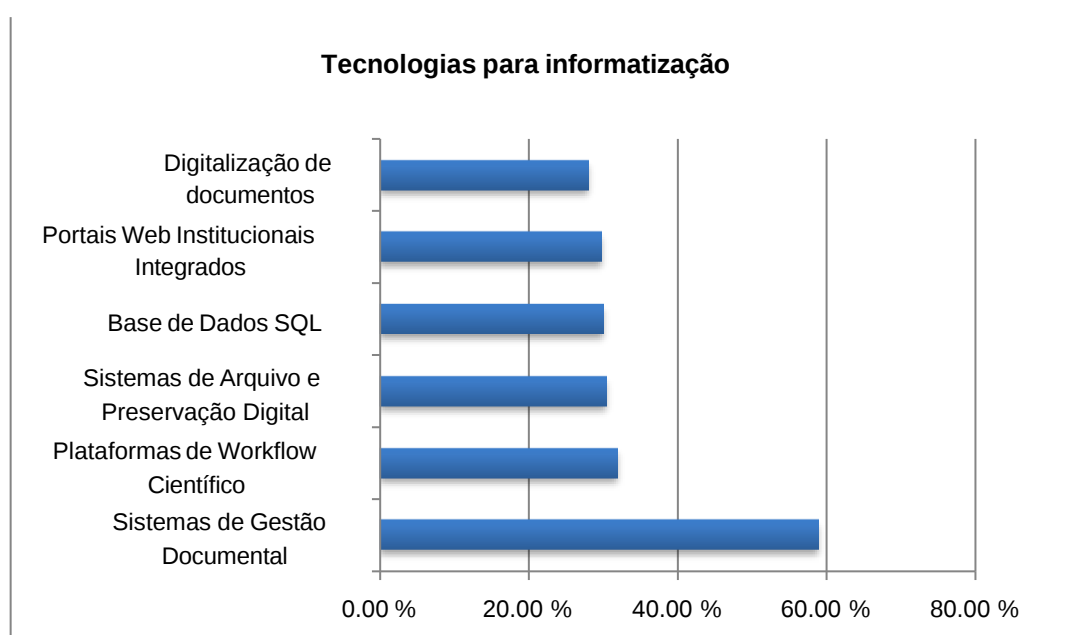


Figure7Technologies Considered Suitable for Scientific Management

Source: Research data (2025).

Regarding the technological solutions considered most suitable for the computerization of scientific management, respondents primarily pointed to document management systems, followed by scientific workflow platforms. These tools are perceived as essential for the organization, monitoring, and evaluation of scientific processes, contributing to greater efficiency and institutional transparency.

DISCUSSION

This section presents a critical interpretation of the results obtained, establishing a relationship between the empirical data collected and the theoretical framework that supports the study, in order to understand how the computerization of scientific process management influences the institutional development of the Faculty of Economics at Kimpa Vita University. However, the study showed that the computerization of scientific process management...It plays a strategic role in the institutional development of the Faculty of Economics at Kimpa Vita University, as the arguments below show, confirming theoretical assumptions that point to digitalization as a determining factor for the modernization and competitiveness of Higher Education Institutions, especially in emerging contexts (Castells, 2009; Altbach, Reisberg & Rumbley, 2010).

Degree of Computerization of Scientific Processes

The results show that the degree of computerization of scientific processes at the Faculty of Economics is mostly perceived as average, revealing the existence of relevant advances, but still insufficient for a fully integrated scientific management. This situation confirms the perspective of Laudon and Laudon (2020), according to which computerization in educational organizations tends to develop gradually, with digital practices and traditional procedures coexisting. The limited familiarity and reduced prior use of computerized systems, identified among a significant portion of the respondents, indicate that computerization is not yet institutionalized as a current practice. This data converges with Davenport and Prusak (1998), who argue that technology, by itself, does not guarantee the efficiency of knowledge management, and its effective integration into organizational processes and institutional culture is necessary.

Despite these limitations, most respondents acknowledge possessing adequate or partially adequate digital skills, suggesting the existence of favorable human conditions for the consolidation of computerization. Although respondents declared possessing adequate or partially adequate digital skills...While partially adequate, the low familiarity with specific scientific management systems constitutes a significant obstacle. This situation suggests that human resource development must go beyond generic digital skills, requiring continuous training oriented towards concrete institutional tools, as advocated by Creswell (2010) with regard to the rigor and organization of research processes. This finding reinforces the idea that the main challenge lies not exclusively in individual capabilities, but above all in the absence of structured systems and a clear and continuous institutional strategy.

Impact of Computerization on Administrative Efficiency

The analysis of the results reveals a generally positive perception regarding the impact of computerization on administrative efficiency, with averages above the midpoint of the Likert scale. This result corroborates the arguments of Mintzberg, Ahlstrand, and Lampel (2009), which show that computerized systems contribute to the reduction of bureaucracy, greater speed in the circulation of information, and improved organizational transparency. The benefits most valued by respondents, namely transparency, the reduction of manual procedures, and the speed of information flows, confirm that computerization acts as a facilitating instrument for academic governance. In the context of the Faculty of Economics at Kimpa Vita University, these gains are particularly relevant, given the need to optimize resources and improve the quality of services provided to the academic community.

However, the moderate agreement observed suggests that the effects of computerization, although recognized, have not yet reached their full potential, which can be explained by the fragmentation of existing systems and the absence of an integrated scientific management platform.

Impact on Scientific Productivity and Research Quality

With regard to scientific productivity and the quality of research, the results also point to a moderately positive perception, showing that computerization contributes to the organization, systematization, and monitoring of

scientific production. These findings are consistent with Nonaka and Takeuchi (1997), who argue that effective knowledge management favors the creation of new knowledge and the strengthening of scientific research.

The improvement in communication between departments, identified as one of the dimensions with the highest average, reveals that computerization facilitates institutional articulation and promotes collaborative research environments, as highlighted by Castells (2010) within the context of the network society. However, the still limited effective use of computerized systems restricts the direct impact on scientific productivity, suggesting that existing computerization is more concentrated in the administrative sphere than in the integrated management of research. This fact reinforces the need to extend the use of ICT to all phases of the scientific process, from project design to the dissemination of results.

Therefore, the results indicate that the positive impact of computerization on scientific productivity and research quality strongly depends on the adoption of clear institutional policies, the integration of scientific management systems, and the active involvement of the academic community. The absence of integrated platforms limits the production of reliable institutional indicators, which are essential for quality assessment, accreditation, and strategic planning processes.

Institutional Visibility and Institutional Development

In light of institutional visibility, the results demonstrate that computerization is understood as a relevant factor in strengthening institutional visibility, a fundamental aspect for the development of Higher Education Institutions, as argued by Altbach, Reisberg, and Rumbley (2009). The digital availability of scientific production, combined with academic management systems, contributes to the affirmation of the Faculty of Economics in the national and international academic arena. The overall positive perception regarding the impacts of computerization on administrative efficiency, interdepartmental communication, and institutional visibility demonstrates a growing awareness within the academic community of the value of Information and Communication Technologies (ICT) in scientific management. These ideas converge with Oliveira's (2019) view, indicating that computerized systems contribute to greater transparency, process rationalization, and improved circulation of scientific information.

In the specific case of Kimpa Vita University, computerization emerges as a strategic instrument for consolidating its scientific identity, allowing for greater institutional recognition, improved academic reputation, and strengthened scientific cooperation networks. Thus, the results confirm that the computerization of scientific process management is not limited to operational gains, but assumes a strategic dimension, directly associated with institutional development and the future sustainability of the institution.

Challenges to the Computerization of Scientific Processes

Despite the overall positive assessment, the results highlight significant challenges that condition the effectiveness of computerization, namely financial and technological constraints, insufficient infrastructure, the need for continuous training, and resistance to organizational change. These reinforce the idea that computerization should not be understood merely as a technological investment, but as a complex organizational process. This understanding is in line with Lévy (1999), who emphasizes that digitalization implies cultural, structural, and institutional transformations. These obstacles are consistent with the studies of Teixeira and Dias (2018), who point to limited resources and institutional fragility as recurring obstacles to digital transformation in African higher education. In the Angolan context, such challenges require sustained institutional policies, progressive investment in technological infrastructure, and the valorization of human capital. Resistance to change, in particular, reveals the importance of a participatory approach to computerization, involving teachers, students, and administrative staff in the design, implementation, and evaluation of digital systems.

Appropriate Technologies and Strategic Implications

The preference expressed by respondents for document management systems and scientific workflow platforms demonstrates a clear understanding of institutional needs in the area of scientific management. These technologies, by allowing greater control, traceability, and evaluation of scientific processes, align with the recommendations of Laudon and Laudon (2020) and Davenport and Prusak (1998) on strategic information management.

The adoption of these solutions, combined with continuous training programs and an integrated institutional strategy, could enhance the positive impacts of computerization, contributing to more efficient, transparent, and results-oriented scientific management. In general, the results show that the computerization of scientific process management at the Faculty of Economics of Kimpa Vita University is in an intermediate stage of development, presenting clear positive impacts in terms of administrative efficiency, scientific productivity, and institutional visibility. However, the consolidation of these benefits depends on overcoming the identified challenges and implementing a coherent, sustainable institutional strategy oriented towards scientific and organizational development.

CONCLUSION

This study analyzed the impact of the computerization of scientific process management on the institutional development of the Faculty of Economics at Kimpa Vita University, based on the perceptions of faculty, students, and technical-administrative staff, allowing for an assessment of the institution's level of digital maturity and its organizational effects. The results show that the computerization of scientific process management is at an intermediate stage, characterized by the coexistence of digital practices with manual procedures. Although relevant initiatives in the use of Information and Communication Technologies are observed, the absence of fully integrated systems limits the full exploitation of the benefits associated with digital transformation.

Empirical evidence confirmed the hypotheses formulated in the study. It was found that computerization contributes positively to administrative efficiency, favoring the reduction of bureaucracy, the improvement of institutional communication, and the organization of scientific information. Additionally, the results indicate a positive association between computerization and scientific productivity, the quality of research, and institutional visibility, although these impacts are moderate, conditioned by infrastructural, technological, and training limitations.

The integrated analysis of the results and discussion reveals that the impact of computerization does not depend exclusively on technological availability, but also on organizational factors, such as the training of human resources, the integration of systems, and the existence of clear and sustainable institutional policies. The challenges identified, namely financial constraints, the need for continuous training, and resistance to change, explain the partial nature of the observed computerization.

From a scientific point of view, this study contributes to a deeper understanding of the computerization of scientific management in the context of Angolan Higher Education, offering empirical evidence that can support institutional decision-making processes and serve as a basis for future research. Based on this study, a project entitled "Integrated System for the Management of Scientific Processes at Kimpa Vita University" was developed. It is concluded, therefore, that the computerization of scientific process management constitutes a strategic vector for institutional development, provided it is conceived as an integrated, continuous process aligned with the institution's academic and scientific mission, articulating technological investments, human capacity building, and organizational change.

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