

# Convergences between design attitude and strategic design: a theoretical model proposition

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## ABSTRACT

This study aims to identify and discuss the relationship between the design attitude concept and the strategic design approach. Strategic design attitudes were analyzed in organizational contexts to reflect on who is the strategic designer and what characterizes him as a being capable of designing organizational strategies. This work is based on the Michlewski's design attitude model (2015), debated and analyzed from the experts' point of view (PhD researchers who investigate strategic design). With the elements built in this dialogue, the expanded model of design attitude for strategic design is born, consisting of seven components that confirm the attitudes of the strategic designer.

*Keywords:* Strategic Design, Design Attitude, Designer Role.

## INTRODUCTION

In recent years based on an increasingly fast-paced development of products, services, and processes, the search for innovation has led to a discussion about design and design-driven thinking in the organizational context. Within the universe of companies' innovation, design assumes a growingly important role, as it becomes research focus of different schools of thought. According to Jacoby and Rodriguez (2008) design thinking is a crucial business asset and the basis of systematic innovation guided by human, technological, and business grounds of organizations. For Buchanan (2015), the pluralist aspect of design thinking can act in different dimensions within the organizational structure, from the basic cognitive process through creative questioning and implementation of new models, to the innovative and creative transformation of the organizational culture.

Design culture, likewise, organizational culture, has been evolving and standing as a unique system of competencies, knowledge, skills, and practices that can help organizations in the transformational change – in particular in those based in innovation and in the process of building organizational strategies (DESERTI; RIZZO, 2014). Strategic design emerges as a perspective of a strategic approach in organizations based on a design culture, driving organizational learning, and working as a guide for the development of corporate strategies (ZURLO, 2010).

Having as its origin the research carried out in the 1990s at Politecnico di Milano, strategic design is an important field in the very evolution of design culture, and one of its pillars is the systemic view. In the postmodern society characterized by the liquidity of its value system, strategic design becomes determinant to create the sense of acting in the organization, which

motivates all actors involved in the project network as well as other subjects that took place in the organizational project. For Meroni (2008), the strategic design of product and service systems shifts the focus from product or service design innovation to a strategic design that integrates product and service solution. In this context, it is imperative to understand which are the roles and attitudes of this new designer – who has dimensional and strategic aptitudes – in a process of constant evolution and in a context of organizations in transformation.

Who is this "strategic designer" and which are their characteristics constitutes a theoretical gap to be filled. Meroni suggests that they are facilitators, capable of catalyzing and fostering collective sensibility in favour of a shared interpretation of how the future will be, appropriating themselves of what is best in the present and transforming it through new paradigms. For Freire (2017), depending on the situation, the strategist-designer can assume the following different possible roles throughout the creative process of strategic design: antenna, visionary, experimenter, connector and entrepreneur. Franzato (2010) contextualizes the responsibilities of the strategic designer stating that, unlike strategic planning, a strategic designer does not plan but projects organizational strategies. Velasques et al. (2015) analyze the strategic designer's potential for action within informal creative collectives, which depart to some extent from our research proposal that takes place in the broad context of innovative organizations.

Understanding designers' capabilities and competencies point to another perspective that explores the impact of design and designers on organizations, coined as design attitude. It consists of a set of added values that characterize the nature of the designer and its application in their daily action, focused much more on the culture produced by the designers than on their methods. According to Buchanan (2015), understanding design attitudes allows us to understand the elements that enable the creative process in design, as well as the nature of designers' contributions and their transformative capacity within organizations.

The main research on design attitude was developed by Michlewski (2008). After more than ten years of studies and interviews with designers and leaders of successful design companies such as Apple, Ideo, Nissan, the author identified five design attitude aspects that are truly distinctive and are part of its model. The aspects identified are embrace certainty and ambiguity; engage through deep empathy; embrace the power of the five senses; have a passion for giving life to ideas and create new meanings from complexity.

In this study, Michlewski's model (2015) serves as a basis for advancing a discussion that goes beyond the basic vision of who would be the strategic designer. We rely on design attitude model to evolve the vision of attitudes inside the strategic design, especially in the organizational environment, which are protagonists in the new morphologies of contemporary society and that necessarily have an innovative profile. Therefore, the objective of this work is to identify which design attitudes characterize a strategic designer. From exploratory research with experts on the subject, we intend to gather elements to propose a theoretical model of strategic design attitudes.

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## 1. PERSPECTIVES ON STRATEGIC DESIGN

In the academic universe, the strategic design appears as a discipline that has its semiotic matrix represented by discourses from different research areas such as business administration, engineering and design itself. The term emerges as relevant from two different origins in the academic environment. The first comes from business schools as organizational

leaders have begun to see that design thinking, anchored in innovation and entrepreneurial vision, can be applied to bring new solutions in moments that traditional management models no longer respond. From that, new Business theories began to be strongly influenced by Design theories and, especially, by the concept of design thinking.

The term strategic design has been widely used to define projects in the corporate world or in organizations of different types. In the academic context the same happens but there are at least five main points that differ the perspective of strategic design born in the Politecnico di Milano from the visions of strategic design (or very similar terms) conceptualized in business schools scattered around the world:

1. Complexity paradigm: strategic design is a design process that involves the complexity paradigm to develop, adapt, and engage organizational strategies, which will allow the organization to adapt itself to changes and to become sustainable in the long term (MAURI, 1996).
2. Action in the metaprojectual dimension: according to Scaletsky (2016), the strategic design aims to conduct research to develop a better understanding of the design problem and, if necessary, to reposition it. In this sense, a meta-project can be understood as a space that extrapolates the project itself, inserted in the constantly changing dynamics that characterize the complexity of the project and that differentiates the metaprojectual stage from the strategic design from other design forms. Systemic thinking and sustainability: considered one of the pillars of organizational strategies design. Placing the notion of systems at the heart of strategic design theory means understanding it as a complex unit (ZURLO, 2010). The vision of sustainability, in a moment where the world and life give signs of exhaustion, merges with a systemic vision that becomes part of a contemporary strategic thinking. According to Franzato et al. (2015), strategic design emphasizes the study of design strategies to guide the project action and, above all, the organizational action towards innovation and sustainability. Those strategies are based on processes that involve the entire ecosystem of action: organizational environment, market, society, and natural environment.
3. Idea of seeding and bottom-up innovation: Manzini (2015) presented some ideas about how innovation could change the way we interact in society bringing more value to our community and changing the way we built relationships. According to the author, innovation should be bottom-up to last and to create a sense of belonging and collectiveness. Scenario planning: This concept could be understood in two different dimensions, the first one considers scenarios as a learning tool, to understand possible futures. In this view, Manzini e Jégou (2014), says that scenarios “allow the development of articulated and motivated visions that, if properly constructed and promoted, can become the shared visions that companies, public institutions, and society as a whole have acquired”.

In the second perspective, the main idea is to learn by testing different possibilities to identify the best possible future scenario for a specific problem. This process is well known in fields like Operational Research, especially in processes that involve the simulation of different scenarios.

In a design process perspective, we assume scenario planning as a learning tool, that could be understand as proposed by Hartmann et al. (2012):

The scenarios must be plausible, acting as a platform for interactions where stakeholders can discuss their motivations and create new proposals that support and validate the respective assumptions. The scenarios are, therefore, a platform built and negotiated collectively that serves as a navigation map during the design processes.

In the evolution of strategic design concepts, little has been said about the specific roles of the strategic designer professional, especially within organizations. When addressed, it seems natural to face some difficulty to understand strategic planning vision, organizational strategies, and design of organizational strategies. One of the scarce perspectives about the role of strategic designer comes from Velasques, Franzato and Del Gaudio (2015), who discuss the potential of action and contribution of a strategic designer in the realm of informal creative collectives. This approach is still distant from the context of our research, which are focused on organizations with an innovative profile. If references to strategic designers are rare, there are references to the role of designers who can assist defining competencies, attitudes or skills that have a relationship with strategic designers within organizations, such are the concepts of Manzini (2003) for facilitating designers and expert designers.

But how to develop a design attitude considering the strategic design characteristics? Design process is connected to a learning and reflection process, so it is important to consider the ideas of Nonaka e Takeuchi (1997) and Kolb (2014). Kolb (2014) proposed the idea of a learning cycle that connect four different process that the author recognize to learn and create new knowledge. The process considers experiencing, reflecting, thinking and acting, in a cyclical and complementary way, as seen in the Figure 1. When we are designing something, this process in some way shapes our design attitude.

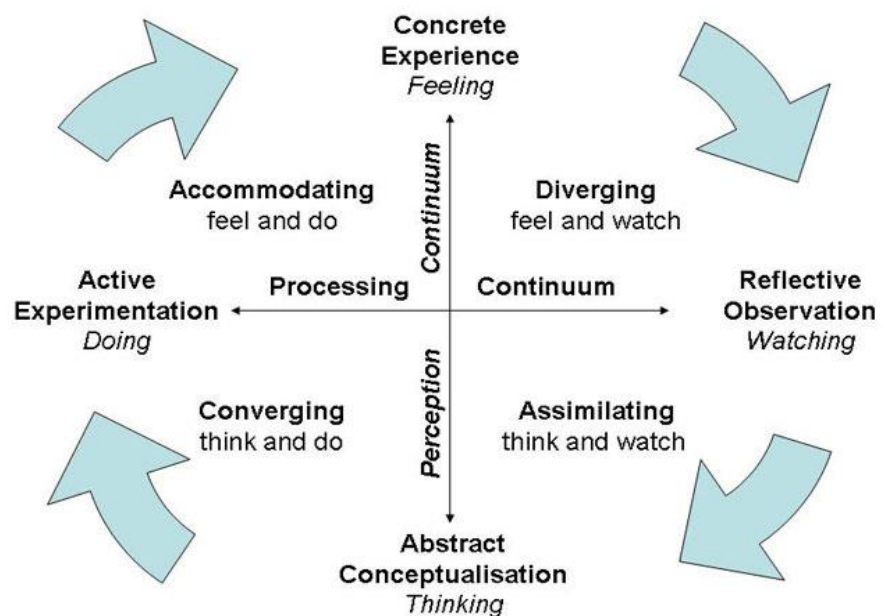


Figure 1. Experiential Learning Cycle (Kolb, 2014).

In every phase of this process, we are transforming our experience, previous knowledge, and mental models in new knowledge that are testes through our design process. In this way, Nonaka and Takeuchi (1997) worked with the idea of a knowledge spiral that connect different kinds of knowledge operations, to promote new ideas, and learning. The authors explain how we could combine tacit and explicit knowledge.

Both ideas are related to our understanding of a design process, considering learning to change, and design as a process to make this change happen. When we evaluate different design process methodologies, we could see that most are cyclical, recursive, and based on action and reflection.

## 2. DESIGN ATTITUDE

In June 2002 Richard Boland and Fred Collopy organized the Managing as Designing conference at Weatherhead School of Management, taking advantage of the great academic interest in the possibilities of applying design thinking in business management practices and the recent experience of working with the architect Frank Gehry (2008). According to researchers, there was at that time a crisis related to the exhaustion of management models in organizations and consequently also a fertile field to evolve in the discussion about design thinking and the models of professionals training coming from Business Schools. In their perspective, this new understanding could design organizational environments and models that would meet the greatest human achievement associated with a sustainable future (2004).

For Gehry and his team in the aforementioned project, there has always been the desire to do something extraordinary, experimenting with the new (materials, technologies, methods) – which is a characteristic common to every project led by Gehry. The natural desire of his team, for any project, is to always do something better than anything that has ever been done before. This behaviour is defined by Boland and Collopy (2004) as a design attitude because it is different from the classic management models within organizations. The design attitude concept means that the entrepreneurial spirit, which was the heart of the industrial and informational revolution, is always present in profitable projects that produce a high degree of human satisfaction for those who are involved in it.

Michlewski (2008), aiming to understand the nature of design attitude, investigated values and characteristics that underpin creativity in design, exploring what designers and managers really say, do, and how they think about their day-to-day business. Through interviews with senior-level professionals at internationally recognized design process leaders (IDEO, Nissan Design, Philips Design, and Wolf Olins), the author unveiled which is a designer's knowledge, and which skills are unique to that designer as well as natural to the design activity.

He investigated designers not only individually but as a group of professionals, relating that to the nature of their contribution to organizations. Group-level analysis can untangle some of the complex issues associated with designers' culture and their impact on collectives and organizational structures. On the theoretical basis of design attitude, Michlewski (2015) provides historical evidence on the meaning of design, clarifies elements that form the design culture, examines the nature of designers, and examines the culture of design professionals, as well as designers' skills. From this analysis, the author defines five aspects that are part of design attitude and that could impact and transform organizations. The five aspects of design attitude and professional designers' culture are the following:

1. Embracing uncertainty and ambiguity: designers know that when they decide to create something new and completely original, there is no guarantee of success. They are aware that the design process is discontinuous and confusing.
2. Engaging through deep empathy: Using true empathy requires courage, honesty, and detachment to abandon the established mental models. Above all, they need to treat costumers/users as real human beings.
3. Embracing the power of the five senses: designers recognize that the best brands and experiences are generated from various senses with a purpose of creating a powerful neuronal path that involves reactions like a surprise, pleasure, and real emotions.
4. Passion for bringing ideas to life: to create traction in the innovation process, designers believe in the power of play, humor, and a healthy dose of subversion. They often use a creativity cape - and apparent insanity projected by other professionals - to question deeper issues and challenge entrenched ways of accomplishing things. This also puts them in a position to deal with sensitive issues that would be avoided in normal organizations.
5. Creating new meanings from complexity: how a designer does projects is intrinsic the absolute desire to engage and reconcile multiple, sometimes contradictory, points of view and sources of information to produce a new way of thinking about something at different levels, including strategies.

The graphical representation of the design attitude is shown in Figure 2:

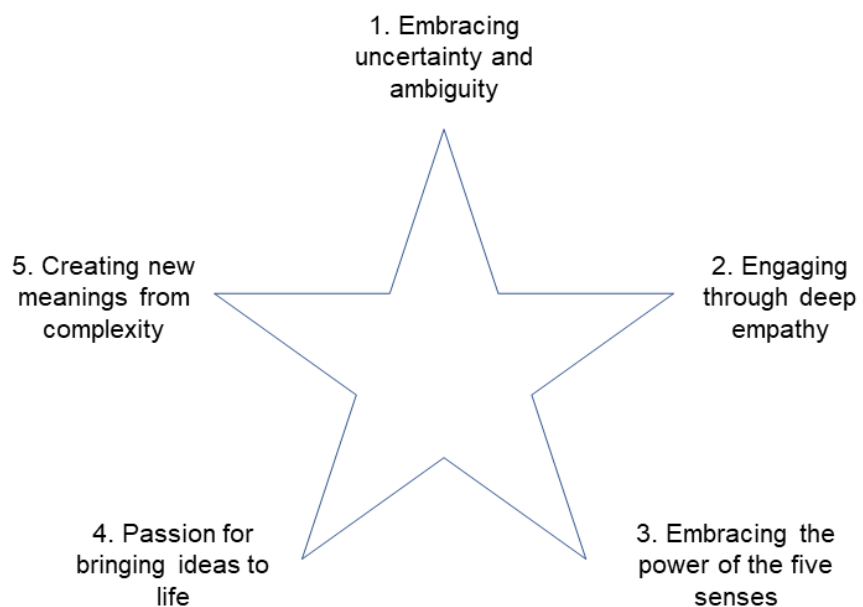


Figure 2. Design Attitude Model (Michlewski, 2015).

Since 1969's *The Science of Artificial* publication, Simon says we are all designers because we apply our intellect to transform situations in which we find ourselves to situations in which we want to be. Design attitude model reinforces this view and presents the whole nature of

design in a five-axis polarization matrix, forming what Michlewski represents in his publications as a star, which in theory can be applied to any professional in any area to identify design attitudes.

### 3. METHODOLOGY

This study has an exploratory nature, based on in-depth interviews with strategic design specialists. The purpose of this research with experts was to understand the possible dialogue between the design attitude model proposed by Michlewski and the strategic design approach.

For this purpose, we identified as informants eight design researchers who work in postgraduate programs in the area and have research experience on strategic design. All participants have PhD and distinct backgrounds (Design, Engineering, Psychology, Architecture, Semiotics, etc.).

The interviews were carried out from a semi-structured script interview and were audio recorded, being the content later transcribed and analyzed through the technique of content analysis. The script used was structured to introduce the principles of Design Attitude (BOLLAND; COLLOPY, 2004) concepts, as well as to present Michlewski's model (2008). The aim of this conceptual presentation was to match the participants' familiarity degree about this theoretical reference.

After that, a specific questionnaire regarding their perception about each of the five aspects that make up the design attitude model was carried out. From the moment a broader reflection on each of the five aspects was made, a further investigation of possible connections between design attitude and strategic design took place. The first objective question addressed was concerning an application of Michlewski's design attitude model (2015) to strategic design, seeking to identify if there were any aspects of design attitude that would not fit strategic design insights. Subsequently, the questionnaire sought to identify elements of strategic design not contemplated in the design attitude model.

### 4. RESULTS AND DISCUSSION

In the individual analysis of each aspect, we were able to observe different perspectives that will be addressed in the following sections. All participants were initially prompted to bring their insights into each of the five specific dimensions of design attitude to only then identify those aspects in relation to each individual's strategic design vision. We will explore the subjects' perceptions of the following sub-sections.

#### 4.1. Dimension #1: Embracing uncertainty and ambiguity

To simplify the discourse analysis on "embracing ambiguity and uncertainty" it was important to consider two different perspectives that were mixed in the interviews. One is related to a criticism of the labor market and academia linear models. The other is based on a more decontextualized thought and consequently more adherent to Michlewski's design attitude model (2008). The specific view in the context in which there is no room for divergent thinking is naturally the basis for a significant part of the interviews. It was genuinely difficult for participants to analyze a view on "embracing ambiguity and uncertainty" as a dimension of design attitude without criticizing traditional models, especially in the product and/or service industry, where spaces for ambiguity and uncertainty are unusual.

It was interesting to observe that there is a tension between the current models in companies and/or Design Schools and what we aim to analyze, which is the "embracing ambiguity and uncertainty" as one aspect of design attitude. The greatest difficulty for participants when talking about this aspect was to abstract a contextualization of everything that escapes the nature of design within organizations. In general, participants' discourse begins permeated of experiences, placed in a rigid organization classic context repertoire, or eventually focused on the complexity and efforts needed to construct a divergent thought space within these models. Aspects related to design culture, even in organizations, tend to require this effort of abstraction.

Designers, in general, bring the abductive model as opposed to the inductive or deductive model for problem-solving. The difference between these forms of approximation involves a level of certainty. By applying an abductive method, problem-solving means that you are not aware of the situation uncertainties, but you are prepared to move forward despite them. Design attitude embraces ambiguity as well as seeks discontinuity and fiercely takes risks, grouped and jumping in the unknown space. These attributes are able to unlock the success of an organization (MICHLEWSKI, 2015). Design attitude normalizes ambiguity, uncertainty, and discontinuity as ordinary components of everyday workflow. This is a clear connection with what we witnessed in the busy and ever-changing market. As a result, an environment is created in which new and transformative solutions can emerge.

#### **4.2. Dimension #2: Engaging through deep empathy**

The second aspect of Michlewski's model (2008) does not refer to empathy in its simplest form. The generic view of putting ourselves in the place of the other is basic and insufficient to understand the author's deep empathy proposal for design attitude. We know that empathy is a vital human trait, but design attitude is not concerned with individual traits, predispositions, or degrees of emotional sensitivity. In contrary, it is concerned with a way of doing things for a group of people and/or organizations (2008). The participants' interviews have raised important elements that broaden the discussion on this aspect and enrich the debate about the concept of empathy.

Interviews with teachers to deal with Aspect 2 of design attitude bring us an interesting generic photography. Data revealed that participants, in general, accept the concept of deep empathy as the foundation of design attitude and design theory. Of course, different dimensions of empathy appeared throughout the interviews: empathy as the pinnacle of pleasure and aesthetic explosion, empathy as emotion, social ability, and behaviour, among others.

As above mentioned, design attitude does not deal with empathy in an individualized way, or in the field of emotions, but as a way of doing things in a particular group of people and particularly in organizations.

It is important to strengthen that deep empathy, in the context of design attitude, is not a simple tool, a new methodology or way to observe unique consumers. It is a deep belief rooted and integrated to the practice of managing transformative projects. It is, above all, about how decisions are made within organizations. Finally, in order to function, deep empathy requires an open mind and some degree of naivety and lightness that not all organizations and/or leaders are prepared or able to act in this way (MICHLEWSKI, 2015).



### 4.3. Dimension #3: Embracing the power of the five senses

Perhaps among the aspects of design attitude, this one represented the least degree of connection with participants. In interviews analysis, we also noticed that for this aspect there was a greater divergence among patterns of responses. The reason is that perhaps there is a natural perception of the five senses as a value of design, but at the same time its representation is of reasonable complexity. It is also quite logical that sight is the meaning with greater relevance for participants, in relation to the others when talking about the nature of the design. In any case, it seems clear that a design project in organizations is beyond the exclusive view of rationality and that exploring the five senses answers the need to carry out projects that may also affect the field of emotions.

Regarding the third aspect of design, attitude participants brought several elements. In the professors' interviewed point of view, prominent elements about "embracing the power of the five senses" are perceptions such as a second sensory level, rationality x senses, sensorial-based construction of experiences, brand experience and vision about dominant senses.

According to Michlewski (2015), designers are trained and motivated to use the five senses. They feel comfortable in the conflicted world of multimodal stimuli. On the other hand, it is unusual for managers to use different senses for inspiration. They need to learn to embrace the multimodality of experiences. In the world dominated by software and touch-based interfaces, designers and managers must actively seek multiple senses to engage users and create true connections with people.

### 4.4. Dimension #4: Passion for bringing ideas to life

The eight interviews carried with specialists to deal with aspect 4 of design attitude presented important elements. The ease with which participants identified themselves with it reinforces the strength of "passion for bringing ideas to life". Participants immediately understood this aspect as part of a more visceral construction of design culture, since they are totally related to the genesis of the design creative process. In general, participants align with Michlewski (2015) when the author states that giving life to ideas is, above all, the core of designers' profession.

It is very important to understand how driven by dimension #4 of design attitude, the design process can bring ideas to life and go beyond, effectively turning the design process into a fuel for innovation within organizations. Three generic aspects, associated with the fourth aspect of design attitude, should be highlighted:

1. The understanding of giving ideas life is not restricted to showing them to others, but also to establish an important and dynamic dialogue of the designer with the materialization of his idea, which only concrete representation can bring. That means it is a collective process, but also an individual process.
2. Irreverence and humor articulate in a true way with deep empathy, an object of aspect 2 of design attitude.
3. The creativity cape and apparent insanity, a metaphor used by Michlewski (2015) has been dressed by instrumental methodologies of design thinking and occupies relevant space in organizations.

## 4.5. Dimension #5: Creating new meanings from complexity

Designers often deal with complex problems, seeking harmony between two intangible things: something that has not yet been designed in a context that cannot be properly described. Creating meanings from complexity is not a simple theme and we cannot fall into the trap of trying to simplify it. Participants confirm the importance of the fifth and final aspect of design attitude model (MICHLEWSKI, 2008) indicating different perspectives regarding the interpretation of how designers deal with complexity and reinforcing the vision of articulation between all aspects of design attitude. A consolidation of multidimensional meanings gives value to the role of designers in organizations, given the task of reconciling different operational objectives. It points to the ability to operate in an analytic-synthetic loop in order to achieve a balance between internal cohesion and to satisfy practical constraints. In other words, "designers master the comprehensive design process, which is a rich and complex integration of scientific, sensual, intellectual and intuitive" (FRIEDMAN, 2002).

The process of creating projects is often associated with the complexity of solving poorly structured and open problems. Design problems are, in general, quite uncertain, incomplete, and often full of contradictions (SCALETSKY, 2016). Designers coexist well with complex problems. In this way, working on the construction of meanings from complexity is more natural for a design professional than to other professionals (MICHLEWSKI, 2015). The last aspect of design attitude is certainly the most holistic of all and the most challenging to participants, as it poses a deep reflection about the nature of design – not only of the design activity itself but also fundamentally of its context.

The interviews recognize dimension #5 as fundamental to the design attitude model and discuss different perspectives ranging from the technological environment to forms of resignification. It gives greater importance to the designer as the protagonist in the human process of recognition of symbols and production of meanings.

## 5. DESIGN ATTITUDE AND STRATEGIC DESIGN: CONVERGENCES AND DIVERGENCES

Design attitude model has five aspects that were, in participants' point-of-view, fully accepted when we address strategic design. However, some questions were observed as aspects that should be integrated into the design attitude model whenever we are referring to strategic design.

From the content analysis, the five subcategories have given rise to six aspects. Participants made similar observations that sometimes propose slightly different dimensions for the same aspect, allowing the generation of an extended design attitude model or a model of strategic design attitudes. They are: collective construction, metaprojectual vision, ecologies, scenario projection, focus on organization and strategy, and design process. Of those elements, the ones quoted by only one of the participants were disregarded, assuming this aspect has a more particular and isolated view. We could then individually analyze each aspect that has been quoted at least twice, which are described below.

### 5.1. Collective construction

During the interviews, the "collective construction" aspect of design or variations - such as collective work, collective process, collective project, collective vision, co-design - were cited by five of the eight participants as a point that should be part of design attitude when we refer

to strategic design. Participants raised several perspectives of collective construction in strategic design assuming different dimensions and panoramas. However, regardless of the different interpretations of strategic design dimensions (operational plan, strategic plan, or political plan), in any condition, the collective vision is treated as an essential condition.

In addition to what participants have said, collective construction is also one of the pillars of strategic design. According to one of its main authors, Meroni (2008), strategic design is related to co-design. Zurlo (2010) reinforces this collective vision, affirming that strategic design supports strategic action thanks to its own capabilities, and ensures that it generates meaning effects from the collective context in its own operational setting. According to the author, strategic design becomes determinant to create a sense of action in an organization, which motivates the actors involved in the project network as well as the other actors who take place in the organizational project. The collective construction within organizations is also influenced by the vision of strategic design as a support for social innovations, which have in Manzini one of its main intellectuals, whose perspective is always guided by participative design processes.

As we have seen in the interview analysis, collective construction requires high negotiation skills. The success of any project depends on this approach. The diffuse way of operating and the relationship with different stakeholders determine the need to transform dialogue in a fundamental tool for a construction in a communicative and relational process. Meroni (2008) calls it a strategic dialogue, which is a constant in this design approach throughout the project: from problem-setting to problem-solving. Counter-briefing is a matter of strategic dialogue, co-design is a matter of strategic dialogue, shared views are a matter of strategic dialogues. For Zurlo (2010) the strategy is dialogue and confrontation, conversation, and negotiation between multiple actors, and it aims to achieve success, a result that makes sense for someone.

## 5.2. Metaprojectual Vision

Metaprojectual approach foresees a deliberation evolution of projects in development, in parallel and beyond, that underlies and justifies the project itself. An explanation is necessary for relation to the context that originated it and in relation to the scenario for which it is intended. In this way, it also stimulates the reflection and awareness of the actors involved in the project regarding its meaning (2010).

Likewise strategic planning, in strategic design scenario thinking is determinant (MORAES, 2011). Design scenarios (2003), an essential component of all metaprojectual processes, help the construction, anticipation, and critical discussion of strategies, as well as their evaluation, choice, and practice. Hence scenarios allow a definition of organizational strategies and from them a possibility to tune the processes and development of product-service systems to be offered (2012). There are several authors who assume an approach in favour of innovation. According to Freire (2017), Manzini and Jegou (2014) proposal for scenario construction use is the one that most approximates to what Zurlo (2010) proposes in his work.

It is interesting to note that Zurlo (2010) has already identified a need for dialogue between design and management when referring to the operationalization of scenario elaboration and strategic visions for organizations. This is exactly what we are doing in our research: analyzing design attitude and making it dialogue with strategic design. In Michlewski's design attitude model (2008) the terms meta-design or meta-project never appear. All his effort to understand through research what constitutes the nature of the creative process of

design professionals does not include elements that objectively and fundamentally point to a metaprojectual vision.

### 5.3. Items cited and not included in the extended model

Two other items were quotes by more than one professional - and focus on organization and strategy - however, they do not present conceptual homogeneity to be presented as a new aspect of an extended design attitude model for strategic design. They are:

- a) Scenario projection: the item "scenario projection" or "future scenario projection" was included as a subcategory in the categorization of strategic design aspects, not considered as part of design attitude by participants. However, we understand that these points are included within the approach analyzed in the previous item (metaprojectual vision) and through that is part of the extended design attitude model. In other words, aiming for a greater conceptual homogeneity of the extended model aspects, we chose to stay with "metaprojectual vision" only, understanding that scenario projection is included in this area.
- b) Focus on organization and strategy: the whole origin of design attitude concept is related to the impact of design and designers in organizations, based in Boland and Collopy's work (2004), as we have already mentioned. Design attitude model, on the other hand, has been designed to explore in depth the impact of design and designers on organizations. This research has been done in organizations where design or professional designers have a significant presence and influence. According to Michlewski (2015), designers impact organizations spreading their values, their attitudes and their own way of doing things. Designers are invaders of the corporate world in favor of transformation, changing, at the strategic level, the organizational culture. In this way, we understand that the aspect "focus on organization and strategy" is fully covered by the design attitude model as proposed by Michlewski (2008) and it would not be necessary to include it in the expanded design attitude.

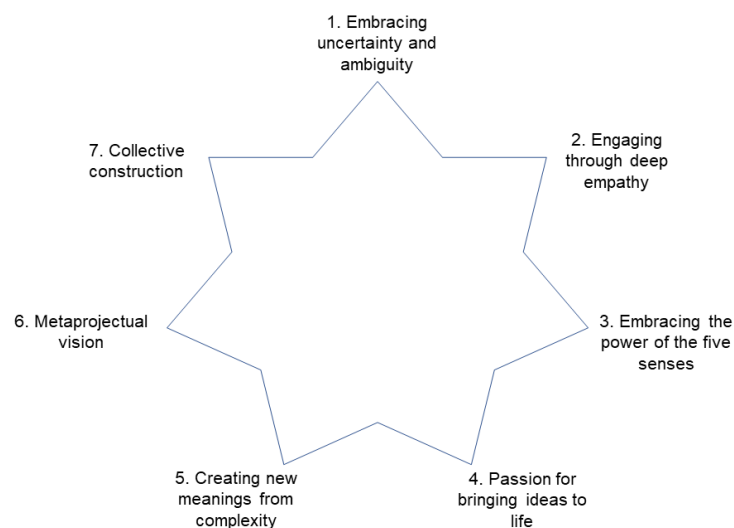


Figure 3. Design Attitude Mode (The authors).

In Figure 3, we present the representation of the extended design attitude model for strategic design with a 7-point star, representing the five original aspects plus the two added aspects (collective construction and metaprojectual vision).

## 6. CONCLUSIONS

This study aimed to identify and discuss strategic design attitudes and their relationships to the design model attitude proposed by Michlewski (2008). According to the interviews carried out with strategic design experts, design attitude model was considered appropriate for the theoretical premises of strategic design in its five aspects. To put in another way, none of the eight experts interviewed disapproved the use of design attitude aspects for strategic design.

The expanded design attitude model was proposed from the analysis of individual interviews with experts and from the expression of their collective visions and views about which aspects should be included in the extended design model for strategic design. After a thoughtful analysis and quest for conceptual homogeneity, we understand that collective construction and metaprojectual vision would be the two elements that should be part of the extended model.

In this work, a dialogue has been built between Business and Design Schools, producing a model of attitudes that is rooted in the first one (2004) and that is extended by the second, which is presented as a theoretical contribution to strategic design.

The absence of structured references regarding the strategic designer in a collective design action to strategic formulation within organizations departs from the vision of collective performance, which ends up establishing a barrier to the evolution of strategic design in organizations aiming to business. The expanded attitude design model for strategic design is a theoretical model that fills this gap. However, like any theoretical model, it still needs to be validated and evolved.

As mentioned in the theoretical foundation, Buchanan (2015) stated that the pluralist aspect of design thinking could act in different dimensions within the organizational structure, from the basic cognitive process through creative questioning and implementation of new models, to the innovative and creative transformation of the organization culture and spirit. The extended attitude design model positions itself precisely in the dimension of creative questioning and in the action of implementing new models that affect strategic definitions and that project organizations transformations.

According to Buchanan (2015), design attitude focuses on design professional culture, in its attitudes and values that stand behind all creative work, which are the foundation of design imagination and creation. In our study, we assume that the proposal of an extended design attitude model is concerned with questioning what are the values and aspects that underlie the creative action of strategic designers and what is the nature of the contribution of the strategic designers. As we understand these aspects, we propose a model with seven aspects that can be methodologically used to support the evolution of strategic design within organizations in an objective way, but without departing from the systemic and collective view and without ceasing to accept uncertainty, ambiguity, unpredictability, randomness and contradiction as basis of the design process.

## DECLARATION OF INTERESTS

There are no conflicts of interest involved in this article.

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