2. Literature review

2.1 Design in Business

2.1.1 The designer in a business context

This section covers what makes a designer a designer, the importance of the project in the design attitude, business innovation models and the role of design project in this context.

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Since the main inquiry at the basis of this thesis is "Why aren't there more designers in the C-Suite of F50 corporations", it is necessary to start at the beginning, on a definition of what a designer in the context of business and large corporations is or/ and is expected to be, and on what are the main components of business that limit or empower what the designer can bring to the table, especially in a context of design innovation. In an article entitled 'If Managers Thought Like Designers' (Rotman on Design, 2013, pg 27) Jeanne Liedtka (a business manager herself) hypothesises about what would actually mean for business strategy if managers took the idea of design seriously, what would happen if managers tried to think the way designers do, and after having studied how designers work and create for more than a decade, made 10 suggestions 'Table 3'. These components of what designers do and how they think and behave helped us define what we later in this thesis describe as designer **Ethos[1]**.

Professor Chris Conley who taught design at the IIT Illinois Institute of Design for almost a decade, published an article in the DMI Review titled 'Leveraging Design's Core Competencies' (Conley, C., 2004), in it he describes what he understood as a firm understanding of the kinds of expertise that are at the core of design.

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[1] Ethos means "custom" or "character" in Greek. As originally used by Aristotle, it referred to a man's character or personality, especially in its balance between passion and caution. Today ethos is used to refer to the practices or values that distinguish one person, organization, or society from others. So, we often hear of the ethos of rugged individualism and self-sufficiency on the American frontier in the 19th century; and a critic might complain about, for example, the ethos of violence in the inner cities or the ethos of permissiveness in the suburbs. Merriam-Webster. (n.d.). Ethos. In Merriam-Webster.com dictionary. Retrieved October 31, 2020, from https://www.merriam-webster.com/dictionary/ethos

1. The ability to understand the context or circumstances of a design problem and frame them in an insightful way
2. The ability to work at a level of abstraction appropriate to the situation at hand
3. The ability to model and visualize solutions even with imperfect information
4. An approach to problem solving that involves the simultaneous creation and evaluation of multiple alternatives
5. The ability to add or maintain value as pieces are integrated into a whole
6. The ability to establish purposeful relationships among elements of a solution and between the solution and its context
7. The ability to use form to embody ideas and to communicate their value

At the core of designer education (with our broad definition that includes architecture and art), though not specific to design per se, we have the 'project' as a unit that designers learn to apply their skills and competencies to (in Italian, *progettare* actually means to design), by understanding the typical phases and requirements that projects have in general. These characteristics of design professionals can be observed across a wide range of design professionals (Press and Cooper, 2003; Ravasi and Lojacono, 2005), and the 'Project' itself project is a means to an end in an ongoing battle for design to be recognized and accepted as a credible profession in the midst of others, Michlewski in 'Attitude' (Michlewski, K., 2016, p.7) describes this process as something typical of occupations that follow this path and use the professional project as a means to assert their place in society. In this context, the 'professional project' is a process through which occupations organize themselves to attain market power and recognition, and the project is an essential component of design attitude, a combination of "expectations and orientations one brings to a design project" (Michlewski, K., 2016, p.9). Though in design, this 'professional project' throughout the process of maturing as an occupation split itself in natural science led professional project and fine-arts led professional project, designers will marry both types of project attitudes depending on the context, on the application of design as their profession.

Table 3 - If Managers Thought Like Designers, Liedtka et al, 2013 p.26 (summary). José dos Santos 2020

1	They would realize that designing business strategy is about invention	Strategists search for one right answer and have paid more attention to science, and while scientists investigate today to discover explanations for what already is, designers invent tomorrow to create something that isn't. Strategy aspires to create a future that is different from the present, but powerful futures are rarely discovered primarily through analytics.
2	They would recognize the primacy of persuasion	Because strategy results in invention, it is contestable, and leaders must therefore persuade others of the compelling wisdom and superiority of the story they have chosen. Designers understand this, they know that in order to get their products and building done, they just persuade clients to pay for them, requires helping clients visualize the end result.
3	They would value simplicity	Objects people love are complex enough to perform its functions well, but no more complex than they need to be, they are often an elegant solution. Simplicity would generate strategies that would not be incomprehensible except to their authors, banal and self-evident, while emphasizing our positives while acknowledging our flaws.
4	They would aim to inspire	One of the saddest facts about the state of business design is the extent to which we settle for mediocrity, we don't even attempt to engage our audience at an emotional level, let alone to inspire. The differences between great designs and those that are just 'okay' is the way the former call us to something greater.
5	They would master the core skills first	In order for designs to be inventive, persuasive, elegant and inspiring, they need to work well, and for that designers need to master the technical elements, many times moving beyond conventional techniques, using their mastery to push the frontiers of design.
6	They would learn to experiment	Experimenting is what allows one to move from mastery to brilliance, from technical competence to true innovation. These can be experiments in the mind, like strategic planning where strategists imagine and test new futures, and can also be experiments in the physical world.
7	They would be more inclusive in our strategic conversations	Design teaches us about the value of including multiple perspectives in the design process, turning the process into a conversation. The more complex the design challenge, the greater the benefits of multiple voices and perspectives.
8	They would learn to talk differently	Putting a variety of people in a room together is not enough to produce superior designs, we must change the way we talk to one another. Most managers were taught to talk in business settings as if they were debating, advocating a position, while breakthroughs in conversation come from asking new questions, reexamining wat we take as a given.
9	They would work backwards	Most managers are taught straight forward problem-solving methodology: define a problem, identify various solutions, analyze each, and chose one. Designers begin at the end of this process, by achieving clarity about the desired outcomes of the design and then working backwards.
10	They would start the conversation with possibilities	Great design occurs in the intersection of constraint, contingency ad possibility, elements which are central to creating innovative, elegant and functional designs. In business, managers tend to start strategic conversations with constraints, as a result they get design's for tomorrow that merely tweaks today's.

The reality of business is one of initiatives that can be described as projects, or a combination of several projects that run through a number of phases or stages. These phases require different skillsets and competencies, and they also rely on

different ceremonies, rituals that are important to understand and align with what designers can do by training, beyond instinct and experience.

Sirkin's 'cash curve' model (Sirkin et al, 2007, p.7) is a great way to understand the alignment and misalignment between design project phases and that of business initiatives and project cycles. The model maps cumulative cash flow over time, through stages of Idea Generation, Commercialization and Realization. With differences in terminology, this model holds true to many organizations, and though it allows designers to perform and add value to the process, it also uncovers the underlying issues that reflect many times levels of misunderstanding and tension between designers and non-designers.

It is known that design is a crucial element of innovation, the training and tools made available to designers are particularly adapted to a number of challenges and allow designers to adopt a number of different roles in the innovation process (Hernández et al, 2018) 'Figure 6'.

Roles played by design
in innovation and the contributions these roles make

- Design to differentiate
- Design for the introduction and adoption of innovations in the market
- Design to transform ideas into concepts
- Desgin (as) research
- Design as a (creative, generative) thinking process
- Design as techniques to articulate ideas and to integrate concepts, people, and functions
- Designers' contributions to innovation

Characteristics
of the relationship between design and innovation
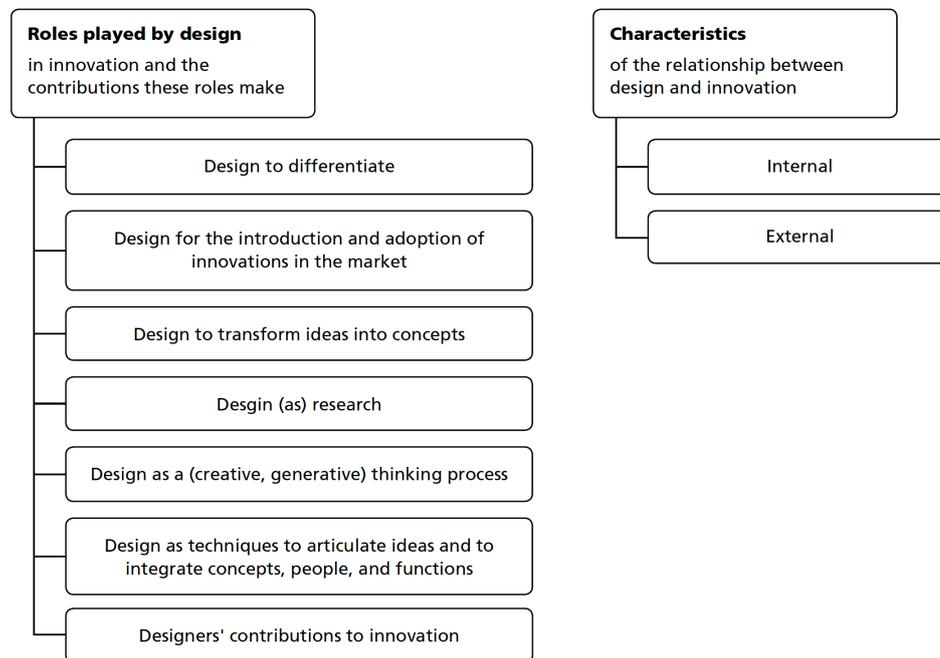
- Internal
- External

Figure 6 - Internal and external findings impacting design innovation, Hernández et al 2018, p.255

The activity of designing solutions is included in the commercialization stage, which incorporates all development methods and partners involved in the pre-launch activities of said solution. After the solution is launched, many believe the designer is relieved of his duties, but in reality there are many design activities that

are crucial for the correct deployment and realization of a solution, activities that may impact the scaling phase (time to volume) as well as cumulative cash (sales and margin) and staying power (market longevity), these range from adequate story telling allied with marketing, to continuous user research and usability testing that allows for agile process of improving on an idea after launching. Today, with Agile (Beck et al, 2001) mindset and methodology, along with Eric Ries Lean Startup model (Ries, 2006) the solution goes through a series of launches, with many different names (Beta launch, soft launch,…), that serve the purpose of a) launching the minimum viable products as early as possible, b) while learning as much with users throughout the process to mature the offer as quickly as possible. Note that the last two are circular models, while the cash curve could be seen as a linear, waterfall solution.

Much of the tension between designers and non-designers stems from the fact that, while Sirkin's model places the idea generation and commercialization blocks as equal in time, activities by the designer resulting from the major thinking and doing models learned at school are majorly focused on the idea generation portion of the process 'Figure 7 – Scenario 1' and even if we extend the design thinking process further into the commercialization stages, this implies duplication of idea generation following a traditional Divergence/ Convergence model of design also strongly followed by designers as core to their activity 'Figure 7 – Scenario 2'. The same applies to more software driven methodologies like those proposed by Agile and Lean Startup.

Authors like Chris Zook from Bain, while presenting a circular model that looks very similar to the Agile and Lean Startup models but is much more an innovation model built around the organization finding its core, clearly states that "for most companies and in more industries, the strategy cycle, from Focus, to Expand, to Redefine, has gotten shorter, and therefore companies more frequently confront moments of redefinition at their core" (Strategy & Leadership 36:1, 2008, p.28).
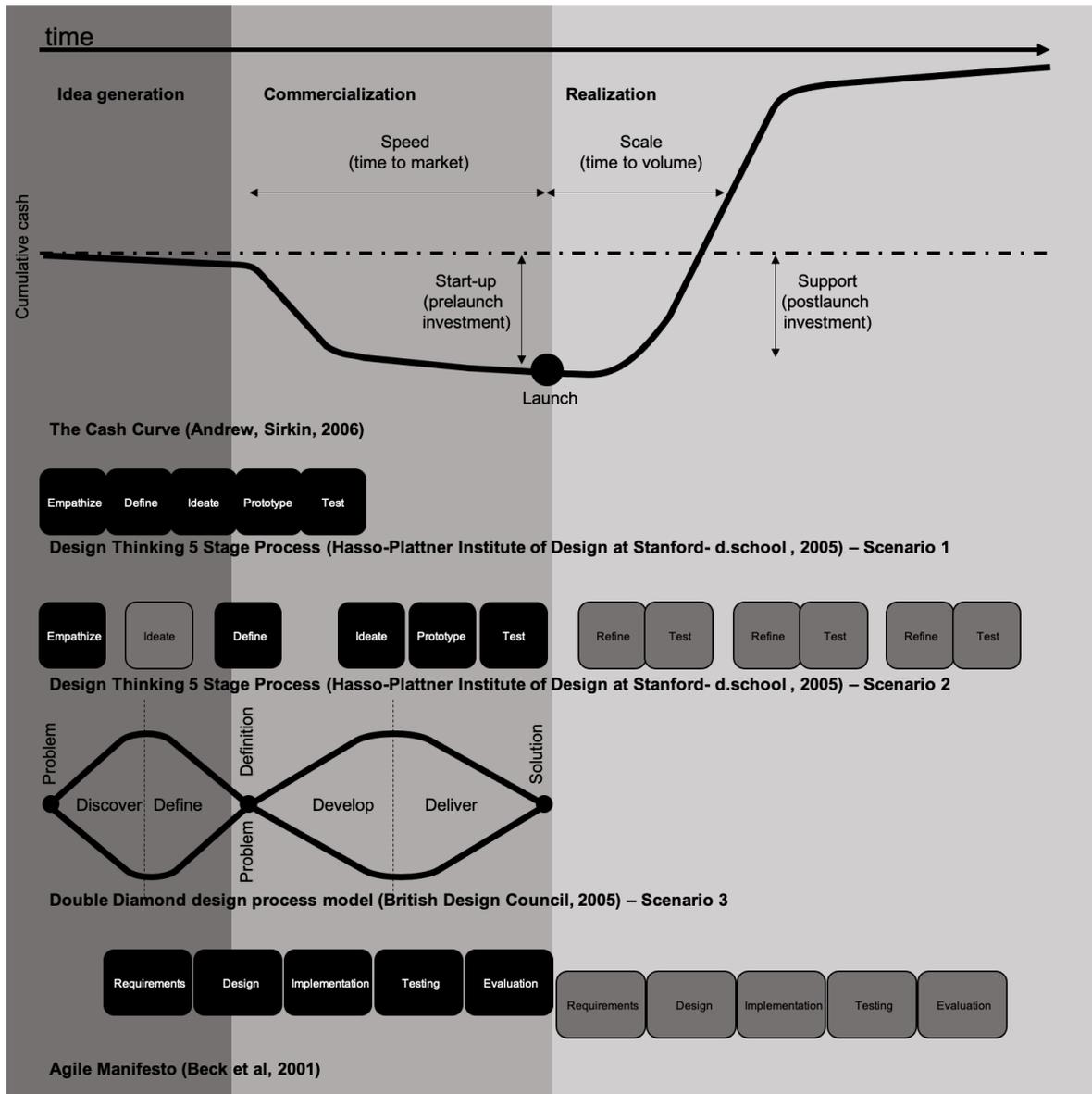
Figure 7 - Relationship between several innovation models. Jose dos Santos 2020

So, while organizations are doing their best to reduce the negative cumulative cash stages of their cycle in the idea generation and commercialization phases, while planning and working towards a shorter time to volume stage after launch (some organizations live and die by first year sales), designers often find themselves not having enough time and resources to develop activities in the idea generation and commercialization stages, namely activities of exploration which in the end impact the product return on investment both in terms of revenue and time to volume, "Our data also show that the extent to which designers have the freedom to make decisions on their own moderates the relation between

exploration activities and design innovativeness. In particular, we hypothesise and find that when designers have high levels of decision freedom, exploration has a more positive influence on design innovativeness than when they have low levels of decision freedom." (Tabeau et al, 2017, p.216)

Many organizations build their key performance indicators (KPI) around concepts that are deeply connected to Sirkin's cash curve, by quantifying time spent in idea generation and commercialization (time to market), respect for launch dates, scale (time to volume), number of solutions launched (breaking down numbers by type of innovation), to name a few.