Usability and User Experience, Vol. 110, 2023, 428–435
https://doi.org/10.54941/ahfe1003217

Experience Compelling Map: An Auxiliary Tool for User Experience Design in Physical Retail

Paulo Eduardo Hauqui Tonin and Elton Moura Nickel

Universidade do Estado de Santa Catarina, Florianópolis, SC 88035901, Brazil

ABSTRACT

Design is about people and therefore they must be at the center of every design process. Although Focus Groups have a strong indication for researches that involve users in a retail context, no single method can collect by itself all the essential information for a complete investigation, especially when it is related to user experience. The Experience Compelling Map, a tool with a Design Thinking approach, is an interesting addition to Focus Groups, as it can structure the method and help eliminate its disadvantages. In the present study, a sample of 25 volunteers is equally distributed into five groups according to the Generation they belong: Silent Generation, Baby Boomers, Generation X, Generation Y and Generation Z. Based on the results obtained from the experiment, it is possible to propose guidelines to improve user experience in physical retail. The guidelines are divided into categories and are a synthesis of the insights collected from users, showing that the tool can not only be a great ally to cognitive-behavioral methods, but is also capable of significantly contribute to user experience design processes.

Keywords: Cognitive ergonomics, User-centered design, Experience design, Physical retail

INTRODUCTION

The growth of online shopping is a recognized phenomenon and its strength has become even more evident during the Covid-19 pandemic. Despite the ease and speed of digital retail, one cannot lose sight of the physical store, responsible for ensuring the vitality of urban centers and promoting a more humane shopping experience. Current market and consumer movements call for a "Phygital" reality, an expression designed to represent the intersection of physical (offline) and digital (online) commercial environments.

Good and accurate Design predictions require a lot of information and it is up to the Designers to encourage ways of obtaining information in a more sympathetic approach, using methods that sensitively map users' perceptions. To create pleasant experiences, one must understand the user in a holistic, complete way. Therefore, it is necessary to understand how people enjoy and occupy physical retail, the role it plays in their lives and how the user's relationship with the store takes place. The secret behind the experience offered lies in the choice of user-centered evaluation methods that best adapt to the user-environment relationships that one wishes to investigate.

Design is about people. According to Lowdermilk (2018), one cannot create products for users without going to them. User-Centered Design (UCD) emerged from Human-Computer Interaction (HCI) and essentially consists of a design methodology based on people's true needs and interests, developing products and services that are easy to understand and use, consequently generating satisfaction. Deep knowledge of the public is the reason for the success of brands that are commonly associated with good commercial performances. After all, everything is created with the intention to become part of people's daily lives.

By analysing the complexity of user behavior throughout their purchase journey, Experience Design works on the store's image and allows the elaboration of strategies that involve and conquer users during their stay at physical stores, increasing the possibility of sales and satisfaction. The image of a store, according to Martineau (1958), consists of a complex of attributes such as layout and architecture, symbols and colors, advertising and sales personnel. Users often visit stores whose image is congruent with their self-perceptions and unconscious needs and therefore the store's image influences purchasing behavior (DARLEY & LIM, 1993).

Methods to Evaluate Users and Assist Experience Design Processes

An intrinsic relationship can be noticed between Cognitive Ergonomics and User-Centered Design. Cognitive Ergonomics comes from Cognitive Psychology and its studies are linked to memory, concentration, attention, reasoning and decision-making processes. User Experience (UX), one of the focuses derived from User-Centered Design, addresses the entire experience that the user has with a product or service, including physical and emotional reactions (LOWDERMILK, 2018; STERNBERG, 2016).

Cognitive and behavioral methods, such as the focus group, have their original foundation in the disciplines of psychology and are strong allies of User-Centered Design and UX. These user assessment methods or techniques provide information about users perceptions, cognitive processes and potential responses. The fifteen cognitive and behavioral methods, for Stanton et al. (2004), are classified into four groups: a) General Analysis Methods, b) Cognitive Task Analysis Methods; c) Error Analysis Methods; d) Methods of Situational Analysis and Mental Load.

Tonin (2021), deriving out of Stanton et al. (2004), presents a selection of methods related to usability and decision (making), assuming that these, as they deal with consumer satisfaction and the act of purchasing, are the most relevant in investigations involving retail environments. The methods selected by the author are: 1- Interview, 2- Verbal Protocol, 3- Repertory Grid, 4- Focus Groups, 5- HTA (Hierarchical Task Analysis), 6- CDM (Critical Decision Method) and 7- ACWA (Applied Cognitive Work Analysis); the first four belonging to the General Analysis Methods and the last three to the Cognitive Task Analysis Methods.

With a strong indication for research involving user experience in physical retail, group interviews allow researchers to gather a large number of opinions at the same time. In focus groups, participants can also support each

other in saying things that they, otherwise, would not be willing to discuss with an interviewer alone. However, conducting the group interviews and analysing the data can be time consuming. They require extensive planning and an expert moderator, as the lack of standardization in the application can raise concerns about their reliability.

For Stanton et al. (2004), no single method can collect by itself all the information that is necessary to conduct an effective research and, therefore, to achieve factual results, it is advisable to use a combination of methods. In the case of researches involving retail, such methods can be personalized and related to the brand, its target audience and commercialized products.

Design Thinking is fundamentally an exploratory process that seeks to translate observations into insights, and these into products and services that improve people's lives. If design, by itself, is about providing a satisfying experience, design thinking is about creating a multipolar experience where everyone has the opportunity to participate in the conversation. It starts with divergence, the deliberate attempt to expand the range of options rather than limit them. Professionals working with this approach observe how people behave and how the context of an experience affects their reactions to products and services. They take into account the emotional meaning of things as well as their functional performance. Moreover, they try to identify people's undeclared and latent needs, translating them into opportunities (BROWN, 2010).

To facilitate users' understanding and ensure greater participation during a focus group session, design-thinking tools as the Experience Compelling Map can be incorporated. In order to illustrate the benefits of using this particular tool as a support to the user experience design process in physical stores, this study presents an experiment in which the tool is used during focus group sessions involving 25 volunteers equally divided between the five generations they belong: Silent Generation (SG), Baby Boomers (BB), Generation X (GX), Generation Y (GY) and Generation Z (GZ).

METHODOLOGY

The present study is characterized as an experimental research. The data is qualitative and obtained through a structured process, gathering insights and opinions from users. The sample of 25 volunteers is equally distributed into 5 groups according to the consumption generation to which they belong: 1-Silent Generation (62 years or older); 2- Baby Boomers (50 to 62 years old); 3-Generation X (35 to 49 years old); 4-Generation Y (22 to 34 years old); 5- Generation Z (18 to 21 years old). The division of generations follows the standards defined by the Nielsen Norman Group. Due to the Covid-19 pandemic, the experiments took place in October and November 2021 synchronously in a virtual environment (Google Meet).

In order to standardize and improve the focus group method, the experiment incorporates a design-thinking tool: the Experience Compelling Map. In this tool, accessed by Tonin during a Workshop held at The New School-PARSONS in 2018 and conducted by Melissa Rancourt, volunteers are

invited to share insights according to a structured exercise that sequentially maps the experience. The moderator starts the exercise by describing its objective "We will do a design thinking exercise to understand and change user experience in a physical store". Subsequently, the moderator frames the camera for a whiteboard and creates five columns with the following titles for each: 1-Attract (What happens before entering the store); 2-Enter (What happens when the user arrives); 3-Engage (What happens during the main offer); 4-Exit (What happens when the user prepares to leave); 5-Extend (What happens after the user leaves the store and keeps him/her engaged).

For each of the five moments of the experience, the moderator asks the participants which aspects could be included in order to make the experience more satisfying and memorable. With the aim of mapping the different points of contact between users and the physical store, from before entering until the moment one returns home; *post-its* are used to record the activities shared by the volunteers for each stage of the experience, such as thoughts, words, insights and opinions, which are distributed within the columns created on the board.

RESULTS

In order to facilitate the reading and transcription of the results obtained with the Experience Compelling Map, all opinions and insights shared by users were grouped into 14 categories. The function of each of the categories is to represent a series of words and comments made about each theme (see Table 1).

In Figure 1, it is possible to see how the different generations distributed the categories during the five moments of the experience. By analysing each category separately, relevant information was revealed.

Generations X and Y insights involving technology, for instance, were quoted during the end of the purchase experience, at the exit and extension phases. This is due to the fact that participants from these generations indicate the need for a faster exit, through faster payment methods and without human interference, such as self-checkout devices. As for the Silent Generation and Baby Boomers, technology was evidenced at the beginning of the experience, by the moment of attraction. Users of these generations reported that *Instagram* and other social networks can attract them to a physical store through images, comments and ratings; however, they prefer a more analogical relationship at the end of the shopping journey, through the staff assistance.

Solutions involving sensory stimuli (VS, OS, SS, TS, and HS) were widely mentioned by participants of all generations, being perceived mainly in the first stages of the experience, contemplating the moments of attraction, entry and engagement. During the engagement, they became even more evident, showing the great influence they exert on the user when he/she embraces the discovery and choice of the product. It was noticed that in all phases in which they were quoted, users presented ideas that led to a combination stimuli (see Figure 2).

Table 1. Categories and insights (Author. 2008).

Category	Insights
VS or Visual Stimulus	Showcase, product display, colors, presence of focal points, visual media (screens and televisions)
OS or Olfactory Stimulus	Global aromas, specific smells
SS or Sound Stimulus	Ambient sound, music
TS or Taste Stimulus	Offer of food and drinks, "treats"
HS or Haptic stimulus	Tasting and touching products, furniture texture
EA or Environmental Arrangements	Circulation, accessibility, logical and clear sectorization, organization, breadth, layout
SE or Service	Empathy, information with ownership and security, accessible conversation, search for feedback, receptiveness
TC or Technology	Quick payment, pre- and post-sales contact, use of social networks, little human intervention, "instagrammable" spaces, use of applications and other facilitating devices
EQ or Environmental Quality	Lighting and luminosity, environmental comfort, visual comfort, temperature, cleanliness, spaces for permanence (sitting)
PQ or Product Quality	Quality of materials, origin
PA or Packaging	Special care when packing, packing according to need, material innovation, possibility of using it as a bag (ecobag)
SF or Surprise Factor	Offer of "treats" and samples, presence of something that instigates curiosity, boldness, unusual element, breaking rhythms in the exhibition of products
SC or Sustainability and Social Concern	Donations to communities, use of recycled materials, care with the origin of materials, non-polluting and reusable packaging
PR or Personalization	Customization, delivery of a card referring to the person by name (personal treatment), handmade elements, self-service, availability of different sizes

The olfactory stimulus was the most mentioned by all generations, mainly by Z and Baby Boomers, during the five moments of the journey. Shared ideas about this category were the second most cited category during the development of the exercise, second only to customer service, which for the sample of the experiment is the most important aspect in a physical store experience, especially for members of the Silent Generation and Baby Boomers. Users of the Silent Generation seem, in fact, to mention sensoriality more discreetly than the others.

In addition to technology and sensory stimuli, aspects related to environmental arrangements, personalization and surprise factors were also widely shared by the volunteers, the latter being evidenced during the attraction and extension phases. Generation Z shared insights involving the presence of unusual elements for the attraction phase, quoting a "chocolate fountain" and live music performances as possible solutions to attract them to

	Attract	Enter	Engage	Exit	Extend
GZ	VS TC EQ SF OS SS EA	SE EA TS TC PR	TC SS EQ OS PQ VS HS SE	TC PR SE SF TS OS EQ	PR SF OS PA SC TC
GY	VS SF OE SS	EA SE SS OS	TS SE TC PR	TC SF TS	PR SE TC PA
GX	EQ VS OS SC	EA SE EQ OS VS	HS EA SS OS	TC SE TS EQ	TC SE PR PA
BB	VS OS EQ SE TC	SE EQ VS TS	SE VS EQ SS OS	EA SE SF EQ OS SC	PR SE SC PA OS SF
SG	VS EA PQ SF SS TC	SE TS PR SC EQ EA	SE VS EA EQ SS TS	PA SE SF PR	PQ SE SF PR SC

Figure 1: Experience compelling map by generation, showing the distribution of categories along the shopping journey. (Author, 2023).

Cat.	GZ	GY	GX	BB	SG	Total
VS	2	1	2	3	2	10
OS	5	2	3	4	-	14
SS	2	2	1	1	2	8
TS	2	2	1	1	2	8
HS	1	-	1	-	-	2
EA	2	1	2	1	3	9
SE	3	3	3	5	4	18
TC	5	3	2	1	1	12
EQ	3	1	3	4	2	13
PQ	1	-	-	-	2	3
PA	1	1	1	1	2	6
SF	3	1	-	2	2	8
SC	1	-	1	2	1	5
PR	2	2	1	1	2	8

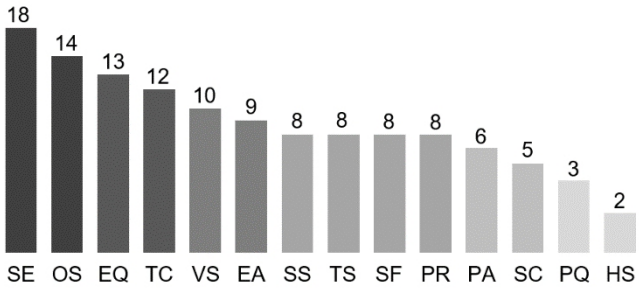

Figure 2: Occurrence of citation by category. (Author, 2023).

stores. Generation Y shared the need for a break in the rhythm of product exposure, as, according to the participants, "everything the same gets tiring".

Attract	Enter	Envolve	Exit	Extend
VS	SE	TC	SE	TC
TC	EA	HA	TC	SE
EQ	SS	SS	SC	PA
SF	OS	OS	EQ	SC
SE	EQ	VS	OS	PR
OS	VS	TS	TS	SF
SS	TS	EQ	SF	OS
EA	PR	EA	EA	
PQ	SC	SE	PR	
SC	TC	PR	PA	
		PQ		

Figure 3: Experience compelling map synthesis. (Author, 2023).

The experiences built by each of the generations were crossed and are presented in a synthesis (see Figure 3). Through this, it is possible to see the distribution of categories, showing that actions aimed at each of them can be developed throughout all the five moments.

CONCLUSION

Based on the data obtained through the Experience Compelling Map, it is clear that the tool can be a great ally to the focus group method. The combination of the two methods brings a more sympathetic, integrated and detailed view; eliminating some disadvantages of the focus group method when applied alone, which are the lack of standardization and reliability. In this experiment, the methodology adopted for data collection and analysis enabled the election of 14 categories that can act as guidelines and thus optimize the user experience in physical retail.

From the tool, it can be seen which categories are important for each of the five moments of the experience according to users from different generations; which are the most quoted categories; and how they can be distributed along the shopping journey to improve experience design. The sample, although reduced, shows the particularities of each generation and gives an overview of the real interests and needs of consumers today. Since this research was based on the understanding of User-Centered Design, it is important to point out that the individuals were the ones who guided the Design process.

The experiments showed that the tool can significantly contribute to experience design processes, as it offers guidance so that solutions can be developed to benefit both brands and their users. It is up to the designer to guide the retailer so that the user's desirability is balanced with the practicality and viability of the company (BROWN, 2010).

It is suggested to replicate this study with a larger sample of participants residing in different regions and countries, in order to perceive the different cultural nuances and how they could influence the categories that were listed by the users of each sample. However, given the complexity of conducting the focus group method and the tool used, a larger number of researchers would be required to collect and analyse all the data.

REFERENCES

Brown, T. (2010). Design thinking: uma metodologia ponderosa para decretar o fim das velhas idéias. Rio de Janeiro: Elsevier.

Darley, W. K., Lim, J. S. (1993) Store-choice behaviour for pre-owned merchandise. Journal of Business Research, Volume 21, pp. 17–31

Lowdermilk, T. (2018). User-centered design: a developer's guide to building user-friendly applications. Sebastopol: O'Reilly & Associates.

Martineau, P. (1958). The personality of the retail store. Harvard Business Review, Volume 36, No. 1, pp. 47–55.

Stanton et al. (2004). Handbook of human factors and ergonomics methods. Boca Raton: CRC Press.

Sternberg, R. J. (2016). Psicologia cognitiva. 6ed. São Paulo: Cengage Learning.

Tonin, P. E. H. (2021). Behavioral and cognitive methods to assess users and assist physical point of sale experience design. In: The 21st Triennial Congress of the International Ergonomics Association – IEA2021, Vancouver. Volume 5, LNSS 223 proceedings.