

Barriers to Inclusive Design Adoption in Industrial Design Practice

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1 Context

In many countries the older adult population has significantly increased, forming a quarter of the total population. As the life expectancy is still raising, in many countries it is expected that a third or more of the population will be aged over 65 by 2050. In Brazil, the scenario is not different, according to RAMOS (2016) it is estimated that almost 32 millions of Brazilians will be aged over 60 by 2025, which represents the sixth greater elderly population in the world.

As the physical, sensorial and cognitive capabilities decrease as result of the ageing process, a greater number of people will need products and services that facilitate an independent life. Hence, this demographic change means an opportunity for service and industrial sectors to produce new designs that "*are accessible to, and usable by, as many people as reasonably possible, without the need for special adaptation or specialised design*" (BS 7000-6:2005), which is exactly the principle of inclusive design.

This paper analyses some of the barriers to inclusive design adoption in industrial practice. It recognises a factor replicated in past studies (CORNISH *et al.*, 2015 - p.187; GOODMAN-DEANE *et al.*, 2010); the fact that although designers influence the process as they are the creative minds; clients, on the other hand, are the people who defines and make decisions along the process. Thus, this study investigated aspects related to both groups, clients and designers, which affects design processes and hinders inclusive design adoption.

2 Method

This study was conducted with designers and clients involved in new product development. A total of 25 designers and 13 clients participated in the study. In here the term 'designers' refers to product designers, interface designers and packaging designers. The term 'clients' refers to the people in small, medium or large companies who

commission new designs from design agencies. They are responsible for the project and represents the interests of the company. They can be project managers, marketing directors, the founder of a company, or in some cases, all together. All participants were involved in the design process of new everyday products or services, such as telephones, mobile phones, Smartphone, remote controls, toasters, kettles and other small appliances. In order to maintain the participants' anonymity, the study named the Companies as A, B, C, etc; the designers as D1, D2, D3, etc; and, the clients as C1, C2, C3, etc.

The data collection was based on non-structured interviews and observations. The participants were asked to describe the design process that they were familiarised with; and, to give some examples. As the interview progressed, more details were asked regarding certain stages, moments or about the role of other agents involved in the practice. All interviews were audio-recorded and transcribed afterwards. In order to contextualise what was said in the interviews, observations were conducted and selected moments described in the process were observed in practice.

After transcribing the interviews and notes of observations, the data was categorised and coded using a data analysis software called Atlas.ti. The codes were mapped to identify their importance (reoccurrence) and their connection to other codes (co-occurrence). Care was taken to not duplicate codes in a single interview, under the same topic, which avoided to increase the importance of a code due to a single participant's view.

3 Results

All participants described a similar process were designers are guided by the brief received. In most cases, clients define the brief based on market views of a target market, which means a brief that portraits consumers (who would pay for the new design) rather than users (a diversity of people, with different capabilities, who would use the new design).

The consumer portrait made in the initial brief could change along the process if time and resources allow such change. However, designers would follow what is established by the client. Thus, if a client begins the process emphasising the need for user-centred or user-experience design, than designers would follow this need (of this client).

The majority of the designers participants in the study were habituated with the design practice were end-users needs, beyond of what is transmitted in the brief, are rarely considered. They evaluate usability issues by conducting 'self-evaluations' of what they create and they think that the knowledge they have about accessibility and usability is enough to develop better products. Therefore, they have not considered usability and inclusivity important enough to spend time and resources of the project.

4 Conclusions

The present study demonstrated that clients and designers have not given the necessary attention to the demographic changes, which reflect on the need for more inclusive products that facilitate independent living. The paper ends by suggesting three ways to enhance usability and inclusivity in new designs, that could be further investigated:

- 1) by providing projects' live information of inclusive design to designers and clients;
- 2) by incorporating inclusive design principles in companies' strategy in order to communicate user needs while briefing designers;
- 3) by integrating inclusivity and usability in the curriculum of design schools in order to prepare future professionals to develop more usable products, facilitating the lives of a diverse range of people.

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