LOGO

Design management system for integrated communication development in a Technology Innovation Institute

Sistema de gestão do design para o desenvolvimento da comunicação integrada em Núcleo de Inovação Tecnológica

Cássia Regina D'Antonio Rocha da Silva

Master of Education from the Federal University of Sergipe - UFS
PhD student in Intellectual Property Science at the Federal University of Sergipe - UFS
cassiadant12@gmail.com

Ana Karla de Souza Abud

PhD in Chemical Engineering from the Federal University of Rio de Janeiro – UFRJ
Associate Professor at the Federal University of Sergipe - UFS
ana.abud@gmail.com

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

ABSTRACT

The article aimed to develop a Design Management System for Integrated Communication (SGDCI) within the context of the quintuple innovation helix framework. The research was developed as a case study at the Innovation and Technology Transfer Coordination (CINTTEC) unit of the Brazilian Federal University of Sergipe (UFS). With the data analysis and structuring it was possible to use the institutional innovation policy as a useful strategy for the development of integrated communication. Results highlighted the challenge of Technology Innovation Institutions in the diffusion of innovation policy and the use of strategic design as a facilitator of the communication process to support interinstitutional relationships.

KEYWORDS

Design management; Strategic design; Integrated communication.

RESUMO

O artigo teve como objetivo elaborar um Sistema de Gestão do Design para a Comunicação Integrada (SGDCI) na perspectiva da hélice quíntupla. A pesquisa se desenvolveu como estudo de caso na Coordenação de Inovação e Transferência de Tecnologia (CINTTEC) da Universidade Federal de Sergipe (UFS). Com as análises e estruturação dos dados foi possível utilizar a política de inovação institucional como estratégia útil para o desenvolvimento da comunicação integrada. Como resultado, destaca-se o desafio dos Núcleos de Inovação Tecnológica na difusão da política de inovação e a utilização do design estratégico como facilitador do processo comunicacional para afirmar as relações interinstitucionais.

PALAVRAS-CHAVE

Gestão do design; Design estratégico; Comunicação integrada.

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

INTRODUCTION

Brazilian Law No. 13.243/2016 (Innovation Law) aims to strengthen research and intellectual production in the country, providing greater flexibility to Scientific, Technological and Innovation Institutions (ICTs, in Portuguese) operating in the country, reducing legal and bureaucratic barriers to the previous legislation, Law No. 10. 973/2004 (BRASIL, 2016). The ICTs are progressively seeking ways to remain active through Technology Innovation Institutions (NITs, in Portuguese) that, with their roles, go beyond the bureaucratic services and intellectual property registration procedures to perform duties in the business area (PIRES; SANTA RITA; PIRES, 2020). Although the NITs' potential in fulfilling their capabilities has gradually increased in recent years, the most significant results are noted through the growth of intellectual property protection rather than in relation to the volume of technology transfer (MARQUES; CAVALCANTI; SILVA, 2021).

Technology transfer is an activity that derives from an organizational structure and human relations that involve knowledge production, dissemination and the application process. In studies and research, there is still a predominantly technological discussion that produces gaps in terms of the important components of the transfer process. Such an approach neglects the analysis of information and communication services within the institution's partner sectors, which need to be considered. Furthermore, it is important to highlight the importance of studies about the information and the necessary infrastructure to ensure effective communication flow within institutions or, of the very knowledge transfer between sectors that do not include facilitating elements for the transfer (CYSNE, 2005; MARQUES; CAVALCANTI; SILVA, 2021).

This type of environment brings with it a range of institutions. According to the quintuple innovation helix model, the approach of an innovation ecosystem functions in a collaborative manner, with the interaction between universities, the government, the industry, society and the environment (CARAYANNIS; CAMPBELL, 2019). The quintuple innovation helix framework then represents the motivation of sustainability actions for creating new knowledge and innovations in

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

response to environmental challenges, being a broader perspective of socio-ecological transformations (MINEIRO; CASTRO; AMARAL, 2019).

In this regard, design management can become a great ally, since it is concerned with how institutions engage with design to solve problems of an inter-institutional order, involving an interdependence between social actors in a collaborative way (RODA; KRUCKEN, 2004; BEST, 2012)

Having as a starting point one of the main objectives of the Innovation Law (2016), which is to encourage partnership relationships, this research focused on the identification of design management resources that could stimulate the conception of cooperative environments through strategic design. These prerogatives highlighted the need for NITs to update their managerial processes with new forms of integration with the social actors involved in the innovation process, allowing the previously established partnerships to contribute to stimulate the culture of internal and external innovation within universities. Proposals ensure that actions undertaken by the NITs actions become more evident, while also promoting the interaction between the social actors (DIAS; PORTO, 2013; SINGH; KANIAK; SEGATO, 2020).

In this context, this article aimed to elaborate a design management system for integrated communication in the perspective of the quintuple innovation helix framework, through a case study in the Coordination of Innovation and Technology Transfer Center (CINTTEC) of the Federal University of Sergipe (UFS). The study laid down evidence and subsequently established notes for the incorporation of strategic design focused on the institutional innovation policy in order to guide integrated communication.

2 THEORETICAL FRAMEWORK

2.1 Design management and integrated communication

Even though Brazil has established an Innovation Law (2016), alone, it has not effectively facilitated the interactions in the innovation

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

system (MACHADO; SARTORI; CRUBELLATE, 2017). Thus, it is up to the NITs to manage some communication interfaces in order to promote partnerships and disseminate technological innovation to stimulate technology transfer agreements.

In a recent study, Singh, Kaniak and Segato (2020) identified a poor dissemination related to the presence of NITs within universities, or even about the services developed, and especially about the main technical skills that institutions offer. Companies with great partnership potential are often unaware of the services provided by ICTs, and even incumbent innovation agencies in the country still need to improve their information infrastructure with internal and external audiences (LOBOSCO et al., 2011).

Dias and Porto (2013) presented two aspects of the innovation culture and the cooperation between ICTs and the market. Among other provisions, the authors highlighted that the main components of the transfer between ICTs and companies is the absence of an interface manager capable of enabling the communication and the development of institutional relationships, as well as the identification of suitable business partners for patent licensing.

In institutions of service provisions, such as in the case of NITs, design management occurs via process and organizational culture, communication and image, organizational strategy, service and interface with the public, as well as through the management of product portfolio. Based on the project practice within the Public Efficiency Acceleration Laboratory (LAEP) of the State of Rio de Janeiro, Tessarolo et al. (2021, p.46) proved that "the experimentation of design in public management can increase the state capacity to face complex problems and generate positive impacts on organizations and society".

Such experiences present design as a competitive resource in the work of reflection, decision and action. In addition, it is also important in the strategic, tactical and operational spheres, participating in the definition of competitive guidelines and in the execution of projects and actions regarding products, services and processes (MINUZZZI; PEREIRA; MERINO, 2003; RODA; KRUCKEN, 2004; ZURLO, 2010; MOZOTA, KLÖPSCH; COSTA, 2011; WAGNER, 2018).

In this vein, Martins and Merino (2011) state that design

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

management at a strategic level is responsible for diagnosing and observing the organizational structure, revealing the dynamics, specificities and the vision of organizational changes, as well as being important in the differentiation and competitive advantage of the organization. To this end, design management uses the resources of graphic design, packaging design, product design, industrial design, interior design/environmental design, design of digital media/web, service design and/or the experience design, safeguarding the interests of institutions with attention to their audiences and their respective communication objectives (BEST, 2012).

Design has the peculiarity is important to build the image and visual identity of companies, products and services, the graphic production and monitoring of the production of electronic media to ensure the same visual language to establish an integrated communication (MOZOTA, 2011).

Integrated communication arises from the convergence of different types of communication: administrative, marketing, institutional, allowing more effective and strategic communication actions to achieve the objectives of the organization, optimization of resources, and the enhancement of communication actions themselves. These types of communication allow organizations to relate to their public and with society. Therefore, they cannot be isolated (KUNSCH, 2003).

In this regard, strategic design recovers the importance of identity/image to be at the center of the institution's communications. Thus, it is not restricted to the logo, but to the conversion of identity into communicable elements, becoming the essence of organizational communication itself (VILAR, 2017).

The contribution of design to integrated communication consists in the process of building an institutional image, as it aims to highlight the objectives, performance and appearance of its products, environments, services and communication. This implies creating meaningful artefacts and visual messages that also have institutional values. It is about using design strategically, with the application of ideas and methods that can be used to improve the efficiency of integrated communication management, through a relational and interpretive perspective of institutional image (WEELER, 2014).

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

In strategic planning, both internal and external communication operations need to act positively on the perception of the interlocutor. The advantage of this procedure consists in being able to define and control the institutional identity, through integrated communication, providing a cohesive discourse with its practices (VILAR, 2017).

At the strategic level, image and communication have the responsibility of developing a "common language" and awareness of the existence of an institutional strategy. Thus, it coordinates mutual actions between designers, marketing, administrative, besides the internal and external public, creating a culture of sharing (MOZOTA, 2003; BEST; KOOTSTRA; MURFY, 2010; MARTINS; MERINO, 2011; TEIXEIRA; SCHOENARDIE; MERINO, 2011; MOREIRA; BERNARDES; ALMENDRA, 2016).

At the tactical level, the design, as the name suggests, is planned and programmed to support the demands of the team of designers, besides the process and the systems of a specific unit (integrated communication, visual identity system, among others). It is in the middle of the whole process, supporting both strategic design and operational design, as it aims at creating a favorable environment for the aforementioned actions. It is responsible for implementing the innovation created at the strategy level and for the management actions that aim to facilitate the implementation of the operational design (MOREIRA; BERNARDES; ALMENDRA, 2016).

The operational design manifests itself in physical and tangible products, with the implementation of projects and processes that reach the public. Thus, it comprises the realization and implementation of design resources so that they are aesthetically attractive and have quality with the positioning intended by the institution (MOREIRA; BERNARDES; ALMENDRA, 2016)

In this regard, the figure of the design manager arises to safeguard the mission, vision and the institutional values, acting as a facilitator between the knowledge about management and design, articulating the benefits and challenges of each domain of design, whether strategic, tactical or operational (MINUZZI; PEREIRA; MERINO, 2003). Thus, the design manager is expected to take the responsibility to propose projects in connection with a previous strategy, evaluate

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

problems, identify necessary resources, plan the project, select the team, select and establish contact with other internal and external experts. Besides, they are also responsible for monitoring and evaluating all phases of projects (procedures, phases, decision levels and communications), document (elaborate and manage agenda of charges, document that informs the team) and evaluate design options, keeping the project between different subjects and departments (CPD, 1997). In this regard, the need for an intense involvement of the design manager is crucial to carry out design projects on integrated communication, within a specific coordination. Their role is to raise awareness and promote the design practice within the institution, so that it stops being just an aesthetic issue, becoming an ally for institutional strategies (MOZOTA, 2011).

3 METHODOLOGY

The research adopted a qualitative approach, with exploratory and descriptive objectives, using data collection instruments such as documentary research, bibliographic research, consultation on official websites, semi-structured interviews and non-participant observation (MARCONI; LAKATOS, 2021). As for the method, a single case study was carried out (YIN, 2015) at the Innovation and Technology Transfer Coordination Center (CINTTEC) of the Federal University of Sergipe (UFS). The Design Management System for Integrated Communication (SGDCI, in portuguese) was carried out through a theoretical-empirical perspective, based on bibliographic research on theoretical and methodological constructs of design management (CPD, 1997; RODA; KRUCKEN, 2004; MANZINI, 2008; ZURLO, 2010; MOZOTA, 2011; BEST, 2012; FRANZATO; CELASCHI, 2012; WEELER, 2014; MOREIRA et al., 2016).

The research protocol took place in the following terms: (1) identification of the unit of analysis; (2) documents of the sector; (3) information about the objectives of the innovation policy of the institution; (4) non-participant observation; and (5) semi-structured interviews with the civil servants from the administration of CINTTEC. The analysis unfolded in: (a) applicability of design management to the purposes and objectives of the Innovation Policy of UFS; (b)

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

identification of social actors and communication interfaces; (c) presentation of the SGDCI, analysis and necessary corrections for compliance; and (d) elaboration of the system.

4 RESULTS AND DISCUSSION

4.1 Applicability of design management to the aims and objectives of the Innovation Policy of UFS

The Innovation and Technology Transfer Coordination (CINTTEC) was created from Ordinance no. 938, dated November 1st, 2005 (UFS, 2005). Linked to the Pro-Rectory of Post-Graduation and Research (POSGRAP) of the Federal University of Sergipe (UFS), it is structured in six sectors: (1) Coordination; (2) Administrative; (3) Intellectual Property; (4) Institutional Program of Initiation Scholarships in Technological Development and Innovation (PIBITI); (5) National System for the Management of Genetic Heritage and Associated Traditional Knowledge (SISGEN); and (6) Technology Transfer, Design/Social Media. It has 13 fellows, totaling 20 people in the department. Its objectives are to strengthen UFS' Research and Development (R&D) activities, improve relations with society through more effective articulation with regional and national ICTs, act as a facilitator and catalyst of the activities that UFS carries out or can carry out, in terms of services, research and training, as well as operate jointly with the government and the private sector in stimulating the emergence of technology-based companies (UFS, 2022).

During the interviews, important points of the innovation policy of the institution were highlighted, such as the transparency in the process for the registration of intellectual property, which protects both the author of the innovation and the higher education institution itself with regard to the resources arising from innovation. It was also externalized that the research community of the institution is becoming aware and participating in calls for proposals, although there is a long way to go so that innovation becomes an institutionalized practice.

Another highlight given to the UFS Innovation Policy (2022) by one of

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

the interviewees was the opportunity to strengthen relations with companies whose activities are focused on technological innovation. The support offered to academics for the creation of start-ups, incubators and junior companies was highlighted, as well as actions aimed at attracting partnerships by means of activities and/or events with a view to bringing together the various sectors of local society. The same interviewee also commented on some experiences of sharing laboratory infrastructure, equipment, instruments, materials and facilities.

The Innovation Policy of UFS (2022), through its general guidelines, in its Art. 5, item V, provides for inserting the institution among the social actors of innovation in the regional, national and international scenario and reinforces its role as a university that generates transformation. In clause IV, it reinforces the role of a university as a generator of transformation, which requires calling all social actors to new ways of acting, producing new artifacts and new organizational forms to operationalize the necessary change, moving towards sustainability in a network structure of knowledge in which the course of action towards a sustainable future will be given.

The formalization of UFS' socio-environmental guidelines is important to demonstrate the institution's performance and enable the positioning of design as a strategic tool capable of successfully exploring the most relevant points originating from the institutional innovation policy. In the same direction, the principles of sustainable design safeguard the task of: (1) promoting global sustainability and environmental protection (global ethics); (2) offer benefits and freedom to the entire human community (social ethics); (3) support cultural diversity, despite the world's globalization; and (4) provide products, services and systems in forms that are expressive (semiotics) and consistent (aesthetics) with its complexity (MOZOTA, 2003).

Design management found in the general guidelines of the innovation policy of UFS and in the principles of sustainable design the concepts that represent the essence of the institution, fundamental for its strategic direction. Such action enables to establish design as an adequate tool to reach, in a differentiated way, the challenges and objectives established to declare the position of the institution before its environment.

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

4.2 Identification of social actors and communication interfaces

During the visits, it was possible to observe the commitment of CINTTEC in seeking to improve the relations of UFS with society, through a more effective articulation with local society. Meetings were recorded for the planning of several activities that took place during the research period. In a statement, it was reported that the coordination holds powers to represent the Higher Education Institution (HEI) in matters related to its innovation policy and does so according to institutional demands that arise from the internal sectors to the department itself. In order to promote economic, social and cultural development, CINTTEC monitors the launch of public notices aimed at disseminating intellectual property and technology transfer and also develops activities to stimulate innovation by holding courses for the community, such as technological prospecting, patent applications, trademark registration and industrial design, entrepreneurship, management system for genetic heritage and associated traditional knowledge. It was found on the official website of the institution, events such as the workshop on relevant patents and technological maturity, initiation meetings in technological development, internal training and offers of technological initiation scholarship (UFS, 2021).

During the statements, the interviewees acknowledged the importance of strengthening the interinstitutional relationships for the establishment of partnerships with private companies, especially for the contribution of financial capital involved. The research identified as social actors within the scope of CINTTEC the employees themselves, the staff of other departments, the academic community (technicians, teachers and students), suppliers and service providers. Externally, there are government, educational institutions, productive sector (industry, companies, etc.), sponsors, the community (intellectuals, artists, professionals, representatives of society, etc.), accelerators (innovation centers, start-ups, incubators, technology parks, etc.) and influencers.

The year of 2021 was marked by a wide participation of CINTTEC in

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

the social media, implying a vast dissemination of its actions in order to strengthen the culture of technological innovation (UFS, 2021). The research identified as communication channels the Instagram (@cinttec.ufs), Facebook (Cinttec UFS), the website https://cinttec.wixsite.com/inovação and the Youtube channel, https://www.youtube.com/c/cinttecufs. In a statement, it was explained that the expansion and diversity of the communication channels are part of the objectives to maintain communication with the community where it operates (researchers, students, associations, cooperatives, cultural agents, among others). This also leads to concerns regarding the use, for the most part, of generalist communication projects to reach the various audiences simultaneously.

In the daily life of CINTTEC, the demonstrations of design, in its various configurations, are requested from the designer as scheduled events. It was found that the most requested visual communication materials are geared towards marketing communication, with very low occurrence of materials specifically for the internal public. The majority is for dissemination of the activities of lectures, courses, training and disclosure of edicts, among others performed by CINTTEC. The dissemination materials used are pamphlets, posters and notices, reports and digital publications, as well as social media, emphasizing that many design productions have moved from print to digital.

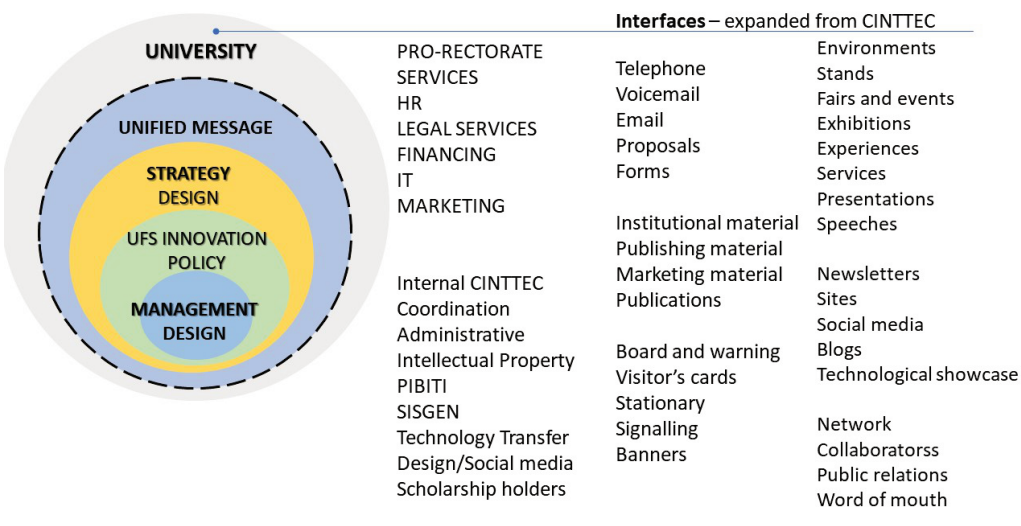
CINTTEC has in its team a designer and scholarship holders for carrying out activities related to the production of pieces more focused on digital media. Some projects are already developed, such as graphic pieces, boards, notices, presentations, banners for events and the social media (Facebook and Instagram). Nonetheless, it was observed that CINTTEC does not have tools to evaluate the efficiency and results achieved from the design actions for communication. The designer has support and marketing attention, but the process of integrated communication for the valuation of the HEI towards an image strategy is lacking. The institutional communication (internal) has independent and varied guidelines, which are at the discretion of the marketing department.

Each institution has its own version of the creative design process.

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

In the case of CINTTEC, the design process is at the discretion of the person in charge, a Design graduate from UFS, with the coordinators who participate in the initial briefing making suggestions for modifications in the preparation of the requested pieces and, in the end, approving them for publication. As previously mentioned, the strategic design focuses on the institutional message/image, consolidating in a unified way all the interfaces and/or contact points between the institution and its internal and external publics. For CINTTEC, the communication interfaces illustrated in Figure 1 were identified.

Figure 1: CINTTEC's communication interfaces



Source: Elaborated by the authors (2022)

Considering the dynamics of CINTTEC's functioning in its administrative tasks and its role as a mediator between social actors, design proved to be more suitable for a first approach, focusing management on the dimension of integrated communication with the use of graphic and digital design resources, as demonstrated below.

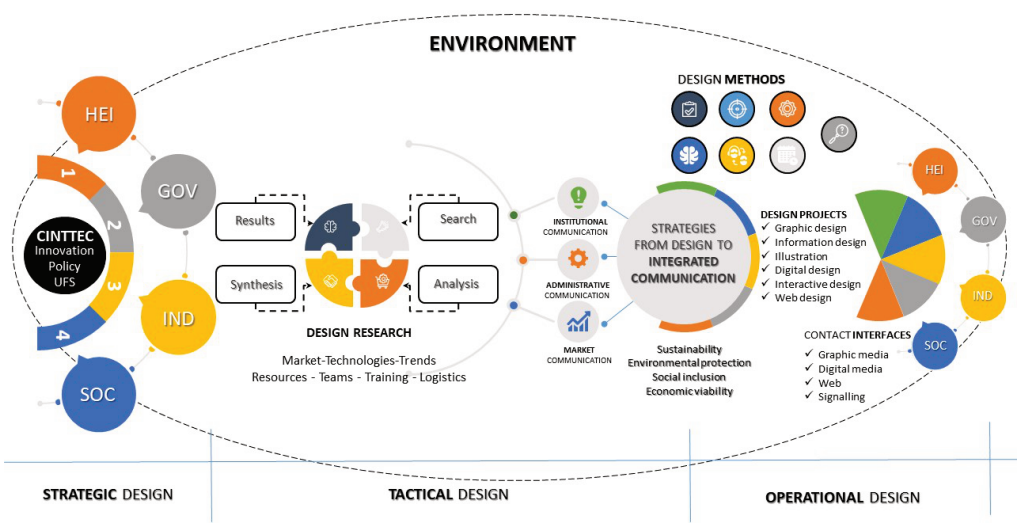
4.3 Presentation of the Design Management System for Integrated Communication

The primary thought for the proposal of the SGDCI is its

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

incorporation, from the strategic conception through the tactical conception regarding the management of resources, logistics and teams of designers or multidisciplinary, to the conception of the project in its operational level. For this, the SGDCI, in its strategy, seeks to encourage the collaboration of social actors for the paradigm change in relation to the current model, stimulating the participation of design in all integrated communication processes by valuing the culture/image and the innovation policy of the HEI, clarifying its importance for the strategy at the institutional level (Figure 2).

Figure 2: Design Management System for Integrated Communication



Source: Elaborated by the authors (2022)

The contact interfaces of CINTTEC need to contribute to unify the discourse around the innovation policy from the use of a design strategy, i.e. to use design strategically to integrate communication around the institutional goals and values. The scope of design management is to support the culture of innovation, within the parameters of socio-environmental responsibility as provided by the Innovation Policy of UFS (2022). In this sense, the design projects for integrated communication have as a strategy to position it in their values and translate them into their identity (message/image built). These factors were included in the strategic level of integrated

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

communication to be carried out in a coordinated and efficient way, giving support to the internal sectors of CINTTEC:

- To understand the institutional objectives and goals, recognizing the technologies that meet the needs and socio-environmental problems and also meet the desires of society, industry, public policies and the very profile of the HEI (High Education Institutions), confirming the commitment assumed in the innovation policy of the institution.
- Verify the intellectual property (IP) portfolio of the HEI, as well as public call for tenders and ongoing research, to identify potential partner profiles that can be sensitized.
- Coordinate the image of the HEI in order to achieve notoriety and visibility, with a clear definition of values and positioning, identifying opportunities in the regional, national and international market, as well as identifying and selecting social actors (suppliers, researchers, financiers, influencers, etc).
- Propose strategies for integrated communication through design projects that meet the objectives contained in the UFS Innovation Policy (2022).
- Promote the portfolio (research, patents, courses and others) and educate the internal and external community on the culture of innovation.

Regarding the procedures in relation to market research projects, needs and trends, design management at CINTTEC contributes to the creation of a formalized methodology capable of measuring the quality associated with these activities.

The HEI, as previously stated, is concerned with sustainability and socio-environmental values, which may need to be evidenced in communication. As objectives of integrated communication for CINTTEC, it is cited: (a) increase the notoriety (remembrance of the institution) in a spontaneous way; (b) present the institutional values that make up the innovation policy, especially the socio-environmental, for the audiences of interest, following the criteria of administrative, marketing and institutional communication; and (c) present the functions and give visibility to the activities.

An important finding for the tactical level was to identify that,

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

although the design sector of CINTTEC works together with the institutional marketing department to formulate some dissemination campaigns, there is no project methodology to be followed in the development of integrated communication. The costs and/or resources for design do not have a fixed margin, being used from a general budget. As it is an intermediate level, at this level it is necessary to develop minimum criteria to maintain the quality of the service and the technical procedures of design.

To adjust the evidence of the daily practices of CINTTEC, the SGDCI, at the tactical level, has a role of diagnosing the main technologies, pointing out trends and systemic direction for the development of new technologies. It also diagnoses communication problems and generates meaning effects, so that collective values and the resulting socio-cultural impact become evident. It aims, then, to value the research and technologies developed at the HEI and to encourage partners who consider the socio-environmental interests.

Thus, at the tactical level, it has the responsibility to choose the appropriate interfaces to: (1) promote the HEI and encourage social actors to participate actively and creatively as partners; (2) analyze internal and external factors that may interfere positively or negatively in partnerships (agendas, technologies, policies, trends, markets, among others); (3) implement a methodology to ensure that the flow of information permeates the modalities of administrative, marketing and institutional (internal) communication; and (4) strengthen relations with the institutional marketing department, given that it is responsible for the press office and ombudsman, supporting events, distributing releasing and producing specific information about CINTTEC on the UFS website.

In the case of CINTTEC, the design management at the tactical level involves working with multidisciplinary teams, in addition to the marketing department, to diagnose the specific needs of the HEI. It has as concerns in project management the organization of market research (image, competencies, intellectual capital, portfolio, services and stakeholders), the analysis of the data, which will serve for the development of new scenarios and the identification of new innovation trajectories, the synthesis (concretization in program form of projects

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

to be developed, modeling them for visual signs) and the result (formalization of the graphic design concepts, prototyping, documentation of the trajectory, evaluation).

Jointly, part of this tactical sphere is the planning of programming in the field of graphic design, whether selecting members to compose project teams or more suitable suppliers for design services, the creative and resource direction (media and materials) for design projects, as well as in the evaluation of the experiences carried out.

For CINTTEC, the operational level can be used in the conception and execution of graphic and digital design projects. For the organization of the projects, internet research is used on similar productions and visual language trends according to the audience, as well as the alignment of visual concepts with the identity of the pieces produced.

The SGDCI for integrated communication at the operational level brings the concern of incorporating the strategy based on sustainability and the identity of UFS, aiming to decide for the execution of communication projects that meet the objectives and needs of engagement for partnerships, making semantic studies in material found in other HEIs to search for innovations in visual communication and maintaining the quality of presentation in all contact interfaces from pre-established criteria in the strategy.

Analyses and corrections were made for compliance, elaborating the SGDCI proposal on the three levels of design (strategic, tactical and operational), incorporating CINTTEC's communication processes and guiding the points of contact with the main social actors from the perspective of the fivefold helix.

The operational, tactical and strategic levels of design were included in the SGDCI in order to make communication, in its discursive and visual aspect, assume social characteristics and repercussions in the adoption of symbols that present a process of transformation through conceptual representation and in procedures with environmental concerns.

The SGDCI in a systemic perspective led to the following points: a) Need to put the focus on relationships with social actors/stakeholders to support the promotion of innovation and technology transfer; b)

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

Presence of a design manager to apply the principles of design throughout the flow of integrated communication, using the systemic approach for the consolidation of notoriety and visibility institutional image, proposing strategic insertions of design; c) Visual compositions, graphic and digital projects must arrive in the forms of communication, either administrative, marketing and/or institutional; d) Importance of interfaces both for the expression of the institutional image and its socio-environmental objectives, as well as for the expansion of IES relations with society, productive sector and government. e) Closeness of management and design in a more significant way, defining ways to integrate design in its three levels in management.

It is worth mentioning that design management incorporates the precepts of sustainable development advocated in the fivefold helix. The social character of design aims at the quality of life of human beings in order to include minorities that have some kind of difficulty in relation to access to information (inclusive design, responsive design, social design). Regarding the environmental character, the design projects aim their conceptual value in messages about the awareness of socio-environmental values, either physically, in the use and reuse of materials such as recycled paper, or among other possible steps to be implemented with the methods of sustainable design.

5 CONCLUDING REMARKS

The case study served to demonstrate that CINTTEC is a highly qualified interlocutor for linking the demand and supply of technologies between the university-industry-government-society and environment instances.

The contributions of the competences of design management to the activities of integrated communication are possible due to the multidisciplinary and transversal characteristics throughout the process of projection of integrated communication to give notoriety to the institutional image and visibility of its objectives and goals, making its socio-environmental values clear to social actors and explicit in the innovation policy of the HEI.

The SGDCI presents a process of creating culture and image focused on institutional objectives throughout three major stages, starting with

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

the commitment to the innovation policy. There is also the need for the involvement of multidisciplinary teams for market research, trends and technology. In addition, a conceptual modeling more suitable for each type of communication (administrative, institutional and marketing) and definition of communication channels should be considered, allowing the management of graphic design and digital projects, monitoring of reception by social actors of the messages and the quality of responses obtained in relation to the effective interaction between the parties.

Due to their size and diversity, social actors/stakeholders could not be involved in this research approach. This limitation suggests that, in future studies, such actors can be an important source of information for outlining a panorama and for the evaluation of design management, extracting information whose action details are only known by those involved.

6 REFERENCES

BEST, K.; KOOTSTRA, G.; MURPHY, D. Design management and business in Europe: a closer look. Design Management Review, v. 21, p. 26-35, 2010.

BEST, K. Fundamentos de Gestão do Design. Translation: André de Godoy Viera. Technical revision: Antônio Roberto Oliveira. Porto Alegre: Bookman, 2012.

BRAZIL. Law No. 13.243, of January 11, 2016. Provides on stimuli to scientific development, research, scientific and technological capacity building and innovation and amends Law no. 10.973, of December 2, 2004, Law no. 6.815, of August 19, 1980, Law no. 8.666, of June 21, 1993, Law no. 12.462, of August 4, 2011, Law no. 8,745, of December 9, 1993, Law no. 8,958, of December 20, 1994, Law no. 8,010, of March 29, 1990, Law no. 8,032, of April 12, 1990, and Law no. 12,772, of December 28, 2012, pursuant to Constitutional Amendment no. 85, of February 26, 2015. Diário Oficial da União, Brasília, DF: Presidency of the Republic, 2016. Available at: <http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2016/lei/l13243.htm>. Accessed on: 15/05/2021.

CARAYANNIS, E. G.; CAMPBELL, D. F. J. Quadruple and Quintuple Helix

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

innovation systems and mode 3 knowledge production. In: CARAYANNIS, E. G.; CAMPBELL, D. F. J.; EFTHYMIOPOULOS, M. P. (Ed.). Handbook of Cyber-Development, Cyber-Democracy, and Cyber-Defense. Switzerland: Springer International Publishing, 2019. p. 9-27.

CPD. Portuguese Design Centre. Design Management Manual. Porto: Porto Editora, 1997.

CYSNE, F. P. Technology transfer between university and industry. Encontros Bibli: Revista Eletrônica de Biblioteconomia e Ciência da Informação, v. 20, p. 54-74, 2005.

DIAS, A. A.; PORTO, G. S. Gestão de Transferência de Tecnologia na Inova Unicamp. Revista de Administração Contemporânea, São Paulo, v. 17, n. 3, p. 263-284, 2013.

FRANZATO, C.; CELASCHI, F. Processo de metaprojeto para o desenvolvimento estratégico e a inovação das organizações. In: X P&D Design-Congresso Brasileiro de Pesquisa e Desenvolvimento em Design. Anais [...]. 2012. p. 1-14., 2012. Available at: https://www.academia.edu/2510981/Processo_de_metaprojeto_para_o_desenvolvimento_estrat%C3%A9gico_e_a_inova%C3%A7%C3%A3o_das_organiza%C3%A7%C3%B5es#:~:text=Process%20of%20metaproject%20oriented%20to,for%20which%20%20C3%A9%20destined. Accessed on: 10/02/2020.

KUNSCH, M. M. K. Planejamento de relações públicas na comunicação integrada. São Paulo: Summus, 2003.

LOBOSCO, A.; BARBOSA, M.; MORAES, D.; ANTONIO, E. Inovação: Uma Análise do Papel da Agência USP de Inovação na Geração de Propriedade Intelectual e nos Depósitos de Patentes da Universidade de São Paulo. Revista de Administração da UFSM, Santa Maria, v. 4, n. 3, p. 406-424, 2011.

MACHADO, P. V.; SARTORI, R.; CRUBELLATE, J. M. Institutionalization of technological innovation nuclei in science and technology institutions in southern Brazil. REAd. Revista Eletrônica de Administração, Porto Alegre, v. 23, n. 3, p. 5-31, 2017.

MANZINI, E. Design para a inovação social e sustentabilidade: Comunidades creativas, organizações colaborativas e novas redes projetuais. Rio de Janeiro: E-paper, 2008.

MARCONI, M. A.; LAKATOS, E. M. Metodologia científica. 9 ed. São

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

Paulo: Atlas, 2021.

MARQUES, J. L.; CAVALCANTI, A. M.; SILVA, A. M. The evolution of technological innovation centres in Brazil in the period from 2006 to 2016. Exacta, v. 19, n. 1, p. 210-224, 2021.

MARTINS, R. F. F.; MERINO, E. A. D. A gestão de design como estratégia organizacional. 2nd ed. Rio de Janeiro: Rio Books, 2011.

MINEIRO, A. A. C.; CASTRO, C. C.; AMARAL, M. Who are the actors of the quadruple and quintuple helix? Multiple cases in consolidated science and technology parks. Annals [...] XXII Seminars of Administration, SemeAd, São Paulo-SP, 2019. Available at: https://login.semead.com.br/22semead/anais/arquivos/541.pdf. Accessed on: 06/05/2022.

MINUZZZI, R.; PEREIRA, A.; MERINO, E. Theory and Practice in Design Management. In: 2nd International Congress on Design Research, 2003. Rio de Janeiro. Annals [...] Rio de Janeiro: AEND-BR, 2003.

MOREIRA, B. R; MOREIRA, M.; BERNARDES, S.; ALMENDRA, R. A. Design Management in practice: Framework for implementation in companies. Porto Alegre: Marca Visual, 2016. 145 p. ISBN 978-85-61965-39-6.

MOZOTA, B. B. Une synthèse de la recherche recente em design management. Magazine Design Management, v. 2, p. 28-32, 2003.

MOZOTA, B. B.; KLÖPSCH, C.; COSTA, F. C. X. Gestão do Design: usando o design para construir valor de marca e inovação corporativa. Porto Alegre: Bookman, 2011.

PIRES, M. C. F. S.; SANTA RITA, L. P.; PIRES, A. C. S. Perfil do núcleo de inovação tecnológica na gestão da inovação: um estudo na Universidade Federal de Alagoas. Navus: Journal of Management and Technology, v. 10, p. 21, 2020.

RODA, R.; KRUCKEN, L. Design Management applied to the current model of organizations: Adding value to services. In: Congresso Brasileiro de Pesquisa e Desenvolvimento em Design, 6, 2004, São Paulo. Annals [...]. São Paulo: Armando Alvares Penteado Foundation, 2004.

SINGH, A. S.; KANIAK, V. M. M.; SEGATTO, A. P. Desafios enfrentados pelos Núcleos de Inovação Tecnológica (NITs) no sul do Brasil e suas estratégias de superação: um estudo multicasos. Read-Revista Eletrônica de Administração, v. 19, n. 1, p. 165-187, 2020.

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

TEIXEIRA, J.; SCHOENARDIE, R.; MERINO, E. A. D. Design Management: management levels and project development relations. In: Tsinghua-International Design Management Symposium, Hong Kong. 2011. p. 194-2011.

TESSAROLO, E. M.; SILVA, C.; KJA, A. R.; COELHO, D.; HERTZ, I.I. Experimentando o design na gestão pública: o caso do laboratório de inovação do Estado do Rio de Janeiro. Ergodesign & HCI, [S.l.], v. 9, n. 1, p. 46-66, june 2021. ISSN 2317-8876. Available at: <http://periodicos.puc-rio.br/index.php/revistaergodesign-hci/article/view/1477>. Accessed: 15/12/2022. Doi: http://dx.doi.org/10.22570/ergodesignhci.v9i1.1477.

UNIVERSIDADE FEDERAL DE SERGIPE. Ordinance No. 938 of November 01, 2005. Creates the Center for Innovation and Transfer - CINTEC and the Intellectual Property Center - NPI, linked to the Pro-Rectory of Extension. São Cristovão. 2005.

FEDERAL UNIVERSITY OF SERGIPE. Resolution Nº 33/2022/CONSU. Provides for the Innovation Policy of UFS, based on Decree No. 9.283/2018, Law No. 10.973/2004 and Law No. 13.243/2016. São Cristovão. 2022.

UNIVERSIDADE FEDERAL DE SERGIPE. Coordination of Innovation and Technology Transfer (CINTTEC). Annual Management Report 2021. São Cristovão, SE: Coordination of Innovation and Technology Transfer (CINTTEC). 2021. 105 p.

VILAR, E. T. Image Management: The Contribution of Design. The Design Journal, v. 20, n. sup1, p. S4768-S4770, 2017.

WAGNER, A. Model of diagnosis and analysis of organizational performance based on the precepts of design management. 2018. 292 f. Thesis (Doctorate in Production Engineering) - Federal University of Santa Catarina, Florianópolis. 2018.

WEELER, A. Brand Identity Design. Porto Alegre: Bookman, 2014.

YIN, R. K. Case study: planning and methods. Porto Alegre: Bookman, 2015.

ZURLO, F. Design Strategico. In: XXI Secolo. Rome: Enciclopedia Treccani, 2010. Available at: <https://www.treccani.it/enciclopedia/design-strategico_(XXI-Secolo)/>. Accessed on: 03 May 2021.

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06

Cássia Regina D'Antonio Rocha da Silva

PhD student in Intellectual Property Science at the Federal University of Sergipe – UFS. Master of Education from the Federal University of Sergipe – UFS. Specialist in Philosophy: Ethics and Theory of Knowledge by UFS and Bachelor in Visual Communication by the State University Júlio de Mesquita Filho (UNESP-Bauru/SP). She is a trained Strategic Design Multipliers CRIED/Istituto Europeo di Design and a specialist in Didactics of Higher Education (Associação de Cultura Pio Décimo/SE). She is a teacher at Tiradentes University (UNIT/SE), where she teaches Graphic Design, Interior Design and Technology in Digital Games. She was Coordinator of the Lato Sensu/UNIT Post-Graduation Programs in Design Management for Corporate Image (2008-2009) and Graphic Representation of 3D Projects (2012-2013).

https://orcid.org/0000-0002-8655-1094

Ana Karla de Souza Abud

PhD in Chemical Engineering from the Federal University of Rio de Janeiro (PEQ/COPPE/UFRJ - 2005), has experience in the area of Biochemical Processes, working on the use of waste to generate new products, renewable energy, biosorption, development and optimization of biotechnological processes by submerged and solid state fermentation, quality control of products and processes. She also develops research in the area of intellectual property science.

http://orcid.org/0000-0001-6610-6084

Received on: Jan. 2023
Acceptecd: Fev. 2023

e-Revista LOGO - v. 11, n. 2, 2022 - ISSN 2238-2542
http://doi.org/1026771/e-Revista.LOGO/2022.2.06