



Maria Dulce Loução and Luis Lança
Departamento de Projecto de Arquitectura, Urbanismo e Design. Faculdade de
Arquitectura, Urbanismo e Design de Lisboa- UTL. Member of CIAUD – Centro
de Investigação em Arquitectura, Urbanismo e Design – Lisbon, Portugal.
luismmlanca@gmail.com

Retail Design. Do we need a project instrument or a project tool?

Abstract

In this communication we write about the evolution of the study of the design tools that support the methodological infrastructure of the Interior Design and Architecture professional practice with special regard to the tools mostly used by Retail Design.

We intend to bring forward the concept that the study of the different design artifacts allow us to change the focus from the final product into the activities involved in its design process through a clarification of their participating role in the creative process.

The common design tools used in design as the sketch and the physical scale model may in a near future evolve as instruments that incorporate the ability to answer the retail design special needs allowing processes of delegation, evaluation and control that characterize the instruments in other human activities.

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In our conclusion we offer some insights for future development of the research around this problem space.

Keywords: Retail Design; Instruments history; Design Tools; Human Computer Interface; Design Artifacts.

1.Introduction

This document is the first public written exposition of our research and by that fact it's purpose is exploratory in kind and qualitative in content. We offer the reader a roadmap of the research currently under way and wish only at this point to present the possibility of a holistic approach to the problem space of the tools and instruments in the creative process in retail design.

The debate over the characteristics of the tools and the instruments as been stronger since the 50's pionner work of Herbert Simon. We have witnessed the proliferation of management instruments in science, economy, business and the studies have revealed that there is not in principle a great difference in the nature of the artifacts and tools used in these different contexts (Aggerly and Labatut, 2006).

In this line of thought the works over sketching (Gross and Do, 1996), the analysis of handmade drawings (Oh, Gross and Do, 1996), the creation of a conceptual tool supported by hand sketching (Gross and Do, 1995) cognition (Norman, 1991), cognition in Design (Cross, 2002) have been offering us specific insights without an holistic approach that could lead us to their successful adoption (Mehalik and Schunn, 2006).

Some of these works identified focus on the cognitive aspects of the relationship Human-Artifact (Norman, 1991; Ehn, 2008; Cross, 2002; Suwa and Tverski, 1996), the execution of handmade drawings and/or its substitution by alternative digital systems (Do and Gross, 1996; Ho, Gross and Do, 1996; Orlikowski and Gash, 1994; Ehn and Malmborg, 1988), and few studies deal with the dialogue between the user and his artifact either in an individual or group context and even fewer investigate the impact of these tools and artifacts in the social-economical, political and managerial structures of the workplace where

they are planned to exist and perform. The researchers identified can be seen in two groups; one group is mainly interested in exploring one aspect of the design process (sketching, workplace, participation, formal idea generation, etc.) and the other group has a main interest in overcoming the difficulty of operating or complementing the already existing tools (digital tools, CAD, Virtual Reality, etc.). Obviously these approaches by their limited focus affect the potential of their adoption in the workplace and the measurement of their performance.

On the other hand assuming that the traditional design tools in design and architecture as the sketching, scale models, prototype, or the photography have the means to support the solution of the problems of the projects in the real world has placed a limitation to the development of the research by trying to copy some of the original functionalities of each of them without questioning the mental process supported and the how they usually mix in a seamless way in the development of the creative process, the professional practice and different approach of novice or experts in design.

2.Tools of the Trade

Traditionally the architects and designers use objects, artifacts, tools and instruments to support their design process in the exploration, conception, implementation and communication of their ideas in the form of representations (Visser, 2010). The fact that most of the definitions of Design ignore the nature of the activity focusing only in the final products hides the fact that the designer works in the specification of the object through intermediate artifacts and doesn't make the final product. For this reason the designer produces the specifications for the execution of the final product through plans or descriptions or even other forms of representation of the final product (Archer 1965/1984; Brown and Chandrasekaram, 1989; De Vries, 1994; Hoc, 1988; Schön, 1988)

The production of the representations through these artifacts consists of the construction (generation, transformation and evaluation) of

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representations assuming the physical, symbolic internal or external form and are "man-made as opposed to natural" (Simon, 1969/1996) "until they are so precise, concrete, and detailed that the resulting representations– the specifications– specify explicitly and completely the implementation of the artifact product" (Visser, 2010).

The intermediate representations assume physical and digital form and promote the iterative cognitive process individually or in group and consist of the evolution of the problem space from its formulation (the briefing) until the final decision (the final representation). The final representation differentiates itself from the intermediate versions mainly by the degree of specification, completeness and abstraction. According to Visser (2010) the design solution consists in the progression along these three stages identified as the construction of representations of the problem, the generation of solutions and the evaluation of the solutions (Visser, 2010). For Soderman (2002) in spite of the existence of different types of representations very little is known on the form they affect the final user of the design. His comparative study of sketches and 3D Virtual Models demonstrated that the users did not exhibited a bigger or better perception of the objects in one or other forms of representation.

Schön (1983) describes the design process as "an interactive process of framing the design problem, discovery mediated by the materials and subsequent reframing of the problem in the light of the discoveries made during designing" (Schön 1983). For Alexander (1964;1977), Jones (1970) and Herbert Simon (1996) the artifacts, and for this matter the instruments, where not relevant to the creative process since the activity was seen as an internal cognitive activity, individual and separated from the exterior and any possible interaction with its environment.

The use of artifacts to support the process of thinking is not specific of the activity of design. The studies of users of the computer game Tetris showed that "certain cognitive and perceptual problems are more quickly, easily and reliably solved by performing actions in the world rather than by performing computational actions in the head alone" (Kirsh and Magilo, 1992. pp.224).

As proposed by Leont'ev (1974) one of the precursors of the Activity Theory following the pionner work of the soviet psychologist Vygotsky, an activity consists of subjects, objects, actions and operations. Another aspect of the Activity Theory is that the artifacts are mediators of the human activity and that is why the focus of interest of the Activity Theory is in all the activity surrounding this interaction.

Hutchins (1995) proposed with the notion of Distributed Cognition the expansion of the focus of the traditional view of the cognitive sciences to include the people in their social and physical context. Even though he agreed with the traditional concepts of the cognitive theory for him it's only when applied inside complex sociocultural systems that these processes occur and not exclusively restricted to mental processes. His seminal study of the operation of a ship from the command bridge through the relation of the crew with the navigation equipment and the environment in which it occurred set up the full spectrum of the cognitive interaction.

Lucy Suchman (1987) introduced the concept of Situated Action in the sequence of her research of several years at Xerox according to the premise that the actions of the individual are influenced by the specific situation in which he sees himself. His paths of action are in constant adaptation depending on the needs to be considered at every moment. On this respect Nardi (1996) considers that all three approaches are "valuable in underscoring the need to look at real activity in real situations and in squarely facing the conflux of multifaceted shifting, intertwining processes that compromise thought and behavior" (pp.30). The three theories "devalue the traditional notion of cognition as being only associated to the mind and interconnect the cognition process with the mind, the activity and the world" (Bucolo, 2008. pp. 41)

2.1.The First Tools or the Better Instruments

The evolution of the instruments has a history of around 400 years in its contribute to the development of science. The term "Scientific Instrument" describes a complex series of artifacts used in very different technical and scientific practices. This classification includes

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instruments utilized for specific scientific purposes in the execution of experiments or measuring of natural phenomena. There were also instruments and devices used for educative purposes that demonstrate certain scientific principles. A third category of scientific instruments is represented by the artifacts used in the various technical practices as the navigation, the construction and surveying since the XVII century (Holland, 1999).

The "Phylosophical" instruments were used mainly by the Natural Philosophers to investigate the natural phenomena where named this way from the second half of the XIX century as "scientific".

The greatest accomplishment of the "phylosophical" instruments at that time was the emphasis on the visualization of proof in the demonstrations against the logical and mathematical demonstration of aristotelical tradition that revolutionized the Sciences of the XVII century. For Francis Bacon in his writings of the *Novum Organum* the word already meant a physical tool and an intellectual method as he states:

"Man, Nature's Minister and Interpreter, acts and understands only so much of the ordering of Nature, as he hath observed by the assistance of Experience and Reason: More he neither doth, nor can apprehend. Neither the Hand alone, nor an Understanding left to itself, can do much. Things are performed by instruments and helps, which the Understanding needs as much as the Hand. Now as Mechanick Instruments assist and govern the Hand motion, likewise the instruments of the Understanding prompt and advise it" (Taub, 2011. pp.691)

The concerns about the relationship between the physical tools, the hand, the intellect and the Nature are a recurrent theme in the historical literature dedicated to the scientific instruments and is full of ambiguity of the meaning of the term "instrument". In the publications researched the meaning of the concepts of instruments, tools, artifacts and devices is used interchangeably without really attend to the specificities of each of them. Even though the Oxford English

Dictionary (OED) refers that the term “instrument” can be applied to “devices whose primary function is to respond to a physical quantity or phenomenon, esp. by registering or measuring it, rather than to accomplish an effect, and which may function with little direct human intervention and be of complicated design and construction” (Taub, 2011, pp.692) the OED accepts that the designation of “instrument” is “now usually distinguished from a tool, as being used for more delicate work or for artistic or scientific purposes”. This elevated purpose is further defined in the examples offered “a workman or artisan has it's tools, a draughtsman, surgeon, dentist, astronomical observer, his instruments” (Taub, 2011, pp.692).

The design and adoption of the use of the instruments has been influenced by many factors; some of theoretical nature and other technological while the commercial, economical, political and social have their share of importance the same as general trends that propagated their use. For Ken Arnold and Thomas Soderqvist there is much to gain in exploring the concept of “instrument” from the philosophical, intellectual and anthropological point of view in the sense of understanding the evolution of the instruments from the tools, the hands and the fingers.

The development of the management instruments and their implication in the support of organizational routines (Pentland and Feldman, 2008; Orlikowski, 2007) and the group dynamics will not be treated in this document but it is worth to say that both authors defend the concept that the instruments of management are both the product of intellectual rationalization and the political dimension implicit or explicit that emerges in their application to the organized activities.

From the etymological point of view we should also stress the fact that the design of artifacts, in this case instruments, should not be focused only in its use in specific conditions but also the effect they may have in the behaviors (Aggeri, 2011; Suchman, 1987; Hutchins, 1983). This is to say that instruments are not neutral. They perform as an “Epistemic Machine” that transforms the perception of reality allowing the construction and the interpretation of new phenomenon's (Hacking 1983). For some authors the capacity of the instruments to acquire

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other dimensions besides their original role as tools is an differentiator element of the activity and not from the instrument itself as is the case of the management tools as the worksheets, the reports and checklists for example that became instruments from the moment that they allow a reorganization of the original data offering a new insight over the raw data (Aggeri, 2011) as the example given of the water counter that was designed to monitor the water flux (a physical phenomenon) but that from the moment it is used to measure the water consumption it systematizes a platform for the new economical and management services of the water supply sector (supply, contract, billing systems, services, etc.) for individual clients (Hatchuel, 2000).

We see then an instrument becoming “of management” by the activities it contributes independently of its nature “when it participates in three basic acts of management: delegate, evaluate and coordinate” (Hatchuel and Moisdon, 1993).

Another important aspect in the literature about instruments in management is the environment where the activity occurs and its organization, the environment or “dispositif”. The environment denotes the organization of instruments and actors (Foucault, 1994; Girin, 1996). The organization of the different components is a deliberate act of management: it is conceived, organized and is modified if necessary with specific objectives (Aggeri, 2008) as we have come to know in Design and Architecture with the Design Studio.

3.Contributions of other disciplines

Other disciplines explored the role of the instrumentalization of foucalnian inspiration like the political science (Lascoumes and Les Gaules, 2004), the sociology of economy (Callon and Muniesa, 2003; Callon et al, 2007) and others. The processes of institutionalization and rationalization of the management cannot be separated from the instruments that codify and stabilize them in schemes of action (Hasselbladh and Kallinikos, 2000).

Rabardel (2005) goes further when he systematizes the research in the

expert systems distinguishing between a "productive activity, oriented towards doing and acting" and a "constructive activity, oriented towards growth, maintenance and reconfiguration of the capacity to do and to act" (Rabardel, 2005). Paradoxically the study of the Situated Action in the management practice in some of the organizations led to the dissolution of the strategic objectives in the eyes of the researcher.

4.The Box of Tools

The architects and interior designers all over the world work with a set of tools that include several artifacts. Some meet the coordinative functions as objects of persuasive communication while others help to develop a general understanding of an idea or a task and others still may work as recall of design principles, approaches, methods or open questions. Still some others help to maintain the control of the activities and materials while others represent the design decisions to a predetermined level of detail and technical precision.

For each of these artifacts one or more connected activity exist and so each artifact is supported by specific practices of production, reading, notation, modification, monitoring, evaluation. One frequent example of this dynamic is the Quist Protocol by Schön (1983) where Petra (a student of architecture) reviews her project with Quist (the academic) and through the drawings and the reflexion of the conversation they evolve in the design as Schön reports in his writings:

"...Three dimensions of this process are particularly noteworthy: the domains of language in which the designer describes and appreciates the consequences of his moves, the implications he discovers and follows and his changing stance toward the situation with which he converses..." (Schön, 1983. pp. 95).

Some of the artifacts are propositional, meaning that they are mainly verbal and largely abstract as a design report that describes the project. These forms have been explored by Parrish (2006), Appleman

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(2005) and Botturi (2006). In some activities of design the artifacts are mainly descriptive, concrete, visual or constructed. These include sketches, concept diagrams, prototypes and finished artifacts (products) or published representations of these artifacts.

Boling and Smith (2010) present a possible organization of the different tools based on the category division in Process Artifacts and Product Artifacts (Boling and Smith, 2010). Process Artifacts according to these authors includes the various types of sketches (conceptual sketches, decision diagrams, form or visualization sketches, etc.) and the documentation in the shape of reports in the different phases of the project. On the other hand Product Artifacts include the completed design work as the instruction manuals, final documentation for the final user, presentation materials and records of episodic memories of revisions and/or experimentation of the designed products. These categories in spite of the classification proposed overlap frequently since the role of a type of artifact depends on the form how it is used at a certain moment of the design process.

4.1. Visual Process Artifacts

Hand drawing

The more popular form of process artifact is sketching. It is probably the top researched design tool and is considered the "core capability of the designer for idea generation and creativity" (Schön, 1983; Goel, 1995; Suwa and Tversky, 1997; Purcell and Gero, 1998).

Ferguson (1992) proposes a categorization of the sketches in "thinking sketch, the talking sketch and the prescriptive sketch.". Thinking Sketches help the designer to focus on the task and guide the designer in the non-verbal thinking. Talking Sketches refer to the ones that support the group discussions and are generated expontaneously during the meetings of the team. The Prescriptive Sketches are the ones used to communicate with the members outside the design team. The study of the sketches further reveals the connection between the two modes of representation visual- propositional (mostly symbolic); and analogical ("quasi-pictorial, spatially depictive") (Ferguson, 1992).

The oscillation between the propositional thinking and the descriptive thinking presuppose two ways of thinking in the design process defined as seeing as and seeing that. The first type is descriptive and based in the drawing and the second as non figurative argumentation (Goldsmith, 1991). In experienced designers this oscillation occurs with greater frequency. Suwa and Tversky (1996) when researched the drawings of students and professionals in architecture agree with this analysis when they conclude that the participants in their studies explore not only the visual relations between the parts but also the functional relations (as the illumination and the circulation).

Goel (1995) building on the investigation of Goodman (1976) tried to explain the cognitive symbol system used in sketching to which Fish and Scrivener (1990) called of indeterminacy based in the neuropsychological theories of Kosslyn. To Vicenti (1990) the non verbal thought that constitutes the sketching, drafts, graphs and models is a critical way of thinking that lies inside the category of the design instrumentalities. This method of production of blind variations (because the final result is not predictable or anticipated) uses consistent processes of selection of the elected variations. Baird (2004) even though limited his study to the scientific instruments advances the hypothesis that "instruments on a par with theory, bear knowledge" (pp. xvii).

Other studies focused around the several aspects of the utilization of sketches and the impact they have in the creativity and cognition that leads to the creation of new knowledge (Purcell and Gero. 1998) in the tentative process that moves from the generic description to the specific description (Van der Lugt, 2005) in the use of the digital hand drawing in the conceptual phase of the design process (Bildá and Demirkan, 2003) in the conversation with the medium (Schön and Wiggins, 1992) or in the comparison with the physical objects (Harrison, 1996; Brereton, 2000; Schön, 1983).

Digital Drawing in 2D and 3D

The architects work with a small variety of digital artifacts. Many of these fulfill coordinative functions as objects of communication or

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"persuasive artifacts" and others as reminders of design principles.

Bucolo (2008) in his work considers that any artifact without physical properties as in the case of a virtual artifact still has the ability to incorporate design concepts and knowledge through its virtual representation (Bucolo, 2008).

Weisberg (1995) describes three software tools used today by engineering designers: Illustration Desktop Tools that generally assist the designer in sketching of 2D representations of 3D shapes using the computer and some type of interface instead of the pencil and paper. The second tool, CAD is an artifact in which every decision is registered and specified—drawings, calculations, technical descriptions, specification of products, etc—in architecture projects where different people work in different parts of the building solving different parts of the problems. Their work has to be coordinated so the artifact offers a central role of coordination in the process of planification subjected to a strict network of proceedings of approval and inclusion. The CAD plans frequently cross the professional and organizational frontiers. The third tool referred by Weisberg (1995) is CAID that allows the designers to rapidly draw and visualize concepts as three dimensional objects allowing the real time manipulation inside a computerized environment.

The introduction of the CAD technologies changed the time and cost needed to the development of the projects. In industrial design the research suggests that the time savings happens more frequently and dramatically in the final phases of the design process when the concept is already decided (Buckner 1993; Mahoney 1994; Potter 1994; Laurenceau 2000; Tovey, Porter et al, 2003). The arguments in favor of the use of CAD tools in the early conceptual phase suggest: Minimizing the amplitude of mis-interpretation between design and production; reduction of the duplication of work (design modeling/engineering modeling) and the possibility of concurrent product development (Buckner, 1993). Goel (1995) presents some arguments against the use of the interfaces CAD in the conceptual phase considering that the sketch as imprecise, ambiguous, fluid, amorphous and indeterminate representation is better suited to resolve the wicked problems of

design against the precision indispensable for the CAD systems. Hannessey (1994) and Tovey (1989, 2003) also studied the use of the CAD systems in the conceptual phase in industrial and automotive design and agreed that the systems were not as user-friendly in comparison with the traditional processes and techniques used by the designers in the initial phases of the design process.

The response of the researchers to the problems of Human Computer Interface in design has been to develop interfaces with similar behavior to the traditional tools that allow to draw with digital pens, carve virtual plaster, etc. creating the digital representations in the sense that Weiser defined as "making computers available throughout our physical environment while making them effectively invisible to the user (Weiser, 1993). Other researches in the same line of thought developed the Tangible User Interfaces-TUI (Ishii and Ullmer, 1997), the use of gestures, voice and writing (Abowd, Mynatt and Rodden, 2002) and the manipulation of 3D virtual models with both hands (Cutler, Fröhlich and Hanrahan, 1997) in an Augmented Reality or a Virtual Clay Modeler for the automotive industry (Hummels and Overbeek 1998) that has been defined as Ubiquitous Computing.

Very few studies have compared directly the use of physical and virtual prototypes inside the environment of design that allow to evaluate the effect on the final product of one or the other approach but the apparent benefits of the adoption of virtual by the speed to obtain the needed representations and the lower cost of its production as well as the easiness for the team to access and participate in the transformation to the different variations in real time seems to offer great advantages to the physical versions. We can say that this is the point where the adoption of these technologies ends since that for certain product categories the sensorial experiences as the smell, touch and haptic contact are not possible to reproduce in a satisfactory way in virtual environments.

Physical Artifacts

The physical models have always had an important role in the artifacts tools of the architect and of the artistic practices throughout the

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history and Alberti in the XV century systematized its application in the architecture design theory as "Having constructed...[the model], it will be possible to examine clearly and consider thoroughly the relationship between the site and the surrounding district, the shape of the area, the number and order of the parts of a building, the appearance of the walls, the strength of the covering, and in short the design and construction of all the elements" (Lepik, 1994, pp.27ff) . Very little is known of the use of models before the XIV century but some documents suggest that they were not used in the conceptual phase of the project (Lepik, 1994).

The advantages that the scale models that we use today as instruments of exploration, communication and prescription seem to have evolved as an advantage over bidimensional drawings. They are said to have allowed the affirmation of the independence of the architect from the construction site that have remained until today.

The studies identified in this research focused mainly in the role of the scale models in the design process as an integral piece and not as a result of the process (Stoll, 1999; Bucciarelli, 1999; Yang and Epstein, 2005; Brereton, 2000; Logan and Radcliffe, 1998; Lindemann, Assmann and Stetter, 1999).

4.2.Product Artifacts

The episodic memory of the design of artifacts or from the contact with artifacts design by others or still the forced or fortuitous contact with descriptions and representations of artifacts as in the research of the influence of precedents forms a very important part that emerges as a differentiator from experienced designers in relation to the novices (Lawson 1980; Cross 2001; Lawson 2004; Vicenti 1990; Oxman 1994). The episodic memory, the knowledge inherent to the artifacts and the fundamental concepts in one way or another from the conscious examination of the product artifacts allows the designers "to be able to browse freely and associatively between multiple precedents [and] browsing enables the discovery of new, often unanticipated, concepts

in precedents" (Oxman, 1994).

5.The needs of the retail design stakeholders

Through a small online survey produced by the authors to retail designers, retail promoters and consumers in the two social networks (Linkedin and Facebook) it became clear that there are aspects related to the physical properties of the retail spaces and to the intangible properties of the brands and products or services considered more important to some of the stakeholders than to others. Even though some elements are considered consistently as more important in a quality scale the professionals inquired assumed that some of these are generally left unsolved as others get most of the resources in the design process.

The fact that each design studio and his client negotiate the elements to the solution in a fluid and complex environment as it is the design meeting can mean that a final quality and outcome cannot be anticipated and all of the problems identified by both stakeholders have no optimal solution but only a contextual compromise.

Also the fact that the consumer information can be collected by different methodologies that lead to indeterminate biased interpretations means that the stakeholders can hardly count with them as reliable data or as a strategic raw data to be instrumentalised by some sort of artifact or device.

Another important aspect is the holistic identity created by the sum of all the tangible and intangible elements exists only at the moment they are fully assembled in the real world. The result and impact of the different elements of design and retail requirements can hardly be anticipated in the early concept phases greatly because of the lack of appropriate metrics, tools to measure them and instruments make sense of the data.

We define each of these categories as a framework to be developed in future research as: Design (all aspects related to the design, tangible and intangible of the space and the environment created); Product (all

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aspects related to the product regarding its formal and aesthetical characteristics including the intangibles of the services added; Consumer (all aspects related to the behavior of the consumer before, during and after the purchasing of the good; Management (all aspects related to the management of the retail business including intangible and tangible and the services offered).

As a reference for future research we list below the first choice in order of importance of the aspects identified by the participants in the survey in a total of 100 answers to the questionnaire (around 1% of participation).

5.1. More important aspects in retail design for designers.

These are grouped in design, consumer, product and management concerns:

design,

Flow, lighting, merchandise display units, display of the product, design/branding, user experience, design of the retail space reflect the brand, layout, wonderful design, rest rooms, relationship of the brand or merchandise offering to the overall design, location, impact, visually appealing, innovation, durability of the materials, distinguishable concept, accessibility, quality of finishing's, global quality of the design, accordance to rules and legislation, safe to the clients.

consumer,

to increase sales for the customer, knowing the brand, customer needs,

product,

quality of the product, product offer and service offer,

management,

budget requirements, brand

5.2. More difficult aspects to obtain good results for designers

These are grouped in design, consumer, product and management concerns:

design,

relevance to the target audience, storage space, brand elements are not integrated into the display system, user Interaction and experience, environmental, storage space, rest rooms, branding, experience, technical/digital innovation, integration of visual consistency in delivery of the customer experience, innovation on a tight budget, loading and unloading space, bad infrastructure in window shop, furniture, selection of materials, Flow, accessibility, acoustics, human factors, global quality, special finishes.

consumer,

(no comments from the participants)

product,

(no comments from the participants)

management,

Budget, high quality for less, working within budget and time constraints,

5.3. Biggest concerns and dissatisfaction from designer about promoters work (in-house or external).

These are grouped in design, consumer, product and management concerns:

design,

Initial rollouts of a chain store can require multiple tweaks, smaller details such as that some furniture has had some marks, lack of attention during execution stage, , number of displays in commercial area, quality and durability of the materials.

consumer,

(no comments from the participants)

product,

bad sales, supply and demand, storage and reception of merchandise, management,

running over budget with client driven change orders, cost, inability to get buy-in from franchisees and/or internal stakeholders, cost of construction, final budget / costs, over-budget, their [promoters] poor preparation and proper budgeting, fees of the designer, dissatisfaction

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usually occurs when the client has appointed a committee where there are many and varied opposing and personal opinions,

5.4. More important aspects for promoters.

These are grouped in design, consumer, product and management concerns:

design,

Display, brand consistence, clear path to our store, creativity.

consumer,

shopper engagement,

product,

(no comments from the participants)

management,

sales/m²

5.5. More difficult aspects to get a good result for promoters.

These are grouped in design, consumer, product and management concerns:

design,

Complexity of fixtures, designing to shopper needs, efficiency in the communication

consumer,

branding, achieve an unforgettable customer experience,

product,

(no comments from the participants)

management,

(no comments from the participants)

5.6. Biggest concerns and dissatisfaction from promoters about designer work (in house or external).

These are grouped in design, consumer, product and management concerns:

design,

(no comments from the participants)
consumer,
(no comments from the participants)
product,
Flexibility of fixtures to allow merchandise diversity,
management,
costs, construction schedules,

5.7. Biggest concerns and dissatisfaction for the consumer.

These are grouped in design, consumer, product and management concerns:

design,
wayfinding and category cohesiveness, not enough mirrors, bad service areas, not enough products, bad lighting, layout/planning, navigation and signage,
consumer,
bad smells, materials and furniture where people get hurt or get bruises, not appropriate for the age of consumer, lights shining in eyes,
product,
product maintenance, price of merchandise, poorly organized and merchandised retail environments, difficulty in finding merchandise, cluttered, bad or nonexistent visual merchandising, lack of assortment, not enough products,
management,
(no comments from the participants)

6.Conclusion

In this communication we proposed ourselves to the very difficult task of covering fifty years of research and around 400 years of empirical experience of the human kind with instruments. We expect that by this time in our communication we were able to make a point concerning

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the need for a change of focus from the research of the final products to a much consistent focus on the design process in Interior Design and specifically in Retail Design so common in the historical depiction of these professional activities in books, magazines and research.

The research in Interior Design and the more recent Interior Architecture disciplines is very scarce besides the education field and in general not very robust in etymological terms. There is a great hunger for studies in these areas that could fuel other areas of the social sciences with empirical and theoretical methods and research. We believe that with this small contribute we can attract the interest of more researchers to study the process of design in retail design and therefore expand both it's value and the quality of the professional practice to all the stakeholders involved while promoting at the same time a true sustainable lifestyle and a more ecological and universal approach to consumption and human experience.

There is much to gain in defining an instrument to support the growing complexity of the decision involved in the retail projects makes it necessary to define very early in the conceptual phase over the sustainability, economical, functional, ergonomic and commercial issues maintaining high levels of innovation and aesthetic originality that qualifies the project and adds value independently of the methodology used.

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