7. Limitations and Future Work

This research has generated just as many questions as it has tried to respond to, this is a list of some of the limitations we encountered that did not compromise the research, rather introduce new directions, themes for further research.

7.1 Sample composition and size

We believe we formulated a focused research question, and what was apparently a good idea, to research design leadership in F50 corporations because they have a lot of credible public data due to the intense scrutiny they are under, turned out to be a limiting factor for exactly the same reasons. These corporations, exactly because they are under so much scrutiny, have a very choreographed way of communicating, with strong guidelines (and legal implications) on who/ what/ when/ how communication can occur. We tried to engage many agents in these corporations that either did not respond, responded with limited engagement, responded and engaged but asked for anonymity. They are also not that open to academic endeavors like PhD research, they fail to see how that can benefit them, and sometimes the fact that the corresponding author did not come to them through a bona fide business school affected the outcome. We are satisfied with the engagement we had, but it took a lot longer to have access and to have the conversations we needed to create the insights we did and make sense of the subject.

7.2 Lack of previous focused research

There is a growing body of research on non-CEO C-Suite positions, particularly when these positions have unique antecedents and consequences for the organization, and we addressed this in the literature reviews phase. There is also a large body of work addressing design in its many forms and designer leadership in general, also covered in the literature review. Nevertheless, we believe there is a lack of previous research is in the phenomena of design leadership in large

corporations, visibility in areas such as design organization, design business impact, design scope of work, design relationship with other executives, design top level hiring practices, and other prior research that would have allowed us to do a more focused literature review.

7.3 Scope of discussion

The corresponding author is a professional with over thirty years of experience in design and design management, experience ranging from start-ups, to consultancies, medium and large size companies. The author also has some pedagogical experience with both designers and non-designers, but always as a parallel activity, not as a professional academic and with a limited exposure to conducting research that culminates in academic papers of the magnitude of a doctoral thesis. Therefore, the scope and depth of discussions in this thesis may not be comparable to those of experienced academics and scholars.

7.4 Breadth of research

Throughout the research process, the corresponding author came across a multitude of topics that seemed interesting to explore, but each of them would literally become a thesis of their own, potentially distracting the author from the focused topic of the research question. Here are a few of the most important ones:

7.4.1 Designer personality

One of the topics that has come up often doing the research is on the role of personality in the insights that impact the inquiry at the core of this thesis. Many cited the work of Daniel Goleman on leadership styles heavily influenced by personality (Goleman, 2002), and others have suggested the study of Myers Briggs seminal work on type indicators (Meyers, 1962), there is some research on the introvert characteristics of designers (Adobe, 2016) as well as some evidence of how that introversion can be detrimental to a promotion to senior management roles (Moutafi et al, 2007). But throughout the 1:1 conversations and the research done, what came through a lot louder was the designer characteristics that

influence and impact the way the designer feels and behaves in specific situations, what we have decided to call designer **Ethos**. We did not have a chance to do Myers Briggs to existing CDO's and other design executives to establish if there were indeed personality traits that unite them all, but we believe via anecdotal and other qualitative data that these people are very different from each other, personality wise, we feel there are a lot of differences between Jonathan Ive/ ex-Apple, Ernesto Quinteros/ Johnson & Johnson, Mauro Porcini/ Pepsico, and between Ivy Ross/ Google, Robin Beers/ Wells Fargo, Joanna Peña-Bickley/ Amazon, but reality we have not done that research and it is a path worth pursuing for another researcher.

7.4.2 Design and scale

One of the open questions encountered as we navigated the topic is weather design has more impact and recognition in smaller companies, there seems to be data on how design is impacting start-up sectors, perhaps there are more corporations below the F50 threshold that have design as a main innovation driver, and several authors have claimed design works better is smaller scale corporations (Muratovski, 2015; Selene, 2015). One other inquiry in need of further research is what happens to designers in design driven start-ups once these corporations grow, become large companies, go public, do they stay at the help, do they scroll back and stick with more operational and craft-based roles. Further research is necessary to address this open question and its different arguments.

The latest Business by design list from Fortune has 25 global companies (Fortune, 2018), 9 of them in the F500 list and 15 in the Global F500, so one could say that, according to Fortune's definition, large corporations are investing in design. Nevertheless, important to note that, with the exception of Apple, none of the Business by design 25 companies are among the top-ranked companies in their industry sector, and from the Fortune 25 Most Important Private companies, only one coincided with the 25 Business by design, AirBnB 'Figure 30'.

One should not forget that in this F50 list there is Apple #3, the company that has through the use of design grown into the most profitable company in the world, owning 20% of the market share of mobile smartphones but 80% of their margins, one of 6 companies in the F50 with a designer as an executive, Jony Ive (who has

since end of 2019 left Apple). It is known that Apple is a case in itself, but one could not avoid the 'elephant in the room'.

Company	Fortune's 2018 Top 25 Business by Design	Fortune 500	Fortune Global 500	10 Most Successful Companies	10 Most Profitable American Companies	Top 25 Most Important Private Companies	Fortune 10 Change the World Corporations
APPLE		●	●	●	●		●
DYSON							
GOOGLE		●	●				
SAMSUNG			●				
AMAZON		●	●				
HUAWEI			●				
MICROSOFT		●	●		●		
IBM		●	●				
AIRBNB						●	
MUSICAL.LY							
SNAP							
MEITU							
INSTAGRAM							
TESLA			●				
FORD		●	●	●			
AUDI			●				
HYUNDAY			●				
STARBUCKS		●	●				
IKEA							
PEPSICO		●	●				
CAPITAL ONE		●	●				
UNIQLO							
NIKE		●	●				
ZALANDO			●				
PHILIPS							
JOHNSON & JOHNSON					●		●

* Johnson & Johnson is not on the top 25 Business by Design list, but it has a designer executive and a Chief Design Officer

Figure 30 - Fortune 25 Business by Design. José dos Santos 2020

7.4.3 Design and business sectors

Another open question is related to arguments that designers have stronger representations in some industries than in others. The F50 list populated by companies in areas such as wholesalers (McKeson), healthcare (United), retailing (Walmart), and it could be that some might not be prone to use/ need design as much as other companies in sectors like household and technology. While it is true that this list has companies that are in sectors that one might identify as less prone to use/ need design, reality is that the array of sectors and companies is pretty balanced, covering a number of areas as diverse as transportation, food & beverage and technology. And there are plenty of cases of design driven innovation in areas like wholesale, healthcare and retailing, in fact in almost every sector represented in the F50, excluding Apple as the best in its sector, there is a case for a design driven innovation creating some sort of disruption in the sector, the fact that these companies are not as large and recognized than the ones in the sample this research is focused on does not disprove the fact that design is

important is distinct sectors. While it is true the largest number of companies are in the financial sector (10), Intuit has shown how design driven innovation impact results and growth. A different argument might in fact be that, in line with past history of financial institutions, (e.g. banks), good design thinking and doing applied to these companies, more human centric approaches and user experience would certainly not hurt the sector. This assumption of some sectors might be more prone to design than others might be more connected to a lack of understanding and recognition of design's range of impact addressed in the next open question.

7.4.4 Design range of impact

While design has evolved from when it was just considered a tool for formal and aesthetic treatment of products, claiming that design's full range of impact in business is fully understood might not be a reality and requires further research. While many organizations may recognize design as capable of impacting the left side of the design Council's Double Diamond of design activity 'Figure 31', it is not entirely clear how many organizations really do recognize this to be true, and furthermore, it is not easy to understand if informally designers have not been relegated to the right side of the Double Diamond, while other executives adopted design thinking principles to engage in the left side of the Double Diamond, for reasons that require further research.
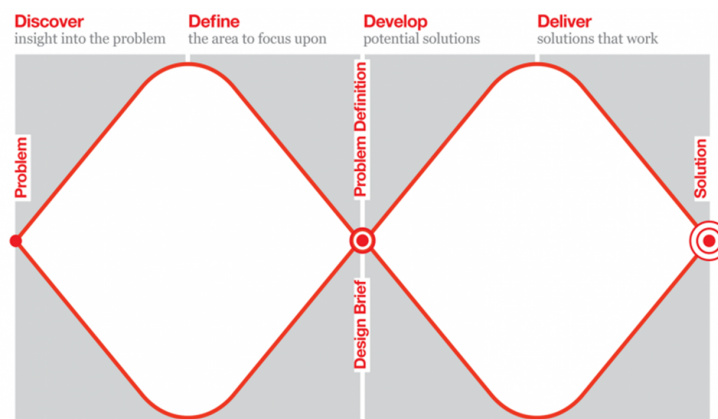

Figure 31 - Double Diamond design thinking model, Design Council, 2004.

7.4.5 Fortune 50 Vs. Fortune 500

The focused sample of this research was the top 50 Fortune 500 US corporations, and apart from a moment where we extrapolated the potential number of designers impacted by F500 corporations we have kept away from extrapolating any of the insights and data from the top 50 to the remaining 450 or even other universe of large corporations. Though we have proven that the sample is valid from a range of sectors perspective, it would be inappropriate to make any other extrapolations beyond the one we made. There is a possibility that the number of designers in executive positions of the remaining 450 corporations of the F500 is higher, we did not extend the research to the entire F500, we can only say that we did not come across references that signaled a different reality, meaning many designer trained executives in N-1 position in these large corporations.

7.4.6 US Fortune 500 and Global Fortune 500

Throughout the thesis and research it has become apparent that the US design reality is molded in many ways by the European reality, particularly the one that developed before and after the second world war in Germany, but also Italy and the Scandinavian countries. The reality of large corporations has also been influenced by large European Corporations, and though interesting to dive into, we did not dive into comparing large Fortune 50 or 500 corporations with global Fortune 500 corporations, understanding if there are more designers in the C-Suite of those corporations, establish comparisons and parallels between the corporations, their history. This is an interesting line of research that might have informed the work in this thesis, but that was not the purpose of the thesis and therefore we did not pursue it.