

THE IMPORTANCE OF SYSTEMIC THINKING FOR MAPPING AND DEVELOPMENT IN DESIGN

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The immediacy in contemporary society produces pressing issues wherein is seeking short-term solutions. The designer is a professional who develops projects that aims to solve such questions apart from human needs. Based on this dynamic immediacy arise the demands of an hypermodern reality that emerges "culture-world" that means the end of heterogeneity traditional of the culture and the beginning of a universal market culture, in accordance with Lipovetsky e Serroy (2009). So, highlighting Martins e Couto (2006), it is suggested that the practice of the design is always in tune with the global changes. The concept of the "applied science" in the design, according with Findelli (2001), originates in Ulm School, being an "application" of humanities and social sciences. In that sense, methodology and design theories aim to identify a human need or an opportunity and, as from an project propose a solution. However, relations between cause and effect of market demands and needs identified, as well as solution and adaptation time, use and useful life for users and society are not considered. For this purpose, this article aims address the importance of systemic thought on mapping and development in design, besides presenting some tools of systemic approach. Faced with this scenario, the central question of this study is: how systems thinking could contribute the design? This interrelation can bring new practices to the design, resulting in greater skill front of a complex situation. This relationship will provide a new generation of designers oriented to think continuously and involved in the situation that requires some solution design. The thought will not be linear but dynamic, interactive and integrative. Currently, there is this thought in areas such as health, environmental management, organizational management and social change, among others. Systemic thinking stems from general systems theory, so as to form an organized whole. Ludwig von Bertalanffy was the first author to report about the theory and says that the concept of system is a new "paradigm", [...] a "new philosophy of nature" [...]and that the general systems theory is a general science of all, and then, a scientific investigation of "sets" and "wholes" [...]" (BERTALANFFY, 2009, p.14). Para Capra (2006), systems are integrated wholes, whose properties you can not be reduced to smaller units and relates that

systems thinking should emphasize the basic principles of organization. Thereby, it is necessary study the systems a comprehensive way so, involving all its interdependencies, as for the meeting of all the elements and setting up of a functional unit greater, will can be developed qualities that are not found in their isolated components, confirms Bertalanffy (2010). Systems thinking is relevant to the changing of knowledge in the deep understanding of how the whole whether interrelates with the parties, as it covers several methods and tools in order to examine the relation between the inner forces of a system and its external environment by means of a integrated process. By thinking systemically, one learns to recognize the ramifications and possible consequences of the action that you choose. It is important that all stakeholders involved in to view the whole situation, since for have good results in a complex system, should be discussed the largest number possibilities. Regarding the design and design management, Mozota (2011) said that the "system is powered by the strategic vision that considers variables internal and external to the organization and its context in the feasibility of the design activity". Thus, this study aims to contribute, through a theoretical support coming from the systems thinking to demonstrate the importance of this approach to the development of systems design. For the development of thinking and view systemic you need to know and explore some tools, such as: mind map, concept map and map systems. The mind map is a method to store, organize and prioritize information, using key words and images key that trigger specific memories and stimulate new reflections and ideas. Stimulates the brain to work faster, giving vision of the future and control for choice of actions and reactions (BUZAN, 2009). Concept maps are constructed by means of diagrams of the meanings that indicate relations between concepts. These classify concepts, de acordo com Moreira (2005, p.1), through the elements: concept, proposition and "words of connection" (ONTORIA *et al.*,1999). The systemic map has the function of constructing a sistemic structure that determines "the behavior patterns of the organization by means of identifying of causal relations between factors and the situation of interest" (ANDRADE, 2006, p. 112). Vezzoli (2010, p. 253-254), says it aims to help visualize the structure of the system, indicating its actors, as a tool for graphical representation. It is described as coded for being a "technical drawing" system actors, demonstrating and comparing all systems for being "a formalization-in-progress map of actors of the solution, giving a precise picture of how to the project progresses" with map format, graphics elements, and a set of rules. The map system is a support tool to design, "because the representation is a way to structure thinking and to facilitate the problem solving", which utilizes a standard language that can be shared with everyone involved, allowing "clear and objective view of

the designed solution," as well as its evolution. (VEZZOLI, 2010, p.254). Therefore, it is concluded that the learning and utilization of systems thinking in design, and with the use of the tools presented, design professionals will be better prepared to deal with complex situations, visualizing parties and their relationships with the whole to propose solutions the most enduring and efficient, both for the quality of the work of designers such as to meet the demand of your customers and stakeholders, just as the product users and the society itself. This implies the remodeling of thought according to the systemic approach and practices related to the integration mode to the design processes.

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