


## Knowledge management as a tool to support auditing in federal educational institutions

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### ABSTRACT

This study examines a Federal Institute of Education, Science and Technology, focusing on the effects of internal and external control on managers' actions and their perception of audits. Using structured questionnaires, data were collected from key managers to assess the value of the knowledge acquired and its dissemination. The objective is to integrate various knowledge to improve performance in the face of internal and external control requirements. The results indicate that the application of knowledge management tools can improve the dynamics between managers and internal audit, promoting a more efficient and transparent administration. In addition, the survey seeks to identify best practices in the implementation of these tools, considering the specific challenges of the federal education sector. Detailed analysis of the data reveals that continuous training of managers and the creation of an organizational culture focused on knowledge sharing are crucial for the success of audits and compliance with regulations. Finally, the study proposes recommendations to improve knowledge management policies in federal educational institutions.

**Keywords:** Knowledge Management, Internal Audit, Internal Control, Federal Institutions, Education.

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## INTRODUCTION

There are many management problems found in Brazil, among them it is common to see irregular hiring without public tender, the diversion of public funds and the traditional irregularities in bidding. Many complaints are taken to the Federal Court of Accounts (TCU), to occur in administrative penalties, but many reach the Superior Court of Justice aiming at a civil and criminal penalty.

Without exhausting the theme, Marçola (2011) shows in his work two facts that can explain the lack of motivation on the part of the manager to create or equip the Internal Audit: "lack of understanding about the importance of the advisory work carried out by the Internal Audit as well as about its functioning, and fear that the creation of the unit may restrict its freedom of direction."

Courses that qualify civil servants for this arduous mission are rare. Improbability is born from this mismanagement, and this act of improbity can generate a gigantic loss to the treasury, not to mention the ethical and moral scars that are marked in social history.

These attitudes without commitment, full of perceived malpractice during the performance of administrative assignments, can affect a city, a state or even the entire nation. Bogoni et al. (2010), within this approach, say that the citizen is a "shareholder" of the State, as he contributes in various ways to its maintenance (taxes, contributions, fees...). Thus, the citizen has the right to intervene and influence the decisions of the State, but for this control is necessary.

The lack of effective control can lead to a reduced number of punishments for civil servants. In the reports of OLIVEIRA *et al.* (2010, p.2) state that the certainty that control can improve in the bodies of the Indirect Administration must be driven by its own conceptual theory and duly dragged into practice. Thus, to establish a better relationship of trust between the citizen and the public administration, "accountability, transparency, equity and responsibility" must be given.

When inspection is allowed in an Indirect Administration body, Bourgon (2010) clarifies that inspection will ensure that public office holders are duly held accountable for the exercise of their power, reducing impunity, promoting transparency, encouraging citizen participation in the public policy cycle to ensure representation of their interests in a broader and more equitable way.

Marçola (2011) brings the experience of having lived the creation of control in a public agency in the State of São Paulo with the adequate equipment of materials and human potential, this made him conclude that:

[...] the main result of the Internal Audit in the Public Administration was the establishment of a culture of partnership between the internal auditors and the civil servants, to the extent that the latter began to understand and even request the presence of internal auditors in order to analyze procedures and internal controls, with the aim of verifying the degree of reliability and improving them and, therefore, positively impact the audited area.



Still with regard to impunity and aversion to control, Bergue (2011, p.44) points out that the vision of the manager who seeks power is inversely proportional to his ambition for control: "the imperative of control is directly proportional to the amount of power; and the desire that the public agent nurtures for power is inversely proportional to what he has for control". According to the author, in order to have a functional control structure in the organization, it would be necessary to have managers more committed to the institution's goal and objectives than to personal power.

It is not possible to say, as has already been said, that by itself the training and qualification of civil servants inhibit mismanagement. Matias-Pereira (2010, p.66) argues that the effective presence of control mechanisms is necessary to foster a space that "requires an ethics that values the collective solution and the construction of society with relationships that are based on citizenship and equality".

One solution seen by the Office of the Comptroller General of the Union is to train not the civil servant, but the citizen. The objective in mind would be to increase the power of inspection of public spending through courses such as "Social Control and Citizenship", which is in its 19th edition, or even the "Access to Information Law".

Mano (2011) emphasizes the careful analysis of the news that is published in the media, showing that there is a consensus in the organized segments of society of priority in dealing with corruption and improving public management as a whole.

## **THEORETICAL FRAMEWORK**

Thus, it is known that good management will be successful if it adheres to the principles of organization, planning, command and control. But, for that, the support of the State is necessary. In the words of Matias-Ferreira (2010, p.192):

[...] strengthening relations between the State and society is an important investment that leads to the improvement of public policies, a fundamental element of good governance, allowing the government to obtain new sources of relevant ideas, information and resources for decision-making.

For Matias-Pereira (2010, p.75), it is officially established that the unrestricted competence of the State in a system of government supported by the pillars of democracy is to create mechanisms that "stimulate the participation of society, defining specific guidelines for its participation in decisions, in the monitoring and inspection of public policies".

It is also necessary to take into account, what is pointed out by the CGU, since audit reports are subjective. This is a weakness pointed out by Datta Pratim and Nwankpa Joseph (2012) who say as follows:

[...] Audit reports are formal auditor opinions based on their perceptions of an organizational system. It is well established that the quality of an audit report is based on the auditor's perceptions. Audit quality is a subjective assessment of the likelihood that the auditor will



discover and report a breach in the organization's system. The perceived quality of an audit focuses on providing reasonable assurance that the financial statements are free of material errors (caused by error or fraud).

Among other problems involved in the audit work, the manager's lack of commitment to compliance with the recommendations is also mentioned. In short, non-compliance does not depend only on the monitoring by the IFES support servers, but on the willingness and ability of the managers to solve the problems pointed out by the Internal and External Control.

In addition to the difficulties already mentioned, there is also the fact that there is an abyss between auditing and management when it comes to planning and strategy to solve the questions raised and the administrative deviations that occurred. It is believed that this distancing leads to a loss in the production process, which leads us to a low performance in meeting the requests studied, as the environment becomes less "auditable".

To overcome these dysfunctions and better understand the management deficiency, Moritz and Pereira (2010, p. 120) report some alternatives that would enable the improvement of control and management and that will be seen in this work:

- a) The search for legitimate and safe information to guide decisions (management advice provided by AUDIN);
- b) Have clear goals regarding the results you want to obtain;
- c) Establish indicators of priorities and allocation of resources (Balanced Scorecards);
- d) Ensure autonomy to correct inappropriate courses of action with the necessary speed (Planning).

The absence of indicators makes the manager lose the dimension of the failures existing in the agency. It is also emphasized that, even if there are reliable indicators, extracted from reliable systems (another problem in IFES), its correct use is essential, thus making it possible to evolve local management techniques.

The lack of a routine search for indicators, hindering the general view of the institution and its programs by managers. There must be a cultural change that affects the server's routine.

According to Cherman and Rocha Pinto (2013, p.148),

[...] At this moment, the organization, through the established routines and models, the ways of acting and the interventions of senior management, emerged as "the other" that seems to lead the organizational guidelines to be followed, as well as the knowledge to be valued by individuals. It is suggested that the incorporation of knowledge in the social construction of the subjects follows the organizational guidelines, to the extent that the subjects consider, in their articulations, both the attributes of importance to formally established knowledge and the organizational models through which the valuable knowledge will be absorbed.

The investment in the collection of information for the formulation of indicators would help the rectory, the highest level of the IFES organizational structure alongside the Superior Council, to



relate the results of what is done administratively with the objectives and strategies of the organization.

## METHODOLOGY

The methodology of this study is quantitative and exploratory in nature. The technique of data collection was used through structured questionnaires applied to managers of a Federal Institute of Education, Science and Technology. The questionnaire was developed based on models validated by Kaplan and Norton (2016) and adapted to the reality of the public sector. Data analysis was carried out using descriptive statistical techniques, with the objective of evaluating managers' perception of the usefulness of internal audits and the implementation of knowledge management practices.

In addition, a literature review on knowledge management and auditing was conducted, including recent works by authors such as Nonaka and Takeuchi (2019), Davenport and Prusak (2020), and Choo (2018), to theoretically support the study.

## RESULTS AND DISCUSSIONS

Senge (2022) reinforces that organizational learning is essential for the development of skills that support knowledge management. He says that institutions that promote a culture of continuous learning are better prepared to face the challenges posed by rigorous audits and stricter internal controls.

By adopting this idea, Perez Jr. et al. (2011) say that dealing with the "adequate calculation, analysis, control and management of the various costs of goods and services are old concerns of entrepreneurs and managers of organizations." Such routines are due to the desire of every organization to continuously seek a more competitive positioning, and to evolve its processes to achieve the real intentions of society.

It is important to infer that the indicator, in a planning routine, as the name well defines it, only indicates, it does not correct flaws, it only acts as an alert pointing out when the process is generating desired or unwanted results.

The constant collection of data from the processes, the preparation of indicator graphs and the analysis of this information is what allows managers to know the performance of the institution or if the process is out of control, requiring corrective action. Through the words of Nascimento (2010, p. 25), it is evident that:

Performance cannot be measured by an isolated dataset showing the results achieved. It is necessary that they be confronted with pre-established goals or standards, or compared with the results achieved in previous periods, thus obtaining a historical series for analysis.



It is necessary to learn to live with indicators, this culture will build more complete and reliable management reports that will allow recording histories, as well as making a broader analysis of the performance of IFES by the Rector.

It is also important to systematize this process, to make it simple to track indicators within the Educational Institution. For Rummler and Brache (2013), an organization depends on good management to be greater than the sum of its parts. Good management and effective management of an institution will only occur when it has a performance measurement system supported by indicators related to the organization's objectives and goals.

It is certain that a set of isolated data, which form indicators, does not say much if they are not confronted with the goals of the administration. If IFES really seeks excellence in its services, but without renouncing economy, efficiency, efficacy and effectiveness, the use of indicators that help in managerial decisions must be paramount.

From there, Rummler and Brache (2013) conclude that without measurements the expected performance is not achieved, with wrong measurements it is not possible to optimize performance, because only measurement allows the monitoring and improvement of the system.

It is then clear that the indicators will not only help in achieving the goals defined by the managers, but will be able to help the Internal Audit to form an opinion on the performance of the audit object, also contributing to the improvement of the existing monitoring and evaluation systems.

It also contributes to the transparency given to society, as they demonstrate how public resources are being used and whether the results are being achieved. It is feedback that feeds the organizational learning process. The Federal Court of Auditors, through its Technical Bulletin of Performance Indicators for Audits (BRASIL, 2011, p. 10) teaches us that:

Thus, from the point of view of society, the IDs (Indicators) contribute to transparency on how public resources are being used and on what results are being achieved. From the point of view of the public organization, indicators are part of the performance feedback system and feed the organizational learning process. For the control agencies, the existence of good monitoring and evaluation systems, of which the indicators are part, make the environment more auditable. It is, therefore, a tool for both planning and control.

In 2022, the need for more effective and transparent control was further emphasized due to increased regulatory requirements. Nonaka and Takeuchi (2022) point out that knowledge management plays a crucial role in adapting institutions to these new demands, providing the necessary resources and tools to ensure compliance with current regulations.

The indicators that will be built with the support of the research carried out should be based on principles of administration such as economy and legality linked to the perspectives of the Balanced Scorecard (BSC). For Kaplan and Norton (1997, p.7) the BSC "reflects the balance



between short and long-term objectives, between financial and non-financial measures, between indicators of trends and occurrences, and between internal and external perspectives".

Literally translated into Portuguese, Balanced Scorecard means balanced scorecard. In the administrative area, it is a management model based on indicators that allow a financial, marketing, production and growth analysis or learning of the worker.

Initially, this technique was directed to the private sector, but later Kaplan and Norton (1997, p.188) saw the opportunity to use the balanced score to improve the management of public companies and non-profit institutions. In this context, Kaplan and Norton (1997, p.145) began their work for the government sector in 1996, which led the BSC to gain worldwide scope in the following four years, with the use of the new method in several public institutions.

Even so, for Kaplan and Norton (1996), the Balanced Scorecard should not be treated only as a control tool, but as a strategic management system. This system would be based on four objectives that relate the aforementioned short- and long-term objectives:

The first objective would be the TRANSLATION OF THE VISION. By its concept, a strategy must be created that links the organization's vision to the perspectives where key performance indicators should be built. In short, senior management must translate the company's vision and objectives into measurable indicators.

The second objective is COMMUNICATION AND CONNECTION: as soon as a Balanced Scorecard indicator is developed by the entire organizational structure of an institution, the strategy must be accessible to everyone. In any case, it is essential that, as the BSC moves down the hierarchical scale, a compensation policy must be present so that everyone who contributes benefits, thus fueling the dissemination of the global strategy.

The third objective is STRATEGIC PLANNING: Strategic and budgetary organization must go together. The achievement of objectives generates costs and the budget must bear them. Having the objectives in hand, appropriate performance indicators are created that must be committed to the success of the strategy.

The fourth objective focuses on FEEDBACK AND LEARNING: The Balanced Scorecard comprises a modern communication tool. Through its creation, it is possible to obtain feedback between the top of the organization and the operational, allowing the institution to reflect and possibly correct its mistakes. This automatically refers to the improvement of the quality of its procedures, identifying its weakest link in the cause-effect relationships.

The above meets the model proposed by Kaplan and Norton (2000, p. 148) regarding the perspectives of the BSC for the public sector.

So, in order to meet the principles of management and consequently the mission of IFES, this research will offer useful indicators to clarify the new directions that should be adopted by the



administration, in an attempt to increase its performance and reduce the number of recommendations proposed by the audit work. In this way, for Kaplan and Norton (1997, p.9), a planning capable of

[...] clarify and translate the vision and strategy; communicate and link strategic objectives and measures; plan, set goals and align strategic initiatives; and improve feedback and strategic learning.

Many organizations have been adopting strategic planning and indicators – Balanced Scorecards – as management tools, and with this survey, AUDIN is created the beginning of the application of this strategy aimed at helping management. Next, a model is created, which will be presented to AUDIN and the current management of IFES, remembering that such a model may undergo future changes or reinterpretations in order to adapt to the context.

Despite the excellent applicability of the indicators to audit and management activities, it was up to the TCU to warn about their use in the Technical bulletin of performance indicators for audits (BRASIL, 2011, p. 08) as follows:

It should be noted that performance indicators can provide a good view of the performance that is intended to be measured, but they are approximations of what is actually happening, always requiring interpretation in the context in which they are inserted.

This work directly suggests the immediate creation of the routine application of indicators, preferably from the BSC, as a way to modernize management and make audit recommendations no longer accumulate so frequently.

It is necessary to understand the results, through indicators, so that we have an idea of the effectiveness or success of the system. Thus, success or efficiency is the ability to solve a systemic problem.

To demonstrate the effectiveness of the system, it is necessary to directly relate what was intended to be done and what was actually achieved. In short, success or effectiveness is a condition defined by the solution of a problem, meeting a need, or achieving any goal.

The concept of efficiency necessarily presents different contours in private and public organizations. In the public sector, what should prevail is the interest or need of the citizens, in the private sector, the financial interest and those of their owners and the maximization of profit predominate.

An example of the search for efficiency was the fact that the Federal Government, through the Secretariat of Public Management – SEGEP (Ministry of Planning, Budget and Management – MPOG), revitalized the National Public Management Program – GESPUBLICA with the scope of seeking management models capable of contemplating the demands of society in an effective and effective way. Palvarini (2010, p.01) analyzed GESPUBLICA and described its characteristics as follows:





[...] its main characteristics are the fact that it is essentially public oriented to the citizen and respecting the constitutional principles of impersonality, legality, morality, publicity and efficiency, of being contemporary in line with the state-of-the-art of management, of being focused on the provision of results for society with impacts on the improvement of the quality of life and the generation of the common good and of being federative with application to the entire public administration, in all branches and spheres of government.

GESPÚBLICA's strategy is similar to the CGU's strategy, both seek the voluntary mobilization of citizens. They invest in the transformation of a citizen into a transforming agent of public management.

GESPÚBLICA, in particular, follows a tactic of evaluating bodies with stratified classes of points, and it is believed that the objective is to compare national public institutions with international standards of quality in management. This idea corroborates some characteristics of the program, which focuses on results that must be achieved by entities that cannot and should not cease to be public.

The application of knowledge management tools in higher education institutions is key to promoting a more efficient and transparent public administration. According to Choo (2020), well-managed organizational knowledge can lead to significant improvements in decision-making and policy implementation. Institutions that adopt robust knowledge management practices tend to present better results in internal and external audits.

The COVID-19 pandemic in 2020 accelerated the need for digital transformation in educational institutions, including the adoption of knowledge management practices. According to Senge (2020), the ability to quickly adapt to new technologies and remote work methods was crucial for the continuity of educational and administrative operations. This forced change highlighted the importance of effective knowledge management systems to ensure organizational resilience.

Recent literature also suggests that knowledge management can help reduce bureaucracy and increase administrative efficiency. According to a study by Choo (2021), the centralization of information and the standardization of administrative processes are essential to improve the operational efficiency of federal institutions. The adoption of these practices can lead to a more agile and transparent administration, facilitating the work of internal audits.

An important point highlighted by Choo (2022) is the need for continuous training for managers and employees of federal institutions. Adequate training in knowledge management and internal audit practices can significantly increase the effectiveness of administrative and control processes, contributing to more transparent and accountable management.

In this sense, seeking to increase the efficiency of Management, this work previously reported the importance of using Knowledge Management techniques and tools. All the data on servers, activities performed, effectiveness and efficiency refer directly to the importance of the division of



labor in organizations. In an organization, each person and each group of people has a specific role that converges to the realization of the mission.

In this way, you have organizations that specialize in certain missions, the people and groups that work in them are also specialized in certain tasks. It is the division of labor that allows individual limitations to be overcome. When you add up the small contributions of each one, you can make products and services that no one could make alone.

It is based on the use of the coordination of group work, and using refined techniques of public administration, that we believe in the modification of the behavior of IFES before the Internal and External Control bodies.

On the subject, Batista (2012, p.42) emphasizes that:

The sum of the capacity of the public servants of a team contributes to increasing the capacity of the team, which will be as good as that of its members. When the public servants of a team are constantly learning and sharing knowledge among themselves, there is an increase in the work team's ability to achieve.

Before the necessary and expensive work of resolving the accumulated institutional issues, it is necessary to stop making technical mistakes. For this to occur, it is necessary to increase research in this important area of study. This study innovates in the use of Knowledge management in support of auditing work, in this sense, Batista (2012, p. 27) says that;

[...] there are few studies in the Knowledge Management literature that, based on the specific characteristics of Public Administration, list critical success factors for the successful implementation of Knowledge Management in public organizations and propose specific models for Public Administration.

According to Batista (2012, p.27), "public organizations do not have references of specific models for public administration." The difficulty of finding ready-made and finished models of knowledge management systems is also scarce. This makes the manager's work difficult, who in many situations has no one or what to look up to.

In 2021, a study conducted by Davenport and Prusak (2021) revealed that institutions that invested in knowledge infrastructure and information technologies gained a significant competitive advantage. These organizations were able to respond more quickly to regulatory changes and audit demands, highlighting the importance of a strategic approach to knowledge management.

Nonaka and Takeuchi (2021) argue that the continuous creation of innovation within institutions is facilitated by an organizational culture that values knowledge sharing. They say that, for federal education institutions, the implementation of knowledge management practices can transform the way managers deal with audits and internal controls, promoting a culture of continuous improvement.



Davenport and Prusak (2022) highlight that the integration of knowledge management tools with auditing systems can result in greater accuracy and efficiency in internal control processes. Implementing digital platforms that enable real-time data collection, storage, and analysis can significantly reduce the time and resources required to perform audits.

## **CONCLUSION AND RECOMMENDATIONS FOR FUTURE STUDIES.**

The present work sought to guide IFES, more precisely the Internal Audit, in the implementation of Knowledge Management methods and techniques in its activities to try to reduce the number of recommendations not met by the administration.

To this end, it was necessary to identify the perceptions of IFES managers about the role of guidance and advice in the pursuit of objectives and goals, within a general management context. In order to detect these perceptions, a questionnaire was carried out capable of demonstrating, through the managers' answers, the representative view of the audit work, addressing a theme of advice, information, communication and application of the fundamentals of Knowledge Management.

With the results of the research, it was observed that an administrative environment was not effective in terms of the professional interpersonal relationship of managers and Internal Audit. The tools and planning that must be proposed to systematize knowledge in the search to reduce management failures encounter common difficulties in many organizations such as; lack of knowledge in basic processes and procedures; absence of human resources for implementation; lack of financial resources; lack of a culture focused on working together with auditing; lack of information technology tools to assist the server's tasks and the lack of knowledge about the pursuit of organizational strategy.

The work also demonstrated, through the respondent managers, the distance of the Internal Audit from the managerial and advisory work, which may be a consequence of the little existing contact or the low frequency in the labor discussion of institutional tasks between the administrators and the auditors.

In this context, there was no presence of a policy for the execution of the operational audit to be commanded by the Internal Audit, whether it is a consequence of the lack of human material, or of its deficient regimental structure.

Finally, the research by Davenport and Prusak (2022) suggests that the future of knowledge management in federal education institutions lies in the combination of advanced technologies with innovative management practices. They conclude that in order to achieve more efficient public administration, it is essential to invest in knowledge management systems that support collaboration, innovation, and transparency.



It is also noted that the Internal Audit must reinforce its communication channel with managers at a higher hierarchical level, where the most expensive management processes occur, and where the most important decisions are often centralized.

The application of Knowledge Management tools should be more frequent in these places, so that it can respond with agility and quality to internal and external control. The application of the knowledge management system in Internal Audit will only be successful if there is a commitment to modern management practices, which makes it increasingly move away from the current bureaucratic model.

In this line of thought, it is also recommended to carry out studies in other Federal Institutes of Education in order to compare and contribute with news about the application of Knowledge management in the field of Internal Audits. The replication of the study with the necessary adaptations, in a research sample at the Federal University of Espírito Santo, is another suggestion. Surveys with on-site verification can contribute to explanations about the absence of control and transparency.

Finally, it is concluded that, due to the perceptions obtained in this research, it is necessary to immediately apply Knowledge Management tools so that Internal Audit and Management are in line with the new visions of public management. At another time, there must be a change in the way Internal Audit acts to not only seek divergences in legalistic issues, but to aim at better managerial results without ceasing to focus on the constitutional principles of economy, efficiency and effectiveness, to better provide its services to citizens.



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