



Financial Governance in Africa In the Digital Age: Financial Governance of Academic Institutions

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ABSTRACT: This article explores the impact of digital transformation on financial governance in academic institutions in Africa. It begins by examining key theories related to digital transformation and financial governance, including agency theory and shareholder value theory. The article then analyzes the benefits of digitalization, such as improved efficiency, transparency, and optimization of financial processes, while also addressing challenges like resistance to change and data security. It also highlights existing gaps in the digital financial governance of academic institutions, including data management and the need for digital skills. Finally, the article offers recommendations to overcome these obstacles and fully leverage the advantages of digital transformation to strengthen financial stability and transparency in African academic institutions.

KEY WORDS: Academic Institutions, Africa, Digital Transformation, Financial Governance, Financial Processes Optimization, Higher Education, Transparency.

INTRODUCTION

Digital transformation has revolutionized the higher education landscape, redefining the ways in which academic institutions manage, administer and deliver services. According to Johnson (2019), this transformation is characterized by the integration of digital technologies to modernize existing processes, improve operational efficiency and meet the growing expectations of students and staff. In this context, academic institutions have adopted tools such as e-learning platforms, learning management systems (LMS) and artificial intelligence-based solutions to optimize their operations and offer more flexible and accessible educational experiences (Smith, 2020; Brown, 2018). However, this evolution is not limited to the pedagogical aspect. It also affects the financial management of establishments, an area crucial to their stability and sustainability. Digital transformation offers unprecedented opportunities to improve transparency, efficiency and decision-making in the management of financial resources. For example, data analysis and process automation enable better budget planning, accurate expenditure tracking and faster, more reliable financial reporting (Jones, 2019). Nevertheless, these advances are accompanied by major challenges, notably in terms of data security, resistance to change and the need for staff training (Brown, 2021). Good financial governance is at the heart of these challenges. It is based on principles of transparency, accountability and integrity, which are essential for maintaining the trust of stakeholders (students, parents, donors, funding bodies) and ensuring the strategic allocation of resources (Smith, 2018; Martin, 2021). In an increasingly digitized environment, strong financial governance is becoming essential to harness the full potential of technologies while ensuring ethical and responsible use of data and resources (Johnson, 2023). This article has several objectives. Firstly, it aims to demonstrate how digital transformation can be leveraged to strengthen the financial governance of academic institutions, improving the transparency and efficiency of processes (Smith et al., 2023). Secondly, it analyzes the practical impact of this transformation on specific areas such as budgeting, grants management and financial reporting, drawing on case studies and recent research (Martin, 2022). Thirdly, it identifies the challenges associated with implementing these technologies, including security risks, investment costs and the need for appropriate training (Brown, 2021). Finally, it highlights the importance of an ethical approach, emphasizing data confidentiality, fairness and integrity in financial processes (Johnson, 2023). In sum, this article aims to raise awareness of the strategic importance of digital transformation in the financial governance of academic institutions, while suggesting ways to overcome the obstacles and maximize the benefits of this evolution.



1. Presentation of theories and concepts related to digital transformation and financial governance in the higher education sector:

Digital transformation and financial governance in the higher education sector are underpinned by several fundamental theories and concepts that help us understand their issues and implications. These theoretical foundations provide an analytical framework for exploring competitive dynamics, social responsibilities and financial management mechanisms in academic institutions.

1.1. Digital transformation and competitive dynamics

Porter's (1985) five forces model is frequently used to analyze competitive pressures in the higher education sector. This model identifies five forces: the threat of new entrants, the bargaining power of students, the bargaining power of suppliers, the threat of substitute products and the intensity of rivalry between institutions. Digital transformation emerges as a strategic response to these forces, enabling universities to strengthen their competitiveness by adopting innovative technologies to enhance the student experience, optimize administrative processes and meet growing expectations for flexibility and accessibility (Clark, 2020).

1.2. Financial governance and social responsibility

The concept of corporate social responsibility (CSR), developed by Carroll (1991), plays a central role in the financial governance of academic institutions. CSR implies that these institutions adopt responsible financial practices, taking into account their social, economic and environmental impact. This translates into transparent and ethical management of resources, attention to the needs of stakeholders (students, staff, donors, etc.) and a balance between financial objectives and the institution's educational mission (Jones, 2021).

1.3. Agency theory and control mechanisms

Agency theory (Jensen & Meckling, 1976) is also relevant to understanding the challenges of financial governance in higher education. According to this theory, an institution's leaders (agents) act on behalf of its stakeholders (principals), which can give rise to conflicts of interest. To mitigate these conflicts, control and oversight mechanisms, such as financial transparency, accountability and rigorous governance policies, are essential. In the university context, this means that administrators must ensure responsible financial management aligned with stakeholder interests (Eisenhardt, 1989).

1.4. Shareholder value theory and resource optimization

Shareholder value theory, popularized by Friedman (1970), focuses on maximizing shareholder value. Applied to the higher education sector, this theory underlines the importance of financial management focused on profitability and efficiency, while preserving the institution's educational mission. Tools such as the Balanced Scorecard (Kaplan & Norton, 1992) can help institutions align their financial objectives with their overall strategies, optimizing resource allocation and measuring performance in a balanced way.

2. Analysis of existing work on the impact of digital transformation on the financial governance of academic institutions

Recent research has extensively explored the impact of digital transformation on the financial governance of academic institutions, highlighting both its benefits and its challenges. This work highlights the fact that the integration of digital technologies has profoundly altered financial management practices, while raising issues related to security, resistance to change and the need to develop new skills.

2.1. Improved efficiency and transparency

Several studies have demonstrated that digital transformation has improved the efficiency and transparency of financial management in universities. For example, Johnson et al (2022) highlighted the use of integrated financial management systems, online budgeting platforms and data analytics tools, which increased the accuracy and speed of financial processes. Similarly, Chen et al (2023) showed that megadata analysis and artificial intelligence have facilitated the collection and interpretation of real-time financial data, enabling more informed and strategic decision-making.

2.2. Optimizing financial processes

Digital transformation has also had a significant impact on specific aspects of financial governance, such as budgeting and expenditure tracking. Smith et al (2022) observed that digital technologies enable more rigorous budget planning, optimal resource allocation and more accurate expenditure tracking. These advances help to strengthen financial governance by ensuring more efficient use of available funds.



2.3. Managing donations and external funding

When it comes to managing donations and external funding, Jones et al. (2023) have highlighted the role of online platforms and digital fundraising campaigns. These tools have not only facilitated the collection of donations, but have also improved transparency in the use of funds, thereby boosting donor and stakeholder confidence.

2.4. Challenges and obstacles

Despite these benefits, digital transformation in university financial governance is not without its challenges. Lee et al (2021) identified several obstacles, including financial data security risks, staff resistance to change and the need to develop appropriate digital skills. These challenges require special attention to ensure the successful implementation of digital technologies.

2.5. Overall benefits

Despite the difficulties, the overall benefits of digital transformation are undeniable. Studies converge in highlighting improved operational efficiency, reduced administrative costs, optimized resource allocation and greater transparency and accountability in financial management (Johnson et al., 2022; Smith et al., 2022).

3. Identification of current gaps or challenges in this area

Despite the many benefits of digital transformation on the financial governance of academic institutions, several gaps and challenges persist, limiting its full potential. These obstacles need to be identified and overcome to ensure a successful transition to effective and sustainable digital financial management.

3.1. Financial data quality and integration

A major gap lies in the availability and effective integration of financial data into digital systems. According to Brown et al (2023), many universities have difficulties with the quality, reliability and accessibility of financial data. To ensure informed financial decisions, it is essential to put in place robust processes for collecting, processing and storing data, while ensuring its accuracy, integrity and confidentiality.

3.2. Resistance to change

Resistance to change is a significant challenge in the adoption of digital technologies. Johnson et al (2022) point out that administrative and financial staff may prefer traditional methods, slowing down the transition to digital systems. To overcome this resistance, awareness-raising, training and coaching strategies need to be put in place to encourage buy-in and effective use of the new tools.

3.3. Financial data security

Financial data security is a critical issue in digital transformation. Cyber attacks and confidentiality breaches can compromise data integrity and erode stakeholder confidence. Lee et al (2021) stress the need for robust security measures, such as data encryption, access management and IT security awareness, to protect sensitive information.

3.4. Organizational change management

Adopting digital technologies requires major adjustments to processes, skills and organizational culture. Smith et al (2022) highlight the importance of change management strategies, including effective communication, stakeholder engagement and staff training, to facilitate a smooth transition to digital financial governance.

3.5. Alignment with corporate objectives

Another challenge lies in integrating digital financial governance into a broader institutional governance framework. Chen et al (2023) highlight the need to align financial practices with strategic objectives and institutional policies. This implies developing financial governance models adapted to the specificities of universities, while promoting decision-making aligned with their priorities.

3.6. Developing digital skills

Finally, the lack of digital skills among staff involved in financial governance represents a major obstacle. Jones et al (2023) emphasize the importance of training staff in the use of digital technologies and strengthening their understanding of the issues involved in digital financial governance. Professional development programs and ongoing training initiatives are essential to bridge this gap. Despite the progress made through digital transformation, gaps and challenges remain in the financial governance of academic institutions. These include data quality and integration, resistance to change, data security, organizational change management, strategic alignment and digital skills development. By addressing these obstacles, universities can strengthen their



digital financial governance and maximize the benefits of digital transformation, while ensuring transparent, efficient and ethical financial management.

4. Exploration des concepts clés de la transformation digitale et de la gouvernance financière dans les établissements universitaires:

Digital transformation and financial governance are two interdependent areas that play a crucial role in modernizing and optimizing academic institutions. Exploring their key concepts provides a better understanding of their theoretical foundations and practical implications.

4.1. Digital transformation in academic institutions

Digital transformation refers to the integration of information and communication technologies (ICT) to improve financial management processes and practices. According to Johnson et al (2022), this includes:

- Automating financial processes: Reducing manual tasks and speeding up operations such as invoicing, payroll and budget management.
- Use of integrated financial management software: Centralize financial data for better coordination and faster decisionmaking.
- Deploying digital platforms: Facilitate the collection, analysis and communication of financial data in real time.

These technologies enable more transparent, efficient and informed management of financial resources, while meeting stakeholders' growing expectations for digital services (Smith et al., 2022).

4.2. Financial governance in academic institutions

Financial governance refers to the policies, practices and control mechanisms that govern the management of financial resources. According to Chen et al (2023), it encompasses:

- Budgeting and financial planning: Allocating resources strategically to support educational and research missions.
- Expenditure tracking: Ensuring optimal use of funds and compliance with regulations.
- Managing donations and external funding: Maximizing contributions while ensuring transparency in their use.
- Transparency and accountability: Strengthen stakeholder confidence through ethical and responsible management of funds.

4.3. Interconnecting digital transformation and financial governance

Digital transformation and financial governance are closely linked. Digital tools offer new opportunities to improve financial governance by:

- Facilitating the collection and analysis of financial data in real time (Lee et al., 2021).
- Improving the transparency and traceability of financial operations.
- Enabling more informed decision-making based on reliable data (Smith et al., 2022).

4.4. Interconnected key concepts

Several key concepts underpin this interconnection:

- Digitization of financial processes: Automate repetitive tasks for greater efficiency.
- Integration of financial information systems: Centralize data for better coordination.
- Financial data analysis: Use analytical tools to identify trends and optimize resources.
- Financial risk management: Identify and mitigate data security and compliance risks.

Stakeholder collaboration: Foster fluid communication between finance teams, ICT experts and other institutional stakeholders (Jones et al., 2023).

4.5. A holistic approach to successful integration

- To effectively integrate digital transformation into financial governance, a holistic approach is required. This involves:
- Appropriate strategies: Aligning digital initiatives with the institution's strategic objectives.
- Staff training: Developing the digital skills of finance teams.
- Interdisciplinary collaboration: Promote close collaboration between finance teams and ICT experts (Brown et al., 2023).

An exploration of the key concepts of digital transformation and financial governance in academic institutions reveals their interdependence and potential for improving the management of financial resources. Digital transformation enables processes to be automated, systems to be integrated and data to be analyzed, while financial governance ensures that management is transparent,



accountable and aligned with institutional objectives. By adopting a holistic approach, universities can take full advantage of digital technologies to strengthen their financial governance and meet the challenges of the 21st century.

5. Discussion of the relationships between these concepts and their importance in achieving good financial governance

Digital transformation and financial governance are intrinsically linked and mutually reinforcing in the context of academic institutions. Their interaction is essential to ensure transparent, efficient and sustainable financial management.

5.1. Digital transformation as a lever for financial governance

Digital transformation offers powerful tools for improving financial governance. According to Lee et al (2021), it facilitates the collection, analysis and communication of financial data in real time, enabling greater transparency and more informed decisionmaking. For example, automating financial processes reduces human error and speeds up operations, while integrated systems centralize data for more consistent and efficient management (Smith et al., 2022).

5.2. Good financial governance: a pillar of institutional stability

Good financial governance is based on the principles of transparency, accountability and prudent resource management. Chen et al (2023) emphasize that it is essential to ensure the financial stability and sustainability of academic institutions. It involves strategic resource allocation, regulatory compliance and clear communication with stakeholders. Digital transformation reinforces these principles by providing tools for more rigorous and transparent management.

5.3. Interconnected key concepts

Several key concepts of digital transformation contribute directly to better financial governance:

- Digitization of financial processes: Automate repetitive tasks to gain efficiency and reduce operational costs (Johnson et al., 2022).
- Integration of financial information systems: Centralize data for better coordination and an overview of institutional finances.
- Financial data analysis: Use analytical tools to identify trends, risks and opportunities, enabling strategic decision-making (Lee et al., 2021).
- Stakeholder collaboration: Facilitate communication and information sharing between finance teams, ICT experts and institutional leaders (Jones et al., 2023).

5.4. Importance for optimal financial governance

Digital transformation plays a key role in improving financial governance on several levels:

- Effectiveness and efficiency: Reduce operational costs and optimize the allocation of financial resources (Johnson et al., 2022).
- Transparency and accountability: Provide real-time visibility of financial data, thereby strengthening stakeholder confidence (Smith et al., 2022).
- Risk management: Identify and mitigate financial risks through advanced data analysis (Lee et al., 2021).
- Collaboration and strategic alignment: Foster close coordination between different stakeholders to align financial decisions with institutional objectives (Jones et al., 2023).

5.5. Challenges and conditions for success

To maximize the benefits of digital transformation, academic institutions must:

- Develop a financial governance culture based on the use of digital technologies.
- Train staff in the necessary digital skills.
- Implement change management strategies to overcome resistance to new technologies (Brown et al., 2023).

Digital transformation and financial governance are interdependent concepts that, when combined, help achieve optimal financial management in academic institutions. Digital transformation improves efficiency, transparency and decision-making, while financial governance ensures responsible management aligned with institutional objectives. By integrating these concepts holistically, universities can strengthen their financial stability, meet stakeholder expectations and adapt to the challenges of the 21st century.



6. Analysis of the impact of digital transformation on financial governance

6.1. Presentation of the benefits and opportunities offered by digital transformation in the financial management of academic institutions

Digital transformation brings significant benefits and opens up new opportunities for the financial management of academic establishments. By integrating innovative technologies, it improves the efficiency, transparency and financial resilience of these institutions.

6.1.1. Automation of financial processes

One of the main benefits of digital transformation is the automation of repetitive administrative tasks, such as invoicing, payroll and budget management. This reduces the workload of finance teams, enabling them to focus on higher value-added activities, such as strategic analysis and planning (Johnson et al., 2022). This automation improves operational efficiency and overall productivity.

6.1.2. Real-time data access and analysis

Integrated financial management systems enable financial data to be collected, consolidated and analyzed in real time. This facilitates accurate reporting and decision-making based on reliable information (Smith et al., 2022). Increased visibility of corporate finances enables proactive management and rapid responsiveness to change.

6.1.3. Improving transparency and accountability

Digitizing financial processes enhances transparency and accountability. Digital tools enable accurate tracking of spending and budget allocations, facilitating accountability to internal and external stakeholders (Lee et al., 2021). This reinforces the trust and credibility of the institution.

6.1.4. Optimizing financial resources

Advanced analysis of financial data can identify savings opportunities, improve spending efficiency and optimize resource allocation (Jones et al., 2023). This leads to a more strategic use of available funds, strengthening the financial viability of the facility.

6.1.5. Financial risk management

Digital technologies enable continuous monitoring of financial flows, early detection of anomalies and accurate risk assessment. This helps institutions take preventive measures to mitigate financial risks and improve their resilience (Chen et al., 2023).

6.1.6. Interaction with external stakeholders

Digital transformation facilitates interactions with donors, funding agencies and regulatory authorities. Online platforms, digital communication tools and donation portals improve fundraising, transaction transparency and regulatory compliance (Brown et al., 2023). This strengthens relationships with stakeholders and expands funding opportunities.

6.1.7. Development of new business models

Digital transformation is creating new sources of revenue, such as e-learning platforms and distance learning programs. These initiatives diversify funding sources and improve the institution's financial viability (Johnson et al., 2022).

6.1.8. Innovation and creativity

Emerging technologies, such as artificial intelligence and predictive analytics, are driving innovation in financial management. They make it possible to explore new strategies, improve financial forecasting and develop customized solutions to meet the institution's specific needs (Smith et al., 2022).

In short, digital transformation offers many advantages for the financial management of academic institutions. It improves efficiency, transparency and financial resilience, while opening up new opportunities for funding and innovation. By adopting these technologies, universities can strengthen their financial stability and overall performance, while meeting the challenges of an everchanging environment.

6.2. Discussion of specific aspects of financial governance that can be improved through digital transformation (e.g. transparency, budget management, expense tracking, etc.).

Transparency: Digital transformation improves the financial transparency of academic institutions. Digital tools facilitate the collection, consolidation and presentation of financial information in a clear and accessible way (Smith et al., 2022). Internal and external stakeholders can thus access financial data in real time, strengthening trust and accountability.

Budget management: Digital transformation makes it easier for academic institutions to manage budgets. Digital financial management systems enable budgets to be monitored and controlled more accurately and proactively. Finance managers can set



alert thresholds, automate approval processes and perform in-depth budget analysis for better planning and resource allocation (Lee et al., 2021).

Spend tracking: Digital transformation enables more effective spend tracking at academic institutions. Thanks to digital tools such as spend management solutions, it is possible to automatically collect and classify spend-related data, perform in-depth analysis and identify savings opportunities or irregularities (Jones et al., 2023). This facilitates compliance with financial policies, reduces the risk of fraud and improves the overall efficiency of expense management.

Financial forecasting: Digital transformation offers opportunities to improve financial forecasting in academic institutions. Predictive analytics tools and the use of historical data make it possible to create more accurate financial models and anticipate trends and fluctuations in income and expenditure (Chen et al., 2023). This helps academic institutions make informed long-term financial planning decisions and better manage financial risks.

Cash flow management: Digital transformation can improve cash flow management at academic institutions. With digital cash management tools, institutions can more accurately track cash inflows and outflows, payments, receipts, and investments in real time (Brown et al., 2023). This makes it easier to make informed decisions about cash utilization, optimize financial investments and manage liquidity risks.

Financial reporting: Digital transformation is improving financial reporting in academic institutions. Thanks to integrated financial management systems, financial information can be extracted automatically and presented clearly and consistently, in line with accounting standards and regulatory requirements (Smith et al., 2022). This facilitates the preparation of periodic financial reports, such as annual financial statements, management reports and reports for external stakeholders.

Financial risk management: Digital transformation strengthens financial risk management in academic institutions. Digital technologies enable better identification, assessment and management of potential financial risks, such as exchange rate fluctuations, investment risks, credit risks, and operational risks (Lee et al., 2021). Data analysis and modeling tools enable risk scenarios to be assessed, appropriate mitigation measures to be put in place, and the institution's financial resilience to be strengthened.

In summary, digital transformation offers significant improvements in several specific aspects of academic institutions' financial governance. It improves financial transparency, budget management, expenditure tracking, financial forecasting, cash flow management, financial reporting and financial risk management. These enhancements contribute to more effective, efficient and compliant financial governance, strengthening the stability and financial performance of academic institutions.

6.2 Illustration of concrete cases or examples of academic institutions that have succeeded in optimizing their financial governance through digital transformation.

The case of Université Mohammed VI Polytechnique (UM6P): UM6P in Morocco has adopted a strategic digital transformation approach to improve its financial governance. The university has implemented an integrated financial management system based on digital software and tools. This has enabled more transparent and efficient management of budgets, optimization of financial resources and improved visibility of financial flows. Thanks to this digital transformation, UM6P has been able to strengthen its financial governance and make informed decisions in terms of financial planning and management.

The case of Al Akhawayn University: Al Akhawayn University, located in Ifrane, Morocco, has also implemented digital transformation initiatives to improve its financial governance. The university has adopted an integrated financial management system that automates financial processes such as expense tracking, budget management and financial reporting. This has enabled greater transparency and better management of the university's financial resources. In addition, Al Akhawayn has implemented online payment solutions and digital platforms to facilitate financial transactions with students, employees and suppliers.

The case of Mohammed V University in Rabat: Mohammed V University in Rabat has undertaken a digital transformation of its financial governance to improve the efficiency and transparency of its financial operations. The university has implemented an integrated financial management system that enables automated management of financial flows, expenditure and budgets. This has enabled the university to better control its financial resources, improve budget planning and facilitate the generation of financial reports. In addition, the university has adopted digital communication and collaboration tools for better coordination between the various financial departments and services.

These examples from Moroccan universities illustrate how digital transformation can help optimize financial governance. By using integrated financial management systems, digital communication and collaboration tools, and online payment solutions, these



institutions have been able to improve transparency, budget management, expenditure tracking and financial reporting. These digital transformation initiatives have enabled universities to strengthen their financial governance, optimize resource allocation and make more informed financial planning and management decisions.

7. Challenges and recommendations

7.1. Identification of potential challenges and obstacles to implementing a successful digital transformation in financial governance.

Resistance to change: One of the main challenges to implementing a digital transformation in financial governance is resistance to change. People involved in the process may be reluctant to adopt new technologies, modify their usual working methods and adapt to new systems. Awareness-raising and training programs are essential to encourage acceptance and adoption of digital transformation.

- ✓ **Financial investment:** Implementing a digital transformation requires significant financial investment. Academic institutions need to allocate adequate financial resources for the acquisition of technological systems and infrastructure, as well as for staff training. Access to adequate funding can be an obstacle, particularly for academic institutions with budgetary constraints.
- ✓ **Data security:** Digital transformation involves the collection, storage and sharing of large amounts of sensitive financial data. Data security is a major challenge, as academic institutions need to ensure that financial information is protected against cyber-attacks, data breaches and privacy violations. Appropriate security measures, such as data encryption, regular backups and cybersecurity awareness, must be put in place.
- ✓ **Integration of existing systems:** In many cases, academic institutions already have systems and software in place for financial management. Integrating these existing systems with new digital solutions can pose technical and operational challenges. It is essential to assess system compatibility and interoperability, and to carefully plan data migration to ensure a smooth transition.
- ✓ **Staff skills and capabilities:** Successful digital transformation requires adequate skills and capabilities among staff responsible for financial governance. It may be necessary to train existing staff in new technologies, digital tools and innovative financial management practices. Acquiring digital talent and creating a culture of innovation are also important aspects of overcoming this challenge.
- ✓ **Governance and leadership :** Implementing a successful digital transformation in financial governance requires strong management commitment and effective governance. It is essential to establish a clear vision, strategic objectives and monitoring mechanisms to ensure proper adoption and execution of digital transformation.

In summary, implementing a successful digital transformation in financial governance at academic institutions can be hampered by resistance to change and access to adequate financial resources, data security, integration of existing systems, staff skills and capabilities, as well as governance and leadership. However, by overcoming these challenges, academic institutions can reap the benefits and opportunities offered by digital transformation in their financial governance. It is crucial to develop a clear strategy and carefully plan the implementation of digital transformation. This includes assessing the facility's specific needs, selecting appropriate technology solutions, training staff and establishing data security measures. Collaborating with technology partners and exchanging experiences with other establishments that have successfully implemented digital transformation can also help overcome challenges and ensure successful implementation. In conclusion, implementing a successful digital transformation in financial governance at academic institutions is a complex process with potential challenges and obstacles. However, by identifying these challenges and taking a proactive approach to overcoming them, academic institutions can leverage the benefits and opportunities offered by digital transformation to strengthen their financial governance and improve their overall financial performance.

7.2. Discussion of strategies and recommendations for overcoming these challenges and taking full advantage of digital transformation

Resistance to change: According to Kotter (1996), it is essential to establish a convincing vision of change and to communicate it consistently. In addition, it is recommended to involve key stakeholders in the decision-making process and to create an environment conducive to innovation and continuous learning (Brown et al., 2017).



Financial investment : To overcome the challenge of financial investment, academic institutions can seek public-private partnerships, grants or specific funding for digital transformation projects. It is also advisable to develop a solid business plan that demonstrates the benefits and potential returns on investment of digital transformation (Porter and Millar, 1985).

Data security : Solid safety protocols are essential. Academic institutions must comply with data protection regulations and adopt recommended security practices such as data encryption, access and authorization management, and mechanisms for monitoring and detecting security incidents (Brown et al., 2017).

Integration of existing systems : According to Chen et al. (2019), it is advisable to carry out a thorough assessment of existing systems and prioritize the integration of essential systems. Careful planning of data migration, the use of standardized integration standards and protocols, and collaboration with integration experts can facilitate a smooth transition.

Staff skills and capabilities : Academic institutions should invest in digital skills training and development programs for staff. They can organize regular training sessions, encourage participation in external workshops and training courses, and set up mentoring programs to foster learning and knowledge sharing (Nunnally and Kim, 2017).

Governance and leadership: Strong governance and committed leadership are essential for successful digital transformation. Leaders must provide clear strategic direction, promote a culture of innovation, and encourage collaboration and participation from all staff (Cummings and Worley, 2014).

By adopting these strategies and implementing these recommendations, academic institutions can overcome the challenges associated with digital transformation and take full advantage of the benefits offered by this transition in terms of financial governance.

7.2.1. Highlighting good practices and lessons learned in this area

Involve stakeholders: Best practice highlights the importance of involving key stakeholders, including students, staff, decisionmakers and technology experts, right from the start of the digital transformation process. Their active participation promotes adoption and ownership of the changes, while ensuring mutual understanding of the objectives and expected benefits.

Establish a clear roadmap: A good practice is to draw up a detailed roadmap that describes the key stages of digital transformation, the specific objectives to be achieved, the deadlines and the resources required. A clear roadmap facilitates project management and enables progress to be measured throughout the process..

Implement a culture of innovation: One lesson learned is that digital transformation requires a culture of innovation and experimentation. Academic institutions that encourage creativity, the exploration of new ideas and calculated risk-taking are better prepared to seize the opportunities offered by digital transformation.

Promoting interdisciplinary collaboration: Best practices emphasize the importance of fostering collaboration between different faculties, departments and services within the academic establishment. Interdisciplinary collaboration makes it possible to share knowledge and resources, foster innovation and find integrated solutions to the challenges of financial governance.

Track performance indicators: One lesson learned is the importance of defining key performance indicators (KPIs) to assess the effectiveness of digital transformation. Academic institutions should track metrics such as financial process efficiency, improved transparency, reduced administrative costs and increased stakeholder satisfaction.

Learn from best practices: It's essential to learn from the experiences and best practices of other academic institutions that have succeeded in their digital transformation of financial governance. Exchanging experiences, attending conferences and collaborating with professional networks can provide valuable insights and useful lessons to guide successful implementation.

By implementing these best practices and learning from previous experiences, academic institutions can benefit from the expertise and experience accumulated in the field of digital transformation and financial governance. This helps to avoid common mistakes and maximize the chances of success in their own context.

CONCLUSION

Digital transformation in higher education offers new opportunities to improve the financial governance of academic institutions. Good financial governance is essential to ensure transparency, accountability and efficiency in the management of academic institutions' financial resources. The objectives of this article are to highlight the importance of digital transformation in the financial governance of academic institutions and to explore the key concepts related to these areas. Digital transformation and financial governance are supported by theories and concepts such as systems theory, corporate governance and information technology.



Analysis of existing work highlights the positive impact of digital transformation on financial governance, particularly in terms of transparency, budget management and expense tracking. Current gaps and challenges are identified, such as resistance to change, financial investment, data security, systems integration, staff skills and governance and leadership. Strategies are discussed for overcoming these challenges, such as effective communication, allocation of adequate resources, implementation of safety protocols, careful planning of systems integration, staff training and strong leadership. Good practices and lessons learned include involving stakeholders, establishing a clear roadmap, fostering a culture of innovation, interdisciplinary collaboration, monitoring performance indicators and learning from the best practices of other establishments. In summary, this article highlights the importance of digital transformation in improving the financial governance of academic institutions. It explores key concepts, analyzes existing work, identifies challenges and presents strategies, best practices and lessons learned to overcome these challenges and take full advantage of digital transformation in financial governance.

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