Article

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Innovation, telecommuting and public educational libraries: ways to digital transformation in the post-pandemic world of work

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ABSTRACT

Introduction: The development of more assertive public policies in libraries, in accordance with the dynamics of telecommuting that are being created, is an essential debate in the field of Information Science. Objective: This article discusses the evolution of public educational libraries in telecommuting to serve a community of professionals who work and communicate in a network. Methodology: Methodologically, the research has an exploratory level, a qualitative approach, developed through bibliographical research and elaborated from the data of a doctoral research that uses the action science method. Results: The results highlight the possibility of innovation through remote work in the federal public service, especially with the advent of Decree 11,072, of May 17, 2022; the opportunity to innovate in the public sector with a promising service performed by public educational libraries at federal institutes; and the inseparability between work and research agendas, as well as between social development and digital transformation. Conclusion: It is concluded that the paths for the digital transformation in the world of work can become even more productive, innovative, profitable and sustainable, when the continuous and adequate investment in library infrastructure that fulfills an educational function and is of a public nature is sought; and in policies that ensure the performance of librarians as agents of innovation in federal institutes.

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KEYWORDS
Public educational libraries; Innovation; Telecommuting; Work; Digital transformation.

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Inovação, trabalho remoto e bibliotecas educativas públicas: caminhos para a transformação digital no mundo do trabalho pós-pandemia

RESUMO

Introdução: O desenvolvimento de políticas públicas mais assertivas em bibliotecas, de acordo com as dinâmicas de teletrabalho que estão a se constituir, é um debate imprescindível ao campo da Ciência da Informação. Objetivo: O presente artigo discute a evolução das bibliotecas educativas públicas em espaços de trabalho remoto, para servir a uma comunidade de profissionais que trabalham e se comunicam em rede. Metodologia: Metodologicamente, a pesquisa é

de nível exploratório, abordagem qualitativa, desenvolvida por meio de pesquisa bibliográfica, a partir dos dados de uma pesquisa de doutorado que utiliza o método Ciência-Ação. Resultados: Os resultados destacam a possibilidade de inovação por meio do trabalho remoto no serviço público federal, sobretudo com o advento do Decreto 11.072, de 17 de maio de 2022; a oportunidade de inovar no setor público com um serviço promissor desempenhado pelas bibliotecas educativas públicas em institutos federais; e a indissociabilidade entre agendas de trabalho e de pesquisa, tanto quanto entre o desenvolvimento social e a transformação digital. Conclusão: Conclui-se que os caminhos para a transformação digital no mundo do trabalho podem se tornar ainda mais produtivos, inovadores, rentáveis e sustentáveis, quando se busca o investimento contínuo e adequado em infraestrutura de bibliotecas que cumprem função educativa e são de natureza pública; e em políticas que assegurem a atuação do bibliotecário como agente de inovação em institutos federais.

PALAVRAS-CHAVE
Bibliotecas educativas públicas; Inovação; Teletrabalho; Trabalho; Transformação digital.

CRediT

JITA: DC. Public libraries.

1 INTRODUCTION

Promoting social development through digital transformation in the world of work in a post-pandemic environment is as challenging as it is promising. After all, opportunities often arise in unpredictable moments of crisis and, consequently, unexpected changes. Public libraries are at the center of these changes and opportunities in the networked information century. This phenomenon has required information professionals to take a proactive approach to innovation.

Innovation is comprehensive and transversal, so we adopt as conception of innovation the development of new products and services, with innovative methods and actions, such as, for example, citizen labs, ideas incubators, virtual learning environments, creative spaces and participatory environments enabling access to online collections and digital information.

These innovations, which when put into practice bring improvement to a service, product, or process existing in a library, contributing to make the lives of people who use the products and services offered by it easier.

The mapping of scientific literature to identify the evolution of the theme Innovation in the field of Information Science carried out by Gabriel Júnior, Sousa and Silva (2020, p. 5-6) states that

> [...] it is very difficult to have a definition of innovation that meets all areas and contexts. In the IC area, innovation is very much characterized as a process of improvement or transformation of processes and services. [In CI, the concept of innovation as a development or improvement of processes and services occurs mainly with the insertion or updating of new technologies and also transformations and modifications in management processes. This type of innovation in existing processes is always thought of to meet the demands of a specific group of users of information services. For some types of institutions that offer information services, innovation in services and products offered becomes a more difficult process due to the aforementioned costs necessary for the effective implementation of new services.

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Gabriel Junior, Sousa, and Silva (2020) discuss two types of libraries very common in Brazil: the public library and the university library. About the first, the authors state that it has enormous potential for innovation as from the Information and Communication Technologies (ICTs) because they enable better interaction between users, products and services, favoring autonomy in tasks related to the services offered by the library, however, it is pointed out as the main challenge the fundraising for the appropriate investment in these technologies, given the reality of public libraries in the country, notoriously known as precarious from the point of view of economic investment from public policies. In relation to the second, the authors point out as a barrier the lack of knowledge, for the library's maintainers, of the importance of innovation to generate value because they perceive it as a conventional space. Gabriel Junior, Sousa, and Silva (2020) point out that:

> The concept of innovation in a university library should also be associated with the development and improvement of products and services related to scientific communication, since a large part of its public is made up of researchers and students who need scientific information to carry out their activities and develop their research.

It is important to mention that both in the study by Gabriel Júnior, Sousa and Silva (2020), the most updated scientific mapping on the theme (Innovation) in the IC field, and in all the scientific literature investigated as from the research that originated the present article, there is no approach on innovation in libraries of federal institutes, which currently in Brazil, play an educational role in the public sector in a more comprehensive way than university libraries, for serving users linked to the secondary/technical and higher education level, and for being present in a widely distributed manner throughout the national territory. This gap begins

to be filled with this article, the first of a series of publications that intends to address the issue with the intent of developing it in the scientific and professional field with a view to both the public educational library and the librarians' work beyond the library, in other spaces suitable for their work in innovation ecosystems.

During the pandemic period between the years 2020 and 2021, professionals from various fields learned new lessons about the most diverse issues that interfere with lifestyles and ways of life as we know them. This was a landmark of significant changes, including changes in the world of work and employment. Among several, the issue of changes in the way of life at work, especially the future of remote work and the role of public educational libraries in this dynamic context in Brazil, interested the present study.

During ENANCIB 2021, the authors of the present article proposed that these are libraries that support with info educational actions the teaching, research and extension practices developed by public educational institutions, whose function is **educational**, and their nature is public. Conceptually, from the perspective of their organizational identity, public educational libraries were defined as: information units, with a priority educational purpose and of **public** nature, which meet the information needs of both the academic public, at all levels of teaching, needs and skills, and the technical-administrative public and the community in general, through info educational actions. The collection of such institutions can be made up of works that are multicultural, extracurricular, and linked to the lifelong learning process, covering all age groups, without distinction. The libraries of the federal institutes are an example of this type of information unit in Brazil. However, this does not exclude other libraries to identify themselves in this organizational identity, being necessary to deepen the theme in future studies.

Two points constitute the starting point that inspired this research. First, the observation of the recent transformations that have occurred in the working environments of the communities to which the authors of this article are linked, carried out during doctoral research. Second, the contemporary reflection woven by an experienced North American professor about the innovation that has emerged over time in public libraries. Author of many books and articles about the policymaking process and how to improve the management of public organizations, Steve Kelman, Professor of Public Administration at Harvard University, published on August 2, 2021, in the traditional and renowned American blog about federal public administration, FCW (Federal Computer Week), an article entitled in its translation "**Public Libraries and Government Innovation**". This article is the focal point of the reflection that originated the present research and discussion.

It is usual that at the core of discussions on public information policies, in the field of Information Science (IC) in Brazil, a convergence is sought, in an interdisciplinary way, between what is said in the scientific literature of the Administration field (and Public Administration) with the IC literature itself (and Librarianship in numerous instances). However, recently, the debate on sustainable development, urban infrastructure and smart cities has gained notoriety and broadened the interdisciplinary range of issues investigated in this scientific field. This occurs due to the evidencing of the urgency in solving and dealing with climate issues for human survival on planet Earth, and its unfolding, which include rethinking the quality of life at work and the need for presence in diverse situations and environments.

It has been a trend, therefore, that professionals and researchers from other fields of knowledge, with emphasis in this discussion on the field of Architecture and Urbanism, become interested in public libraries and their social function in urban spaces. Historically, there is an evolution in the appreciation of libraries as civic spaces, beyond the idea of exclusive spaces for the promotion of reading and books, defended throughout the 20th century as places primarily for study and research.

Kelman (2021) mentions in his article his satisfaction in recently coming across the article by Liz McCormick, a summer urban scholar at New Urban Mechanics in Boston, USA,

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who works on management innovations for the city. The article, titled in translation "**The Radical Potential of Libraries**," mentions new ways of library use following the pandemic, and was published on the City of Boston's institutional blog, specifically on the page of the Mayor's Office of New Urban Mechanics, which is a kind of research and development laboratory in Boston, and also serves as a civic incubator for ideas within the city government.

In Europe, there has been a lot of talk about the implementation of Distributed Citizen Labs in public libraries. Initiatives such as the recent offer of the course *Laboratorios Ciudadanos Distribuidos* (available at: https://curso2021.labsbibliotecarios.es/) for librarians and professionals from Brazil, in the distance learning modality, promoted by the Ministry of Culture and Sports of Spain, through the General Direction of Books and Reading Promotion, demonstrates the importance of the theme and of the insertion of libraries in the context of citizen innovation. Diego Garcia, coordinator of the Libraries Laboratories project, of the mentioned Spanish ministry, highlighted at the beginning of the course, through a speech broadcast on the YouTube platform on April 30th, 2021, the importance of reinforcing the role of libraries as meeting and collaborative learning spaces, where the promotion of democratic values is guaranteed.

Distributed Citizen Labs, conceptually, can be understood in a broader and more complete way from the perspective of social researcher Lorena Ruiz (2021, p. 1-3), disseminated within the first module of the course promoted by the Ministry of Culture and Sport of Spain, divided into six aspects, namely:

Chart 1. Distributed citizen labs defined in 6 aspects

ASPECT	CONCEPTUAL PERSPECTIVE
1.	First, the citizen lab is a new form of institution, one in which openness, accessibility, and re-appropriability predominate. [...] in a citizen lab, people can make proposals and thus become producers (of their own or other people's ideas) rather than consumers (of something predetermined by the institution).
2.	Second, a citizen lab is a meeting space for different actors to collaborate on the development of a shared idea.
3.	Third [...] participation in a citizen lab is its connection to its closest environment. Regarding this aspect, it is about valuing the culture of proximity, prioritizing the meeting and cooperation between different actors linked to the same context (a neighborhood, a city, an organization, etc.). The laboratory is therefore a tool for listening and observing what happens in these contexts, trying to identify the community's needs, desires, resources, and strengths that can be put into action to develop collective ideas.
4.	Fourth, [...] the laboratory works in a specific way, from the logic of experimentation and prototyping. This is one of the most characteristic and relevant features of the proposal of a citizen laboratory because it implies prioritizing the process over the result, accepting uncertainty, and supporting it collectively, and relating directly with error, understanding it as another learning resource. Experimentation, due to its open, provisional, and even playful nature, allows the diverse knowledge of all participants to be brought together, and thus promotes cooperation and the creation of bonds, particularly of trust and reciprocity.
5.	Fifth, the articulation of diverse actors around the development of a common idea generates a large volume of knowledge. A citizen lab is not only a space in which this production of knowledge is possible, but also a tool so that the knowledge generated continues to circulate after the lab is over and can be useful in other contexts. To achieve this, we work from the principles of free culture (freedom to copy, distribute, modify, and improve other people's creations), documenting the work done in the development of each idea.
6.	Sixth and last, the conceptual positioning and the main characteristics we have indicated respond to the fundamental purpose of a citizen lab: to create communities of learning and practice. These communities are intended to be spaces to collectively test forms of self-management, knowledge production, and coexistence because in a laboratory people participate who, for the most part, do not know each other and have not chosen to work together, and therefore it is necessary to establish a learning relationship with others. All this with the aim of improving the conditions of

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| | coexistence in our neighborhoods, our cities, or our institutions; in short, in those places that are close and meaningful to those who inhabit them. |

Source: Chart organized based on the conceptual perspective of Lorena Ruiz (2021, p. 1-3).

The purpose of the distributed citizen labs, according to Ruiz' perspective (2021), evidenced in the sixth aspect, matches the action-science method (ALMEIDA; PERUCCHI; FREIRE, 2020), in which it is used the creation of learning communities, called research community in the context of application of the scientific method; being this critical for obtaining results.

Thinking about the possibility of convergence between a work agenda in the library and a research agenda with a group of researchers linked to the library for innovation, it is inferred that the implementation and/or the development of citizen labs distributed in libraries can be part of the methodological strategy for socialization of information, fostering the generation of new knowledge, development of actions for information competence and for digital competencies; in line with the assumption of the social responsibility of Information Science.

According to McCormick (2021) libraries have served, since the period of the industrial revolution, as a welcoming point for newly arrived immigrants to learn, engage, and gain support in their quest for American citizenship. Other possibilities are noted by Kelman (2021) from other reports, namely: recreational use of the library by teenagers after school hours; use of computers and the Internet in the library to resolve legal matters; and use of the library to entertain children with storytelling.

Historically, in Brazil, the library spaces have always been used in various recreational and formative ways, beyond the storage of the bibliographic collection. During the pandemic, these spaces were physically limited, making it impossible for people to attend exhibitions, lectures, training sessions, classes, and other cultural and educational activities that have always been possible in library environments.

Information and education services have migrated to virtual learning environments. With this, reading and communication habits and practices, including the ways of learning, were – even if temporarily – modified, to adapt to the restrictions of the pandemic period and the proper continuity of the activities.

The pandemic period was not the first historical moment that demanded innovation from libraries. While in the United States of America, libraries were important in welcoming immigrants since the industrial revolution, in Brazil, libraries were and still are welcoming places for people in conditions of social and economic vulnerability.

In the post-pandemic context, without restrictions of physical presence in the library environment, it may return to its normal performance, but, probably, having to innovate before the changes in the informational behavior of people, which was influenced by the pandemic period. Certainly, new demands will emerge regarding the offer of products and services within the hybridism of current times.

Given this observation, Kelman (2021), asks "What will happen after libraries are reopened in a safer, more vaccinated world?" McCormick (2021) is also concerned about this future of the library in the post-pandemic context and reports on the development of work between his office, the Boston Public Library, and the city's Department of the Environment in which they are experimenting with developing two overlapping ideas, namely, "How can libraries evolve into remote workspaces and serve the community by playing a critical role in heat resilience as Boston gets hotter?"

Such a question emerges after a year of closing physical access to libraries during the pandemic period. The work developed by McCormick (2021) makes it possible to note that urban climate resilience is one of the contemporary environmental issues where the library can effectively contribute, as we will see in the discussion presented in this paper starting in the

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second section. Given the above, our research question took, therefore, the following contour: How can public educational libraries in Brazil evolve into remote workspaces and serve the diverse communities of professionals who work and communicate in networks? The objective of this article was to discuss the evolution of public educational libraries into remote workspaces to serve a community of professionals who work and communicate in a network. One of the most relevant points that interested the research was to know the possibilities of innovation in the public sector through remote work and the role of public educational libraries in this context, from the perspective of Information Science.

2 METHODOLOGICAL PROCEDURES OF THE RESEARCH

Methodologically, the research is characterized as exploratory, of qualitative approach, developed through bibliographic research and elaborated from ongoing doctoral research, which makes use of the Science-Action method. As a technique, the research uses reflection in action to obtain scientific evidence and analyze data that culminates in the formulation of proposals relevant to the scientific and professional context. We compared the data on the reality of North American public libraries obtained by bibliographic collection, based on the reports of researchers and librarians working in this context, with the Brazilian reality. This comparison resulted in the production of a reflection focused on the performance of the libraries of the Federal Institutes, classified by the authors of this study as public educational libraries.

In a pioneering way in the field of Information Science in Brazil, Chloé Valdary's enchantment theory is applied as a strategy of methodological approach to produce a critical reflection about innovation in the public sector, emphasizing the subjectivity inherent to human relations at work. Statistical data from recent surveys by the Institute for Applied Economic Research (IPEA) and the Brazilian Institute of Geography and Statistics (IBGE) were also consulted to support this reflective study with evidence.

The reflection presented in the following sections was structured in three parts, which address the triad innovation, remote work, and public educational libraries, in theoretical correlation with the possibilities of scientific and professional action, based on the purpose of highlighting a necessary debate in the field of Information Science in the 21st century. Specifically, such debate subsidizes the evolution of studies on public information policies in libraries and their social implications in Brazil.

The present study was carried out with the support of two research groups, the result of an inter-institutional partnership between the Research Group on Project Management in Education, Science, Information and Technology (PROJECIT), from the Instituto Federal da Paraíba (IFPB), and the Research Group Communication, Networks and Information Policies, from the Universidade Federal do Rio de Janeiro (UFRJ). Part of the data obtained in the present investigation is also the result of doctoral research in progress at the Graduate Program in Information Science (PPGCI), at the Federal University of Paraíba (UFPB). The present article, therefore, is the result of collaborative and integrative work in the scientific community.

3 WHERE TO START THINKING ABOUT INNOVATION THROUGH REMOTE WORK?

To get to the answer to the question that gives this section its title, we start from Kelman's (2021, n.p.) perception of innovation in American public libraries, when discussing specifically the public library's contributions to urban climate resilience in Boston, based on the work developed by McCormick (2021, n.p.), highlighting that during the pandemic:

> The library system implemented free outdoor Wi-Fi spaces at 14 locations, while branches were closed, providing secure outdoor Internet access. The libraries created

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> six shaded work areas to make the free Wi-Fi easier to access and more fun to use. They have set up picnic tables, an outdoor café, and misting tents outside the libraries as well, some of which have already been set up as places to alleviate borrowing requests.

Although Kelman (2021) is not sure why so much innovation has emerged over time in American public libraries, while some other government organizations themselves remain tied to conventional practices, he points to it being due to the general lack of political controversy surrounding public libraries. The researcher notes that usually government innovation arises from crises and threats, but that it is different with libraries. What drives innovation in libraries is their organizational security, which fosters the confidence and self-confidence of innovators. This may be a favorable and preponderant factor for innovators to find in the library a favorable space for creativity and innovation not only in the United States, but also in Brazil.

This point is no different from the Brazilian reality, as we have observed in recent decades. However, when it comes to innovation in public libraries, it is not quite like that, for it is a complex issue. Corroborating with Kelman (2021), we infer that the reality of these information units suggests that more organizational security favors the creation of space for innovators to approach change with confidence and self-confidence, both in the United States and in what we can estimate in Brazil, from the evidence collected.

McCormick (2021) makes us reflect that in times of instability around the world, where trust in public institutions has diminished and continues to be threatened, public libraries remain highly trusted public entities. She correlates this trustworthiness given to the library to a public from all neighborhoods, various age groups, and generally by a diverse audience. She concludes her article by mentioning that despite the gradual replacement of physical records of knowledge by the world of digital information, the role of libraries remains more important than ever. This position coming from a professional from another area, outside the field of Librarianship and Information Science, is critical to validate and legitimize the discourse of librarians who fight for more investment and better working conditions to offer new and better services, and that has often been discredited by public managers.

In one of the recent publications of the Federal Council of Librarianship, Herrera (2015, p. 188), librarian of the public library of the city of San Francisco, in the United States, justifies the relevance of innovation in libraries, highlighting that:

> Today and in the future, libraries must constantly reinvent themselves. We can remain loyal to our core mission of providing access to information and promoting reading. However, we need to re-examine the traditional model to shift the focus more toward bringing the library to the people. This means that we need to reshape service models to one that is more proactive in community outreach and to offer services that target the user. We also need to make our libraries more accessible as community spaces for education and civic engagement. Now is the time to reinvent the way we do our work. Librarians have remarkable skill sets to help build community, teach the new knowledge, and redefine our public libraries as learning and knowledge centers of the 21st century that will help solidify the information digital and social divide.

Data from the 2015 survey conducted by the National System of Public Libraries indicate that there are 6,057 public libraries throughout the Brazilian territory, considering the sum of municipal, district, state, and federal libraries, which would offer an approximate average of one public library for every 33,000 inhabitants (SNBP, 2021). There is no disclosure of separate data between levels of government.

Despite this, the Brazilian Institute of Geography and Statistics (IBGE), released in 2019 data from the Municipal Basic Information Survey (MUNIC), which pointed to a reduction in the number of municipalities with public libraries by 10% over a four-year interval, in the period from 2014 to 2018. It is assumed, therefore, from the reports and the observed data, that there is a possibility of greater stability within state and federal libraries, compared to the municipal

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reality. This may vary according to the economic conditions of each municipality, after all, there are exceptions, and the case of São Paulo is one of them, considered one of the municipalities that stand out in the valorization and quality of public libraries, such as the Mário de Andrade Library, which is municipal, and the award-winning Villa-Lobos Park Library, which is statewide.

In Brazil, data from the Brazilian Institute of Geography and Statistics (IBGE) in 2018 already pointed out record numbers of remote work in the home office format even before the COVID-19 pandemic. The number reached 3.8 million Brazilians working in this condition in the mentioned year. IBGE points out that at the time, the home office work regime became an alternative to circumvent unemployment. Disclosing the data, Silveira (2019, n.p) highlights that

> According to IBGE, the home office corresponded to 5.2% of all employed workers in the country, excluding public sector employees and domestic workers. Compared to 2012, when the historical series of the survey began, this contingent increased by 44.4%. The home office, highlighted the IBGE, fell 2.1% between 2012 and 2014, grew 7.3% in 2015, and fell again by 2.2% in 2016. Between 2017 and 2018, it grew by 21.1%.
> .

Góes, Martins and Nascimento (2021) published through the Institute for Applied Economic Research (IPEA), a conjuncture letter in the first half of 2021, which presents official government statistical data on remote work in Brazil, based on the year 2020. Such data was also published by Agência Brasil, a public news agency of the federal government, which confirms its relevance for governmental decision-making processes in Brazil, serving as a basis, also, to compose the evidence of studies and scientific research on the subject. This survey pointed out that there was a decrease in the number of home office workers in the month of November 2020; however, the number remains much higher than the 3.8 million pointed out by the IBGE in 2018, being registered approximately 7.3 million in the recent IPEA survey (BRASIL, 2021).

The recorded drop is natural, considering the proximity of the pandemic control, observed from the advancement in safety protocols and vaccination, and gradual return to normality. What is currently raising questions, especially in the field of Public Policies, which also interests Information Science in terms of information policies, is the permanence and/or transfer of in-person activities to the remote work format, exclusively or as a hybrid; the advantages and disadvantages of this migration; and the conditions of viability and permanence of this work model.

The most recent fact, in the post-pandemic Brazilian context, which contributes to innovation in the public service is the publication of Decree 11,072, of May 17, 2022, which regulates telework and productivity control in the federal public service under the Executive Branch. The greatest innovation provided by the decree consists in the autonomy for the top directors of the entities of the indirect Federal Public Administration, which includes federal public autarchies and foundations, to authorize the implementation of the Management and Performance Program (PGD); which was previously restricted to the Ministers of State. The untying favors the reduction of bureaucracy in the implementation of the program. The normative act improves both the management of results of public agencies and agents, and the rules related to telework. With this, telework will now be possible on a part-time or full-time basis in federal institutes and universities. This government innovation in Brazil was possible due to the successful experience with remote work during the Covid-19 pandemic. In an increasingly digital reality, it has become evident to public managers the viability of telecommuting in the public sector. The measure can contribute to the reduction of costs of the public machine, can favor the cultural change of time and attendance control by controlling results and the quality of public services, and can also result in higher quality of life for federal civil servants, better productivity, and serve as an example for governments at the municipal

and state levels to rethink the form of work adopted, without compromising the efficiency of public power, and encouraging professional performance in accordance with the objectives of sustainable development.

The evidence of innovation through remote work and the correlation with libraries have been noticed in scientific works in the field of Information Science. We highlight the increasing approaches about coworking and other innovative spaces (Chart 2). In the molds of the present research, structured from bibliographic research and with a qualitative approach, the study by Moyses, Mont'Alvão, and Zattar (2019) is one of the examples of a recent scientific publication that points out these innovative spaces in libraries. The spaces noted in the research are maker spaces, learning commons, and coworking spaces, which, according to the researchers, "make the library more active, collaborative, creative, and innovative, which differs from traditional models that emphasize the consumption of knowledge." (MOYSES; MONT'ALVÃO; ZATTAR, 2019, p. 5).

Chart 2. Innovative library spaces

Makerspaces	These are spaces qualified to function as incubators of ideas, in the most diverse areas, which favor creativity, experimentation, and entrepreneurship. In them, community spirit and collaboration are stimulated, and technologies and tools are made available to create individual and collective projects.
Learning commons	These are spaces that are conducive to collaborative learning. They consist of a meeting space to discuss projects and hold meetings. They are created as an alternative to classrooms, informal learning environments.
Coworking	These are spaces that have the objective of sharing the physical structure, furniture, rental costs, and a commercial address, which allows an environment conducive to the exchange of experiences, the sharing of knowledge, the participation in events, and training programs.

Source: Chart organized based on research by Moyses, Mont'Alvão, and Zattar (2019, p.13-18).

Regarding the exemplification of these spaces, we have that maker spaces in Brazil, as mentioned by Moyses, Mont'Alvão and Zattar (2019, p. 15) are present in school libraries and, also, in public libraries, the example of

> initiatives such as in the Villa-Lobos Park Library (BVL) that hold maker workshops that teach different activities, such as book production, robotics, home maintenance with a focus on different user profiles. [...] also has an inclusive and accessible environment [...], with several assistive technology devices, such as page flipper, ergonomic table, autonomous reader, audio player, ruler rail, adapted keyboard and mouse, computers with screen reader, adapted mouse and keyboard. [...] has already been indicated as one of the best in the world for its illuminated environment, spaciousness, and democratic space. It has also been classified as an active library, whose architecture itself favors the reader's experience, besides stimulating and facilitating activities of multiple natures.

Moyses, Mont'Alvão, and Zattar (2019, p. 17) cite the São Paulo Library, another state public library, as an example of learning commons.

> It was conceived to be a bold space and offer comfort, autonomy, and attention to users, seen as central elements of the library. It occupies an area of 4,257 square meters to meet the needs of different user profiles. It has technological resources and makes microcomputers, wireless and self-service terminals available. It was inspired by the Santiago Library, in Chile, and was nominated in 2018 as one of the best in the world.

The concepts are very similar within a collaborative space proposal. We can affirm that in some libraries, there is the presence of two or more of these spaces. In the research by Moyses, Mont'Alvão, and Zattar (2019, p. 17), the researchers again point to the Parque Villa-

Lobos Library (BVL), of the State of São Paulo (SP), this time to make mention of the coworking space it contains.

> In 2018, BVL opened a coworking space on the second floor of the library [...], which corresponds to a shared workroom with infrastructure and Wi-Fi network for use by micro and small companies, startups, or people with projects or ventures in development. The projects selected, through a public notice, can use the room free of charge for ten months. In return, they must offer workshops or seminars in the project's specialty for of the public.

All these innovative spaces converge towards the idea of a library that aims to be a "center of socialization and conviviality" (MOYSES; MONT'ALVÃO; ZATTAR, 2019, p. 20). Libraries in the 21st century are moving toward being spaces with greater interactivity, intense collaboration, and more fruitful and complex relationships. This spirit of welcoming and inclusion that has always been present in libraries is accentuated as the social dynamics of digital transformation we experience in contemporary times takes on new contours and evolves.

With remote work being more frequent in the lives of several professionals, for example, network communication requires that more attention be paid to managing emotion and understanding the dimensions of organizational solicitude (mutual trust, access to help, active empathy, leniency in judgments, and courage) (VON KROGH; ICHIJO; NONAKA, 2001). Both are important in enabling the processes of facilitating knowledge creation and, why not, also organizational innovation.

One of the theories that has stood out internationally in contemporary times is the theory of enchantment, especially in times of remote work. In a recent publication on Instagram, the National School of Public Administration (ENAP), linked to the Ministry of Economy of Brazil, posted on its official profile, on August 05, 2021, the following question: Why is it important to create and maintain rituals to generate connections with your co-workers?; In the post, ENAP mentions the American activist and writer Chloé Simone Valdary, who applies the Enchantment Theory in leadership training and in the compassionate fight against racism. As stated by ENAP (2021, n.p) the theory is innovative due to combining "social-emotional education, character development, and interpersonal growth as a tool for leadership development." In the theory's approach, Valdary blends elements of pop culture to facilitate the dissemination and understanding of the dimensions and principles of the theory. Disseminated among students, schools, companies, and governments in several countries, including the United States, South Africa, the Netherlands, Germany, and Israel, the theory was presented for the first time to a Brazilian audience during a live online broadcast from ENAP on April 28, 2021.

Chloé Valdary spoke with Diogo Costa, the President of ENAP, and highlighted the importance of applying the three fundamental principles of the theory in the development of human beings, namely:

1. treat people as human beings and not as political distractions;
2. When criticizing, elevate and empower, never with the intent to tear down or destroy;
3. Doing everything with love and compassion. Love in the sense of the Greek term agape, not based on conditions. (ENAP, 2021, n.p)

In this discussion, we highlight innovation in the context of public organizations and realize the relevance of leadership, social-emotional education, and the theory of enchantment. We also discuss the interdisciplinary convergence between Administration and Information Science, and as a result, it is possible to transpose from the literature on family rituals, in the context of Psychology, the conceptual distinction between ritual and routine to the organizational core. Taking as a basis the question raised by ENAP (Why is it important to create and maintain rituals to generate connections with your co-workers?), when proposing to think about enchantment in times of remote work, we sought in Azevedo's (2018, p. 8)

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explanation, under the perspective coined by Fiese et al. (2002), the difference between routine and ritual, detailed in three dimensions, namely:

> communication, investment, and continuity. Regarding routines, the first dimension refers to the instrumental act - "this is what needs to be done;" the second dimension refers to the temporary character and little consistency after the routine is performed; the third dimension tells us that it is directly observable and detectable by outsiders, and the behavior repeats itself over time. In contrast to rituals, the first dimension refers to the symbolic act - "this is who we are;" the second dimension tells us that rituals are enduring and affective, and the experience can be repeated in memory; the third dimension refers to the extension of meaning across generations, and this is interpreted by insiders. (AZEVEDO, 2018, p. 8).

Transposing such knowledge to the organizational environment, we can understand that routines organize work processes, and their repetition over time can transform them into rituals, through anticipation and emotional investment. However, a ritual can become routine if it starts to be felt as an obligation. We can consider that routines and rituals enable organizations to deal with the adversities that emerge from their performance, whether public or private.

We can also consider that we cannot dissociate the study and research on innovation and remote work from socioemotional issues involving people of different generations. Especially in the context of public educational libraries, this inseparability is even more evident, since it is a space where these several generations meet and seek to meet information needs and other types of needs, ranging from children's entertainment to being a support point for teenagers after school, for refugee immigrants seeking information to achieve their citizenship, among others.

So far, our reflective path has allowed us to realize that starting to think about innovation through remote work, inserting public educational libraries, constitutes a broad debate with several challenges. Besides the above, it is also necessary to think about information policies in libraries and the need for social and emotional education of young people and adults. It is not possible to think about innovation in this context without trying to understand the issues that make sense for new generations, such as the y, z, and alpha generations, which are the most challenging audience for libraries at the moment.

How to apply efficient library management to promote the development of the generations? This is one of the implications of the debate, which leads us to start thinking about Generations Management. Developing information actions that leverage the best of each one of them can be a starting point of a work and research agenda for research librarians.

In the context of the Federal Institutes, public educational libraries have the commitment to attend and satisfy, through their products and services, the employed generations, the unemployed ones, and those who are in the process of training to access the world of work and employment very soon. The challenge is even greater in this context.

Thinking about the innovative contribution of the public educational library to the issue of remote work, therefore, will require thinking that its strategic management may include everything from the analysis of reports to the evaluation of quantitative and qualitative indicators on the diversity of generations. It is necessary to think what can enable more assertive actions, such as the development of incentive programs for productivity; the promotion of greater involvement of social actors in decision-making processes; greater digital presence and engagement of young people and adults; and other actions, even motivational ones, also focusing on the management of emotions in the workplace, a subject that has received more notoriety and relevance nowadays.

The pandemic and post-pandemic context, worldwide, has inspired us to be creative, innovative, and adaptive. We have learned by necessity at the time of the pandemic and are applying to the new moment to work well remotely, moving towards hybrid models (remote

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and face-to-face activities), more flexible and adaptable to networked social dynamics. We are facing crises and opportunities.

A promising service is in demand, and public educational libraries are at the center of the problem and the solution. From it, solutions may emerge that contribute to innovation through remote work, if possible, adding the importance of the three dimensions: communication, investment, and continuity; defended by the enchantment theory, along with its three principles, which collaborate in facing and breaking paradigms that interfere with productivity and organizational culture in the public sector.

4 A PROMISING SERVICE PERFORMED BY BRAZILIAN PUBLIC EDUCATIONAL LIBRARIES

Importantly, innovation in information services is central to the evolution of libraries. Public educational libraries have evolved to become remote workspaces, with the purpose of serving communities of professionals who work and communicate online.

Is the creation of remote workspaces or zones in educational libraries a really promising and viable initiative? Perhaps the answer to this question is only possible with the implementation of public policies that guarantee the promotion and, therefore, the adequate investment in infrastructure and beyond. Experimentation may be the best alternative for these libraries to become citizen laboratories, and effectively fulfill their educational function, with innovative services based on the idea of learning libraries, guided by the five disciplines of Peter Senge: personal mastery, mental models, team learning, shared vision, and systemic thinking.

Other questions emerge from this conjuncture, namely: How to define the diversity of remote working professionals who would seek the library as a remote workspace? Possibly, the implementation and management of distributed citizen labs can contribute to this knowledge of the public and their needs. It is action and reflection in action that will guide the evaluation and innovation agenda that is sought in remote work and libraries.

The very social mission of the federal institutes in the context of professional and technological education in Brazil, with emphasis on the importance of offering remote work support service in public educational libraries, justifies the investments in this segment of professional performance of librarians.

What can we reflect on in this section to start thinking about the construction of a work and research agenda? The search for ways to contribute to the success of digital transformation in the world of work, which encompasses greater public investment in libraries, is challenging. Digital transformation is a process, not an arrival point or a destination.

In order to contribute to the formation and development of a research agenda on innovation in the scientific field of Information Science and in the professional field of federal institutes in Brazil, it is necessary to bring together researchers, especially research librarians, linked to these institutions, working in the country. Gabriel Junior, Sousa, and Silva (2020), in their mapping of the scientific literature on the most productive authors in the subject of Innovation indexed in BRAPCI in the period 1978 to 2019, identified that the only researcher linked to a federal institute is the Librarian and PhD in Information Science, Valmira Perucchi, from the Federal Institute of Paraíba (FIPB). From this study, it is observed a change in this scenario, with the beginning of a research agenda that can fill this gap and overcome the incipient scientific production on the theme, from a series of publications, according to this article that is also the result of a doctoral research.

Regarding the work agenda, the function of the public educational libraries is to contribute to the Federal Institutes in their mission to promote teaching, research, and extension through professional, scientific, and technological education with the union of information,

education, and technology to ensure sustainable local, regional and national development. Even in the face of the context in which we find ourselves, in which it is a challenge to build online the relations and structures of an educational institution, as in the case of the Federal Institutes and their public educational libraries. According to Paula, Silva and Woida (2020, p. 3), libraries are the basis of education

> serving as a support for teaching, research, and extension, and for this reason, they are reinventing themselves in the current scenario by offering services and informational products such as book loans in delivery, training, workshops, lives of information competence on how to use information sources safely for research, standardization of academic papers, scientific writing, among others.

With the need for the services provided by public educational libraries having to adapt during the pandemic to the social isolation and distance, the professionals who work in them had to adapt to a new reality, the remote work. Thus, they have had to review their services and actions to continue with the importance they have always had in the educational context while still meeting the information needs of their users in a satisfactory manner, as quickly, efficiently, and effectively as possible, as is customary.

Trends are becoming reality in our day-to-day lives. It must also be understood that they have had to reinvent themselves in offering and making online information products and services accessible and easy to handle for users. The user experience is central to this way of life.

To work with the emerging reality, public educational libraries have expanded the use of services offered on social networks such as Instagram, Twitter, and Facebook, as well as service channels using WhatsApp and electronic forms, and have made available and assisted in the use of open access databases that enable users to access e-books and scientific articles. In this way, the libraries

> have been engaged in improving their information services and products by making information available through websites, social media, and networks such as Instagram, Twitter, Facebook, and other media. These communication means are great disseminates of information and where several subjects are connected daily, causing information to circulate at greater speed because these informational channels allow librarians and users not only to seek interaction, but also to make information sharing (PAULA, SILVA; WOIDA, 2020. p. 8).

The pandemic required the process of joining technology and education, forcing us to use, in a systematic and general way, digital media for sharing information, providing services, and other activities. It is necessary to think and plan for this post-pandemic context, with the offer and creation of innovative spaces, with services that ensure the safety and health of everyone involved in the libraries. This process can be guided by an agenda oriented to social development, as the digital transformation guides contemporary life, in all processes and information flows.

5 AGENDA FOR SOCIAL DEVELOPMENT AND DIGITAL TRANSFORMATION

Drawing up a work agenda in parallel to drawing up a research agenda is not only possible, but necessary these days. There is a clear inextricability between the work agenda and the research agenda, as much as there is for social development and digital transformation from this century onwards.

In an experimental way, in this section we will address a proposal for a work agenda that can be applied in public educational libraries, through a research agenda that is being constituted in the scope of the Research Group on Project Management in Education, Science,

Information and Technology (PROJECIT), linked to the IFPB Campus João Pessoa and registered with the National Council for Scientific and Technological Development (CNPq) since 2014.

Some questions can be applied via e-mail to the librarians responsible for the libraries in the system, to have a local sample of the perception of these managers on this subject; and, later, expanded for comparative studies. This is a proposal for application in future studies. There was no need to apply a questionnaire at this point in the research because we are in a stage of reflection. These questions could be developed based on a small group of guiding questions, namely:

a) During the pandemic, what did you do differently in your remote activities that you did not do before the pandemic and that may have generated innovation?
b) In the library is innovation through remote work possible?
c) Traditionally, the library is a study and research space for students. do you think the library can become a remote workspace for professionals? What conditions would you need to make this service viable?

Ruiz (2021, p. 3, our translation) states that: "All living beings share vulnerability, not as weakness, but as that which, in needing each other, allows us to link, ally, and support each other." The researcher points out that this vulnerability became much more evident with the social and health crisis stemming from the COVID-19 pandemic. As argued by Ruiz (2021), we have the potential to create collaborative networks in research and the workplace, but we need the resources and proper infrastructure to do so. These resources and the necessary infrastructure can be obtained by formulating activity-specific public policies in the public sector.

However, it is first necessary to spread among librarians, researchers, public managers, and other professionals relevant to the issue in public organizations, the potential of the public educational library in order to generate innovation from remote work. In this sense, it is necessary to develop a research agenda that supports a work agenda, so that information policies are assertively developed, resources are allocated, and the promotion is effectively carried out in these public sector environments that lack innovation.

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Chart 3. First topics on the research agenda

TOPIC	DESCRIPTION
1	Organizational identity of libraries in federal institutes
2	Innovation, remote working, and infrastructure of educational libraries
3	Digital transformation and innovation in information services through projects
4	Learning and practice communities in libraries and research groups
5	Users need and experience in virtual learning networks
6	Social media marketing strategies for educational libraries
7	Public policies to combat intergenerational information poverty

Source: Authors (2022).

The seven themes pointed out above do not exhaust or limit the research agenda that is being constituted. They are the starting point for a research work based on the Science-Action method in the context of Information Science, constituting an unprecedented proposal for intervention in the scientific field, bringing theoretical contributions to a scientific field that is increasingly aligned and closer to the practices of information professionals and the needs of current and future generations of information users and producers in a networked society.

6 FINAL CONSIDERATIONS

The results highlight the possibility of innovation through remote work in the federal public service. We are facing an opportunity to innovate in the public sector with a promising service that can be performed by public educational libraries in federal institutes in Brazil: the appropriate infrastructure for remote workspaces.

We also observed an inseparability between the work agenda and the research agenda, as well as between social development and digital transformation, from this century on, as far as these educational libraries are concerned.

The study aims to contribute to the development of more assertive public policies for this type of library, its public and its new work dynamics that are being constituted. It is possible that solutions to real problems faced in the daily life of information professionals will be proposed based on the research agenda that is being developed at the inter-institutional level. The fruitful path that Science-Action has been building in Information Science in Brazil, with studies that bring together the theories in use in the professional context with the theories proclaimed by the scientific field, shows the possibilities of innovation that are to come.

The alignment of studies on educational library infrastructure with the development of smart cities in the context of creative economy, entrepreneurship and digital transformation will reveal new possibilities and solutions in the core of the field of Information Science to meet the emerging demands of the network society. It is, therefore, a promising theme for us to start thinking about the construction of a Brazilian Digital Agenda based on the contributions of this scientific field.

We conclude that the paths to digital transformation in the world of work can become even more productive, innovative, profitable, and sustainable when we seek continuous and adequate investment in infrastructure and innovation of libraries that fulfill an educational function and are of a public nature, following the high level of social relevance of the federal institutes in the context of inclusion through professional, scientific, and technological education in Brazil.

It is necessary, still, continuous investment in the formulation of public policies, especially information policies, to ensure the role of the librarian as an agent of innovation in federal institutes. As the next step of the authors of this research, considered as a fruit of the research, a scientific article will be communicated on how the information policy correlates with the innovation policy in federal institutes, covering in its discussion the theoretical-pragmatic model for the development of information policies of Brandão (2022), and the challenges arising from the post-pandemic scenario from the Digital Agenda eLAC 2022 and the recent actions occurred in Brazil that favor the development of the Digital Society.

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