REVIEW AND ORGANIZATIONAL ANALYSIS OF THE IT DEPARTMENT AT THE NATIONAL UNIVERSITY OF COSTA RICA

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ABSTRACT

This article presents the results of a research project conducted to perform a situational diagnosis of the Information Technology department at the National University of Costa Rica, Sarapiquí Campus. The objective of the diagnosis is to identify and analyze the Information Technology department in relation to its objectives, goals, occupational structure, and strategies, particularly regarding its support for the university's strategic planning and human resources. Methodologically, a descriptive research design with a qualitative approach was employed. From the perspective of data collection and results analysis, a qualitative emphasis was adopted, involving the selection of participants linked to the IT department. These individuals were provided with a set of self-designed instruments (questionnaires and interviews) to gather and analyze information. Among the main findings, it was identified that the IT department supports the essential functions and services of the Campus; however, it lacks formal planning guidelines and adherence to established standards in the field. Additionally, although the department makes significant efforts in carrying out its tasks in alignment with its occupational profile to support the institution, it is necessary to document these actions through information systems.

Keywords: Information technologies, human resources, strategic planning, organizational analysis, information systems.

I. INTRODUCTION

Every organization, in pursuing the achievement of its goals, aims to operate efficiently so that it can develop its products or services in a harmonious manner. To achieve this, it is important to understand the current situation in which its departments operate and to validate their daily operations based on the available human resources and the established job manual within the organizational structure.

Organizational effectiveness can be conceptualized as the degree to which an organization achieves its goals [1][2]. From another perspective, organizational effectiveness is a challenge that requires adopting a broad view of performance and analyzing important strategic results, which in turn requires examining functions at both the individual and departmental levels [3].

Beyond designing its organizational structure and functional divisions at the human resources level, every organization must seek the continuous improvement of each of its departments. Therefore, it is imperative to conduct regular and periodic reviews of both service delivery efficiency and process structures.

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Authors in a systematic literature review study point out that there should be a close relationship between technology and human resources practices, emphasizing their interconnection and identifying that both reinforce each other in generating benefits in the current technological era. This demonstrates the necessity of analyzing and validating employees' roles and the value they contribute to the organization from a human resources perspective [4].

In this context, focusing on the organizational setting of the National University of Costa Rica, specifically within its Huetar Norte and Caribbean Regional Section, Sarapiquí Campus, this research presents the identification and analysis of the current situation of the information technology department in terms of its operations and organizational structure.

II. THEORETICAL FRAMEWORK

The situational review of an information technology department constitutes one of the phases in the development of a strategic information technology plan, as it allows for an understanding of the functioning of the processes and services provided within the department.

Fig. 1. Methodology for Strategic Planning

Fig. 1 illustrates the adaptation of Anita Cassidy's methodological proposal, which provides guidance on how to develop a strategic information technology plan within an organization. The focus of the present study is placed on Phase 1, specifically on the identification and analysis of the current situation of the technology department.

For the implementation of a situational assessment within an information technology department, it is essential to understand the context in which it operates, its human resources organization, and its organizational structure, as well as the services and initiatives it offers, since these provide the necessary basis for departmental analysis [5]. In this way, it becomes possible to develop alternative recommendations and solutions.

Below, the main theoretical references related to topics such as strategic planning, information technology departments, and information regarding the National University of Costa Rica are discussed. These references help to understand the relevance of the department and its role in carrying out its functions.

2.1 Context of Strategic Planning in Information Technology

Given the absorbing and dynamic labor market in which organizations must compete, evaluating their strategies and departmental functioning should be a priority and a constant task. For this reason, to maintain competitiveness, constant measurement through alternatives such as control indicators and feedback is necessary.

To understand the concept of strategic planning and how it supports the work carried out by the information technology department, it is first important to examine the particularities of its components. Therefore, the concepts of information technology and strategic planning will be analyzed in the following sections.

2.2 Information Technology

Information and communication technologies are understood as computational and information tools used to process, store, synthesize, and retrieve information in various forms and, as a result, can be considered means that support digitalization [6]. It is determined that:

"As information and communication technologies, it can be mentioned all the technological resources used to manage, process, store, and present information, which have been transformed into tools that automate processes previously performed by humans, and this is reflected in the role they play in mediating teaching and learning processes" [7, p. 4].

Based on these definitions, it is determined that information technologies are tools and equipment capable of storing, analyzing, and presenting information with the purpose of automating processes within the organization.

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2.3 Strategic Planning

To understand what "strategic planning" means, it is important to understand what each component involves; therefore, it is necessary to be clear about the concepts of planning and strategy.

Planning can be seen as the process of establishing a clear direction and creating an appropriate environment for managing a business, institution, or social organization in an informed and innovative manner [8]. In other words, planning involves defining an organization's goals, selecting the most appropriate strategies, and organizing people and tasks so that all elements work together effectively. Essentially, it consists of determining what needs to be done and how to accomplish it.[9].

In one of the historically accepted definitions, strategy can be considered the creation of a unique and highly valued position that integrates a set of activities, with the particularity that it must differ from those of other organizations in order to generate added value and provide a distinctive identity through its products or services compared to competitors [10]. From another perspective, strategy is the determination of a company's fundamental purpose, its lines of action, and the allocation of resources to achieve established goals. Finally, it is necessary to address the importance of strategic management through the involvement of human resources and the recognition of their role in carrying out their functions, since their performance contributes to the achievement of the objectives established by the organization [12].

Having clarified the concepts of planning and strategy, strategic planning can be defined as the harmonious coordination of a set of actions aimed at positively contributing to an organization's goals.

2.4 Strategic Planning of Information Technology

The information technology department is a unit that functionally supports the organization; for this reason, its efforts should be directed toward organizational benefits, bearing in mind that technology is a means rather than an end. Therefore, the strategic planning of the IT department must be closely linked to the achievement of the organization's goals and objectives, in this case, those of the Sarapiquí Campus of the National University of Costa Rica.

Strategic information technology planning is a tool aimed at aligning IT efforts with the organization's business perspective by establishing, for example, policies for acquisition processes, use, and information technology management. [13].

Another view of strategic information technology planning is that it can be understood as the set of decisions and technological initiatives that support the mission, vision, and strategies of the organization over a defined period. The main purpose of information technology is to support the business itself; therefore, it must remain aligned with and focused on advancing organizational goals.

In summary, strategic information technology planning is a fundamental process that enables organizations to align their technological resources with business objectives. This process includes evaluating current and future needs, identifying technological opportunities and risks, and formulating implementation strategies.

The effective integration of strategic IT planning encourages data-based decision-making, thereby strengthening an organization's capacity for innovation [15]. As a primary benefit, by addressing both current challenges and future opportunities, this planning enables organizations to adapt to a constantly changing organizational environment [16].

In a study conducted by Alidousti, it is stated that strategic information technology planning is effective when based on nine key factors: vision and objectives, alignment, interoperability, infrastructure, participation, equity, privacy and security, management, and organizational culture. In the present study, particular attention is given to organizational culture and management, specifically within the area of human resources [17].

2.5 Information Systems

To understand the current situation of the information technology department, it is necessary to have a clear understanding of the information system within the organization and the value it provides.

Another concept states that information systems are defined as "a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision-making and control processes within an organization" [18, p. 16].

Information systems are essential components for organizations, supporting the management and processing of data for decision-making and process optimization in an efficient manner.

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These systems are composed of hardware, software, data, processes, and human resources that work together to collect, store, process, and distribute information [19]. The interaction of these components within an information system occurs in pursuit of improved productivity, cost reduction, and the provision of a competitive advantage through a clearer understanding of the market.

Each information system developed and incorporated into a business must be conceived during the strategic planning process in order to function as an active element, considering that if it is created in an earlier or later phase, it contributes only passively to the achievement of organizational objectives [14].

Finally, it can be concluded that the purpose of information systems is to improve business processes, where the use of information systems together with information technologies is intended to automate operations, streamline processes, reduce costs, shorten timeframes, promote teamwork, and improve innovation [20].

Leaving aside the strategic and technological aspects, the following section presents information regarding the National University of Costa Rica and its Huetar Norte y Caribe Regional Section in order to understand their functioning and operations.

2.6 National University of Costa Rica

The National University of Costa Rica is one of the five public universities in the country, ranking second nationwide in international rankings at position 1960, surpassed only by the University of Costa Rica, which holds position 1735 according to Webometrics [21].

The university is founded on four fundamental pillars: teaching, research, outreach, and production. It was established with the intention of providing the country with additional institutions to support education and the development of more professionals. Its mission follows the vision expressed by its first rector, Benjamín Núñez, who affirmed:

The National University of Costa Rica has expressed its mission in the following way: 'In this task, we have been concerned not so much with merely conceiving and building just one university, but giving the country a necessary university that, by effectively committing to its national reality, can serve to fulfill a historical destiny with prosperity, justice and liberty' [22].

The central headquarters is located in the province of Heredia and is known as the Omar Dengo Campus, one of the eight campuses where the university offers higher education programs. The university has almost 20,000 active students distributed across the different entities responsible for carrying out its substantive functions.

Finally, to understand its technological capabilities, the university has the Center for Technological Management (CGT), which is in charge of the university's platforms, infrastructure, and technological services. The Center for Information Management (CGI) is responsible for both the administration of technology and the development processes of the computer systems necessary for the university's substantive activities.

2.7 Regional Section Huetar Norte and Caribe

In its early phase, the Sarapiquí Campus was created under the structure of an interdisciplinary academic program named the Interdisciplinary Academic Program of the Huetar Norte and Caribbean Region, Sarapiquí Campus, within the framework of the celebration of the XXXV anniversary of the university's founding and under the principle of working toward less favored sectors [23].

According to SRHNC, "The necessary university does not center its foundations on the most developed sectors, but rather bases its work on the development of academic activities in areas whose social, economic, cultural, and environmental contributions have not been able to achieve a greater impact due to geographical limitations, as is the case of the Huetar Norte and Caribbean region" [23].

Currently, the Sarapiquí Campus offers 6 bachelor's degree programs and 3 licentiate degree programs, and for the year 2025 it has a total of 663 students, 27 administrative staff members, and 62 academic staff members.

III. METHODOLOGY

This section explains the process through which the research progressed from its initial stage to the obtaining of the final results, using the approach presented by the authors and the strategic planning proposal for information technology [5].

3.1 Type of Research

The study was conducted under a descriptive research design of the current situation of the IT department. From the perspective of data collection and analysis of results, a qualitative approach was employed.

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3.2 Study Population

In this research, the study population consisted of university stakeholders involved in the services provided by the information technology department. Specifically, this included the entire student community, academic staff at the campus, administrative staff primarily linked to the leadership and management of the Regional Section, and a key actor: the head of the information technology department.

3.3 Data Collection Techniques

Given the wide range of techniques available for qualitative studies, emphasis was placed on instruments developed by the researchers themselves, allowing for the collection of information from multiple sources and enabling a deeper understanding of the phenomenon [24].

For this study, the situational phase was examined through interviews, questionnaires, and observation of the target population, with the selection of instruments based on the type of population involved (interviews for department heads and personnel, questionnaires for administrative staff, academic staff, and students, and observation of processes).

IV. RESULTS

This section compiles the information gathered during the research process, presenting the results of the application of instruments, documentary review, observation process, and analysis of each of the particularities identified in the situational assessment of the information technology (IT) department.

4.1 Current Situation of the IT Department at Sarapiquí Campus

Within the previously described context of the operations of the National University of Costa Rica and the specific case of the Sarapiquí Campus, the analysis and evaluation of the information technology department of the Regional Section are presented, specifying its functionality and areas for improvement.

Operational Functioning of the Department

The information technology department at the Sarapiquí Campus is composed of one person in a position classified as Technical Analyst in Technological Development with an assistant role, who is responsible for the following functions:

- Participating in the development and creation of networks.
- Coordinating and operating a local area computer network system.
- Assisting in the installation of equipment and wiring for institutional data network access.
- Participating in the planning and coordination of work programs.
- Conducting tests and changes in operating system versions.
- Troubleshooting hardware, software, and general network issues.
- Assisting in laboratory logistics (maintenance and quotations).
- Creating databases.
- Developing and updating website design.
- Preparing reports on activities carried out.

The working hours are regular, from Monday to Friday, 8:00 a.m. to 5:00 p.m., involving daily tasks (institutional network review, management, and responses through social media) as well as occasional duties specific to the role that arise unexpectedly.

The following figure illustrates the level of awareness among the administrative staff, teaching staff, and student population at the Sarapiquí Campus regarding the services offered by the IT department.

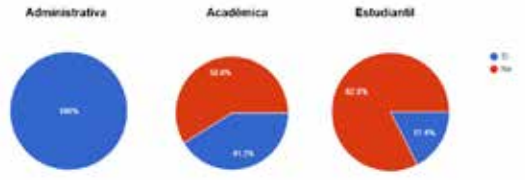

Fig. 2. Knowledge of IT Services by Administrative, Academic, and Student Population.

As shown in Fig. 2, *Knowledge of IT services by Administrative, Academic, and Student Population*, the majority of academic staff and students are unaware of the functions and services offered by the department, while only the administrative staff demonstrate familiarity with the tasks performed.

4.1.2 Processes

Within the operational functioning of the IT department, although there is no formal written definition of processes, the following can be identified.

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Table 1. IT Processes.

Process	Description
Acquisition of Technological Equipment	All technology equipment purchases are subject to the expert judgment and recommendations of the IT department.
Definition of the Campus' own information architecture	In its operations, and outside the general administrative systems of the National University of Costa Rica, the Campus continues to rely primarily on paper-based communication, where there are no established schemes, repositories, or specific locations for the storage of important information, but rather a dependence on the organizational practices of each individual member.
Management of IT projects	There is no formal guide for the execution of IT projects; instead, they are carried out according to urgency, with limited documentation and follow-up.
IT risk evaluation and management	Knowledge of the risks associated with the functions and their possible solutions rests with the IT manager, since there is no documentation of the risks specific to the department's management. As there is no risk documentation, no evaluations are conducted to verify the reduction of their impact.
University community relations management	Maintain clear communication channels and mechanisms with the university community as a whole.

4.1.3 Infrastructure

According to the organizational structure of the Sarapiquí Campus, the IT department must report its work to the head of administrative services of the Regional Section, making it one of the few technical areas of the university that reports to personnel outside its field.

In the context of the Regional Section itself, the information technology infrastructure can be understood as comprising the desktop environment (computers, printers, photocopiers, etc.), the applications environment (software used and licenses), and the network and telecommunications environment (interconnectivity equipment, licenses, and bandwidth).

4.1.3.1 Desktop Environment

These are the components that form part of the technological equipment and end-user device environment, which, in the case of the Sarapiquí Campus, include the following:

Table 2. Desktop Environment.

Devices	Amount	Description
Computers	125	DELL and HP computers, which are part of the Campus's two laboratories, computers assigned to the administrative staff for their respective duties, as well as a "mobile laboratory" consisting of computers used in classrooms by students or loaned for the completion of academic tasks.
Printers	5	Printing services for the administrative staff, academic staff, and student population.
Photocopiers	2	Photocopying services for the administrative and academic staff; there is no specific equipment available for student use.
Interactive whiteboards	11	Installed in each classroom to support teaching processes.
Projectors	19	Installed in each classroom to support teaching processes. Other projectors are available for loan for activities such as CONARE's induction tours to schools.
Speakers	3	Loan equipment.
IP Phones	13	Devices in administrative offices and academic rooms to enable internal and external communication.
Robotics kits	16	Kits for teaching robotics.
External hard disk	1	Information backup.

For the maintenance or replacement of technological equipment, a budget request is submitted with the corresponding justification on the dates established by the university. Currently, preventive and corrective inspections of the equipment are carried out (at least once every six months), and the inventory is reviewed once a year.

It is important to note that the total equipment data available at the time of the interview was not accurate, since the inventory process was still ongoing, and that the data presented in Table 2, *Desktop Environment*, was compiled using information provided by the IT manager and corroborated through observation.

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4.1.3.2 Application Environment (Information Systems)

The National University of Costa Rica has two different operating system solutions for its devices: a free software option with its own customized distribution called UNAX, which sought to facilitate the transition from proprietary software to free software. However, the migration, at least at the Sarapiquí Campus, was not successful, and gradually the devices returned to using proprietary operating systems.

With respect to proprietary operating systems, Windows 11 is installed in the laboratories and on the equipment of the Campus.

As evidenced by the instruments applied to the student, administrative, and academic populations, the issue of applications is not a crucial factor in their assessment of the IT department, and both the operating systems and administrative systems provide adequate support for the work carried out by these groups.

4.1.3.3 Server Environment

The server environment is provided by the Center for Technological Management and not by the IT department of the Sarapiquí Campus; therefore, the storage of its websites, applications, and documentation is housed at the Central Campus of the National University of Costa Rica. Physically, there is a virtual server hosted at DTIC for the exclusive use of the applications and requirements of the Sarapiquí Campus.

4.1.3.4 Network and Telecommunications Environment

This is understood as the set of components that form part of the network and telecommunications environment, which are presented in Chart 3.

Table 3. Network and Telecommunications Environment.

Devices	Amount	Description
Router	1	Routing necessary for internet outlets, configured and managed by the Technology Management Center; the IT manager is responsible for conducting inspections and reporting incidents.
Switch	7	Supports internal routing, located in different racks to cover the geographical area of the Campus.
Standing rack	1	Located in the IT department office.
Aerial rack	3	Frame that protects the network intermediary equipment, located in different locations
Firewall	1	Limits the entry and exit of traffic of doubtful origin.
Access point	9	Installed in the main esplanade, auditorium, guardhouse, and residences to provide wireless connectivity.

As shown in Chart 3, *Network and telecommunications environment*, the university has adequate equipment for the development of its functions in accordance with the number of users and geographical distribution. In addition, it has a fiber optic link between the Campus and the Central Campus with 1 gigabit internet capacity.

It is pertinent to point out, based on the observation of the physical facilities of the IT department, that using the office space of the department's personnel as an equipment inventory warehouse and telematics room for intermediary network devices does not constitute good practice.

4.1.4 Projects

In addition to the existing processes within the department, there are a series of projects necessary for the optimal fulfillment of its functions and for addressing stakeholders' emerging needs, with the main projects listed in Chart 4.

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Table 4. IT Projects Perceived by Stakeholders.

Project	Description
Clarification of services	Each service offered by the department is provided at the request of one of the stakeholders; however, there is no documentation of the services offered, nor any alignment with a corresponding reference framework.
Project management methodology	Each project is carried out according to its need and urgency; however, there is no documentation process for its evaluation, and therefore there are no business cases or follow-up procedures for the projects being executed.
Process documentation	Each process is developed according to previous experience; however, the processes are not documented in a way that would allow another staff member to perform them.
Modernization of technological equipment	A large portion of the equipment on the Campus has already reached the end of its useful life cycle, and the IT department is required to carry out the acquisition process for its replacement.

The projects presented in Chart 5 reflect the needs identified for the next two years according to the perceptions of the stakeholders. To implement these initiatives, close coordination with the central administration is required in order to support the proposals presented in the following section.

4.1.5 Communication with Headquarters

The immediate superior authority of the technology department is the head of administrative services, with whom, according to the information gathered through interviews with both actors, there is stable and trusting communication. From the perspective of the department head, the work carried out by the department is validated.

However, with respect to Campus management, communication is weaker and less timely regarding strictly work-related matters, due to requirements in tasks that, from the perspective of the Regional Section management, have not been fully or optimally developed.

In addition, the vision of the Regional Section management toward the IT department reflects a relative absence of expectations regarding collaboration in innovation projects, since the established role does not contemplate such extraordinary functions.

4.1.6 Services

The IT department, through its processes and daily operations, carries out a series of activities and services that support the substantive work of the Sarapiquí Campus, as shown in the following chart.

Table 5. IT Services.

Service	Description
Telematics equipment support	Daily diagnostics of the equipment, in which connectivity between devices and external networks is verified.
Support to the Campus connectivity network	In case of minor incidents or local failures, a first review is made from the department, validating that they are not user or equipment errors.
Support for Campus computer equipment	Overhaul and repair of technological equipment on campus, such as computers, monitors, printers, photocopiers, network equipment, student equipment, among others.
Laboratory maintenance	Review conducted once per semester of the equipment available in the Campus laboratories, including its hardware and software operation, equipment replacement, among other aspects.
Acquisition of technological equipment	In charge of approving and advising on purchases related to technological equipment.
Equipment storage and loan services	To maintain equipment inventoried and stored for safekeeping and timely loan according to the needs of the university population.
Training on technological tools and platforms	As a consequence of the COVID-19 pandemic, training on technological tools for first-year students, as well as on the use of administrative, academic, and educational platforms and administrative systems for support and control purposes, should be provided.
Advice on the use of equipment and connectivity	Group training and/or guidance on the use of sound equipment, microphones, interactive whiteboards, and connectivity for users invited to the Campus.
Support with audiovisual and multimedia equipment	The IT department is responsible for providing sound support for activities held on the Campus; however, other personnel should be trained to perform these tasks, since the department is left unattended during such activities. Likewise, support materials (documents and videos) should be developed for the use of the interactive whiteboards.
Management of digital communication channels	Greater flexibility and a larger number of channels should be established as mechanisms for the dissemination and presentation of the activities carried out to the university community in general.

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Derived from chart 6 IT Services, there are many services that are broken down into subtasks, each requiring effort and time, but they are not being visualized by university stakeholders. Therefore, their documentation and offering are imperative.

4.1.7 SWOT Analysis

The IT department at the Sarapiquí Campus has 10 years of experience in carrying out its functions; however, to date, no audits or reviews have been conducted to support the evaluation and development of the department. Therefore, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is carried out to provide a clearer understanding of the support that information technology offers to the university campus. These aspects will also be considered in the recommendation phase.

- Strengths: These consist of favorable aspects related to the department's performance, including:
- Availability and willingness of staff to support the request and development of services.
- Level of influence in decision-making regarding technological solutions and equipment.
- Experience of the department's human resources.
- Opportunities: These are identifiable elements that can enhance both the capabilities offered by the department and the perception of the stakeholders involved in the university community, thereby positively supporting its mode of operation. The identified opportunities are:
- Training administrative and academic staff for tasks that do not require extensive technical knowledge.
- Knowledge management of the services performed (historical documentation).
- Implementation of a traceability system for its services and tasks.
- Weaknesses: These represent critical points in management that require improvement, as they pose inconveniences and vulnerabilities for the department. The following can be identified:
- Student perception of the services offered by the department.
- The perception of the department's "absence" by the Campus management.
- Lack of tools for storing the inventory of equipment managed by the department.

Threats: Finally, threats represent weaknesses or points of concern that should be considered potential elements of change and that may affect the department's operations. The main threat identified relates to the administration's commitment to supporting the projects developed by the IT department, since without such support they cannot be implemented.

Simultaneously, another potential threat is a change in leadership during the strategic IT planning process, since if the ongoing project does not have a solid institutional foundation or is not considered relevant by the new administration, it may be neglected.

Lastly, an additional threat is the possible outsourcing of the department's services through the subcontracting of personnel or another entity to carry out its functions. However, due to the collective agreement, internal university policies, and the university union, this option is not considered highly viable.

4.1.8 Budget

The Sarapiquí Campus has a budget allocated by the National University of Costa Rica, supervised by the Deputy Rector within the university's organizational structure. There are no specific budget allocations assigned to each department; therefore, according to information gathered through interviews with the IT director and Campus management, the IT department does not have a dedicated budget for investments or operational expenses.

Any project initiative must be submitted first to the head of services and then to the Campus management for evaluation and possible inclusion in the Regional Section's budget plan for the following year. Alternatively, it may be supported through the reallocation of unspent funds from other areas, although this is a less likely option.

Thus, the IT budget is tied to the requests and innovation initiatives of the department, relying on prior anticipation of needs rather than on an exclusive fund for expenses. Therefore, the department must have a clear understanding of the projects to be executed, develop the corresponding business cases, and determine the budget required for their implementation, all of which must be presented to the immediate management in order to assess their feasibility.

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For this strategic plan, the proposed projects require a low budget investment for two reasons. First, at the beginning of the second semester of 2024, there are no resources allocated to the department (requests should have been submitted before September 2023). Therefore, the nature of the projects is focused on training, standardization, and management, resulting in a low economic impact that can be covered with the Campus's own resources.

Secondly, managing smaller projects with high success rates allows the department to build trust and improve its perceived image among stakeholders.

4.1.9 Gap Analysis

After applying the instruments to the involved stakeholders, an analysis of the current situation and the path toward the desired situation was conducted, revealing misalignments in aspects such as:

- There is a negative perception of the quality of services offered by IT, mainly expressed by the student population.
- No follow-up on service requests or IT projects, as there is no documentation or traceability of the actions requested by the involved populations.
- Standardization and documentation, both physical and digital, of equipment request forms and service tickets, as there is no formal mechanism.
- No clear identification or documentation of the department's processes.
- Knowledge management for the development of functions, as there is a risk associated with the concentration of information in a single person—a critical resource.
- Use of software programs for the development of daily administrative tasks (e.g., a service desk).
- Skills in programming or researching tools to develop solutions for specific campus needs (e.g., programming a reservation application for the use of official vehicles).
- Proactivity in the IT department's functions and its role as a strategic unit within the organization, moving beyond a solely operational function.
- Furthermore, after conducting the gap analysis for the IT department of the National University of Costa Rica, Sarapiquí Campus, several points of interest became evident:
- Although most of the required services by the department exist on the campus, essential stakeholders are unaware of these facilities.
- Services are developed according to the availability of the department's human resources, but requesters have no way to verify the status of their requests or receive timely responses.
- There is no project management that enables their completion and traceability.
- The number of tasks performed by the department, including routine job activities and service activities, results in a workload that exceeds the possible working hours.
- The availability and openness of the department's human resources are adequate for their performance.
- There is a considerable number of activities covered by the IT department that could be handled by other campus personnel, reducing the workload.
- The perception of the department's work varies among stakeholders, with administrative staff giving the highest ratings and students the lowest (with a generally low average rating).

V. CONCLUSIONS

After carrying out the research process and analyzing the findings to finalize the proposal regarding the current situation of the IT department at the National University of Costa Rica, Sarapiquí Campus, a series of key points for reflection can be highlighted:

Involve the IT department staff as key stakeholders in the development of the institutional strategic plan.

The department has trained personnel to carry out its functions, and although the workload may seem excessive in some cases, benchmarking shows a similar number of resources per educational entity. This is due to service demands peaking during academic periods and decreasing considerably once these periods end.

It is imperative to establish a constant communication channel and regular reporting from the IT department to the Campus management, demonstrating and providing evidence of the efforts carried out. In this way, the management can become a strategic ally and sponsor of the department's projects.

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The image of the IT department regarding the services it offers to university stakeholders is not encouraging. As a strategy for improvement, it is proposed to carry out the projects established in the proposal, gradually making the department's work more visible, applying user satisfaction instruments, and validating this behavior.

It is recommended to carry out the necessary procedures during the stipulated periods for requesting budget funds, with the corresponding justification and business cases for each project, in order to achieve a greater impact and support solutions that require more than effort and goodwill alone.

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