



Faculty of Design

2020

## Nasdesign's Systemic Approach to Design Management

Berlato, Larissa and Gonçalves de Figueiredo, Luiz Fernando

---

### Suggested citation:

Berlato, Larissa and Gonçalves de Figueiredo, Luiz Fernando (2020) Nasdesign's Systemic Approach to Design Management. In: Proceedings of Relating Systems Thinking and Design (RSD9) 2020 Symposium., 9-17 Oct 2020, Ahmedabad, India. Available at <http://openresearch.ocadu.ca/id/eprint/3674/>

*Open Research is a publicly accessible, curated repository for the preservation and dissemination of scholarly and creative output of the OCAD University community. Material in Open Research is open access and made available via the consent of the author and/or rights holder on a non-exclusive basis.*

*The OCAD University Library is committed to accessibility as outlined in the [Ontario Human Rights Code](#) and the [Accessibility for Ontarians with Disabilities Act \(AODA\)](#) and is working to improve accessibility of the Open Research Repository collection. If you require an accessible version of a repository item contact us at [repository@ocadu.ca](mailto:repository@ocadu.ca).*

# NASDESIGN'S SYSTEMIC APPROACH TO DESIGN MANAGEMENT

Larissa Fontoura Berlato, Universidade Federal de Santa Catarina/UFSC

Prof. Luiz Fernando Gonçalves de Figueiredo, Dr., Universidade Federal de Santa Catarina/UFSC

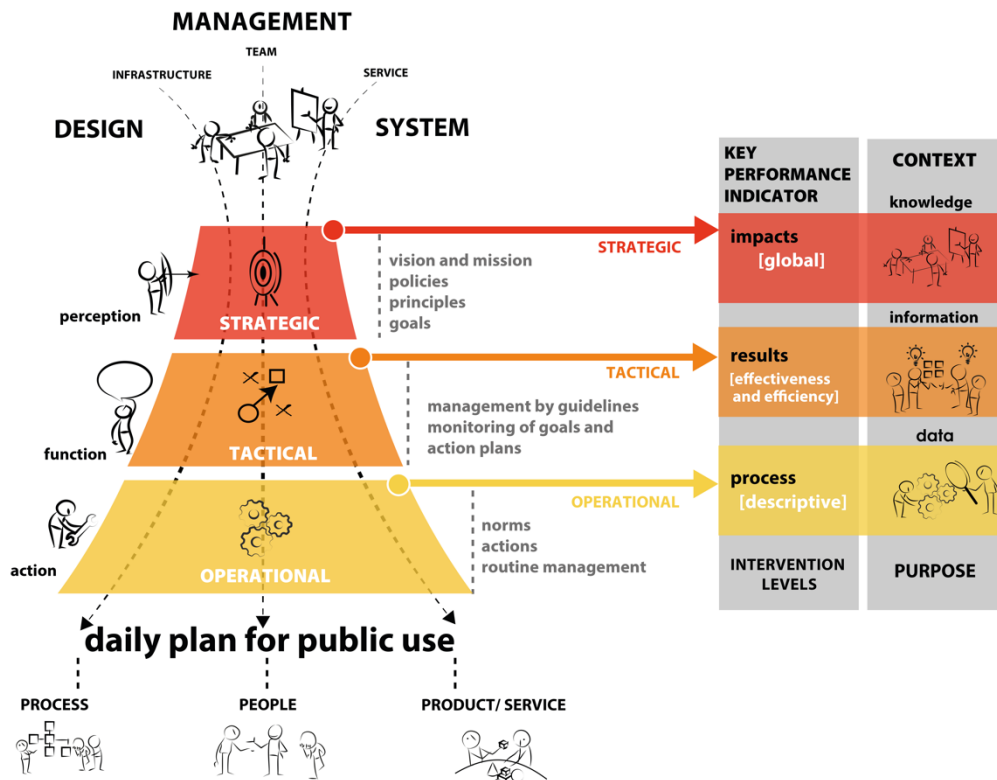
## Abstract

The most significant problems faced in the globalized world are complex problems that cannot be solved in a fragmented way. In the biological, social and behavioral sciences, problems are essentially of multiple variables, for which new conceptual instruments are required that seek to see the whole, relationships and the context, surpassing the reductionist view of classical science (BERTALANFFY, 1977). Classical science is based on analytical thinking, in which all phenomena can be understood by breaking them down into smaller parts and from linear, cause and effect relationships. This method is restricted to situations with a reasonable degree of structuring of the problems, reasonable stability of the environment, low degree of dynamic complexity and low degree of influence of the perceptions of different actors from different interests (ANDRADE et al, 2006).

In the General System Theory, developed by Bertalanffy, the organism is considered a whole greater than the sum of its parts, being necessary to study not only parts and processes in isolation, but also “to solve the problems found in the organization and in the order that unifies them, resulting from the dynamic interaction of the parts, making the behavior of the parts different when studied in isolation and when treated as a whole”. (BERTALANFFY, 1977, p.53). Thus, the systemic approach considers the context broader whole, establishing the nature of their relationships and considering their environment (CAPRA, 1998), assuming procedural activities, flows of matter, energy and information (ANDRADE et al., 2006).

Design is characterized by a projective perspective. The "result" of a design project can be seen in the products and services and the design "activity" consists of a user-centered problem-solving process. In both activity and results, design needs to be managed in order to ensure that the desired objectives are effectively achieved (BEST, 2012). Design management is the effective management of design resources available in organizations - people, projects, processes and procedures, which help companies achieve their goals (MOZOTA, 2011; BEST, 2012) and can be present at three different levels: strategic, tactical and operational as shown in Figure 1:

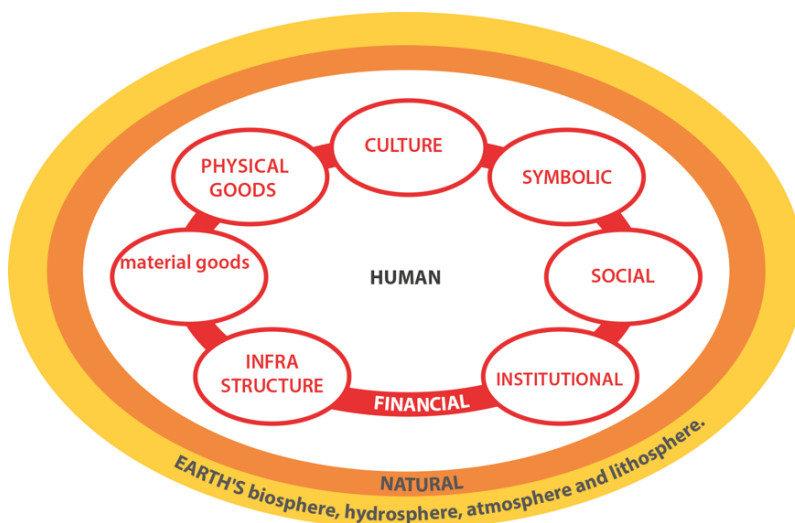
Figure 1 - Levels of design management.



Source - NASDesign Collection (2020).

In the design area, the linear approach emerges from limited design attention to the construction of products and services that, in a timely manner, solve a specific problem and respond to market demands. This approach does not consider the wider impacts that the solution may have on the system as a whole and does not allow considering the systems of social, cultural and ethical values that constitute the true essence of the product or service and that reconstitute dignity to the design of goods (BISTAGNINO, 2009). It is necessary to look at problems in a systemic way, working closely with local people (listening and learning) “in pairs” instead of responding with solutions “from the top down” (HOWALDT et al., 2018). A systemic approach to design management has the potential to identify all possible implications and impacts that design solutions can generate as shown in Figure 2:

Figure 2 - Factors considered in the systemic approach to design management.



Source - Adapted from Kuosa et al (2012, p.113).

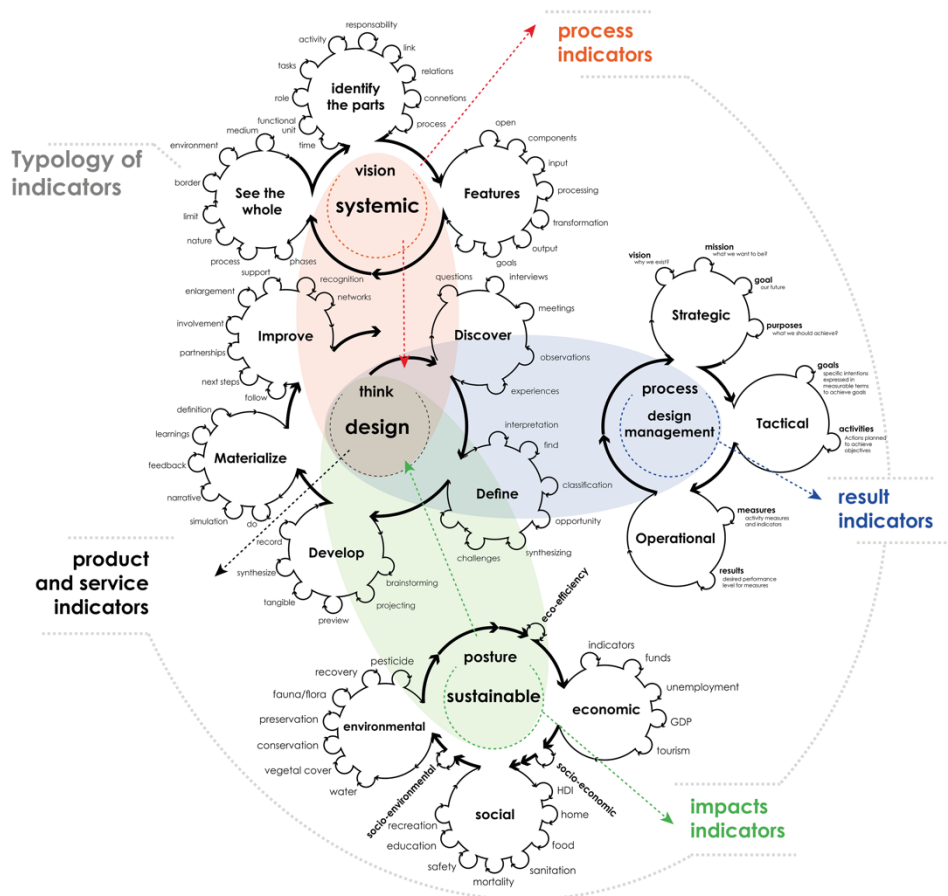
Given the increasing complexity of current problems and the scope of the role of contemporary design, the main challenge of design today is to develop or support the development of solutions for highly complex issues, which require a comprehensive view of the project, involving products, services and communication in a joint and sustainable way (KRUCKEN, 2000). The adoption of a broader and more dynamic perspective comes to enhance the design management, developing projects in a collaborative and transdisciplinary way, expanding the relationships between the actors, the capacities and the knowledge.

The systemic approach to design management allows to expand the focus of the project to the set of relationships generated and to identify the flows of matter and energy, which constitute the input and output of the process as a productive, communicative and social whole. Today, more than ever, it is necessary to consider the efficiency of materials in processes and the complexity and necessity of relationships.

From electrons to cells, from living species to social communities and ecosystems, each is a complex system that exists through the relationships with its components, lives on the basis of connections with other systems and establishes reciprocity relationships, according to non-linear dynamics and processes of evolution (BISTAGNINO, 2009).

The Systemic Approach Nucleus of Design (NASDesign) of the Federal University of Santa Catarina (UFSC) conducts theoretical-practical research in the field of design related to sustainability through a systemic approach, in which design is understood as a holistic process, with the focus shifted from the final product to the production system and its complex interactions (MARTORANO, 2012; JOLY; STRAIOTO; FIGUEIREDO, 2014) as shown in Figure 3:

Figure 3 - Systemic approach to NASDesign design management.



Source - NASDesign Collection (2020).

Thus, this study aims to analyze the potential of the systemic approach in design management from the perspective of NASDesign. To this end, this article analyzes the concepts of systemic theory, systemic approach, design and design management. Finally, it presents the perspective of a systemic approach to NASDesign design management. According to the methodological procedures, this research is characterized as qualitative, exploratory, descriptive and analytical.

As a final result, it was identified that the holistic view of the systemic approach to design management allows the identification of a broader panorama, facilitates the ability to deal with large amounts of information, the introduction of new technologies and the performance in environments of continuous evolution. As well as, it understands the organization as an open system, in which the interferences or problems detected can be of an environmental, social or economic nature, related to interference and internal and external relations to the organization and the design management system (SILVA; FIGUEIREDO, 2010), having social actors as their greatest source of information and connecting all the actors involved through a network of interconnections.

**Key words:** Systemic Approach. Design. Design Management. NASDesign.

## References

ANDRADE, A. et al. (2006). **Pensamento Sistêmico: o desafio da mudança sustentada nas organizações e na sociedade**. Porto Alegre: Bookman.

BERTALANFFY, L. V. (1977). **Teoria Geral dos Sistemas**. Tradução de Francisco M. Guimarães. Petrópolis: Vozes.

BEST, K. (2012). **Fundamentos de gestão do design**. Porto Alegre: Bookman.

BISTAGNINO, L.; DE MORAIS, D. (2009). Design Sistêmico: uma abordagem interdisciplinar para a inovação. **Caderno de Estudos Avançados em Design. Sustentabilidade II**. Barbacena, p. 13-28. Disponível em:

<http://eduemg.uemg.br/arquivos/2009-%20CADERNOS%20DE%20ESTUDOS%20AVANÇADOS%20EM%20DESIGN%20-%20SUSTENTABILIDADE%20II%20-%20VOL.%203.pdf> Acesso em: 05 março 2018.

CAPRA, F. (1998). **Teia da vida: uma nova compreensão científica dos sistemas vivos**. São Paulo: Cultrix.

HOWALDT, J.; KALETKA, C.; SCHRÖDER, A.; ZIRNGIEBL, M. (2018). **Atlas of Social Innovation. New Practices for a Better Future**. Sozialforschungsstelle, TU Dortmund University: Dortmund. Disponível em: <https://www.socialinnovationatlas.net/articles/> Acesso em: 28 fevereiro 2018.

KRUCKEN, L. (2009) **Design e território: valorização de identidades e produtos locais**. São Paulo: Studio Nobel.

MARTORANO, M. (2012). **Sistematização das atividades do NAS Design com foco na abordagem sistêmica para gestão de design**. Dissertação (Mestrado em Design e Expressão Gráfica) - Universidade Federal de Santa Catarina, Florianópolis, Santa Catarina.

MOZOTA, B. B. de; KLOPSCH, C.; CAMPELO, F. (2011) **Gestão de Design: usando o Design para construir valor de marca e inovação corporativa**. Porto Alegre: Bookman.

SILVA, C. S. da; FIGUEIREDO, L. F. G. de. (2010). Abordagem Sistêmica da Gestão de Design em Microempresas e Empresas de Pequeno Porte (MPes). *In: P&D Design - Anais do Congresso Brasileiro de Pesquisa e Desenvolvimento em Design*, 9ª edição, São Paulo/SP, p.730-741. Disponível em: <https://docplayer.com.br/5976768-Abordagem-sistemica-da-gestao-de-design-em-microempresas-e-empresas-de-pequeno-porte-mpes.html> Acesso em: 15 maio 2017.