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UNIVERSITY MANAGEMENT: THE IMPLEMENTATION OF DIGITAL TRANSFORMATION AT UFDPAR

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ABSTRACT

This article presents a detailed study on digital transformation at the Federal University of Delta do Parnaíba (UFDPar), focusing on the initiatives and results achieved in 2023. The research addresses the significant expansion of Information and Communication Technology (ICT) infrastructure, highlighting the expansion of the Wi-Fi network and the implementation of fundamental institutional policies, such as information security, data backup, and management of technological assets. In addition, the impact of strategic partnerships, such as the agreement with UFRN, on the administrative modernization of UFDPar is discussed. The SWOT analysis identifies both the internal forces that drove these initiatives and the weaknesses and threats faced, highlighting the need for consistent planning and continuous training for employees. Finally, the article discusses the laws and regulations that have guided this digital transformation process, underlining compliance with current legislation and digital governance guidelines.

Keywords: Digital Transformation. UFDPar. Institutional Modernization. Information Technology.

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INTRODUCTION

Digital transformation (DT) is a phenomenon that goes beyond the simple adoption of digital technologies. It is a fundamental change in the way organizations conceive and operate their processes. This concept arises in the midst of the growing integration between people and objects, driven by the continuous advancement of technologies over the years. Technologies such as big data, the internet of things (IoT), and cloud computing are often associated with Industry 4.0, the Digital Industrial Revolution, and the Digital Economy. Although the term "Digital Transformation" permeates the modern sphere, its definition still lacks consensus (Hausberg et al., 2019). At the foundation of TD is the modernization of the industry, driving holistic automation that integrates cyber-physical systems and overcomes traditional barriers between production and business.

In the context of Brazilian public administration, the implementation of digital transformation has also been the subject of study. Souza and Neto (2020) note that the government has conducted several surveys that have resulted in reports, highlighting challenges and gaps that need to be addressed to improve Information and Communication Technology (ICT) tools, in conjunction with the technology sector of the market. This aims to promote the development of Brazil, especially in relation to the planning of a digital government and the improvement of services provided to citizens.

The Federal University of Delta do Parnaíba (UFDPar), whose creation was made official on April 11, 2018 by Law No. 13,651, represents an important milestone in the Brazilian educational context, especially in the Delta do Parnaíba region. The result of the dismemberment of the Federal University of Piauí (UFPI), its history dates back to the Faculty of Administration of Piauí, which received authorization to operate in 1969 and 1970 by the Federal Council of Education (CFE). The entity that maintains the Faculty of Administration was the Educational Foundation of Parnaíba, created in 1966.

This study aims to investigate and analyze the practices and methods used for the implementation of digital transformation at UFDPar, seeking concrete results. The methodology adopted was the case study, as defined by Denzin and Lincoln (2018), which highlights the unique characteristics of entities and processes in qualitative research. The qualitative approach allows for detailed analysis in their original contexts (Richardson, 2017), exploring specific narratives and providing understandings that quantitative methods do not reach. The research adopted an exploratory and descriptive approach to analyze the implementation of digital transformation at UFDPar, identifying challenges, strategies

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and impacts, and uses data collection methods such as literature review, interviews with experts and analysis of examples, according to Selltiz and Gil (2017).

THEORETICAL FRAMEWORK

DIGITAL TRANSFORMATION

The concept of Digital Transformation (DT) arises in the midst of the growing integration between people and objects, driven by the continuous advancement of technologies over the years. Technologies such as big data, the internet of things (IoT), and cloud computing are often associated with Industry 4.0, the Digital Industrial Revolution, and the Digital Economy. Although the term "Digital Transformation" permeates the modern sphere, its definition still lacks consensus. (Hausberg et al., 2019)

It is important to emphasize that DT goes beyond merely technological changes, also influencing business processes, organizational structures and management concepts of companies. According to Rogers (2017), DT is not limited to technology, but represents a change in business strategy. Thus, it is evident that the transformations resulting from DT have the potential to significantly impact societies and industries.

Digital Transformation is a phenomenon that goes beyond the simple adoption of digital technologies. This represents a fundamental shift in the way organizations conceive and operate their processes. At the foundation of TD is the modernization of the industry, driving holistic automation that integrates cyber-physical systems and overcomes traditional barriers between production and business.

Albertin and Albertin (2021) express interest in clarifying the concept of digital transformation, given the frequent use of the term in organizations as a synonym for agility. The authors present their understanding of the meaning of the term as being the use of digital innovation to achieve something new, distinct and improved, resulting in value for both society and companies (ALBERTIN; ALBERTIN, 2021).

Building on this concept, DT is not just a matter of adopting new technologies, but rather a profound transformation in the way companies operate, collaborate, and compete in today's economic environment. In addition, digital transformation implies a cultural and organizational change, requiring a review of traditional business models and an adaptation to the demands of an increasingly digitized environment.

In this sense, companies looking to embark on the organizational adoption of digital transformation must be prepared to face challenges such as resistance to change, the

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need to develop new competencies, and the creation of an organizational culture that values experimentation and continuous learning.

DIGITAL TRANSFORMATION IN PUBLIC ADMINISTRATION

To address the implementation of digital transformation in the context of Brazilian public administration, Souza and Neto (2020) note that the government has conducted several surveys that have resulted in reports, highlighting challenges and gaps that need to be addressed to improve Information and Communication Technology (ICT) tools, in conjunction with the technology sector of the market. This aims to promote the development of Brazil, especially in relation to the planning of a digital government and the improvement of services provided to citizens.

Tuttman and Macadar (2020) examine public administration in Brazil, emphasizing the government's desire to provide greater reliability and transparency to the population, especially in the face of political and economic challenges and cases of crimes against public administration. They also highlight the need to overcome the managerialist model of the New Public Management (NPM) in favor of a more participatory and transparent public governance, through e-government and digital transformation.

Law No. 14,129, of March 29, 2021, establishes principles, rules, and tools to promote efficiency in public administration, standing out for its debureaucratization, innovation, digital transformation, and citizen participation. It applies to federal public administration bodies, including the Executive, Judiciary and Legislative branches, as well as entities of indirect administration and other federative entities that adopt its precepts. Its principles and guidelines aim to modernize and simplify the interaction between government and society, promoting accessible digital services, transparency in the execution of services, social participation in the control of public administration, and direct accountability to the population, all with an emphasis on the use of technology to optimize work processes.

The insertion of Information and Communication Technologies (ICTs) by the Federal Government marked a significant change in the provision of public services and interaction with citizens, driving the transition to electronic government, or e-Gov. This digital transformation process not only aims to improve administrative efficiency, but also to promote transparency, strengthen communication channels, and encourage social participation.

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This evolution was supported by a series of regulatory frameworks, such as the Fiscal Responsibility Law (Complementary Law No. 101), which establishes rules for responsible fiscal management, the Transparency Portal, which guarantees public access to information on government spending, and the Access to Information Law (Law No. 12,527), which ensures the right of citizens to request public data. In addition, the Civil Rights Framework for the Internet (Law 12,965) establishes principles, guarantees, rights, and duties for the use of the internet in Brazil, while the Open Data Policy for Citizens (Decree No. 8,777) aims to promote transparency and innovation through the availability of government data.

The enactment of the General Data Protection Law (Law No. 13,709) reinforces the importance of privacy and security of citizens' information in the digital context, while the Digital Governance Strategy (EGD) establishes guidelines for the adoption of digital practices and policies in the public sector, thus consolidating the government's commitment to modernization and efficiency in public administration.

A significant step towards digital governance was established in December 2011, when the Ministry of Planning, Budget and Management (MP), through the Secretariat of Logistics and Information Technology (SLTI), and the National Institute of Information Technology (ITI) signed a Technical Cooperation Agreement to propose and implement, within a period of three years, the National Plan for the Dematerialization of Processes (called Paperless Administration). This initiative of the federal government emerged at a time when public policies of greater government efficiency, sustainability and socio-environmental responsibility were among the priority agendas, coinciding with the maturation of Information and Communication Technologies (ICTs), which provided the use of electronic means for the totality of the practices of procedural acts, providing new opportunities for modernization and improvement of Public Administration.

With several dematerialization initiatives already implemented and in full operation, such as in the judicial process, and several federal agencies and entities adopting dematerialization, issuing various internal rules to regulate the electronic process, it was necessary to standardize the rules to ensure legality and legal certainty for these modernizing initiatives.

According to the dematerialization plan, the widespread adoption of well-structured and managed electronic documents can result in a series of benefits for the public administration. This includes significantly reducing the use of paper and other inputs, which

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not only contributes to environmental sustainability but also decreases government operating costs. In addition, the transition to digital documents promises to streamline processes, providing greater efficiency and speed in administrative procedures. However, it is important to note that this change is still at an early stage, and careful planning and effective management will be required to ensure its effective implementation and maximize the expected benefits.

UFDPAR

The Federal University of Delta do Parnaíba (UFDPar), whose creation was made official on April 11, 2018 by Law No. 13,651, represents an important milestone in the Brazilian educational context, especially in the Delta do Parnaíba region. Its emergence was the result of the dismemberment of the Federal University of Piauí (UFPI), and its history dates back to the Faculty of Administration of Piauí, which received authorization to operate through Opinions No. 57, of February 7, 1969, and No. 900, of December 16, 1970, issued by the then Federal Council of Education (CFE). The entity that maintained the Faculty of Administration was the Educational Foundation of Parnaíba, created on June 4, 1966.

In 2020, the Superintendence of Information Technology (STI/UFDPar) was created at the Federal University of Delta do Parnaíba (UFDPar) through Resolution No. 1, of January 20, 2020, and ratified by Ordinance No. 342, of June 21, 2021, of the Ministry of Education. Functioning, until then, as an auxiliary body of superior management of the Rectory of UFDPar, STI's mission was to offer Information and Communication Technology (ICT) services to support the institution in the development of academic, research, extension and management activities, in line with institutional strategic guidelines. (UFDPAR, 2021)

In March 2023, the Superintendence of Information Technology (STI) was renamed the Dean of Information and Communication Technology (PROTIC), becoming an auxiliary body of senior management of the university's Rectory. The creation of PROTIC was established by CONSUNI Resolution No. 37/2023, of March 09, 2023, in response to the need for better organization at UFDPar to deal with the demands of Information and Communication Technology (ICT). Its main objective is to provide services that support the development of academic, research, extension, academic-administrative management and community service activities, in accordance with institutional strategic guidelines. This

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change aims to improve ICT management and adjust administrative procedures to better meet the needs of UFDPar. (UFDPAR, 2023)

The Dean of Information and Communication Technology (PROTIC) plays a crucial role in the technological transformation that the Federal University of Delta do Parnaíba (UFDPar) is undergoing, especially during the process of dismemberment of UFPI in relation to institutional systems. A clear example of this performance is the management of the Integrated System for the Management of Academic Activities (SIGAA), currently linked to UFPI, while UFDPar is in the implementation phase of its own systems. Among the systems implemented by PROTIC at UFDPar, the Undergraduate Enrollment System (PREG), the Integrated System of the Student Assistance Center (SINAE), the Professional Master's Degree (Profsaude), among others, stand out. One of the most recent launches, which took place in March 2024, was an application that allows the use of Pix to purchase tokens from the University Restaurant (RU), meeting a demand from the Dean of Student Affairs (PRAE), responsible for managing the RU.

CONSUNI Resolution No. 30/2022, dated December 2, 2022, approved UFDPar's Digital Transformation Plan (PTD), outlining guidelines and guidelines for the modernization of the services provided by the institution. The PTD aims to improve the quality and efficiency of services through the digitalization of processes and the unification of customer service channels. One of the central objectives is the digital transformation of services, guiding the implementation of digital tools that promote automation and process integration, providing a more agile and effective experience for users. (UFDPAR, 2022)

In addition, the PTD provides for the unification of digital channels, with the availability of applications in the Single Account of the Federal Public Administration, seeking to facilitate user access to the services offered by UFDPar. Another important initiative is the interoperability of systems, through adherence to the Citizen's Base Registry (CBC), allowing access to CPF registration data through technological solutions such as the bCPF blockchain permissioned network or the CPF Light API. These actions aim to improve UFDPar's administrative efficiency and provide a more integrated and satisfactory experience for its academic community and users in general.

METHODOLOGY

This study adopted the case study method as defined by Denzin and Lincoln (2018), highlighting the unique characteristics of entities and processes in qualitative research.

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This approach highlights the socially constructed nature of reality and the close relationship between researcher and object of study, considering the situational constraints that shape the investigation. Qualitative researchers, recognizing the influence of values on research, seek to understand how social experiences are created and gain meaning.

The study predominantly uses a qualitative approach to understand the implementation of digital transformation at the Federal University of Delta do Parnaíba (UFDPar). This method allows a detailed analysis in its original contexts, according to Richardson (2017). Qualitative research explores specific narratives, providing understandings that quantitative methods do not reach. The choice of this method was motivated by the need to broadly understand the analyzed reality and its context of application.

The research adopts an exploratory and descriptive approach to analyze the implementation of digital transformation at UFDPar, identifying challenges, strategies and impacts. Its objectives include exploratory research to gain familiarity with the problem and formulate hypotheses, as well as descriptive and explanatory research. Following Selltiz and Gil (2017), data collection in exploratory research involves literature review, interviews with experts, and analysis of examples, while descriptive research seeks to describe population characteristics and identify relationships between variables.

The objectives of the research include a thorough and comparative analysis of digital implementation at UFDPar, as mentioned by Marconi (2022). The comparative method is applied to examine groups in the present or past, as well as societies at similar or distinct stages of development. The survey aims to identify the challenges faced and the strategies adopted to overcome them, with the aim of offering a grounded understanding of digital transformation in the institution.

The research methods include analysis of bibliographic and documentary sources related to digital transformation, as well as direct observation of administrative practices and laws at UFDPar. Renowned authors were consulted in the literature review, although only one selection was presented in the article. This survey provided a broad understanding of the theme and guided the objectives of the study. According to Gil (2017), it is important to distinguish between internal documentary sources and external bibliographic sources when considering the origin of the material consulted.

The research sample will be composed of a variety of sources, such as institutional documents, progress reports, and technology implementation records, along with other

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publicly available data sources related to digital transformation at UFDPar. This wide selection will ensure a comprehensive view of the process, allowing for a detailed and in-depth analysis of all aspects involved in the implementation of digital transformation in the institution.

The data collected will be analyzed qualitatively, using techniques such as comparative analysis. Quantitative elements, when present, will be statistically analyzed to provide additional support to qualitative conclusions. The results will be interpreted in light of the research objectives and will be used to answer the research questions and meet the proposed objectives.

DATA ANALYSIS AND INTERPRETATION

To present the results and discussions of the research, this chapter has been organized into two main topics. The first topic addresses the categories of data analysis, while the second focuses on the interpretation of data obtained through documentary and bibliographic research.

DATA ANALYSIS

The year 2023 was marked by important results in the field of Information and Communication Technologies (ICT) at the Federal University of Delta do Parnaíba (UFDPar). Among the main achievements are the expansion of the Wi-Fi network, the implementation of ICT policies, the holding of a public tender for the hiring of 9 analysts and 5 IT technicians, in addition to the signing of a technical cooperation agreement with UFRN for the Implementation of the UFDPar Management System.

The institutional email domain @ufdpar.edu.br was also established, improving internal and external communication. These actions reflect a continuous effort to identify, review and discuss efficient management strategies in public administration, especially in the field of ICT.

Table 1: Comparative Table between the years 2022 and 2023

ACTIVITY	2022	2023	RESULT
Expansion of Wi-Fi radios	28	54	Increase of 92.86%
Expansion of the capacity of simultaneous accesses	2.000	16.000	700% increase

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ICT policies developed	0	5	100% increase
Number of processes for the acquisition of goods and contracting of services	8	20	150% increase
Service Desk Demands	5461	5982	Increase of 9.54%

Source: PROTIC/UFDPar

During 2023, 5,982 demands were recorded in the Service Center, 3,493 of which were related to IT and 2,489 to Institutional Communication. Comparatively, in 2022, the total was 5,461 demands, with 3,519 from IT and 1,942 from Institutional Communication. UFDPar expanded its wireless network from 28 to 54 access points, through the installation of 26 new devices, 4 Cisco APs and 22 Aruba APs. This increase aims to improve connectivity and internet access on the main campus, benefiting the academic community (Table 1).

Table 2: Table of Institutional Documents prepared 2023 - 2024

DOCUMENT	RESOLUTION	GOAL
Information and Communications Security Policy	CONSUNI RESOLUTION No. 63 OF MARCH 1, 2024	PoSIC establishes guidelines, standards, procedures and responsibilities to ensure the security of the university's information and communications, ensuring their availability, integrity, confidentiality and authenticity. This policy must be observed by all members of UFDPar and is aligned with institutional strategic planning and best practices in information and communications security, according to current legislation and relevant standards.
Data Backup and Restore Policy	CONSUNI RESOLUTION NO. 64 OF MARCH 7, 2024	Its main objective is to establish standards, guidelines, responsibilities and competencies for the creation, maintenance and restoration of backups of the university's digital data, ensuring protection and availability of this data. The policy covers information stored on institutional servers under the supervision of the Dean of Information and Communication Technology (PROTIC) and clearly defines procedures, security principles, responsibilities of the actors involved, and criteria for classification, storage, and retrieval of data.
Policy for the use of the Website of the Federal University of Delta do Parnaíba - UFDPar	CONSUNI RESOLUTION No. 68 OF MARCH 11, 2024	The main objective of this resolution is to regulate the use of UFDPar's institutional website, defining rights and obligations of users and visitors who access the website, in addition to establishing conditions of use, responsibilities, and data security and privacy measures. The resolution aims to ensure the functionality, security and legal compliance of the university's institutional portal, ensuring the protection of personal data in accordance with the General Data Protection Law (LGPD) and other relevant legislation.

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Information and Communication Technology Asset Management Policy	CONSUNI RESOLUTION No. 69 OF MARCH 13, 2024	Its main objective is to regulate the management of technology assets, defining standards for acquisition, identification, management, inventory and use, in addition to ensuring the security, continuity and control of technological assets. Specifically, it seeks to ensure the correct identification and protection of assets, maintain the safety and continuity of activities, define classifications and responsibilities, and ensure the application of best practices and compliance with legal requirements. The policy covers all of the university's information assets and establishes detailed responsibilities and procedures for the effective management of these assets.
Institutional E-mail Use Policy	CONSUNI RESOLUTION No. 60 OF NOVEMBER 7, 2023	CONSUNI Resolution No. 60/2023 of the Federal University of Delta do Parnaíba (UFDPar) establishes the policy and use of the university's institutional email, with the objective of regulating its use, facilitating internal and external communication, ensuring the security of messages avoiding spam, standardizing institutional systems, and providing access to technological tools such as cloud storage, text editors and spreadsheets, agendas, research forms, and videoconferences, fostering the visibility and efficiency of academic and administrative activities.

Source: PROTIC/UFDPar

In order to increase the maturity of ICT governance, UFDPar prepared several drafts of institutional documents in 2023, which would later be approved by CONSUNI, including the Information Security Policy, the Data Backup and Restoration Policy, and the UFDPar Website Use Policy (Table 2). In the same period, 20 processes for the acquisition of goods and services were opened, which, together with the utensils acquired, brought significant improvements from 2022 to 2023, as shown in Table 1. Although not all processes have been completed due to budget constraints and the lack of administrative staff, some of them, even though not directly related to ICT, aimed to support other administrative sectors, such as the acquisition of UPSs, batteries and TVs.

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Table 3: Swot PROTIC/ UFDPar Matrix

FORCES:	WEAKNESSES:
- Support between team members in solving problems; - Diversity of skills and focal knowledge of each member of PROTIC-UFDPar; - Recognition of the difficulties internal to the sector and willingness to face them	- High turnover of PROTIC managers, which can impact the continuity and stability of projects; - Lack of consistent internal planning in the medium and long term, making it difficult to achieve goals and objectives; - Migration and maintenance of STI-UFPI systems, making PROTIC vulnerable to problems in this area; - Difficulty in carrying out training of civil servants and scholarship holders, due to the high demand in the sector, which can affect the updating of skills and specific knowledge; - Resistance to change by team members, making it difficult to adopt innovations. - The lack of specific equipment for the efficient execution of the sector's activities; - Accumulation of demands and responsibilities beyond the scope of the server's function that affect the performance of the specific task; - Inadequate control in the face of the high demand for PROTIC services, which can lead to team overload and delays in deliveries.
OPPORTUNITIES:	**THREATS:**
- Constant evolution of technologies, enabling the adoption of more advanced and efficient solutions; - Possibility of partnerships for solutions involving IT with other institutions, such as RNP, MEC, SISP, IES, favoring partnerships and collaborations; - Training plan in workshops to improve knowledge and create contact networks.	- The lack of feedback on the activities carried out by PROTIC for the academic and social community; - Low bonuses in the public sector compared to the private sector in the IT area, leading to a shortage of talent and migration of public servants to the private sector; - Lack of knowledge of the academic and social community about the role and functions of IT within the institution, which can result in inadequate expectations and underutilization of services; - Possibility of removal of all members of the sector due to the need for isolation, making the team vulnerable to unforeseen events.

Source: PROTIC/UFDPar

The SWOT analysis of PROTIC-UFDPar (Table 3) highlighted several strengths, weaknesses, opportunities, and threats that justify the performance reflected in the 2022-2023 comparative table. Among the strengths, the mutual support between team members and the diversity of skills allowed a significant increase of 92.86% in the expansion of Wi-Fi radios and an impressive increase in the capacity of simultaneous accesses of 700%. However, the high turnover of managers and the lack of consistent internal planning were weaknesses that may have made it difficult to stabilize projects.

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The constant technological evolution and the possibility of partnerships with institutions such as RNP, MEC and other HEIs have provided opportunities for the elaboration of 5 new ICT policies, an increase of 100%. In addition, the ability to adapt to new demands is evident by the 150% increase in the number of processes for the acquisition of goods and contracting of services. On the other hand, the lack of feedback on the activities carried out and the low bonus in the public sector, compared to the private sector, represent threats that can impact the continuity and motivation of the team, reflected in a moderate increase of 9.54% in the demands in the service center.

Structurally, PROTIC supports teaching, research, extension and administrative activities, in addition to collaborating with administrative, scientific and technological development programs at UFDPar. Its specifics include the management of computational resources, the planning and implementation of new technologies, and the holding of courses and seminars to finance the use of new technologies.

The Information Technology Master Plan (PDTIC) 2024-2026 establishes several actions and goals. These include the training of ICT managers, the creation of an ICT Project Office, the establishment of an Information and Communication Security Department, and the modernization of UFDPar's ICT infrastructure. The plan also includes the implementation of wireless network coverage across all campuses, the standardization of hardware and software solutions, and the adoption of IT accessibility practices.

INTERPRETATION OF THE DATA

The digital transformation at the Federal University of Delta do Parnaíba (UFDPar) was guided by several laws and regulations that provided a legal and structural basis for the actions, practices and instruments used. Among the main laws that guided this process, Law No. 14,129, of March 29, 2021, which establishes principles, rules, and tools for efficiency in public administration, the Fiscal Responsibility Law (Complementary Law No. 101/2000), the Access to Information Law (Law No. 12,527/2011), and the Civil Rights Framework for the Internet (Law No. 12,965/2014) stand out. These laws, together with the General Data Protection Law (Law No. 13,709/2018), provide essential guidelines for the modernization of public services and the implementation of digital transformation at UFDPar.

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Table 4: Table of Laws mentioned

LAW	DISPOSITION
LAW NO. 14,129, OF MARCH 29, 2021	Provides for principles, rules and instruments for Digital Government and for increasing public efficiency and amends Law No. 7,116, of August 29, 1983, Law No. 12,527, of November 18, 2011 (Access to Information Law), Law No. 12,682, of July 9, 2012, and Law No. 13,460, of June 26, 2017.
COMPLEMENTARY LAW NO. 101, OF MAY 4, 2000	Establishes public finance rules aimed at responsibility in fiscal management and provides other provisions.
LAW NO. 12,527, OF NOVEMBER 18, 2011.	Regulates the access to information provided for in item XXXIII of article 5, in item II of paragraph 3 of article 37 and in paragraph 2 of article 216 of the Federal Constitution; amends Law No. 8,112, of December 11, 1990; repeals Law No. 11,111, of May 5, 2005, and provisions of Law No. 8,159, of January 8, 1991; and makes other provisions.
LAW NO. 12,965, OF APRIL 23, 2014	It establishes principles, guarantees, rights and duties for the use of the Internet in Brazil.
LAW NO. 13,709, OF AUGUST 14, 2018	General Law for the Protection of Personal Data (LGPD).
LAW NO. 14,129, OF MARCH 29, 2021	Provides for principles, rules and instruments for Digital Government and for increasing public efficiency and amends Law No. 7,116, of August 29, 1983, Law No. 12,527, of November 18, 2011 (Access to Information Law), Law No. 12,682, of July 9, 2012, and Law No. 13,460, of June 26, 2017.

Source: Constitution of the Federative Republic of Brazil, 1988

UFDPar, following Law No. 14,129 of March 29, 2021, focused on debureaucratization, innovation, and citizen participation. The creation and implementation of ICT policies, such as the Information Security Policy, the Data Backup and Restoration Policy, and the UFDPar Website Use Policy, were fundamental practices to ensure security and efficiency in the management of institutional data. These policies, approved in accordance with the requirements of the General Data Protection Law, aimed to protect the privacy and security of the information of citizens and the academic community.

The expansion of the Wi-Fi network, which increased from 28 to 52 access points, and the expansion of the capacity of simultaneous accesses from 2,000 to 16,000, were actions that significantly improved connectivity on campus, benefiting students, faculty and staff. These improvements are aligned with the internal strengths identified in the SWOT analysis, such as support among team members in solving problems and the diversity of skills. However, the implementation of these improvements also faced internal

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weaknesses, such as high turnover of managers and the lack of consistent internal planning.

Externally, the constant technological evolution and the opportunities for partnerships with institutions such as RNP, MEC and other HEIs have facilitated the execution of these improvements. On the other hand, external threats such as the lack of feedback on the activities carried out and the low gratification in the public sector, compared to the private sector, represented significant challenges. These improvements are in line with the modernization and efficiency objectives established by Law No. 14,129/2021 and the Digital Governance Strategy (EGD).

To strengthen the technical team and support digital transformation, UFDPar held a public tender for the hiring of 9 analysts and 5 IT technicians. This measure, in addition to increasing the university's operational capacity, met the specific needs of the SWOT analysis of the Dean of Information and Communication Technology (PROTIC). An analysis revealed strengths such as support among team members and diversity of skills, but also highlighted high manager turnover as a weakness, pointing to the need for consistent internal planning.

UFDPar also entered into a technical cooperation agreement with the Federal University of Rio Grande do Norte (UFRN) for the implementation of the UFDPar Management System. This partnership was crucial for administrative modernization, allowing the sharing of knowledge and technological resources. The implementation of the institutional email domain (@ufdpar.edu.br) has improved internal and external communication, facilitating administrative management and the flow of information.

The Information Technology Master Plan (PDTIC) 2024-2026, prepared by UFDPar, establishes several actions and goals, including the training of ICT managers, the creation of an ICT Project Office, and the establishment of an Information and Communication Security Department. These initiatives aim to modernize ICT infrastructure, implement wireless network coverage across campuses, standardize hardware and software solutions, and adopt IT accessibility practices. These actions are in line with the Access to Information Law and the Open Data Policy for Citizens, promoting transparency and innovation.

During 2023, UFDPar registered 5,982 demands in the Service Center, of which 3,493 were related to IT and 2,489 to Institutional Communication, demonstrating an increase of 9.54% compared to the previous year. This increase reflects the growing

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demand for ICT services and the ongoing need to improve infrastructure and technical support.

In the implementation of digital transformation at UFDPar, several practices were adopted to boost progress. The expansion of the network infrastructure was a key measure, aimed at improving connectivity and internet access on campus. In addition, the creation of Information and Communication Technology (ICT) policies established clear guidelines to ensure security and efficiency in the management of institutional data. The strengthening of the technical team, through the holding of public tenders to hire qualified professionals, was another important step, ensuring operational capacity and expertise in technology management.

Strategic partnerships, such as the technical cooperation agreement with UFRN, allowed the sharing of knowledge and resources, boosting administrative modernization. In addition, a well-structured master plan provided a clear vision of the goals and actions needed to guide digital transformation effectively. Although there are challenges to be overcome, the progress achieved to date demonstrates UFDPar's commitment to advancing this ongoing process, putting it in a favorable position to face future challenges and achieve a complete digital transformation.

CONCLUSION

The study revealed that, in 2023, the Federal University of Delta do Parnaíba (UFDPar) achieved important advances in the field of Information and Communication Technologies (ICT). Of note are the expansion of the Wi-Fi network, the implementation of ICT policies and the holding of a public tender for the hiring of nine analysts and five IT technicians. A technical cooperation agreement was also signed with UFRN to implement the UFDPar Management System. During this year, the Service Center registered 5,982 demands, 3,493 of which were related to IT and 2,489 to Institutional Communication, surpassing the 5,461 demands in 2022. UFDPar also expanded its wireless network from 28 to 54 access points, benefiting the academic community.

To increase the maturity of ICT governance, UFDPar prepared several drafts of institutional documents in 2023. These documents, which would later be approved by CONSUNI, include the Information Security Policy, the Data Backup and Restoration Policy and the UFDPar Website Use Policy. In the same period, 20 processes for the acquisition of goods and services were opened. Although some budget constraints and the lack of

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administrative staff prevented the completion of all processes, many of them supported other administrative sectors, such as the acquisition of UPSs, batteries and TVs.

The objective of the study was achieved by identifying the methods used for the implementation of digital transformation, highlighting the continuous nature of this process. The SWOT analysis of PROTIC-UFDPar revealed several strengths, weaknesses, opportunities, and threats that justify the 2022-2023 performance. Among the strengths, the mutual support among team members and the diversity of skills enabled a significant increase of 92.86% in the expansion of Wi-Fi radios and an increase of 700% in the capacity of simultaneous access.

However, the high turnover of managers and the lack of consistent internal planning were weaknesses that made it difficult to stabilize the projects. The digital transformation at UFDPar was guided by several laws and regulations, including Law No. 14,129/2021, the Fiscal Responsibility Law, the Access to Information Law, the Civil Rights Framework for the Internet, and the General Data Protection Law, which provided essential guidelines for the modernization of public services and the implementation of digital transformation at the university.

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