3. Research Methodology & Procedures

3.1 Chosen Methods and Rationale

Before engaging with research itself, there was a need to define a research strategy that would fit the thesis goals, taking into account our objectives and timeline, while acknowledging the complexity of the topic and difficulty in accessing the right people and resources.

The literature review covered different models of dissertation research (Poggenpohl et al, 2003), foundations and methods (Sato, 2000) and the different writings of Nigel Cross on Design Methodology (Design Research: A Disciplined Conversation, 1992; Design Research: A Disciplined Conversation, 1999; Designerly Ways of Knowing: Design Discipline Versus Design Science, 2001). The research area of this doctoral thesis is focused on the development of knowledge of a particular context that impacts design, and the expectation was that the knowledge produced may later transform in different forms of practice. This research started with a given statement describing a situation, and hopefully would end in enough specification to implement a solution, artifact, or the basis for such a follow-up.

In order to define the appropriate research methodology, we analysed the epistemological theoretical subjects proposed by Love (1998) which was crucial for the definition of what were the sort of fundamental issues that needed to be addressed and the instruments to deploy. We identified the need for instruments that collected factual knowledge, statistical evidence and authoritative testimony, and we had identified from start that the topic would entail biases and assumptions that needed to be addressed with potential counterclaims.

We also reviewed literature on mixed methods research and the writings of Schoonenboom, "Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e. g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (Schoonenboom et al,

2017, p.108), as well as the seven major plus the ten secondary design dimensions of mixed methods research, focusing first on Purpose and the classification proposed by Greene, Caracelli and Graham in 1989, leading to research decisions that would serve Purpose, namely *Triangulation* (seeks convergence, corroboration, correspondence of results from different methods), *Initiation* (seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method), and *Expansion* (seeks to extend the breadth and range of inquiry by using different methods for different inquiry components).

We were inclined to design a methodology that would result in a diversity of views, connecting knowledge in an iterative way, learning from different perspectives, juxtaposition and explaining complexity. We also needed to make design decisions regarding timing and issues of simultaneity and dependence, there was a need to run some of the components of the research concurrently (talking to the guests, while building the list of insights), while others required sequential development (building surveys had a high level of dependency from the results of the 1:1 interviews). After the qualitative and quantitative components were brought together, we needed a strategy to mix, integrate the results in a *Point of Integration* "any point in a study where two or more research components are mixed or connected in some way" (p.116), which in the case of this research was the list of insights that explained the inquiry and at a later stage the meta- model for design executives produced.

In terms of typology, we settled on Exploratory Sequential Design, a first phase of qualitative data collection and analysis is followed by the collection of quantitative data to test or generalize the initial qualitative results (p.11), a dynamic hybrid combination of initial secondary research to validate the research inquiry, surveys that focused not only on designers but on executives, interviews with entities that would provide recognized perspectives and experience, while doing literature review on related topics.

After validating the enquiry with factual data, we decided to begin with 1:1 interviews with entities that could provide insights and inspiration based on their own experience in the domain, the intention was that these conversations would

point toward the questions and topics that would be used to build two distinct surveys, aimed at two populations, executives and designers. This period of interviews was first planned for three months, then extended to twelve, the fact that the corresponding author is full-time employed and that the target entities were hard to engage impacted the timeline. Meanwhile, and after the tenth conversation, we felt we were able to build the said surveys.

More than the surveys, it became apparent that distributing them to a larger target group required partnerships, and each of these ended up impacting the design of the surveys. One of the objectives was to ensure that a list of questions, particularly about the insights that we had started to settle on, was asked to both executives and designers so that data could be cross referenced. While the conversations with entities continued, the two surveys were shared with target users during a period of 3 months in 2020, then the data was analysed and cross referenced, connecting dots with what was heard from the 1:1 interviews.

Reflecting on literature review that led us to Edmonson et al work (2007) on methodological fit, and resulting from the intermediate if not nascent state of prior theory and research on the topic, we wanted to ensure that the chosen approach would avoid typical problems arising from doing either quantitative or qualitative research, with consequential impact in the outcomes.

3.2 Qualitative Research (1:1 interviews)

We interviewed throughout a period of 12 months 30 professionals with a personal interest and participation in the context of large corporation design leadership see 'Table 10', namely a coach with over 30 years of training design leaders in large corporations, a number of educators that are active agents in the education and preparation of designers that are now or will be in leadership positions in large corporations, a number of present and past design Leaders in large corporations, recruiters that are specialized in design placement in large corporations, a recruiter in one of the largest executive search companies in the world, and researchers that have done impactful research on this topic. The majority of these conversation were 1hr long, recorded, with a protocol organized around the following questions:

- Is the thesis question a good, fair question, the right question to be asking? No, Why?

- If yes, what is your point of view on the question, do you agree with the insights mentioned (at a later stage in the conversation)?

- What would be great research to do, data to explore on the topic?

- Who would be a great person to talk to about this, someone who has in-person experience on the topic?

Table 10 - List of 1:1 interviews. José dos Santos 2020

Ref	F50	Entity	Main title
1		World leader in designer training & coaching	Coach
2		One of the largest public Universities in the US	Educator
3		world's oldest collegiate school of business	Educator
4		Executive training coach specialized in leadership	Educator
5		Founder Design Strategy MBA in a reputed college.	Educator
6		Design Thinking Executive coach in a large public University	Educator
7		Strategic design course creator at Business school	Educator
8		Researcher, educator and author of design management books	Educator
9		Associate Dean of an MBA program infused with Design Thinking	Educator
10		Large multinational home appliance manufacturer	Leader
11		Three time Chief Design Officer with experience at Board level	Leader
12		Corporation leader in robotic products in the health domain	Leader
13		Large American multinational financial services company	Leader
14		Large American telecommunications company	Leader
15	X	Large American multinational conglomerate in the health sector	Leader
16	X	Large American multinational corporation specialized in medical devices	Leader
17		International corporation leader in lighting & beyond	Leader
18		Largest home improvement retailer in the United States	Leader
19		American multinational information technology company	Leader
20		Design Leadership book author and Executive	Leader
21		Large American multinational corporation in the apparel sector	Leader
22		Innovation consultant and experienced board member	Leader
23		Designer with an MBA that reached C-Suite role, now in a startup	Leader
24		Design Executive in largest global beverage company	Leader
25		Only Latin Woman twice CDO in top 50 Fortune 500	Leader
26		Global executive search and advisory firm speciaized in Design	Recruiter
27		Global search firm specialized in creative Executive positions	Recruiter
28		International executive search firm focused on Top Management Teams	Recruiter
29		Researcher in design leadership in the digital era	Researcher
30		Researcher at renown school teaching systemic, human-centered design	Researcher

These interviews provided direction that helped build the two surveys that are being presented in the following sections, and they provided invaluable context

and anecdotal data that will be used by us throughout the paper, referring to each of these interviewees in the footnote area, their name is not being disclosed for confidentiality reasons, their transcripts are in Appendix C.

3.3 Qualitative + Quantitative research (surveys)

3.3.1 The executive survey

We designed, along with an organization specialized in tracking executives in large corporations (The Official Board, they maintain the most comprehensive directory of corporate organizational charts), a short executive focused survey on Designer leadership in large corporations. The survey had to be short due to the nature of the target respondents, large company executives with very little time to spend on non-essential activities, and the partner we co-designed the survey with was very explicit about what they had learned from doing this many times before (Appendix D). The questionnaire was sent by the before mentioned organization, introduced by one of the co-authors of this thesis (Prof. Sebastian Fixson for academic credibility purposes), it had 7 questions, multiple answer in nature, with some room for additional comments. The survey was sent to 22,000 (opt in via valid email with the usual 4% hard bounced), the detected opening rate was "average" at 7% (many companies disable this function), the unsubscribe rate was "average" at 0.4% (meaning that executives were not annoyed). There were 54 respondents to the executive survey, relevant from a qualitative point of view (the intention), it still does not provide a clear insight on what they might think about the topic, and we discussed possible reasons:

- Academic constraint (only big names like Harvard command higher response)
- Weak Incentive (we granted $10 to a charity of their choice per filled questionnaire, but might have not been enough)
- Weak Interest (executives do not really know or do not really care about design organization, executives (including designers) may have many other priorities to worry about).

Though we could speculate even further (that designers do not reach the C-Suite of these large corporations because the CEO's and executives actually know, or believe they know, what design is capable of delivering and don't believe design needs to be at that level), that is all this is, speculation. This topic is listed at the end of this thesis as a potential area for further research, the real reasons behind executives' disinterest in design related issues.

3.3.2 The senior/ mid-career designer survey

We designed, along with the PhD Coordinators, a longer survey aimed at senior/ mid-career designers in medium/ large corporations, this time soliciting support from organizations that associate designers in different domains (IDSA – Industrial design Association of America, AIGA – Professional Association for design, Design Museum Foundation). This survey had forty multiple answer questions covering eight sections:

- Demographic data on the respondent
- The company/ corporation they work/ worked
- Education and training
- Career path
- The design team
- Design definitions
- Insights impacting scarcity of designers in the C-suite
- State of design

It was made available via link to senior, mid-career professionals in the above-mentioned platforms, because it was not by personalized invitation it was open to other designers but initial questions allowed us to calibrate the answers. It was answered by 36 senior/ mid-level designers, of which 45% worked in Fortune 500 companies in the period between 2017-2019, 29% of them in executive roles.

3.3.3 Alignment and misalignment between the surveys

Both surveys had a number of questions in common, and though they were not written in the exact same way, the data collected is comparable and allows juxtaposing and insight generation. The three areas that both surveys addressed were:

- State of design in the company they worked in
- design definitions
- Insights impacting scarcity of designers in the C-suite

When listing the insights that are at the basis of the question driving the thesis research, though we listed 8 insights in the senior/ mid-career designer, we used only 5 of those to reduce complexity while focusing on the insights we and collaborating partner thought were more relevant to the target group. As an example, while one of the insights cited many times by the interviewees was "because there aren't enough design savvy CEO's, design champions that understand the value of design", our partner believed that this group would not rate this insight high, or at all, because it focused on their potential shortcomings. The insights that were covered by both surveys were:

- **Necessity** (there is no need, design is already represented, these corporations are at the top of their game)
- **Preparation** (designers don't have the right education and training, skillset, mindset).
- **Desire** (designers don't want/ aspire this role, stops them from crafting their practice)
- **Scarcity** (not enough qualified designers with the right experience in the market)
- **Flexibility** (designers tend to stick to design, no experience in managing other areas)

The insights covered by the senior/ mid-career designer survey and not covered by the Executive survey were:

- **Design CEO** (not enough design savvy CEO's/ executives that understand the value of design)
- **Effectiveness** (not the best/ right place for designers to lead design, too many distractions)
- **Access** (designers are not selected for the job, not invited, not mentored and groomed for it)

After the surveys were conducted, and through the ongoing 1:1 interviews, we added two more insights, these were not used in the surveys, they were generated by the repetitive feedback from the entities interviewed:

- **Advice** (Management consultancies and advisory boards don't influence CEO's positively about Design)
- **Ethos** (What makes a designer a designer is at the same time seen as an asset and a liability)