Approaches to the relationship between cultural diversity and user experience in design products: a systematic review

Abordagens da relação entre diversidade cultural e experiência do usuário em produtos de design: uma revisão sistemática.

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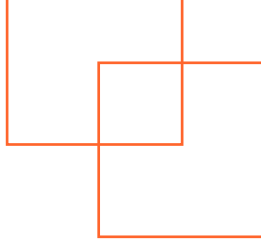christiano.pozzer@ufrgs.br

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ABSTRACT

This paper aims to identify different theories that guide methods of studying the influence of cultural diversity on users' experience with design products. To this end, a systematic review of the literature, comprising 80 academic papers in the scope of design for cultural diversity is carried out. The central procedure of the work unfolds in the classification and analysis of these papers. The study identifies the recurrent use of some methods of cultural analysis, indicating the tendency of research in the area to develop as cross-cultural comparisons – or transcultural studies. Other models, such as multicultural or intercultural studies, are recent and still scarce. The results obtained also point to the predominance of the North America/Europe axis as motivators of research in the area, in addition to highlighting the lower number of those that focus on the Latin America/Africa axis.

KEYWORDS

Design and culture; Cultural diversity; User experience.

RESUMO

Este artigo tem como objetivo identificar diferentes teorias que orientam métodos de estudo da influência da diversidade cultural na experiência dos usuários com produtos de design. Para tanto, é realizada uma revisão sistemática da literatura, composta por 80 trabalhos acadêmicos no âmbito do design para a diversidade cultural. O procedimento central do trabalho se desdobra na classificação e análise desses artigos. O estudo identifica o uso recorrente de alguns métodos de análise cultural, indicando a tendência das pesquisas na área se desenvolverem como comparações transculturais – ou estudos transculturais. Outros modelos, como os estudos multiculturais ou interculturais, são recentes e ainda escassos. Os resultados obtidos também apontam para a predominância do eixo América do Norte/Europa como motivadores de pesquisas na área, além de destacar o menor número daquelas que se concentram no eixo América Latina/África.

PALAVRAS-CHAVE

Design e cultura; Diversidade cultural; Experiência de usuário.
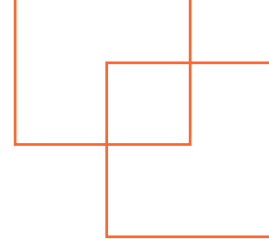
INTRODUCTION

The last few decades have seen unprecedented advances in global interaction and communication (HALL, 2006). In this scenario, different cultural contexts interact, which are confronted daily by the impact of mass production and consumption. Such cultural variations are reflected in the artifacts available, in the way in which we experience them, and in the very agents that produce them (CHRISTIAANS & DIEHL, 2006). This context suggests that the development of knowledge that relates to the impact of culture on the product design process can represent significant advances in their social effectiveness and the technological potential of their agents (CHRISTIAANS & DIEHL, 2006; VAN BOEIJEN, 2015).

The process of globalization, a term used to describe the profound articulation of political and economic dimensions internationally, is expanding in a plural, unequal and contradictory way in different regions of the world (ONO, 2006). For Fróis (2004), the use of this denomination is dangerous, as it refers to interconnections at the level of the economy and communications, but does not necessarily involve the constitution of a global ideology of community. Thus, the author argues that the "confirmation of a homogeneous global community culture is impracticable" (FRÓIS, 2004, p. 2). In this context, agents that produce material culture are compelled to decide between "global" or "local" actions to meet the complex current scenario (GETTO & AMANT, 2015). As a result, it becomes essential to address the cultural context in which the artifacts currently produced will be inserted and where they originate (CHRISTIAANS & DIEHL, 2006).

The main objective of this work is to explore different theories that guide methods of studying the influence of cultural diversity on users' experience with design products, making use of systematic literature review procedures. The academic papers reviewed here indicate that, despite the common motivation, there is still no evidence of unity in the theoretical structure of the area. For Clemmensen et al. (2017) and Valbuena (2017), some of the reasons behind this lack of unity would be the distance from theories originating from sociocultural studies, in addition to the diversity of socioeconomic contexts that motivate such research. This is because actions that seek to respond to problems in the
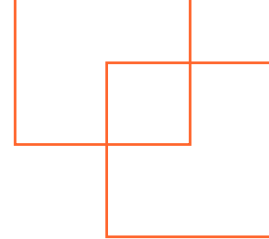
globalized market tend to arise from the demand of economically dominant cultures and, thus, carrying values rooted in their social context, intrinsically distant from the reality of the peoples they seek to serve (RAU et al., 2012; VALBUENA, 2017).

To explore the objective described, we will contextualize the different epistemological visions of the area of design oriented to cultural problems in globalization. To this end, discussions on the different conceptual understandings of culture in the revised body of studies are brought, in addition to the mapping of publications at a global level. Finally, the analyze developed seek to evidence patterns among the texts examined, indicating possible correlations between these and the theoretical criticisms that have already been constructed. With this, it is expected to advance in the construction of a cohesive theoretical field for design in culturally diverse contexts.   -

2 BETWEEN MULTICULTURAL, TRANSCULTURAL , AND INTERCULTURAL IN DESIGN

To better understand the theoretical axes that will support the procedures of this systematic review, it is necessary to explore some parameters of sociocultural studies and how they approach the guidelines of communication and cultural diversity. For Widman Valbuena (2016), the relevance of these approaches in the evaluation of methods in design projects is confirmed by allowing us to access the epistemic patterns that underlie them — even when the methods themselves are oblivious to such conditions. Following the premises of Valbuena (2016), we start with the differentiation of multicultural, transcultural, and intercultural approaches to cultural diversity.

It is with Stuart Hall (2008, 2010) that the limits of the concepts of multicultural and multiculturalism are established. For the author, multicultural is any society composed of more than one culture, that is, heterogeneous in essence. Hall expresses that, despite the modernist quest for sociocultural homogeneity and a universal identity that serves as an amalgamation for its collective, contemporary society is fundamentally multicultural. This definition presupposes factors intrinsic to the
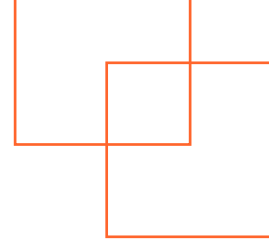
community, regardless of the relationships that may be established in this context. Multiculturalism is, therefore, a condition that overlaps the level of human interrelationships that may arise from it (HALL, 2010). Thus, it is only what is generated from the contact between cultures that can be the scope of actions at the level of information, communication, and design (VALBUENA, 2016).

Carlo Ginzburg introduces and explores interrelational products between cultures through the concept of cultural circularity, or the "circular relationship made up of reciprocal influences between different cultures" (GINZBURG, 1987, p.13). With this argument, the author determines that diverse cultural contexts are naturally porous and that the values of each individual in their contingency are transmitted and interpreted by the other continuously. Ginzburg's epistemology introduces a condition of communication between cultures, when they would thus overcome Hall's (2010) multiculturality stratum. Martín-Barbero (2008) argues that contact and exchange between cultures define the state of interculturality, with communication being a constitutive element of culture as a whole. As the author states, "I do not exist for myself, but for the other who recognizes me as a distinct being" (MARTÍN-BARBERO, 2008, p. 17), characterizing the emphasis on the existential condition of interculturality, and not only communicational. In the same way, García Canclini (2004) defines interculturality as a product of social conflicts at the levels of communication, inequality, and the balance of powers.

The communicational approach between cultures, however, can be differentiated by the level of autonomy and hierarchy of overlapping relationships. While intercultural orientations seek to recognize the importance of counter-hegemonic values in the constitution of links between cultures — such approaches arise at the initiative of Andean indigenous intellectuals as a clash against colonialist values of the institutional organization — the tendency of the global administration of diversity is different (GARCÍA CANCLINI, 2004). Exploring this differentiation, Hall (2010, p. 588) describes the concept of "transnational forms of production and consumption", or transculturality, determining that they are organized rather in the identification of diverse cultural codes only as a measure of effective consumption. Clemmensen et al. (2017) and Valbuena (2016) confirm this trend in design practices oriented towards

cultural diversity, identified by the denomination cross-cultural design. Following this premise, cross-cultural design, despite no longer seeking standardization — the objective of the modernist model of industrial production (CANCLINI, 2004) — would seek to codify design, adapting a product to the characteristics of a population to only introduce its consumption (VALBUENA, 2016).

With the defined concepts in mind, the present study collect and analyze academic papers that address cultural interrelationships at the design project level that also overcome cross-cultural design trends. Thus, research that deals with cultural diversity as a design context will be highlighted, not only from a comparison between different cultures but also under epistemological criticism in the area, as well as studies on the levels of interculturality, communication, and tension between different cultures. This choice is justified as a theoretical argument that reflects the advance in discussions about the role of design in the context of contemporary intercultural relations.

3 METHODOLOGY

A Systematic Literature Review (SLR) research differs from traditional methods by adopting a "replicable, scientific and transparent process, which focuses on minimizing biases through exhaustive searches in the literature of published studies" (TRANFIELD et al., 2003, p. 209). Given that the present work seeks to identify how the theoretical trajectory of studies that sought to investigate the role of diverse cultural contexts among users in their experience with design products in the face of globalization, the procedures of SLR prove to be valuable. To this end, its structure is based on the criteria of Tranfield et al. (2003) for systematic reviews, being sequenced as follows: [1] the search for papers, [2] the selection and critical evaluation of the papers, [3] the data-collecting and [4] data analysis.

The search for papers process began with the use of search triggers in three recognized academic work collection tools: the CAPES PERIODIC Portal, the Scopus Portal, and the ACM Digital Library. The collection was limited to works described in English and Spanish that were cataloged from peer reviews.

The triggers or keywords used sought to represent the main titles of

work in the proposed areas, divided into two groups. These are: [1] "user experience", "usability", "product usability", "product experience", for the specific field of user experience and design; and [2] "cultural diversity", "intercultural", "cross-cultural" and "multicultural", for the analytical field of cultural diversity studies. The selected publications are organized in 18 different databases and journals and represent a spectrum of 22 years (between 1996 and 2018)[1].

The process was followed by reading the titles and abstracts of a total of 245 papers listed from the search tools to determine their selection. The admission criteria for the works were their consistency with the proposed themes. In addition to the themes directly linked to design, texts dealing with digital technologies (e.g. information systems) were admitted as they have a great influence on the usability of digital products designed from them. Finally, this step was concluded with the listing of 80 articles to be evaluated.

The 80 articles admitted were then evaluated in full, being cataloged in an electronic spreadsheet based on their basic data (date, authors, database, and journals) and content (methods and evaluations), enabling data collection. The reading of each text listed led to the elaboration of classifications and analyses that allowed a general understanding of the data, being these: [1] classification by type of research; [2] classification by knowledge areas; [3] analysis of cultures evaluated and evaluators; and [4] analysis of cultural analysis methods.

4 RESULTS AND DISCUSSIONS

The results of this work present a detailed description of the classificatory attributes presented and discuss their orientations. Each section below meets each classification criterion, containing the resulting analysis and arguments.

4.1 Classification of papers by type of research

The first classification level sought to distribute the papers analysed according to their type of research, categorizing them into Comparative

1 The list of the reviewed papers in full and their cataloging by database and periodicals can be accessed through the link: https://tinyurl.com/appendixpozzer2022

Experiments (CE), Narrative Reviews (RN), and Systematic Reviews (SR), in addition to those that presented a hybrid character. The first criterion for such an organization was the identification of comparative studies that were developed around usability tests among users from different cultures with the same products, being classified as comparative experiments. Next, a contrast between theoretical studies was noticed, with some being structured in the form of narrative reviews, where the bibliographic reading had a free structure, and others in the form of systematic reviews, presenting a more rigid methodological basis.

A second criterion for organizing the articles was the categorization of analysed products by genre. It is justified to attribute this set to the work due to the predominant presence of comparative experiments that seek to explore the cultural influences of the user according to their interaction with specific products. It was considered that determining a series of product classes according to their exposition in the texts could present advantages, being them: Digital interface, smartphones, Information systems, Methods, Product design, Icons, Urban space, Visual design, Videogames, and Robotics. Data analysis from the intersection of the two categories is presented in Table 1.

Table 1 – Recurrence of papers according to their type of research and genre of product studied.

ANALYZED PRODUCT	TYPE OF RESEARCH				TOTAL
	CE	NR	NR & CE	SR	
Digital Interface	25	9	6	3	42 (52,5%)
Smartphones	5	2	2		9 (11,25%)
Information Systems	7				8 (10%)
Methods	5	1		1	7 (8,75%)
Product Design	4	2			6 (7,5%)
Icons	3				3 (3,75%)
Urban Spaces	2				2 (2,5%)
Visual Design		1			1 (1,25%)
Video Game		1			1 (1,25%)
Robots	1				1 (1,25%)
TOTAL	51 (63,75%)	12 (15%)	8 (10%)	3 (3,75%)	80 (100%)

Source - Authors, 2022
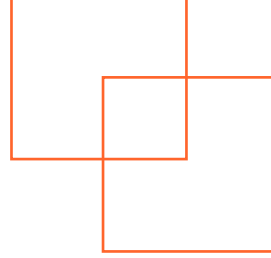
A wide predominance of studies within the category of comparative experiments is noticeable, these representing 63.75% of the analysed texts. It is understood that this number reflects the maturation of the field of applied cultural studies in the areas of user experience which, because they are recent, require initial theories to be tested in practical cases. Even so, it can be seen that 25% of the texts (15% in full and 10% in a hybrid way) contain Narrative Reviews, suggesting considerable academic interest in deepening this field of applied knowledge. Finally, it is pointed out that the presence of three systematic reviews (3.75% of the texts) evidences a recent need to understand the spectrum of works already developed, starting to unite theories that are still dispersed.

As for the types of products studied, the presence of digital objects stands out, such as digital interfaces (52.5%) and information systems (10%), which is related to the predominance of the field of Human-Computer Interaction. The same happens with Smartphones, traditionally associated with HCI as their main interaction platform is their digital interface. The influence of the wide ramification of digital products is also considered when transiting and coding in different cultural contexts with greater flexibility than material artifacts — these which, despite being diversified in the texts studied, are still scarce (17.5%). The last aspect that stood out was the considerable presence (8.75%) of design methods as objects of comparative analysis between cultures, suggesting that the interest in understanding the influence of the user's context is also found in the modification of design processes.

4.2 Classification of papers by their area of knowledge

The second level of classification was according to the area of knowledge of each text. This analysis was based on the journal in which the paper was published and the database where it was deposited. Data were organized into three fields of knowledge: Design & Technology (D & T); Information & Technology (I & T); and Human-Computer Interaction (HCI); in addition to the fourth segment for general areas whose frequency did not stand out. The organization of the data can be seen in Table 2, also bringing its year of publication.

.**Table 2 -** List of articles according to their field of knowledge and across the years.

Year	FIELD OF KNOWLEDGE				TOTAL	%
	D & T	I & T	HCI	Others		
1996		1			1	1,25
2000			1		1	1,25
2002		1			1	1,25
2003		1	1		2	2,5
2004		2	1	3	6	7,5
2005		1	1	1	3	3,75
2006		3	2	1	6	7,5
2007			1	2	3	3,75
2008	1	3	1		5	6,25
2009	4	1		1	6	7,5
2010	1	1		2	4	5
2011		2	5		7	8,75
2012		1		3	4	5
2013	1	1	4	2	8	10
2014	1			2	3	3,75
2015	2	2	2	2	8	10
2016		1	2	2	5	6,25
2017	2		2	1	5	6,25
2018	1			1	2	2,5
TOTAL	13 (16,25 %)	21 (26,25 %)	24 (30 %)	22 (27,5 %)	80	100

Source - Authors, 2022

At first, a relative balance between the fields of Information and Technology and Human-Computer Interaction is perceived (26.5% and 30%, respectively). The field of Design and Technology, in turn, does not have the same relevance among studies of cultural diversity and user experience, appearing in only 16.25% of the total. It is also noteworthy the considerable presence of studies allocated in different areas (27.5%), a part of these being in the field of administration and marketing.

The chronological analysis also allows for a diachronic understanding of studies in the fields of cultural diversity and user experience. It can be seen that the publications assume a relatively consistent frequency from 2004 onwards. However, it is only in 2008 that the number of texts reaches more regularity of flow, with an average of 5 texts per year. It is also possible to notice that specific studies in the field of design only started to be produced in 2008.

# 4.3 Analysis of papers by evaluating and evaluating cultures

The third level of classification identifies and compares the cultural contexts of the institutions producing the study (evaluators) with the context of the users studied (evaluated). The scale defined was the Nation-State, given the fact that almost all studies treat their sample from this magnitude. The identified nations were grouped according to the UN Classification Code M49[2] (UNSD, 2019). This classification was prioritized because it allows the perception of structural behaviours of each region (e.g., similar behaviour in East Asia). In contrast, the separation by continents was discarded as it would hide certain patterns and generalize the data (E.g., Northern Europe behaves differently from Eastern Europe). Table 3 organizes such data.

Table 3 - List of Regions and how many times each one appears in the total of articles, considering whether they acted as evaluators or evaluated (non-totalizing percentages).

	REGION	EVALUATOR	%	EVALUATED	%
AMERICA	North America	30	37,5	31	38,75
	Central America	1	1,25	4	5
	South America	5	6,25	5	6,25
EUROPE	Northern Europe	22	27,5	17	21,25
	Western Europe	14	17,5	16	20
	Southern Europe	2	2,5	3	3,75
	Eastern Europe		0	5	6,25
AFRICA	North African		0		0
	African Centre		0		0
	West African		0	1	1,25
	East African	1	1,25	4	5
	South African	2	2,5	3	3,75
ASIA	West Asia	6	7,5	9	11,25
	Central Asia	1	1,25		0
	South Asia	6	7,5	10	12,5
	East Asia	23	28,75	41	51,25
	Southeast Asia	3	3,75	5	6,25
OCEANIA	Oceania	5	6,25	5	6,25

Source - Authors, 2022

2 Code available on the link https://unstats.un.org/unsd/methodology/m49/
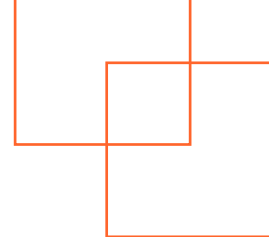
The data indicate an evident protagonism of the North America, North Europe, and East Asia regions in the studies reviewed. In the category of evaluative cultures, North America presents itself as the main exponent (37%), followed by East Asia (28.75%). These high numbers are partly due to academic partnerships between North American institutions with others in South Korea, Japan, or China (e.g., HAO et al., 2017). Northern and Western Europe also stand out as predominantly evaluating regions (27.5% and 17.5%, respectively). In turn, the other regions show low participation as evaluators (from 1.25% to 7.5%).

In the category of cultures evaluated, some particularities are perceived. North America still has relevance (38.75%), however, being behind East Asia (51.25%). These numbers show the great interest of North American institutions in the study of East Asian cultures, strongly encouraged by the economic protagonism of these nations in recent decades, in addition to representing a valuable consumer market (MARCUS, 2003). Northern and Western Europe still has a strong presence as objects of study (21.25% and 20%, respectively). In this category, regions such as West Asia (11.25%) and South Asia (12.5%) also stand out, representing countries such as the United Arab Emirates, Turkey, Israel, and India, also nations that have been asserting their relevance in the global economic scenario.

One of the factors that are most evident when analysing the data is the low concentration of studies in other regions of the Earth, with special emphasis on African nations. From a deductive perspective, it is possible to infer that academic interest in the field of diversity and user experience reflects the unequal levels of industrial development and relevance in the global market among the nations of the Earth, as characterized by Hall (2010) and corresponded in the present review.

4.4 Analysis of papers by the orientation of cultural analysis methods

One of the patterns that stood out the most in the body of works was the application of its principles of cultural analysis – many coming from the areas of applied psychology and anthropology – to collect the data sought. From the beginning, it became clear that this attribute would not easily

become a classification category, since most of the articles used a specific theory or method. However, considering that a few studies had a visible frequency among the texts, a comparative analysis between them was possible (Table 4).

Table 4 – Methods of cultural analysis identified and in how many papers they were used.

IDENTIFIED CULTURAL ANALYSIS METHOD	PAPERS	%
Cultural Dimensions (HOFSTEDE et al., 1991)	32	40
Hall's Communication Styles (PARK, 2015)	8	10
Nisbett's Theory of Cultural Cognition (CLEMMENSEN et al., 2007)	6	7.5
Technology Acceptance Model - TAM (SIGH et al., 2004)	4	5
Cultural Dimensions of Trompenaars and Hampden-Turner (PARK, 2015)	3	3.75
The cultural model of Marcus and Gould (JAGNE & SMITH-ATAKAN, 2006)	2	2.5
Theory of Rational Action - TRA (SHIN, 2012)	2	2.5
Cultural Usability of Sun (JAGNE & SMITH-ATAKAN, 2006)	2	2.5
Simon's Cultural Model (JAGNE & SMITH-ATAKAN, 2006)	2	2.5
Others (used only once)	46	57.5

Source - Authors, 2021

Table 4 shows the remarkable prominence of Hofstede's Theory of Cultural Dimensions (HOFSTEDE, et al.1991) (40% of the papers). The robust presence of this method in the area is analysed in several of these same works, demonstrating not only the justification for its presence but also giving space for questions about the reliability of the data obtained from it (CLEMMENSEN, 2011; SONDEREGGER & SAUER, 2013; REID et al., 2012; HEIMGÄRTNER, 2013, 2017; VALBUENA, 2017). Geert Hofstede's work consisted of collecting data among employees of the international headquarters of the American company IBM between 1962 and 1972 (HOFSTEDE et al., 1991). The author then produced a categorization of cultural behaviours and values in the form of four dimensions. Based on the results obtained with individuals of the same nationality, Hofstede would give a score for that country in each of the defined dimensions, thus producing a quantifiable scale. Its results, for being comprehensive, objective, and easily consulted, gained the attention of areas like administrative management and digital development. Among the criticisms presented about his theory is its generalist nature, based on an unrepresentative cut (employees of the same company) of the human behavioural totality in each country. They also argue that, because it is focused only on the "Nations" subdivision, the theory ignores social
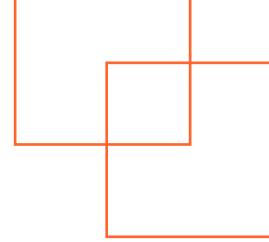
classes, regional cultures, or different ethnicities that may characterize the same country (HEIMGÄRTNER, 2013, 2017).

Some references in the review, there is also Hall's Theory of Communication Styles and Nisbett's Theory of Cultural Cognition (10% and 7.5% of the studies, respectively). Both approaches, unlike Hofstede, do not seek to restrictively categorize each cultural subdivision, but rather act like "lenses" through which we can assess human behaviour and differentiate its contexts (CLEMMENSEN et al., 2007; FAIOLA & MACDORMAN, 2008; PARK, 2015; CUI et al., 2015). Another point to be highlighted at this stage was the process of evolution of theories and methods of cultural analysis applied directly to design projects. The methods of Marcus & Gould and Simon & Sun (JAGNE & SMITH-ATAKAN, 2006) are characterized by the reference to the theories of Hofstede, Hall, and Nisbett, but they seek to propose adaptations for their fields of study within the scope of Human-Computer Interaction or of the design itself (JAGNE & SMITH-ATAKAN, 2006).

Finally, the articles are analysed based on their epistemological argument in the selection and conduction of methods for the study of culture. Theories such as Hofstede, Hall, and Nisbett stand out for their coding character, where the cultural information identified only acts as indicators for adaptations of design products, which characterizes them as cross-cultural, or transcultural, perspectives of design. Epistemic guidelines at the level of interculturality, in turn, should start from the analysis of communication and dynamics between cultures, where participatory design methods would be highlighted (VALBUENA, 2017). Clemmensen et al. (2017) and Gray & Boling (2018) reinforce that practices such as co-design and co-creation present themselves as alternatives for the real understanding of the cultural values of globalization by encouraging autonomous interaction between the agents involved in the project. In parallel, according to Hall (2010), studies with a multicultural approach are characterized by the recognition of culturally diverse contexts, but without assuming a propositional character, that is, without seeking the codification of each context or proposing the interaction between them.

Evaluating each text according to the epistemic guidelines discussed, we identified a predominance of the transcultural perspective (75 articles, 93.75%), followed by intercultural (4 articles, 5%) and multicultural (1 article, 0, 8%). This predominance of transculturality was expected due to the dominance of comparative experiments, whose central objective would be the codification and comparison of cultural values in different
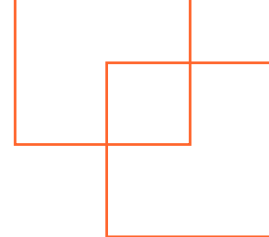
contexts at a global level to only correct the challenges for their direct consumption. Only five studies have a multi or intercultural orientation, namely: Rishbeth (2004) – multicultural; and Heimgärtner (2017), Valbuena (2017), Clemmensen et al. (2017), Gray & Bowling (2018) — intercultural.

Rishbeth's work (2004) stands out for having a different objective from the others, seeking to understand the manifestation of cultural values in the materiality of an urban environment (public squares) where communities of different ethnicities coexist. Her method is more directly similar to the studies of cultural anthropology and does not assume a propositional character, only an ethnographic diagnosis of the urban project. The studies by Heimgärtner (2017), Valbuena (2017), Clemmensen et al. (2017), and Gray & Bowling (2018), however, are similar in that they defend horizontal approaches to design practice, arguing in favour of the active participation of different cultures in intercultural processes. Valbuena (2016) explores the academic and pedagogical movement of design that culminated in the participatory design guidelines. For the author, the advancement of an epistemological field of its own allowed new methods to address design issues could be generated within the design discipline itself. In problems related to cultural diversity, the interactional and sensitive character that designers must have motivated the defence of methods such as co-creation and participatory design. For the author, interculturality "requires the production of new meanings through symbolic interaction between agents from different cultures" (VALBUENA, 2016, p. 30).

It is concluded that one of the current trends in studies that approach the interface between cultural diversity and the experience of users in design projects is that they assume an intercultural character. Thus, participatory methods of investigation and creation stand out, based on empirical practices and theories of cultural anthropology and developed from design tools (VALBUENA, 2016; GRAY & BOWLING, 2018), going beyond the epistemological structures of transcultural processes that alienate valued users and their cultural values.

5 CONCLUSION

Studies on the influence of the user's cultural context on their interaction with design products had their genesis shared among a diverse range of academic areas. This article describes this trajectory from an extensive literature review, exposing the diversity of theoretical and
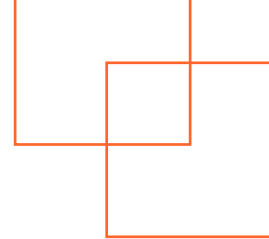
methodological articulations that composed it. In part, the results presented and discussed helped to strengthen an axis that can shape a cohesive field of knowledge. Even so, the diversified nature of the studies presented highlighted some gaps.

Firstly, it reinforces the fact that academic production would hardly contain the totality of cultural experiences in design project actions. Repositories and memories of design practices can offer a new range of understandings about the role of cultural diversity in the production of new products. Thus, it is understood that the results presented in this article could not assume generalist content.

It is also pointed out that the diversity of cultural analysis methods identified made a critical analysis of the practical procedures of the reviewed studies prohibitive. However, such an approach would be possible if made from a cutout considering only those papers that apply the same theory (Hofstede, for example). For a correlation of results to be possible, however, it is first necessary to formulate an epistemology within the domain of design that gives solidity to research-oriented cultural diversity. At this point, the organization of epistemic arguments proposed in the present work allows progress in the characterization of a cohesive system of studies. Despite such reservations, research such as the one presented in this paper has significant value as it is oriented towards the search for maturity in the academic field they intend to study. Therefore, it is expected that this work will contribute to the critical activity of design studies, opening space for new approaches that give continuity to the importance of cultural diversity within the practice of design.

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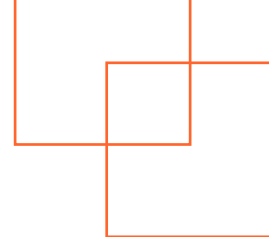
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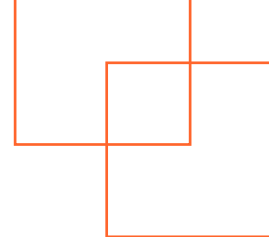
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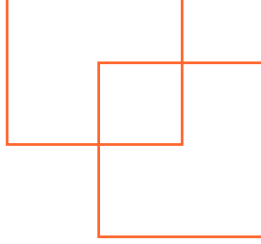
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