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DESIGN SERVICE AS AN INNOVATION APPROACH IN INTERNAL AUDIT OF FINANCIAL INSTITUTIONS

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Abstract. This article aims to analyze the applicability of Design Service techniques in Internal Audit (AI) units of Financial Institutions (FI). The work is based on the premise that AI units are service providers, occupying a relevant strategic position in organizations, adding knowledge to the processes of the audited areas. Companies operating in the financial sector, in addition to the challenge of seeking to achieve levels of efficiency equal to or higher than those of their traditional competitors, live with new market players, technology companies, whose business model is based on innovation. The work methodology is based on a bibliographical research, with a literature review on the subject, for the technical basis and systematization of information. For the data collection, an exploratory research was conducted on the ScienceDirect platform, publications in conferences and complementary information from portals of companies specialized in the Internal Audit activity. The information was analyzed considering the framework of design theories in services and their adherence to AI processes. As a result, the importance of Design Service was verified, as an iterative approach, in the development of AI strategic actions, development of new processes, tools and methods, as well as to design new services as facilitators of co-creation of value to users of AI services.

Palavras chave: Design Service; Internal Audit; Innovation; Product Development.

DESIGN SERVICE COMO ABORDAGEM DE INOVAÇÃO EM AUDITORIA INTERNA DE INSTITUIÇÕES FINANCEIRAS

Resumo. O presente artigo visa analisar a aplicabilidade das técnicas de Design Service em unidades de Auditoria Interna (AI) de Instituições Financeiras (IF). O trabalho parte da premissa de que unidades de AI são prestadoras de serviço, ocupam posição estratégica relevante nas organizações, agregando conhecimentos aos processos das áreas auditadas. As empresas que atuam no segmento financeiro, além do desafio da busca por alcançar níveis de eficiência iguais ou superiores aos de seus tradicionais concorrentes, convivem com novos players de mercado, empresas de tecnologia, que tem na inovação, a essência de seu modelo de negócio. A metodologia do trabalho fundamenta-se em uma pesquisa bibliográfica, com uma revisão da literatura sobre o tema, para o embasamento técnico e sistematização das informações. Para o levantamento de dados foi conduzida uma pesquisa exploratória na plataforma ScienceDirect, publicações em congressos e complementarmente informações de portais de empresas especializadas na atividade de Auditoria Interna. As informações foram analisadas considerando o arcabouço das teorias de design em serviços e de sua aderências aos processos da AI. Como resultado verificou-

se a importância do Design Service, como uma abordagem iterativa, no desenvolvimento de ações estratégicas da AI, desenvolvimento de novos processos, de ferramentas e métodos, bem como para projetar novos serviços como facilitadores de co-criação de valor aos usuários dos serviços de AI.

Palavras chave: Design Service; Auditoria Interna; Inovação; Desenvolvimento de Produto.

SERVICIO DE DISEÑO COMO ENFOQUE DE INNOVACIÓN EN AUDITORÍA INTERNA DE ENTIDADES FINANCIERAS

Resumen. Este artículo tiene como objetivo analizar la aplicabilidad de las técnicas del Servicio de Diseño en las unidades de Auditoría Interna (AI) de las Instituciones Financieras (IF). El trabajo parte de la premisa de que las unidades de IA son proveedores de servicios, ocupando una posición estratégica relevante en las organizaciones, sumando conocimiento a los procesos de las áreas auditadas. Las empresas que operan en el sector financiero, además del desafío de buscar alcanzar niveles de eficiencia iguales o superiores a los de sus competidores tradicionales, conviven con nuevos actores del mercado, las empresas tecnológicas, cuyo modelo de negocio se basa en la innovación. La metodología de trabajo se basa en una investigación bibliográfica, con una revisión bibliográfica sobre el tema, para la fundamentación técnica y sistematización de la información. Para la recolección de datos se realizó una investigación exploratoria en la plataforma ScienceDirect, publicaciones en congresos e información complementaria de portales de empresas especializadas en la actividad de Auditoría Interna. La información fue analizada considerando el marco de las teorías de diseño en servicios y su adherencia a los procesos de IA. Como resultado, se verificó la importancia del Design Service, como enfoque iterativo, en el desarrollo de acciones estratégicas de IA, desarrollo de nuevos procesos, herramientas y métodos, así como para diseñar nuevos servicios como facilitadores de co-creación de valor para usuarios de servicios de IA.

Palavras chave: Servicio de Diseño; Auditoría interna; Innovación; Desarrollo de productos.

Introduction

The world of the internet of things, artificial intelligence has increasingly interconnected people, services, machines leading to continuous and profound transformations within and between service systems (Koskela-Huotari et al., 2021). Contemporary theoretical developments and global economic trends highlight the importance of services and provide new theories and research related to the role of organizations and employees in the *design* and delivery and development of services (Pugh & Mahesh; 2016). Services are actions, processes and performances (Zeithaml & Bitner, 2003) co-produced by one entity or people, for another entity or person (Zeithaml, Bitner & Gremler, 2011).

The development of new services is essential for organizations to survive and am, as seen by the necessary changes in business stemming from the 2019 Sars-Covi2 pandemic. Still, many service providers are hampered by the fact that their current strategy and processes are not designed well enough to develop and deliver services efficiently (Imran, Haeberle & Husen, 2017). However, the process of change can be complex, time consuming, expensive, and often unsuccessful (Smith, Fischbacher & Wilson, 2007).

In this context, innovation is decisive for service companies. The development of new methods and technologies provide opportunities for the development and improvement of new services (Smith, Fischbacher & Wilson, 2007). From this perspective, as the service sector has gained momentum and recognition for its economic importance, research on innovation in the area has expanded and diversified (Carvalho & Goodyear, 2017).

Knowledge and innovation are intrinsically connected elements; there is no innovation without knowledge. It is from knowledge that new ideas are generated, because together with the organization's competencies, knowledge promotes assimilations that guide innovation

(Silva et al., 2018). Companies achieve competitive advantage through innovative initiatives. These initiatives should occur in a systematized way from processes established by the organization (Tajra, 2020).

Audit service is the process of reviewing the financial information prepared by a company's management (Stuart, 2014). Internal Auditing is an independent evaluation and advisory activity to management, focused on the adequacy, efficiency, and effectiveness of control systems (IIA, 1991). Audit firms and Internal Audit Units are providers of services in the area of auditing, tax, and consulting. As a rule, auditors provide a diversity of auditing, consulting, and assurance services (Stuart, 2014), which also need to keep up with the innovations offered for the field while maintaining their quality and efficiency. Thus, the continuous generation of value, having with one of the sources, innovation in auditing services, is of crucial importance for the survival of the auditing activity, since it is about arguments to justify its existence and maintenance (Imoniana, Matheus & Perera, 2014).

Service *design* is a human-centered, iterative approach, focusing on understanding human experiences to design better customer journeys by developing methods and tools to improve specific touchpoints and enhance the service experience. More recently service *design* has strengthened its role by focusing on the dynamics of organizational and social change to design services as facilitators of value co-creation (Koskela-Huotari et al., 2021). Service *design* shows itself as a means of improving the process of generating innovations in the service area and in particular in the internal audit area.

Considering this context, the objective of this article is, based on a literature survey, with a review of the literature on the subject, to present an analysis of how to improve service innovation management in IA services in FI, through the *Design Service* approach.

Design Service

Innovation can be defined as the process of implementing new ideas to create value for an organization, which can mean the creation of a new service, system, process, or the improvement of some of these elements (Silva et al., 2018). Innovation is important for all organizations, as it is a requirement for their longevity. To truly reap the benefits offered by innovation, organizations must understand that innovation is an outcome, a process, and a mindset (kahn, 2018). Thus, innovations are not the result of spontaneous generation, nor created in a vacuum, they are first and foremost the result of deliberate intentions and generated in a conducive environment where ideas can thrive (Scherer, 2016). Broadly speaking, innovation is not just about designing products and services - it is also about designing an organization or system capable of disseminating solutions.

Innovation research originally focused on technological innovation, having historical roots in the manufacturing sector. As the service sector has gained momentum and recognition for its economic importance and its relevance to economic development and growth research on service innovation has seen an expansion and diversification (Carvalho & Goodyear, 2017).

According to Buehring and Bishop (2020), the role of *design* in the first half of the 20th century was closely linked to the ideas of aesthetics and style, craftsmanship and mass production. The second half of the 20th century witnessed a shift toward intentionality and human-centered practices. In response to market forces, the focus was on designing products that people would find useful, that would be usable, and that would arouse the desire to buy.

Service Design (SD) or *Service Design* (DS) - emerged in the 1990s and is the activity of planning and organizing people, infrastructure, communication, and material components of a service in order to improve its quality and the interaction between the company providing the service and consumers (Batista, 2017).

Rosa et al. (2019) state that SD is a constantly evolving concept, as well as the service context to which it relates, and has at its base the user and his interaction, with the different stages of relationship with an organization. For Brouwer (2017), *Service Design* is one of the keys to improving the way we approach today's complex problems, especially since the predominant view of service systems is mechanistic and linear. Also, SD is a multidisciplinary area that helps innovate services (Lim & Kim, 2018).

According to Batista (2017), in *DS* three issues are very important:

Table 1
Service Design Requirements

Requirements:	Description:
Customer Focus	The way you think about and plan your services puts your customers at the center of the process.
Co-creation	In the planning phase <i>stakeholders</i> are encouraged to participate in the creation of the services, test sessions, and provide <i>feedback</i> regarding these services.
Holistic	In the holistic approach, the whole and each of the parts are connected with constant interactions.

Grade. Source: Adapted Batista (2017)

Candi (2016), conceptualizes SD as a combination of aesthetic *design* and experiential *design*. For the author, aesthetic *design* is simple to understand, because it is related to aspects that can be perceived with the human senses. Experiential *design* is a more elusive one, and is related to the quality perceived by customers. Thus, the theoretical consideration of *design* principles and methods is not only associated with improving the appearance and functionality of material products. *Design* practices have spread to comprise different areas of business, management, and innovation (Carvalho & Goodyear, 2017).

Design methods are seen as a means of engaging problems, exploring customer needs and corporate objectives in new ways. Recently, *design* methods are accepted as a means of understanding knowledge; designers can apply the *design* approach to find service ideas (Lee, Zhao & Lee, 2019), proposing innovative product and service solutions by analyzing, creating, developing and optimizing, as well as understanding the needs of everyone who interacts with these products and services (Rosa et al., 2019). If deep user insights are seen as fundamental to an innovation process, then it becomes relevant to explore how these types of insights can contribute to designing service systems (Brouwer, 2017). Innovation takes design to a systems level.

However, managers of companies know little about modern techniques and *design* tools for creating innovation and also about the possibility of their effective use for management and the decision-making process in the area (Lendel, Hittimar & Siantova, 2015). DS can present itself as an important solution in this context.

Internal Audit

Internal Auditing (IA) is an independent evaluation and advisory activity to management, aimed at examining and evaluating the adequacy, efficiency and effectiveness of the control systems, as well as the quality of the performance of the areas in relation to the duties and the plans, goals, objectives and policies defined for them (Instituto dos Auditores Internos do Brasil, 1991). In broad terms, internal audit is the process of examining, monitoring, and analyzing organizational activities to review what the company is doing, identify potential

threats, and advise on ways to mitigate the different mapped risks-technological, emerging, strategic, etc.-that may compromise the company's sustainability (Wittayapoom, 2014). As a function, IA is a relatively recent occurrence, localized, according to some authors, during the 1929 economic crisis in the US (Munteanu & Zaharia, 2014).

IA plays a vital role in corporate governance as it provides objective assessment and offers insights into the effectiveness and efficiency of risk management, internal control, and governance processes (Instituto dos Auditores Internos do Brasil, 2018). Internal audit's *insights* into governance, risk and control trigger positive change and innovation within the organization.

It is recognized that IA is a management aid tool, enabling an entity's decision makers to better manage its activities; it evaluates all management resolutions aimed at ensuring its normal and efficient operation and, not lastly, it creates value on an ongoing basis (Petrascu & Tamas, 2013).

In this sense, internal auditors must have a good knowledge of the audited business in order to be able to monitor the situation and assess the changes that the entity itself is subject to. They should be aware of the changes, help identify new risks that managers may face, although managers are still responsible for identifying them (Zaharia, Lazar & Tilea, 2014).

Improving the management processes of audited companies, in all its complexity, requires the knowledge and application of more modern principles that aim to ensure the functioning of entities, at the level of performance and competitiveness (Zaharia, Lazar & Tilea, 2014), by adapting its functions to current challenges, IA will increase security of corporate governance as a whole (Caratas & Spatariu, 2014).

IA is an important aspect to the process innovation program, which is critical to improving business performance programs. Process analysis, used in the context of internal audit, focuses on continuous improvement programs that focus on optimizing the mix and allocation of resources and strategies designed to minimize waste and reduce non-value added activities in the organization (Sisaye, 1999). According to the works of Wong and Cheung (2008) and Martins and Terblanche (2003) audit innovation is defined as the ability to seek and create new audit techniques and different method to achieve audit goals and audit service (apud Hannimitkulchai & Ussahawanitchakit, 2016

Doyle et al. (2019) pointed out that with numerous innovation models and little or no integration between projects, a lack of consistency in innovation activities is identified contributing to poor performance tracking and limited decision making in innovation silos and frameworks. Internal Auditing has integrated processes and the work is conducted as projects, thus, the innovation inserted in its processes provides continuous improvement in its deliveries.

In the organization, auditing, when acting in innovation processes, goes beyond measurement, which is based on identifying the gaps between current and required performance, and can identify where the problems and needs are, provide information that can be used in action plans, to assist in the development of performance improvements (Pellegrini et al., 2014).

Thus, all entities need internal auditing for business efficiency towards good asset management, cost reduction (in an organized way) profit maximization, and achievement of medium and long term goals. In addition, this activity should be evaluated from the perspective of the benefits it brings in increasing future value added (Petrascu & Tieanu, 2014).

Although the role of internal auditing in companies is increasingly considered relevant and necessary, the practice of internal auditing has received relatively little academic attention (Christ et al., 2020). Thus, on the landscape of academic research on internal audit published in national journals and congresses, Souza (2017) reported that academic production on internal audit is low when compared to other bibliometric research in the accounting field and constitutes a field that still needs to be better explored by researchers.

Methodology

A literature search was conducted to analyze the applicability of *Design Service* techniques in Internal Audit units. To gather the information, an exploratory research was conducted, since scientific work should start by knowing all the relevant aspects of the theme, in order to build a current scenario, the identification of gaps and the proposition of assumptions (Andrade, 1999). Exploratory research is also conducted in areas and on problems where there is little or no accumulated and systematized knowledge, and by its nature, there are no hypotheses (Dias, 2011). Thus, the Work used data from secondary sources. As information sources, the *Science Direct* database was consulted, considering as search strategy the *strings* described in table 1. The fields considered in the search form the title and abstract. A filter was also applied to publications in the areas of business, management, and accounting, which include Financial Institutions. The number of papers found in the searches are described in Table 2. Also used were additionally publications in congresses, national and international specialized magazines, and complementarily information from portals of companies specialized in the IA activity.

After analyzing the title and abstract, the articles were selected according to the focus of the study. A set of 57 articles were selected, analyzed and compiled for the development of the overview on the topic and discussion about *Design Service* and innovation in IA units.

Table 2

Search process - search tips: Title, abstract or Keywords

Database	Password	No. of articles	No. of articles (after abstract filter)
Science Direct	Audit innovation	33	15
Science Direct	Internal audit innovation	5	2
Science Direct	"Service Design and Methodology	62	15
Science Direct	"Service Design and audit	8	0
Science Direct	"Service Design and process	34	3
Science Direct	"Service Design	87	22

Results and discussion

IA is considered a profession that has been evolving over the years, always seeking to meet the new needs of its organizations, in the early days focused on accounting problems, but now it has become a powerful tool to detect the main risks of organizations (Munteanu & Zaharia, 2014).

An organization's innovation capability includes the ability to understand and respond to changing conditions in its context, seek new opportunities, and leverage the knowledge and creativity of people within the organization, and in collaboration with external stakeholders (Associação Brasileira de Normas Técnicas, 2020). Until recently, the internal auditing profession has not faced the need to innovate, let alone reinvent itself. However, without applying new approaches, the role of internal audit would lag behind strategic and technological developments, be unable to meet stakeholder needs, and ill-equipped to address emerging risks (Deloitte, 2018).

It is clear that internal audit work has been changing over the years and as companies grow and modernize with new systems and technologies, develop new ways and controls, they also need constant monitoring and updates (Imoniana, Matheus & Perera; 2014). In the age of *big data*, internal audit functions must innovate to incorporate new techniques to add value to their organizations (Rakipi, Santis & D'onza, 2021).

Although Sisaye (1999) already pointed out that internal audit could be the key to the innovation process in organizations, considering that audit not only identifies the quality of processes in organizations, it also identifies gaps between current and desired performance, IA departments are not used to investing in innovation, needing to be persuaded to invest in this area (Alles, Kogan & Vasarhelyi, 2013).

In recent decades, large retail commercial banks have brought a lot of innovation to the financial system, transforming the way we relate to money and banking (Carvalho, 2019). Banks have innovated and innovate to increase the efficiency of financial services production, as well as the quality and variety of their products and services (Bos, Kolari & Lamoen, 2013). However, if previously the development of new technological standards was centered on the banking and financial institutions themselves, as they were the inducers for the development of new technologies, the current scenario is configured differently. New companies have appeared on the market competing with banks in niches and products previously only dominated by them. These companies are the so-called *fintechs*, *startups* that offer financial products and services ("fin" for financial) and have a high level of technology (Barbosa, 2018).

Against this backdrop, for Internal Audit of Financial Institutions, adopting innovative approaches assists in keeping the audit function up to date with new models of developments, positioning the unit to anticipate and then effectively respond and meet stakeholder needs, and equipping the internal auditors themselves to address risks in an effective and impactful manner (Deloitte, 2018).

The research methodology used did not identify any academic production on *Design Service* in Internal Audit units. Notably, Candi (2016) points out that the value of *design* as an element of product innovation is widely recognized, although *design* in the context of service innovation is less understood. For the author, technology-based service companies are a particularly interesting context to study the value of *design* for service innovation.

Koskela-Huotari et al (2021) points out that service *design* has strengthened its role with a focus on the dynamics of organizational change, to promote institutional change, or to design services as facilitators of value co-creation.

Caratas and Spatariu (2014) pointed out that IA in adapting its functions to the current challenges of organizations must change its current *status* from a control and assurance function to service providers. For Ahmi, Saidin and Abdullah (2014) one of the main subjects of the auditor's performance is the auditee or client. In turn, Daniela and Attilab (2013) point out that IA must constantly redefine itself, with the claim of meeting the changing needs of entities. Therefore, for these authors, besides the constant need for updating, for an IA unit, different players are considered as clients, such as the audited areas, the company's top management, and inspection and regulatory agencies,

Thus, SD can be strategic in the IA innovation process, noting Smith, Fischbacher and Wilson's (2007) understanding that when designing a new innovative service, specific implications for staff, customers and the environment can arise.

Another relevant aspect, pointed out by Selva and Pinto (2019), is with the constant development of companies and the diversification of their economic activities, internal audit has become an indispensable resource to - in a changing and innovative scenario - contribute to the improvement of governance, as well as the management of risks and controls of companies, in this vein, Buehring and Bishop (2020) point to the evolution of SD in understanding the potential of *design* to support the improvement, management and change of organizations, turning designers into facilitators and co-creators of new systems and services.

Designing change, and the *design* process, has been the subject of study for many decades (Valtonen, 2020). Developments in SD demonstrate that organizations that treat *design* as a corporate resource and core competency now apply it to organizational activities-including management, strategy, and leadership-to generate sustained innovation and competitiveness (Buehring & Bishop, 2020).

IA has become a function that ensures security for management and facilitates the conditions necessary to achieve global performance and a competitive and sustainable business environment (Danescu, Prozan & Prozan, 2015). Similarly, the focus on the human being is one of the main characteristics of *design*, widely adopted outside the traditional *design* field through SD thinking and *design* innovation (Brouwer, 2017). Customization is evaluated as a DS goal to increase customer satisfaction. Personalized services are delivered with implicit knowledge and their quality depends on the skills of each service provider (Kaneko, Kishita & Umeda, 2017). Audit resources applied in its services, including audit knowledge, are strategic for IA to build its competitive advantage (hannimitkulchai & Ussahawanitchakit, 2016), and its customization to the audited areas is desirable.

Mukhtar, Ismail, and Yahya (2012, point out that in SD, customers' roles from passive users to collaborators in the creation and extraction of business value have given rise to customer co-creation techniques and value co-creation models. As a consequence, it can assist in designing appropriate encounter processes as a basis for engaging customers and subsequently provides innovation for organizations, including IA units.

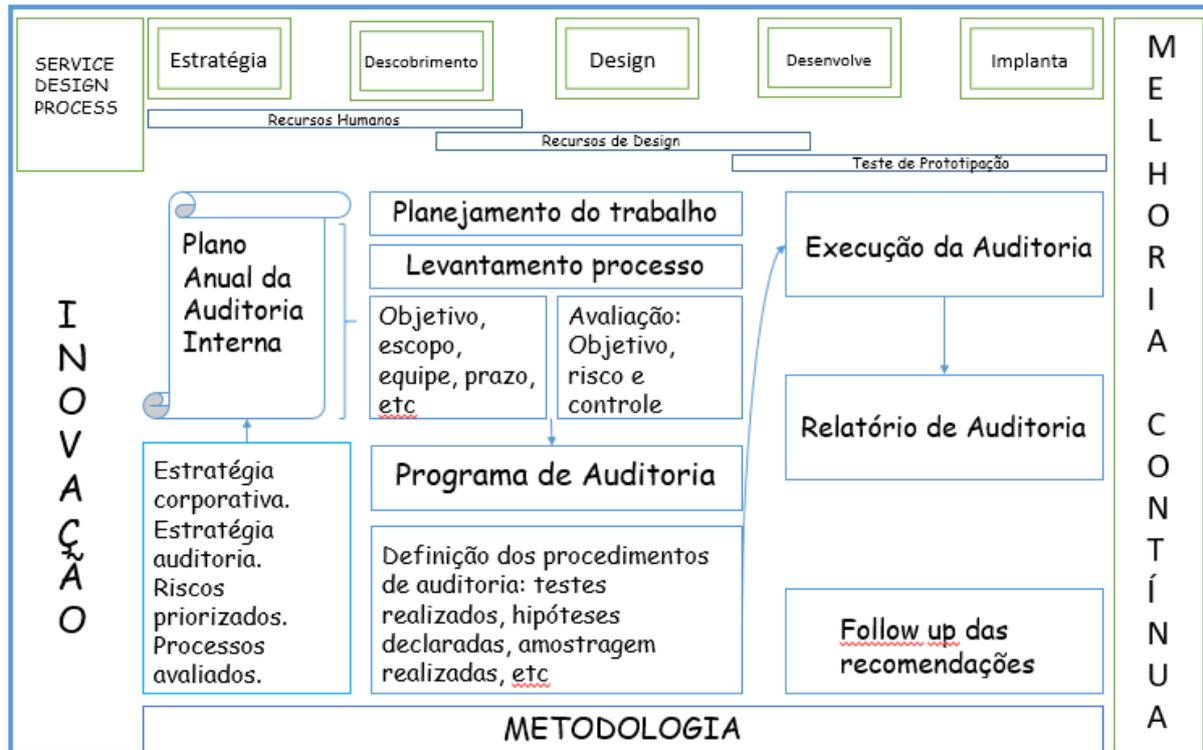
Research proves that service innovation has become a critical issue in academia in the context of the service economy. It is crucial for any service organization to analyze and assess existing contradictions and points of failure in processes to respond to constant challenges and maintain and improve customer satisfaction (Lee, Zhao & Lee, 2019), a scenario no different for Internal Audit units.

Thus, SD methods are seen as a means of understanding problems, exploring customer needs and corporate objectives in new ways. More recently, design methods have been taken as a means of reasoning knowledge; where designers apply the design approach to find service ideas (Lee, Zhao & Lee, 2019), a continuing need for IA, especially from Financial Institutions.

From the integration of SD with innovation and auditing processes (figure 1), the active inclusion of users and providers in service design and delivery is enabled, allowing for the co-creation of associated value (Colledani et al., 2016).

Figure 1

Integration of SD with Innovation and Auditing processes



Conclusion

This work presented a brief literature review that propitiated the analysis of some elements of *Service Design*, to allow the understanding of its applicability in innovation in organizations and to identify its adherence to an IA unit.

It has been found that organizations pioneering SD have devoted effort to systematically leverage human-centered *design* as innovation practices and tools to create new value (Buehring & Bishop, 2020). The authors also highlight new trends in SD to integrate forecasting and *design* as critical processes to anticipate internal change coming from the external environment and identify opportunities to influence the future through external action, paramount for IA units that need to add value for their customers in anticipating risks.

As a relevant point, SD enables service providers to build an understanding of customer perceptions and customer goals in service enhancement and development (Struwe & Slepniow, 2021). Measuring the results of the IA department in its main focus has the pure and simple intention of knowing whether it is effective in generating value (Imoniana, Matheus & Perera, 2014).

The case for evaluating SD, as an approach in innovation programs in IA units, can be verified as feasible, strategic, and aligned to audit service enhancements and developments. Because it is a customer-centric perspective, it enables the co-creation of associated value from the possibility of the active inclusion of users and *design* providers in the delivery of products and services (Colledani et al., 2016). The result that is expected from an innovation process is

the commitment of people and the generation of knowledge with added value, contributing to the achievement of the organization's results (Selva & Pinto, 2019).

The material gathered on the topic contributes to the application of SD as a tool for innovation and integration, focused on service quality, which seeks to fill the gaps in the SD literature. This preliminary study on the innovation process in IA units, should gain diffusion, given its importance to the context of innovation management in companies, paving the way for future discussions, which present results of success, difficulties and identification of the need for improvement, besides inserting the SD in the context of innovation studies in IA units.

The work was limited by the search restricted to the Science Direct platform, with a focus on publications in the areas of business, management, and accounting. It is hoped that this study, among others cited in this paper, can contribute to research in the area and to those interested in future studies of SD application in IA, and that they will strengthen the diffusion of research.

References

- Ahmi, A., Saidin, S. Z., & Abdullah, A. (2014). Adoption by Internal Auditors in Public Sector: A Conceptual Study. *Procedia - Social and Behavioral Sciences*, 164, 591-599.
- Alles, M. G., Kogan, A., & Vasarhelyi, M. A. (2013). Collaborative Design Research: Lessons From Continuous Auditing. *International Journal of Accounting Information Systems*, 14, 104-112.
- Associação Brasileira De Normas Técnicas (2020). *NBR ISO 56002:2020: Gestão da inovação – Sistema de gestão da inovação – Diretrizes*. Rio de Janeiro.
- Andrade, M. A. (1999). *Introdução à Metodologia do Trabalho Científico*. Atlas.
- Instituto dos Auditores Internos do Brasil (2018). *Auditoria Interna*. <https://iiabrasil.org.br>.
- Barbosa, R. R. (2018). *A Atuação das Empresas de Tecnologia de Serviço no Setor Bancário e Financeiro Brasileiro*. Dissertação (Mestrado em Administração) – Universidade Federal do Rio Grande do Sul. Porto Alegre, RS, Brazil, 129p.
- Batista, R. Você sabe o que é *Service Design*? <https://administradores.com.br/artigos/voce-sabe-o-que-e-service-design>.
- Bos, J., Kolari, J. W., & Lamoen, R. C. R. V. (2013). Competition and innovation: evidence from financial services. *Journal of Banking & Finance*, 37, 1590-1601.
- Brouwer, M. V. D. B. (2017). Designing for social infrastructures in complex service systems: a human-centered and social systems perspective on service design. *Journal of Design Economics and Innovation*, 3(3), 183-197. <https://doi.org/10.1016/j.sheji.2017.11.002>
- Buehring, J. & Bishop, P. C. (2020). Foresight and design: new support for strategic decision making. *Journal of Design Economics and Innovation*, 6(3), 408-432. <https://doi.org/10.1016/j.sheji.2020.07.002>
- Candi, M. (2016). Contributions of design emphasis, design resources and design excellence to Market performance in technology-based service innovation. *Technovation*, 3-41.
- Caratas, M. A., & Spatariu, E. C. (2014). Contemporary approaches in internal audit. *Procedia Economics and Finance*, 15, 530-537.
- Carvalho, L. & Goodyear, P. (2017). *Design, learning networks and service innovation*. *Design Studies*, 55, 25-53. <https://doi.org/10.1016/j.destud.2017.09.003>

- Carvalho, R. C. (2019) *Inovação no sistema financeiro: estudo de caso de banco de varejo brasileiro*. Fundação Instituto de Administração.
- Colledani, M., Silipo, L., Yemane, A., Lanza, G., Bürgin, J. Hochdörffer, J., Georgoulas, K., Mourtzis, D., Bitte, F., Bernard, A., & Belkadi, F. (2016). Technology-based product-services for supporting frugal innovation. *Procedia CIRP*, 47, 126-131.
- Christ, M. H., Eulerich, M., Krane, R., & Wood, D. (2020). A new frontiers for internal audit research. *Appc*, 20(4), 449-475. <https://doi.org/10.1111/1911-3838.12272>
- Danescu, T., Prozan, M., & Prozan, R. D. (2015). The valances of the internal audit in relationship with the internal control - Corporate Governance. *Procedia Economics and Finance*. 26, 960-966.
- Daniela, P. & Attila, T. (2013). Internal audit versus internal control and coaching. *Procedia Economics and Finance*, 6, 694-702.
- Deloitte. *Auditoria Interna 3.0*. <https://www2.deloitte.com/br/pt/pages/risk/articles/internal-audit-3-0.html>.
- Doyle, E., MCGovern, D., McCarthy, S., & Alaniz, M. P. (2018). Compliance-innovation: a quality-based route to sustainability. *Journal of Cleaner Production*, 210, 266-275. <https://doi.org/10.1016/j.jclepro.2018.10.307>
- Hannimitkulchai, K. & Ussahawanitchakit, P. (2016). Continuous audit development and audit survival: evidence from tax auditors in Thailand. *The Business and Management Review*, 7, 487-498.
- Imoniana, J. O., Matheus, C. P., & Perera, L. C. J. (2014). Medição de desempenho de auditoria interna: um estudo empírico. *Revista Universo Contábil*, 10, 65–93.
- Imran, S., Haeberle, D., & Husen, C. V. (2017). Governance: A new perspective to service design process. *Procedia CIRP*, 64, 318-323.
- Instituto Dos Auditores Internos Do Brasil (1991). *Procedimentos de Auditoria Interna Organização Básica*. São Paulo.
- Kahn, K. B. (2018). Understanding innovation. *Business Horizons*, 61, 453-460.
- Kaneko, K., Kishita, Y., & Umeda, Y. (2017). In Pursuit of Personalization Design. *Proceedings CIRP*, 61, 93-97.
- Koskela-Huotari, K., Patrício, L., Zhang, J., Karpen, I. O., Sangiorgi, D., Anderson, L., & Bogicevic, V. (2021). Service system transformation through service design: Linking analytical dimensions and service design approaches. *Journal of Business Research*, 136, 343-355. <https://doi.org/10.1016/j.jbusres.2021.07.034>
- Lee, C. H., Zhao, X., & Lee, Y. C. (2019). Service quality driven approach for innovative retail service system design and evaluation: A case study. *Computers & Industrial Engineering*, 135, 275-285. <https://doi.org/10.1016/j.cie.2019.06.001>
- Lendel, V., Hittmar, S., & Siantova, E. (2015). Management of innovation processes in company. *Procedia Economics and Finance*, 23, 861-866.
- Lim, C. & Kim, K. J. (2018). Experience design board: A tool for visualizing and designing experiencecentric service delivery processes. *Journal of Retailing and Consumer Services*, 45, 142-151.
- Munteanu, V. & Zaharia, D. L. (2014). Current trends in internal audit. *Procedia - Social and Behavioral Sciences*, 16, 2239-2242.

- Mukhtar, M., Ismail, M. N., & Yahya, Y. (2012). A hierarchical classification of co-creation models and techniques to aid in product or service design. *Computers in Industry*, 63, 289-297.
- Pellegrini, V. L. B., Barbosa, J. G. P., Pitassi, C., & Oliveira, M. A. (2014). Auditoria de processos de inovação: um estudo de caso no inmetro. *Sociedade, Contabilidade e Gestão*, 9, 124-141.
- Petrascu, D.; Tieanu, A. (2014). The role of internal audit in fraud prevention and detection. *Procedia Economics and Finance*, 16, 489-497.
- Petrascu, D. & Tamas, A. (2013). Internal audit versus internal control and coaching. *Procedia Economics and Finance*, 6, 694 - 702.
- Pugh, S. D. & Mahesh, S. (2016). Taking services seriously: new directions in services management theory and research. *Human Resource Management Review*, 26(1), 1-3. <https://doi.org/10.1016/j.hrmr.2015.09.001>
- Rakipi, R., Santis, F., & D'onza, G. (2021). Correlates of the internal audit function's use of data analytics in the big data era: global evidence. *Journal of International Accounting, Auditing and Taxation*, 42, 2 - 39. <https://doi.org/10.1016/j.intaccaudtax.2020.100357>
- Rosa, G. S., Faria, B. G., Guimarães, T. B. C., & Godinho, L. A. C. (2019). Da gestão da inovação ao design de serviços: articulações e conexões. *Administração de Empresas em Revista*, 11, 24415 – 24438.
- Scherer, F. O. (2016). *Gestão da Inovação na Prática: Como Aplicar Conceitos e Ferramentas Para Alavancar a Inovação*. Atlas.
- Selva, C. R. G. & Pinto, L. S.; (2019) *Auditoria Interna: Colaboradores São Líderes da Inovação*. IPEA.
- Silva, F. P., Lima, A. P. L., Alves, A., Junior, R. S. C., Dias, I.A. M., & Duarte, M. F. (2018). *Gestão da Inovação*. SAGAH.
- Sisaye, S. (1999). An organizational approach for the study of the diffusion of process innovation strategies in internal auditing and control systems. *International Journal of Applied Quality Management*, 2, 279-293.
- Smith, A. M., Fischbacher, M., & Wilson, F. A. (2007). New Service Development: From Panoramas to Precision. *European Management Journal*, 25, 370-383.
- Struwe, S. & Slepnirov, D. (2021). Conflict by design and why institutions matter in service design: a case of a german creative agency in China. *Journal of Business Research*, 130, 124-136. <https://doi.org/10.1016/j.jbusres.2021.03.035>
- Stuart, I. C. (2014). *Serviços de auditoria e asseguração na prática*. AMGH Editora Ltda.
- Souza, R. G. (2017). *Auditoria interna: um panorama das pesquisas acadêmicas publicadas em periódicos e congressos nacionais*. Goiânia.
- Tjara, S. F. (2020). *Inovação na pratica: design thinking e ferramentas aplicadas a startups*. Alta Books.
- Traldi, M. C. & Dias, R. (2011). *Monografia Passo a Passo*. Subparagraph.
- Valtonen, A. (2020). Approaching change with and in design. *Journal of Design Economics and Innovation*, 6(4), 505-528. <https://doi.org/10.1016/j.sheji.2020.08.004>

- Wittayapoom, K. (2014). New product development, accounting information, and internal audits: a proposed integrative framework. *Procedia - Social and Behavioral Sciences*, 148, 307-314.
- Zeithaml, V. A. & Bitner, M. J. (2003). *Marketing de serviços: a empresa com foco no cliente*. Bookman.
- Zaharia, D. L., Lazar, A., & Tilea, D. M. (2014). The role of internal audit regarding the corporate governance and the current crisis. *Procedia - Social and Behavioral Sciences*, 116, 4819-4823.
- Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2003). *Marketing de serviços: a empresa com foco no cliente*. Bookman.

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