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SERVICE DESIGN FOR INNOVATION: THE STRATEGIC ROLE OF SERVICE DESIGN IN INNOVATION FOR MANUFACTURING COMPANIES

Naotake Fukushima

Department of Design, UFPR, naotake@ufpr.br

Aguinaldo dos Santos

Department of Design, UFPR, asantos@ufpr.br

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ABSTRACT

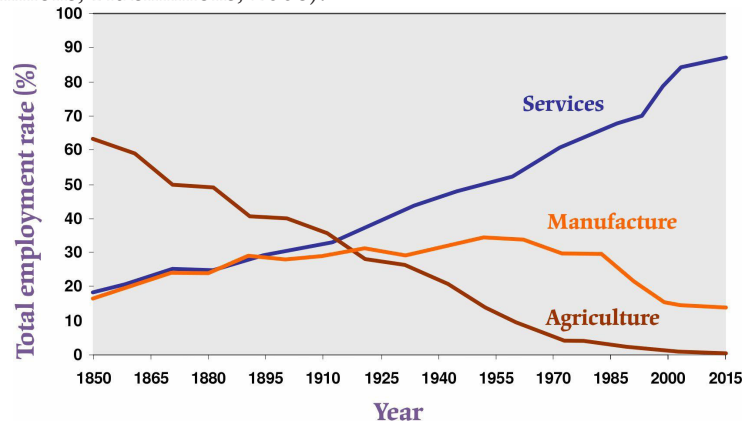
The service sector has been identified as an increasingly important area of the economy and has been generating new possibilities for design activity. Among them there is the identification of innovation opportunities in services for manufacturing companies. In this context, the present article presents part of the development of services for a light manufacturer in the stage of establishing the scope and requirements of the project, where solutions that reflect the company strategy were sought. In order to report this, a case study in which the tool Customer Journey Map was used to develop a Product + Services System for LED lighting, for the low-income population is presented here. In this study we can infer the potential of collaboration of the design in the initial phase of the identification of innovation opportunities and how this can help at the strategic level of the company.

Key Words: Service design, Innovation, Levels of design performance.

1.INTRODUCTION

Design can play an important role in the today’s industry around the world. (Stickdorn, Schneider, 2011). This article aims to present the Service Design role in the phase of translation of strategies to provide guidelines and scope for a new service. This article presents a report on the theme of Service Design for Innovations in order to assist strategic thought. This research presents the case study of a manufacturing company that seeks the improve its portfolio through offering of a new service.

The service sector can represent approximately 70% of the economy in developed countries and the world is increasingly characterized by services. (Ostrom et al, 2010). Among the evidences, the evolution of the participation of the service sector in the course of recent history can be considered, as shown in Figure 1 below, presenting the growth of the sector (Fitzsimmons; Fitzsimmons, 2006).



[Figure 1] Total US employment trends. Source: Adaptado de Fitzsimmons e Fitzsimmons, 2006

In this context, some manufacturing companies have been directing their strategies to incorporate the offer of services in their portfolio. Fang et al. (2008) refer to this strategic redirection as Service Transition Strategies, with the premise of associated benefits in the provision of services, such as: potential increase in customer loyalty, improvement in pricing and greater resistance to outsourcing, where services associated with their products are carried out by other companies.

Although the potential of service offerings adds value to customers, the strategy for this transition is not simple to implement, to do that companies must transform many aspects of how they do their business, from their strategies and positions in the supply chain. values, capacities, structural organizations, cultures and mentalities. Not all attempts at transition to service bring positive results despite evidence of the company’s contribution to competitiveness. (Salonen 2011).

2.INNOVATION THROUGH SERVICES

2.1 Definitions

Skaalsvik & Johannessen (2014) understand that there is a consensus that innovation is both the information process and the creation of knowledge. This way, the nucleus of definition of innovation is the adoption of a new idea. And at the same time innovation is something to be seen in a holistic way, needing a market expecting for this innovation, indicating that there is a marketing component involved (Skaalsvik & Johannessen, 2014).

One of the important elements in the diffusion and understanding of innovation has been the Oslo-OECD Manual, which was first published in 1990. The Oslo Manual establishes four categories of innovation: Product innovation, Process innovation, Organizational Innovation and Marketing innovation. It is important to point out that Benz and Magalhães (2010) understand that design can be present in all categories of innovation process.



[Figure 2] Types of innovation and their relationship to Service Design Source: Authors, 2018

The Oslo Manual, in its third edition, changes its focus by recognizing the importance of the role of services, and emphasizes that less formal innovation is one that has “a more incremental nature with less technology (than technological innovation)” (P.17 Oecd, 2005). One of the reasons for defending innovation in services lies in the potential contribution to sustainability, particularly through the dematerialization of consumption. The offer of benefits without necessarily having to purchase an artefact. (Vezzoli et al., 2015). It is understood that, in order to provide solutions in services, associated with sustainability, a strategic innovation is necessary, offering a system that can include: product maintenance, recycling, and finally the entire product life cycle. involve and rely on the local workforce, thus including improvements in social factors, among others.

2.2 Peculiarities of Services in the Innovation Process

The peculiarities of the services demand different approaches for the innovation process when compared to the approach oriented to physical artefacts. According to Manzini (2011) services are complex activities due to their hybrid characteristics. The offer of a service is made by things, places, system of communication, interaction and, also, by human beings and organizations. In this way, it belongs to the physical world and, at the same time, to the world of sociology and culture. For Trott (2012) there may be tangible aspects in a service, but for him, the results of experience involving services are in the sphere of performance and is intangible. While the manufacturing company delivers tangible products to perform a function, services are paid to perform a function (Trott, 2012).

2.3 Innovations Integrating Products and Services

The Product + Service Systems (PSS) design can be considered as one of the relevant interventions in the search for more sustainable solutions, which covers the most strategic levels of the project. According to Tischner and Verkuil (2006), the greater differentiation of a PSS-based innovation model is an effective transformation of sociocultural behaviour and usage patterns, since it combines several heterogeneous elements such as cultural aspects, people, technological artefacts, organizational transformations and new technologies.

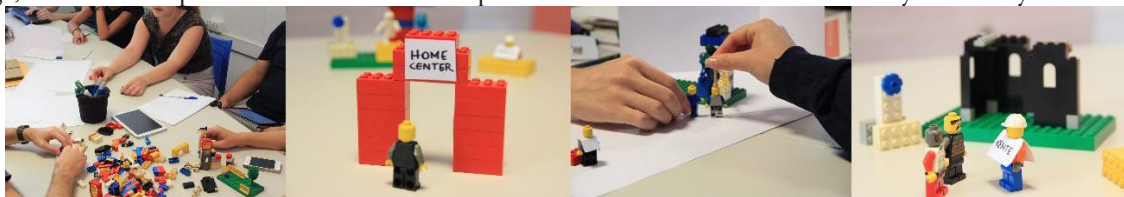
The benefits can go beyond the economic ones, attending widely the socio-ethical benefits, extending the access to goods and services (Vezzoli et al., 2015). In this sense, the PSS offers are focused on access to the place of the property and, thus, reduce or avoid the initial investment and, likewise, the operating expenses. It is important to note that not all the resulting PSS changes provide environmental benefits and to be highly eco-efficient it must be specially designed. (Vezzoli et al., 2015). Thus, Vezzoli et al. (2015) argues that in terms of barriers to companies and service providers, the main obstacle still remains internal factors.

3. METHODS AND TOOLS FOR SERVICE INNOVATION

There is currently a range of methods and tools that enhance the Service Design process (Costa Júnior, 2013). Among them there is the Customer Journey Map or Customer Journey Mapping, which is used as an essential tool for the development of services.

The Customer Journey Map enables to present a graph that describes the user's interaction with the service in a clear and structured way (Stickdorn, Schneider, 2011). It is characterized by the emphasis on the user's perspective, particularly in analysing the factors that influence their experience. (Service Design Tools, 2014). By applying this tool, it is possible to identify the problematic areas of the relationship of the service with its user and to point out the opportunities of innovation. The tool demonstrates the interaction in its various forms, which can occur, for example, in the personal contact between the attendant and the user, as well as, intermediated by virtual interactions through a website or system. The tool enables the synthetic presentation of the complex relationship of the user with points of contact along his path in obtaining a given unit of satisfaction.

The Customer Journey Map in this research was elaborated through data collected in interview, technical visits and the low fidelity prototyping performed with the tool homologous to Lego Serious Play. This theatricalization way of elaboration enabled empathic and collaborative co-creation between the team and others involved in the research. In this stage, several assumptions of service were compiled and included in several User Days for analysis.



[Figure 3] Scenarios of schematized prototyping.

This way of working facilitates the exploration of different ideas, quickly and inexpensively. Source: Authors, 2018

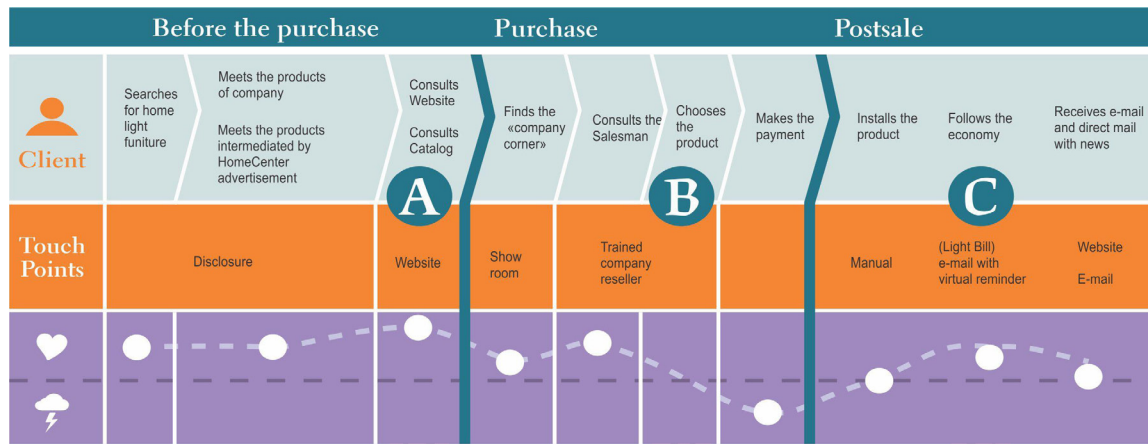
4. RESULTS AND ANALYSIS

4.1 Context

The case study deals with a luminaire manufacturer who wanted to meet a new market and evaluated the consequences of this decision. Thus, it evaluated the impact of this decision through reflections among them using the tool Customer Journey. The study then included a greater prospective action in the sale by the new channel and its contribution in the strategic scope of the organization, which sought to evaluate the profile of relevant services to be integrated into its portfolio.

4.2 Customer Journey (Prospective)

In order to carry out the research, a scenario was created for the analysis where the company had already established partnerships, in this way this study was prospective. The journey was elaborated in 3 (three) stages, the first one referring to the customer's knowledge of the products offered. The second step is buying. Finally, there is the after-sale that can cover actions that help maintain the interest in continuing to buy with the company.



[Figure 4] Customer Journey Map. Source: Authors 2018

5. IMPLICATIONS FOR SERVICE INNOVATION

Here is some opportunities and implications from evaluation of the proposal to use the new sales channel:

5.1 Implications at point A

The company could offer a service through a virtual environment where the customer could simulate the effect of the use of the luminaires. The new service must intensify the amount of interaction between the company and the clients, so it must press the attendance function. Activities such as cataloguing should be included in the company. An idealized service for this portion of service can be adapted from Benchmarking among online commerce companies, thus offering order management facilitating and optimizing the service process.

5.2 Implications at point B

The offer of LED technology can provide the opportunity to offer information about the economic potential of the new technology. This item, besides being a competitive differential, can help in brand loyalty.

5.3 Implications at point C

At this stage, usual installation and service services can be offered, which aim to provide greater energy savings, such as consumer diagnostics or even decoration consulting as new service.

5.4 Other implications

In terms of the immediate consequence of the proximity to the end customer we can point out the possibility of obtaining a greater range of information about preferences, how to use that would otherwise be difficult to acquire with accuracy. This information together can serve to improve and develop new products to be offered by the company (BAINES, LIGHTFOOT, 2013). This proximity opens up an opportunity for user interaction throughout the Customer Journey, as shown in Figure 4, where the client can have contact with the company from the pre-purchase through the means of websites and social networks, through the experience of purchase, and after-sales contacts, such as: technical assistance, replacement, upgrade and disposal, among other contacts.

[Figure 5] The main notes of the analysis allow

OPERATIONAL	STRATEGIC
Fix service details	Compare models
Detail the touchpoints (physical evidence, direct visual customer contacts)	Make or Buy decision
Identify training gaps	Align company strategy
Find the low satisfaction points to improve	Set improvement priorities
Identify new resource needs	Evaluate the financial implications of items to be changed
Analysis of consumer actions	Evaluate impacts of eventual hiring
Customer emotional experience	Evaluate the costs of hiring training

6. DISCUSSION

The article presents the analysis of the use one of the tools of the Customer Journey the possibilities and potential of design at the strategic level. When applying the tool, it allows to understand the potential of dialogue with the development and decisions within the framework of the strategy of the design. With this it was possible to infer that the design is able to aid in the innovation through the thought of the design and, more particularly, in developing services for a manufacturing company. The use of the tool facilitates the measurement of impacts of development actions of a service.

In a deductive way one can use the tools that are usually used to create new services or improvements of existing services, to analyse the possible consequences of decisions, it can be used both to identify opportunities, to assess

the impacts and to generate data for decision making, such as this small case study that can validate the decision whether or not to adopt a new sales channel, by evaluating the unfolding of ideas and future scenarios.

The tool also serves to compare versions of service propositions with the same visual language and makes it easier to compare between competitors. In this way it can help in the strategic thinking of the company. The tool facilitates communication among developmental members as Curedale (2013) advocates and has made it possible to identify points to be developed.

Mozota (2011) understands that management with design participation occur at the following levels: strategic, tactical and operational. In the strategic management of the design we think about interventions in the organizational structure of the company, while in the operational one works in the development of new products / services. Since the strategic procedures are related to the establishment of the objectives, the tactical procedures stipulate the paths and the operational one accomplishes the tasks effectively. The tactical level is located in between these level. Briefly, in design management, when it comes to strategy, it deals with questions related to company objectives and values (mission), among others, that define the future of the company. At the operational level one should think about how to execute this strategy and coordinate control actions and what will be done at the operational level (Mozota, 2011).

Every company action must be consistent with its objectives, so both production and communication must be aligned with the company's strategy. Therefore, the design at this strategic level should contribute to the organization and act as an agent that catalyses, synthesizes and assists in the materialization of the company's overall strategy. It is at this stage that the identification of innovation opportunities occurs. (Mozota, 2011). The Customer Journey tool assists both in understanding and communicating this need to those involved in the new service development project.

Most of explanation for tools is related to the operational level, therefore an emphasis on the purposes in terms of aid in the detail of the design of the service and little characterization in the potential for use in the strategic level in the performance of the design. Contrasting these presentations of the literature, the case study carried out in this research evidences the potential of using the Customer Journey tool, both at the operational level, to design the service, as well as in the strategic of the offer. In this study it was possible to involve more strategic topics such as: business models; stakeholder arrangements and; decision-making subsidies.

It can be inferred that the use of several tools increases the robustness of information contributing to the process of identifying opportunities. In this sense, the research carried out can add the arguments and instrumentalization of the designer within the scope of the participations in the strategic decisions of a company, through familiar tools of the own design. This contribution can occur in order to facilitate in the visualizations of the consequences that, at the same time, can identify more opportunities of innovations. This way of identifying and analysing the opportunities can be configured as a triangulation of the conceptions raised and improving the capture of ideas, communication among those involved and ultimately potentializing the identified opportunities.

And finally, this cross-analysis of the performance levels of design versus tools could, by analogy, be extended to other Service Design tools in order to contribute to the diffusion and more incisive performance of design at the management level.

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