

2.1.7 The future of design and designers

This section covers the state of the world and the importance and impact of large corporations in dealing with present and future problems, as well as design futures in the cross section of craft and management, the different professional scenarios impacted by technology and societal changes, the necessary skillsets and the role of design in this new paradigm. We touch on design in different stages of corporations, and the impact of large corporations in the designer population. We end with a call for action for designers to ‘go big’ and embrace large corporations in order to impact world transformation.

We started this thesis in 2016 and finalized it in 2020 while in home confinement due to the Covid-19 crisis that changed the world as we had known forever, and designers are being called to step up to this new reality, “Can design or design thinking help reverse this “unequal struggle” between empathy and animus? I won’t pretend to have the answer. But if design and empathy have anything in common, that’s a cause all designers, especially Americans, should join.” (Fortune, 2020) In another take at this, Azeem Azhar in his influential ‘Exponential View’ states that “I am struck that on certain key issues—facial

recognition, climate change, systemic racism, polarisation and harmful content and social media—leadership has come from execs of large firms (although not Facebook!). Corporate execs are filling in, not perfectly, the moral vacuum where we would normally expect to find our political leaders” (Azhar, A., 2019). There are already signs of a significant disruption in the world, impacting values, business models and the livelihoods of millions of people, and some companies are rising to the occasion, knowing they have to ‘walk the talk’ in front of their consumers (Fortune 2020). While some governments have acted in ways that, from where we stand today, look adequate and appropriate, many large corporations have stepped up in ways that have become as powerful if not more than governments. And in many ways because these large corporations are global, they have impacted places and people that otherwise would have not via their local government. While many cry out the end of capitalism itself as a misused and abused world order, and the continuous debate on the impact of inequality and lack of diversity in social innovation, as well as a glimpse of what many call nationalistic and country specific protective measures, it is not foreseeable that large global corporations and some sort of shareholder system (with more or less government intervention) are going away. This is not meant as a defence of large corporations or of any of the tenants of capitalism and present social order, it is more a statement based on analysis and synthesis of what is known as future scenarios.

These large corporations will evolve, according to management theories that look at this phenomena from a broader perspective, cycles of integration and disintegration, along with divestiture and mergers & acquisitions will continue to happen, this impacted by equally cyclical world crisis that tends to be plotted as expected by those that research and hypothesise on this topic. For each of these moments, for each of these stages in the cycle, there is a design reality, there is a design opportunity and a design possibility. This thesis and research by others question the way ahead and suggest alternative ways for design to positively impact corporations and society at large.

There will always be a difference between what some call start-ups and end-ups (Maeda, J., 2016) and this research does not discount the value of one versus

the other, they are both important to the economy and to social balance and there are plenty of studies on the impact of either an excess of one or the other in society. And design too is different in start-ups and end-ups, and comparing those needs is an exercise worthy of further research, but this research is not focused on the start-ups but on large end-ups, and though some could argue the state of an end-up is a direct consequence of its path from when they were a start-up, we have not done the necessary research to identify if there truth to that statement, not what happens to start-ups that have design at its core when they started up and after then scale, go public, and become a large end-up.

Today, there is an estimated designer population among the F50 around 50.000 professionals, not counting all the external design subcontractors and agencies (the math behind this value is presented at a later stage in this thesis, when exploring the insight **Scarcity** as one of the 10 impacting the inquiry we have started with, 'Why aren't there more designers in the C-Suite of the F50 corporations'. But we have 1 trained designer in the C-Suite of the F50 (N-1) and 34 design managers as N-2 (21 of them trained in design according to the definition of this research). Though some state this reality has improved dramatically, there is not enough data to definitely make that argument, especially in light of other developments in corporate functions. So, we can only agree that this state of affairs must improve, and for that to happen designers and CEO's together with the TMT's must embrace a different approach to design, this research proposes a way for more designers to reach the C-Suite of large corporations as one element of this change, surely not the only one, but an important one. But it starts with designers recognizing the importance of large corporations in the context of design evolution and impact in society, and with designers wanting, desiring to be a part of this context and knowing what to do to get there.

Hopefully this research will come across as a defense of design and designers at the highest level of corporate management without impacting the need for design and designers at every level in the company, these two are not mutually exclusive. Just like the research is not suggesting there is only one way to represent design in large corporations, but as long as there is a TMT group, the

argument is that 1) design should be represented at this level, 2) in specific cases represented as design (even if combined with other areas, but design as the head), 3) that designers should also be counted as potential holders of that seat/ position (though not necessarily only designers). Even if new concepts of organization design become important in large organizations (eg.: holacracy (Fortune 2015), heterarchy (Mueller, J.R., 2014), and others), some of these might or might not benefit design management, but design and designers need a seat at the table, whatever shape and size that table might be.

Donald Norman wrote an article in *The Journal of design, Economics, and Innovation* entitled 'When You Come to a Fork in the Road, Take It: The Future of design' (Norman, D. A., 2016). He addressed what in many ways are the gaps in design preparation, namely the excessive dependency of the craft side of design in detriment of time spent on social sciences and general literature, as well as lack of training in STEM components (science, technology, engineering, or mathematics) while design seems to claim itself as the interface between people and technology. As he bluntly puts it "designers who only focus on crafts can add value to products and services, but they cannot take the lead role in designing them. Engineers and businesspeople decide what is to be done. Designers help to enable the results, but they seldom make decisions or lead design teams. Craft-based design is an admirable profession, but it is limited in aspiration and capability" p.344. He then addresses the gaps in design as an evidence-based discipline, and mentions the fact that computers changed everything and the two major areas of evolution in the larger design area (experience/ interaction design, and service design), entered design through different domains (psychology, human findings, computer science, marketing, management, etc.). He understandably advocates for Human Centred design as the rightful bridge between people and technology, and defends all its attributes by stating that "Human-centred design moves us away from the concept of the designer as a guru. It moves us into an important profession with systematic methods for discovering the needs of people and society, developing proposed solutions, testing, and refining them. We used to be an opinion-based field. Today, we are an evidence- based field. We have become human-centred" p.345. The fork on the road that he alludes to (author: Yogi Berra) is the one between design

as craft or design as a way of thinking, and he advocates that both are important for the future of design, and therefore we should 'take it' (p.346). The future of these two paths, with different levels of maturity, is something he goes into more detail, but in general the craft path will find its way in the craft movement and online courses, while the thinking path will require new educational offer, knowing that presently management is taking on the role of training design thinking. And while this is the present reality, Norman believes design thinking needs to step away from the economic emphasis of management and business schools and focus more on people, while acknowledging and appropriately for this topic of design leadership in large corporations that designers can and should evolve into strategic roles and exploration p.347.

A 'fork on a road' is a great thing, it's about options. But what will the road look like in the future, what will be the future jobs that designers can aspire to add value to? In a report by Cognizant entitled '21 Jobs of the Future: A Guide to Getting – and Staying – Employed for the Next 10 Years' (Pring, B., 2017), there is a long list of jobs organized from 'Low-to-mid tech' to 'Mid-to-high tech', and from "Within the next 5 years" to 'Within the next 10 years' 'Figure 12'.

Not a single job has the title 'design' in it, and when going through the requirements for each of the jobs, though some low tech listed no preparation needed (example: Walker/ Talker: Any type of work background and life experience will be considered), there wasn't a single one requiring design training. In comparison, many required Computer Science, Math Physics and general technology related training. As we discuss the future of design, there are at least 4 jobs that align well with what designers are being trained to do in some fashion (might not be described as such): Walker/ Talker, Digital tailor, Personal memory curator, Augmented reality journey builder. This is really not about the jobs and the work done by this entity, the researched is using this as concept to frame the discussion of the future of design training, and these 4 Jobs of the Future 'Table 8' have a lot in common with what are seminal, structural elements of design training that should be used as a starting point for future education, that of 'bridge', 'translator' and 'storyteller', but they all require a certain level of technology training that is still not embedded into the majority of the design education offers out there.

21 Jobs: The Road to 2028



Figure 12 - 21 Jobs for 2028, Cognizant, 2017

The future of design is also shaped by the perceived impact of technology in design, we selected a few of the major authors and institutions discussing the topic. AIGA, Google and Accurat executed the Design Census 2019 (AIGA, 2019), and when asked what technologies will have an impact in design going forward, designers mentioned artificial intelligence, augmented and virtual reality, as well as collaborative design software, p.55. The research also shares details about skills important to win in the future, as well as importing issues affecting design ‘Figure 13’. Again, as expressed in other afore mentioned research, the top issue reported by designers is “Lack of awareness of design Impact”, “Designers not having a seat at the table” and “Diversity in design + tech”, with the first of these concerns not even being mentioned in the list of issues in the 2107 census.

Table 8 - Potential jobs for a designer in the future, Cognizant, 2017 (summary). José dos Santos 2020

			DESIGN TODAY	DESIGN TOMORROW
6	Walker/ Talker	Any type of work background and life experience will be considered.		
13	Digital tailor	Experience and/or qualifications in fashion, tailoring, sewing, upholstery, general arts, interior design.		
18	Personal memory curator	Exceptionally strong EQ — supportive, encouraging and patient/ Excellent interpersonal and communication skills/ Genuine concern for the welfare of others/ Narrative and storytelling capability/ Strong creative skills.		
19	Augmented reality journey builder	Bachelor’s degree or equivalent experience accredited film schools a plus/ Minimum of five years’ experience in demonstrated MMORPG competitive gaming (either at the high school, university or accredited club level)/ Proficiency with creative language/lingo of AR hackathons, game jams, skins, surfaces, planes, “escape rooms,” SDKs, simultaneous localization and mapping (SLAM) and headmounted displays.		

John Maeda, who began publishing the design in Tech report in 2015 and now evolved into the 2020 CX (Customer Experience) Report, has long been considered one of the leading minds making sense of design in the technology driven world (he is an MIT graduate) and forecasting via active discussion and cocreation the future of design. In his latest report he goes into detail about the fourth industrial revolution, characteristics and impact, but above into an argument that designers need to “speak machine”, supported by a future vision that conforms to an acronym he proposes: LEAD – Light, Ethical, Accessible, Dataful.

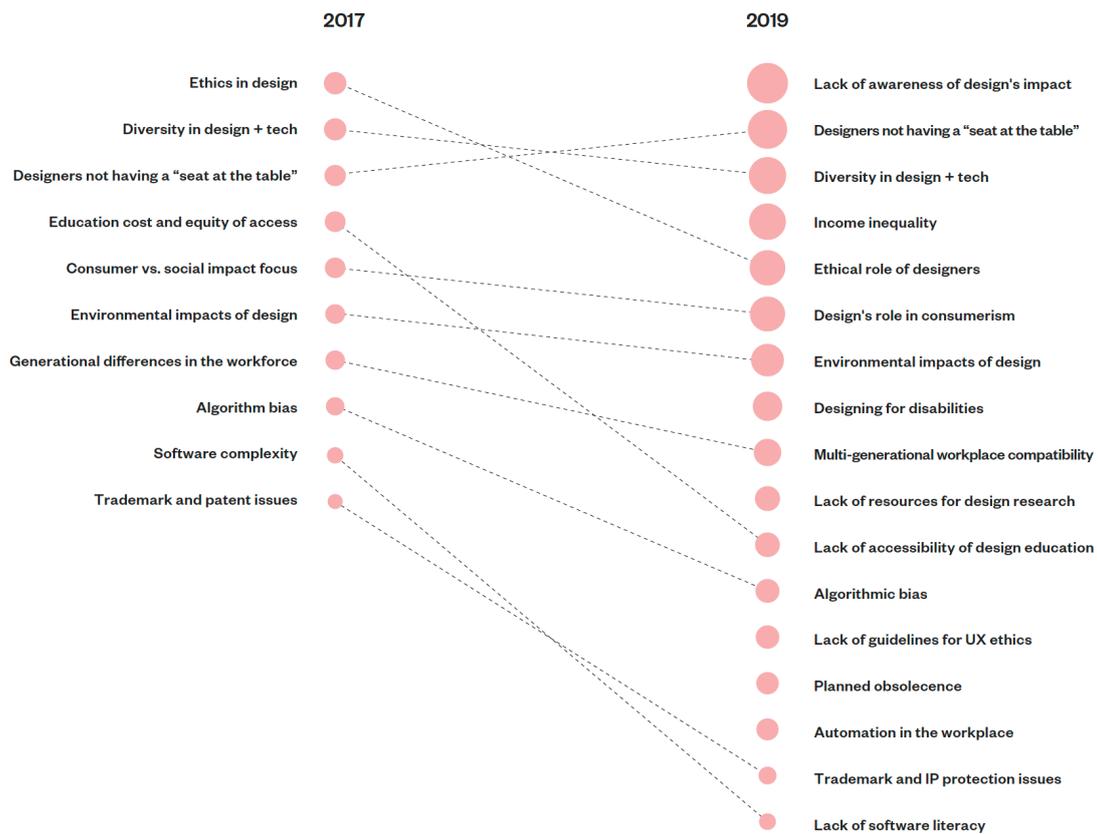


Figure 13 - Design skills to win in the future, AIGA 2019

One of the most interesting discussion he supported was by asking all his 'fans' who owned the Customer Experience, design was one of the largest response, but the survey itself had 70% of designers of sorts as the audience. He has written a book titled "How to Speak Machine: Computational Thinking for the Rest of US" (Maeda, J., 20019), in it he describes what he means by 'speaking machine', he describes it as the act of embracing computation, describing its three alien-like properties as 1) Machines Run Loops, 2) Machines Get Large, 3) Machines are Living, and three ways computational products are unique, 1) Machines are Incomplete, 2) Machines can be Instrumented, and 3) Machines Automate Inbalance. One of the most important elements he signals for designers is this constant pressure of the designers to learn, appreciate and apply technology and computational powers to evolve with design and its impact, Designers are being asked to lead a digitization revolution for which many were not prepared for to start with, technology was always a consequence and necessity of manufacturing and

production, later for distribution and communication, never as the fodder for design itself.

In an article published by the Sloan Management Review in 2020 'Four Skills Tomorrow's Innovation Workforce Will Need' (Marion et al, 2020) the authors argue that 1) Omniscience, 2) Entrepreneurial Mindset, 3) Bottom-Line Focus, and 4) Ethical Intelligence allied with structure will be needed for tomorrow's innovation workforce where design plays an important role. This is while they signal what will be the major battlefield of this transformation, the need for organizations to experiment and change their organizational structures in order to retain digital folks (not specifically, but including designers) (p.12).

And this brings us to automation and to many design professions being supposedly threatened because automation, artificial intelligence and machine learning will eventually make them obsolete (Peart, R., 2016; Shaughnessy, A., 2018; Brunner, K., 2016). The designer and author Marty Neumeier published a book titled 'Metaskills: The Five Talents for the Robotic Age' (Neumeier, M., 2012), where he proposes that human talent is what is required to conquer a new paradigm, he writes that there is a 'thread' running through all the meta skills he proposes, aesthetics. His suggested 5 principles are:

- 1) Feeling (empathy and intuition)
- 2) Seeing (systems thinking)
- 3) Dreaming (applied imagination)
- 4) Making (design and testing)
- 5) Learning (auto-didactics)

This set of principles may seem to be in opposition to 'speaking machine' but the future of design and designers might be in the balance between these two approaches, being thoroughly human while learning and embracing technology in all its forms, being business fluent and results oriented while human centred and ethically empowered, being an active champion on the value of design while demonstrating it hands-on personally and via design teams. Above all, leading design and designers, taking chances and embracing bigger opportunities, impacting business, society and people.

Strategy is also an important element of the future of design and designers, though it is not entirely clear how to elevate design to a strategic level, as Micheli puts it “following evidence of its positive contribution to innovation and company performance, many firms are seeking to elevate design to a strategic level. However, little is known as to how this can be achieved” (Micheli et al, 2018). Since Harvard Business School professor Michael Porter introduced in 1979 the 5 forces tool to analyse an industry's attractiveness and likely profitability, it has become one of the most popular and highly regarded business strategy tools. Along with The Value Net Model developed by Adam Brandenburger and Barry Nalebuff, and published in their 1996 book ‘Co-Opetition’, strategy has relied on these as great tools to understand business context, but hardly the best way to dream up new ones or reshape existing. In the last years, we have seen elements of “strategy” and “design” merge, first through companies like IDEO who has moved into the strategy and innovation space, as well as traditional management consultants like McKinsey buying and attempting to integrate design into their business model. This convergence has sparked a conversation about the blurred lines between strategy, innovation and design, and about the role of creativity in the strategy making process, with reputed strategy academics stating that strategy needs creativity and mentioning the role of design led innovation (Brandenburger, 2019). Jeanne Liedtka in an article entitled ‘In Defence of Strategy as Design’ (Liedtka, J., 2012) defines the following implications for strategy as design:

1. Like design, strategic thinking is synthetic
2. Strategic thinking is abductive
3. Strategic thinking is hypothesis-driven
4. Strategic thinking is opportunistic
5. Strategic thinking is dialectical
6. Strategic thinking is inquiring and, inevitably, value-driven

In 2015 Gjoko Muratovski wrote an article in The Journal of Design, Economics, and Innovation entitled ‘Paradigm Shift: Report on the New Role of Design in Business and Society’ (Muratovski, G., 2015). The article takes the readers through the last 175 years of structured design, the importance of design in innovation, and the changing landscape that gives rise to the corporate

designer. Similarly, to others portraying this paradigm change and the effect in design (Fabricant, 2014), the author sustains that design thinking arises from the economic shift that coincided with manufacturing largely moving to the East, while the West moved toward a knowledge economy more focused on technology and services development, this being the same shift that led to the repositioning of products design firms into strategy and innovations consultancies. The author also suggests that the inhouse design team comes primarily out of a necessity triggered by the advance of digital technologies and the need for corporations to communicate 24/7 and real time with their stakeholders.

The article goes on to present a number of cases, evidence to describe the new role design is playing in business and society, covering “design as a strategic business resource”, “design and business”, “design entrepreneurship” and “design for social innovation and sustainability”, a total of 23 cases of design playing a new role. The author stated that “large businesses who are already well known for their design-led practices have started placing even more emphasis on the importance of design by introducing designers to executive roles, which clearly demonstrates their commitment to design-led innovation (e.g., Apple, Nike, Coca-Cola, IBM). However, it should be noted that these designers have been promoted to executive roles not simply because they are designers, but because of their ability to align design with business interests, and to communicate—in business terms—how design can add value” p.135. In 2020, there is one N-1 executive in the F50 (and 34 N-2), Apple has lost their CDO, Nike continues to have design in executive positions, Coca-Cola has lost their CDO and IBM has a long time design manager (not a designer) working for a sales and marketing SVP. After referring the evidence and citing megatrends, the author asks about the future of design and suggests several trends:

- The growing need for in-house design teams and the impact in smaller design studios
- The emergence of big data and the rise of the Internet of Things and the impact in data visualization
- The diminishing influence of print design because of the rise of modular digital design

- The rise of UX/UI design as an entire new sector of activity in design
- design thinking allowing a growing number of people calling themselves “designers” even though they might never have studied design.
- Human centered design creating a need for more learning of appropriate research skills, and the impact of the growth of thinking design on craft/ skills-based designers
- The incorporation of design into areas like auditing, risk assessment, business strategy as organizations learn to use design beyond the traditional problem solving into as a problem finding activity.
- The emergence of new customers in the government and non-profit organizations, in an attempt to use design to address complex social and sustainability issues.

The article concludes with a prediction that:

The world today needs designers that are not only aesthetically sensitive, but also culturally aware, inquisitive, and able to think both vertically (logical thinking) and laterally (intuitive thinking). In addition to this, designers need to be conceptual thinkers capable of engaging with a broad range of stakeholders and communicating with clarity and conviction via visual, verbal and written means. They also need to have the ability to analyse problems and organize information related to how people interact with information, technology, knowledge, cultures, environments, objects, and society. Their work should be centered on designing purposefully for specific people and situations, rather than producing self-initiated artistic endeavours. They should be curious about the needs of other people, and not only about themselves. All of this suggests that the social construct governing the meaning of design has changed, and the word “design” now denotes an evidence based, human-centric approach whose purpose is to help businesses, communities, and individuals. ‘Table 9’.

Table 9 - Recommendations for the future of design, Muratovski 2015 (Summary). José dos Santos 2020

AGILITY	
Develop a new take on teams	Assemble taskforce-like teams to focus on your organization's "must win" challenges, such as building capability to enter a new market category or helping to rapidly integrate newly acquired companies into the culture.
Foster new behaviors and mindsets	Develop the behaviors and mindsets essential for shaping a culture that supports your organization's transformation program. Key to any successful transformation is an organizational culture that is change ready and collaborative and that promotes a learning mindset.
Streamline capabilities	Looking at the strategic vision for your organization, focus on the top three to five capabilities essential for your organization's near-term and future success, instead of using the massive, more static type of competency model that is common today. Evaluate capabilities each year and align them with new business initiatives.
Focus on resilience	Help people throughout your organization get comfortable with the uncomfortable by fostering a culture that takes calculated risks, learns from failure, promotes learning agility, and uses data analytics to make informed decisions.
LEARNER-DRIVEN DEVELOPMENT	
Encourage storytelling	Foster the use of storytelling as a leadership skill to help employees embrace and execute the organization's transformation program. Make sure that in these stories, leaders provide the "why" behind the transformation.
Use reverse mentoring.	Use flipped classrooms and reverse mentoring programs to enable young leaders to mentor and coach senior executives. Provide opportunities for leaders at all levels to be seen as teachers.
Enable experimentation.	Provide programs that enable employees to explore new functions, work with different teams, and practice new skills on the job. This allows people to integrate learning with work and makes learning a continual process rather than a one-time event.
Leverage new technology.	Deploy technologies that make learning more engaging, more accessible, and more personalized. Take advantage of new tools and resources (such as virtual classrooms) that enable you to reach a critical mass of learners around a transformation under way in your organization.
PARTNERSHIPS	
Focus development close to customers	Deliver development programs to younger, front-line leaders closest to customers and partners. They will be instrumental in executing your organization's transformation.
Learn from innovators	Look outside your industry to organizations that have innovative programs and approaches you can bring to your own organization.
Foster talent mobility	Work with other parts of your business to design a facilitated talent-mobility program featuring job-to-job transitions and ongoing movement of people into new projects and assignments. Ensure that these experiences challenge employees as well as expose them to different business functions and regions.

Along the same lines of paradigm shift, Kees Dorst in an article entitled 'Design Beyond Design' (Dorst, K., 2019), argues design needs a change of paradigm, from a 'problem solving' activity to a 'problem framing' one. He states that design must stop limiting itself by the problem-solving approach, instead using a problem situation as a starting point and then reframe it as system transformation. This

reflection hints at an accusation many times aimed at design, that despite its big problem concerns and intellectual discussions, designers tend to shy away from complex and systemic problems, the so called ‘big, hairy and wicked problems’ (Buchanan, R., 1992) choosing to act at the extremity of know level of the system, delivering project based solutions that do not address the system. This is the basis of what Kees Dorst is proposing, a new paradigm for design thinking and doing:

When problems move from being very complicated to truly complex, our ways addressing them ought to shift radically. If design is entering a time of true complexity, we have to radically shift our thinking and move away from design paradigms based on problem solving to create a new paradigm based on complexity theory and systems thinking. These disciplines demonstrate that in really complex systems, newness comes from the emergence of order, rather than goal-directed creation; change is achieved through influencing the system, rather than implementation of a plan to solve the problem; and new state of relative stability can be achieved by creating resilience, rather than striving for an immutable structure—that so-called solution. In a complex problem situation, any attempt to search for “the” solution would be riddled with assumptions. In a truly complex situation, there IS no solution—the way to achieve progress is to create high-quality interventions to bring the whole system forward into a more desired state.

2.2 Large Corporations

2.2.1 Top Management Teams

This section describes the characteristics of TMT’s and attempts to explain why design and designers need to be at this level. We discuss implications of being at this level and possible justifications why design and designers are not at this level, while acknowledging that designers are not the only ones not represented in the C-suite and that there is evidence that the C-suite has other diversity and inclusion

issues. We also clarify once more why we are focused on the TMT's and not on the Board of Directors.

While there has been an incredible amount of research and publications on the CEO of large corporations, specifically about the impact of the CEO attributes on firm performance (Liu et al, 2018), and even on the importance of the CTO and the optimal position in the top management to ensure that adequate resources are committed to innovation efforts (Garmes et al, 2018), not much has been written about what this thesis has been calling the C-Suite but in organizational terminology is defined as top management teams (TMTs). Withstanding the work of Hambrick and Mason on the upper echelons, there is a need to address what is generally defined as senior executives in the TMT, responsible for one or more functional areas in their organizations, the group of people where this research has identified a scarcity of trained designers, leading to this research's main question.

Management research focusing on TMT (Menz, M., 2012) has identified six types of TMT members:

- Chief Financial Officer
- Chief Information Officer
- Chief Operating Officer
- Chief Marketing Officer
- Chief Strategy Officer

There is evidence that in many F50, design is responding to one of these functions/ roles, with either exact definitions or similar ones 'Table 2'.

Menz defines them collectively as senior executives in the TMT responsible for one or more functional areas in their organizations, executives typically involved in strategic leadership and decisions, and he details the history of the emergent research on TMT's, starting in the 70's when functional leaders joined the C-Suite for the first time. In his review paper, the author goes through studies of TMT's and covers roles, characteristics, presence and turnover, as well as relationships with other TMT members, organization and environmental findings, and outcomes, concluding that "the functional executive is not just the head of an organizational function; a significant part of the role comprises strategic decision making and

leadership as a TMT member”, which seems to justify the need for designers to go beyond functional roles and aspire to become TMT members if they wish to engage in strategic decision making, there is correlation but not necessarily causation. Menz concludes his report with a characterization of a number of opportunities for further research, stating that the area of research regarding functional TMT members, both established and unexplored, has the potential to become an important area of study for TMT’s.

For the purpose of this research, more attention shall be dedicated to Opportunity 4: Functional TMT Members and TMT Impact, in Menz’s paper because there is research that ties design’s impact to the bottom line of corporations that invest in design as a component of their innovation strategy (DMI, 2015). Though there is an identifiable lack of research tying individual functional TMT members’ influence on strategic decision making, while almost all research considers leadership and strategic decision making as key functional executive roles, and this in itself might be at the centre of apparent lack of believability of the data that says design is a major contributor to the company’s performance in the market (if no one can be made individually responsible, then all are, and vice-versa).

There have been other research studies on TMT demographics, leadership style and contextual findings impacting firm innovativeness, reinforcing something which has been said by other authors regarding TMT’s, that “TMT demographic characteristics play a role in the prediction of firm innovativeness. However, this predictor role becomes even stronger if TMT leadership is taken into account” (Sperber et al, 2018, p.310).

Menz justified our methodology research while addressing TMT’s while stating “for exploring both intraorganizational and boundary-spanning ties of functional TMT members, social network theory (Granovetter, 1973) may be a suitable lens. Although employing the corresponding quantitative research designs, potentially using surveys, will be demanding, their contribution to explain the effectiveness of the various functional TMT members is likely to be substantial.” (p.72), and one the most interesting elements of his research is the identification of areas that undermine the task of any TMT to claim responsibility for specific outcomes,

namely the lack of clear function-specific measures that enhance an organization's strategy and effectiveness. In a recent research report by McKinsey design on the business value of design (Dore et al, 2018) substantiating that design is poorly integrated, the report ask a number of questions organized under four themes: Overall Accountability (entire C-suite), User Insights (heads of marketing, strategy, R&D, sales and operations), Products and Service design (product, R&D, and business-unit leaders) and, Ongoing Development and Measurement (business-unit and product or customer leaders). The questions asked are about responsibilities and aim to clarify function-specific measures that, in this case, would make the job of a CDO much easier, they range from questions like "Who owns which parts of the end-to-end customer experience? If it's more than one leader, how do they ensure consistency as needed?" to "Which senior leaders can authorize design changes to existing products and services or can trigger the development of new ones?".

One other element of further research that aligns well with what design can bring to the table is what the author calls ambidexterity "an organization's ability to be aligned and efficient in its management of today's business demands while simultaneously being adaptive to changes in the environment" (Raisch & Birkinshaw, 2008, p.375). Menz proceeds to suggest that some of the functional TMT members are more connected to exploration-oriented roles, while others more into exploitation-oriented roles, the number and nature of these roles will define how ambidextrous the TMT might be, and an individual TMT member might be expected to engage in ambidextrous actions and behaviours (Menz, M., 2012, p.73). Designers have long been identified as ambidextrous (O', C. A., Iii, R., & Tushman, M. L., 2013) and Roger Martin did extensive research into the difference in design thinking brings to business (design thinking as 50% analytical and 50% intuitive) and consequent behaviour that designers bring to innovation (Martin, 2009), suggesting that they would fit right at home in ambidextrous C-Suites, even if there is evidence that they might actually be more at home on the exploration side of the spectrum (K. Tabeau et al, 2017).

Boris Groysberg published in the Harvard Business Review what the author identified as 'The Seven Skills You Need to Thrive in the C-Suite' (Groysberg, B.,

2014), based on an extensive study of several dozen top senior search consultants at a top global executive-placement firm in 2010. These are in order of priority:

- 1) Leadership
- 2) Strategic thinking and execution
- 3) Technical and technology skills
- 4) Team - and leadership - building
- 5) Communication and presentation
- 6) Change-management
- 7) Integrity

While some of these might be qualified as ‘hard skills’ (Strategic thinking and execution, Technical and technology skills, Communication and presentation), the others fall more on the ‘soft skills’ category, and some of them are closely tied to ‘personal skills’, like Integrity, and to some degree Leadership which not surprisingly is the top skill according to this study. There are thousands of references about leadership, but it is nonetheless a quality/ skill that not everyone agrees can be taught, and designers are certainly not taught leadership as part of their design curriculum. Also, important to note, that once an executive reaches the C-Suite, their technical expertise matters less than their leadership skills and core business practices (Groysberg et al, 2011).

As part of this thesis, we asked questions about soft and hard skills necessary for designers and executives, and this was asked in a survey to mid-career/ senior designers, and to executives in F500 (Appendix D and E). Results shared further ahead seem to suggest that the skills that are most important for design do not necessarily align with those expected for a senior/ mid-level design manager, and these skills do not align with what Boris Groysberg and his research defined as skills necessary to thrive in the C-Suite.

One of the interviewees in our qualitative research, an experienced manager with long time exposure to executives in C-suites described the situation as “Those top fifty companies have an average of 10 or 12 people at the board and they want to keep it to 12 not 13. So maybe one of the 12 must go out to let a designer in, they will ask if the business will be better if they are sitting there, have a seat

instead of digital, or supply chain, or legal. And, by the way, I think my CMO does a great job at leading design, so what are you complaining about?”⁵

Of course, this is not just about the quantity of executives, but their role and the role of the CEO and centralization, in a paper titled ‘Who Lives in the C-Suite? Organizational Structure and the Division of Labor in Top Management’ (Guadalupe et al, 2014) the authors state that beyond CEO’s span of control with functional executives, it is important to acknowledge the differences in the roles played by the executives and their subordinates.

To be fair, the scarcity of designers as executives in the C-Suite of large companies is not unique to design. In a report titled ‘Career Patterns of Supply Chain executives: An Optimal Matching Analysis’ (Flothmann et al, 2017), the authors analysed the career of supply chain executives to understand their backgrounds and career paths, their starting point was a shortage of supply chain executives on a global scale. They were able to distinguish among six career paths to supply chain executives, starting with their previous experience and covering the journey they make to arrive at an executive position, this type of approach might prove useful for further research on how to support designers into their journey to the C-Suite.

And this research would be remiss if it didn’t address the fact that there is an ongoing debate about the lack of women in the C-suite of large corporations, as well as in the CEO role. As the HBR puts it in an article on the topic “The news about U.S. women’s presence in the C-suite — and especially the CEO job — has been pretty bleak. Nationwide, fewer than 5% of CEOs of public companies are women. In the Fortune 500, that number fell by 25% from 2017 to 2018, dipping from 32 (6.4%) to 24 (4.8%), before rising back in 2019”. ‘Research: Board Experience Is Helping More Women Get CEO Jobs’ (Tinsley, C. H., & Purmal, K., 2019). While there are aspects that explain the lack of women in the C-Suite that probably align well with reasons why there aren’t more designers in the C-Suite, we have not executed any research on the topic and therefore excuse ourselves from speculating. One thing we can all assume, more designers in the C-Suite of large corporations also means more women, data shows that in design, with

⁵ Qualitative Research – Interviews: 1. World leader in designer training & coaching (Appendix C)

fluctuations between the type of design, 53.4% of Designers are Female, making them the more common gender in the occupation (Census Bureau, 2017). There is data suggesting that women are being invited more to become members of the Board of Directors before becoming CEO's, and that is helping them get more CEO jobs (Tinsley et al, 2019). Anecdotal evidence seems to suggest that women might embrace design and its core tenants of empathy and people-centredness to the point of hiring more designers to the C-suite (of the 34 identified designers in N-1/2 position in the F50, 7 are women).

We made a conscious choice not to focus the research question on the Board of Directors but on the executives in the C-Suite, the TMT's, largely because according to research on the topic, a position in the Board of Directors is usually a step up from a TMT, many times even a step up from the CEO position, with many ex-CEO's taking on several positions in different Boards as a natural evolution after (or in parallel) with their role as CEO (Rebeiz, 2016). Nevertheless, several of the interviewees talked about the importance of the Board of Directors, a two-time CDO stated "it is very important to have more designers in the Board of Directors of large corporations, so they can advise executives and CEO's on the importance and business value of design"⁶ another who has written books on design leadership stated "If you talk to executive search companies, ask them about board level, why aren't there more designers sitting on boards. That is the next level to shoot for"⁷.

In a McKinsey report on 'The Board Perspective, 2018', after researching the link between Board effectiveness and financial performance, they stated that setting a comprehensive strategy, assessing value creation and debating strategic opportunities are core Board activities, but TMT's need to work hard to support the Board in areas like digitization, talent and succession planning, and risk management, making the role of the TMT even more important (McKinsey, 2016, p.14).

⁶ Qualitative Research – Interviews: 11. Three-time Chief Design Officer with experience at Board level (Appendix C)

⁷ Qualitative Research – Interviews: 19. American multinational information technology company (Appendix C)