Designers' Roles in the Founding Team

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Master's Thesis

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I Abstract

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Design has been a trend topic in popular publications and academia in the entrepreneurship scene for the past years. And while many beneficial capabilities are attributed to design there is little investigation into designers' daily actions as part of a founding team specifically.

"Designers' Roles in the Founding Team" examines the roles designers hold as part of a founding team in startups.
The objective of this work is to gain insights into the tasks and responsibilities designers take on a daily basis, and to subsequently determine their roles specifically in the context of a startup founder.

For this thesis 15 company founders or c-level executives from five different companies were interviewed. All participating companies are operating since less than five years and are based in the Helsinki capital region.

The interviews focus on the participants' day to day tasks and their collaboration with their co-founders. The interviews included active tasks for the participants and resulted in several different data sets. The results offer a detailed view into the founding teams' work and collaboration with each other.

Two different roles of a designer as part of the founding team were found, the traditional designer, and the integrated designer: the two positions differ in responsibilities and can be distinguished by examining the designer's involvement with the business development of the company. While designers of both roles are involved in design tasks it is the integrated designer who impacts his or her company's business development.

In addition, it was found that while design is praised for its holistic impact on the whole company, especially in non peer reviewed literature, within this group of interviewees design was mainly associated with traditional design capabilities related to creation and user work. To conclude, this work investigates design's challenges within a company structure and its perceived capabilities.

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1.0 Introduction

In popular literature, design is, concerning its impact in entrepreneurship, frequently depicted as an all-healing ingredient. In these paramount experience-based publications, design is credited with numerous abilities such as: improving a company's product experience, improving the company's relationship to its customers and users, making investors understand the value of the company and improving the looks of the product. As such, this literature suggests a wide range of design's possible positive impact, but leaves us with a very unclear description of design's roles in startups.

This thesis examines the roles designers hold as part of the founding team of startups and provides empirical evidence. The importance of this work lies in a more clear understanding of designer's roles in a field where its publicly described as important and influential.

In addition to the popular literature, design has been extensively researched in academia concerning its role in companies in general, as well as a part of individual teams, when researching teamwork itself. However, within the existing research there is insufficient work focusing specifically on designers in the context of a founding team in a startup. This work focuses on this specific gap and takes the existing relevant research to lead its approach. In order to introduce the reader to the public image of design, selected popular literature is quoted in this introduction.

This work is meaningful for designers in startups and their founding teams as well as academic research. Concerning entrepreneurship practice, this thesis illuminates the current state of designer's roles in startups and examines, firstly, the characteristics of set roles, and secondly, how designers' abilities are perceived within their teams.

In popular literature design as a topic has been a consistent trend: Adam Swann (2012), wrote that every business, no matter the core of its trade, should recognise the power and possible financial gain that can come from good design. Enrique Allen (2012), designer and Co-Director at the Designer Fund, a venture capital fund that supports designers becoming entrepreneurs, agrees with Swann and adds urgency to the topic: Allen (2012) states that the consumer market, especially

for technology-driven products, becomes increasingly more contested and design is not just one possible tool to differentiate your product from competitors anymore, but it has become a must-have in order to stay successful (Allen, 2012).

When discussing designers' roles in startups, an inherit problem is a lack of differentiation in the term design. Braden Kowitz, Design Partner at Google Ventures notes that "the group of people who call themselves a designer is remarkably diverse" (Kowitz, 2011) and "not all designers are good designer founders" (Allen, 2012). Allen (2012) has argued that in most cases, a good designer founder is not a specialized designer focussing on one area in his own field but rather has a cross-disciplinary profile. He has observed that successful designer founders, rarely are experts in only one area, but usually generalists and able to "wear all the hats" (Allen, 2012). But despite design's seemingly popular status there are much less designers founding companies than founders from the backgrounds of engineering and business (Alter, 2013). Jessica Alter, a business professional by education who runs an online service called Founder Dating, a network that allows aspiring entrepreneurs to find the right co-founder for their company, estimates that founders with a formal design education might be as few as 6% of people signed up for her online service.

Considering the value to academic research, this work gives insight into design in the specific context of a founding team, a context that has not been conclusively investigated. While based on existing research on design in companies in general, and research on design in teamwork, it is possible to make assumptions and focus the research, but the empirical evidence is missing.

This work describes designers in the context of their founding team of consumer product market startups from the capital region of Helsinki in Finland. As team structure and responsibilities change fast in early stage startups the research is focussed on startups with a limited operating history of a maximum of five years. In Finland entrepreneurship is perceived predominantly positive. While, in many countries, becoming an entrepreneur is seen as a path of little opportunity and a few financial incentives, according to the GEM's (Global Entrepreneurship Monitor) Finnish 2015 Report, entrepreneurial intention in Finland increases steadily and is the highest among the Nordic countries. Paired with a lower fear of failure compared to the rest of the EU countries, this creates a great breeding ground for a very positive and energetic startup scene. Especially early stage entrepreneurial activity is increasing steadily, and today more than half (56%) of technology based startups are based in the capital region around

Helsinki. In addition, design has a long history and is highly appreciated in Finland. While its original appreciation stems from traditional industrial design, its strategic merits have gained more widespread attention in recent years. For example, after World Design Capital in 2012, the City of Helsinki has utilized user-centered design approaches and design thinking methodologies in many projects and appointed a Chief Design Officer for the city of Helsinki in September 2016. In the eyes of its Chief Design Officer, Anne Stenros, design should become part of the city's strategic planning and development (City of Helsinki, 2016).

This research was conducted to answer the following research question:

> **What is the role of a designer, as part of the founding team of an under five years old startup, based in the capital region of Helsinki, Finland?**

The narrow focus of the research question stems from the intention to first produce conclusive data to fill the described research gap and second, from the scope of a master's thesis. In its content, the research question and its sub questions were formulated utilising the existing research body and the professional perspective on designers in startups described in the literature review.

The design of the data collection methods utilised in this thesis was led by indications and learnings of set work. In order to provide different approaches to the main research question the following supporting questions were formulated.

- How much are designers involved in the overall strategy of their businesses?
- What are the perceived advantages of design in the founding team?
- Does design education match the designers roles?

To provide consistency and relevance, within this work, a designer shall only be an individual that has received a formal design education. There will be however no further definition of the term “design” as this research aims to gain insight as to how the founders see design. As a preliminary definition of design could influence the results of this work, the definition was deliberately kept open.

This thesis was structured following the natural development of this research.

The Introduction, provides an overview of the topic and gives some evidence over how design is perceived by practitioners.

The Literature Review, chapter two, combines the perspective of professionals in the field of entrepreneurship and design, with the relevant academic research.

The Methodology, chapter three, gives insight into the specific methodologies utilised and explains the further analysis of all gathered data. Additionally, the chapter describes the different tools designed specifically for the interviews conducted in this research.

The Results, chapter four, firstly introduces the participating companies and presents company specific results, and secondly, focuses on cross-company results and their indications according to prevalence and relevance to the research question.

The conclusion and discussion, chapter five, offers an overview of the most significant results and concludes the results. In the discussion, limitations of the research are discussed and further research is suggested.

2.0 Literature Review

The literature review aims at enhancing the author's own understanding of the designer's role in startups as well as providing the reader with a critical introduction to the relevant literature and specific characteristics. This literature review is focused on understanding the research around designers' tasks and their role in the founding team of a startup: its main characters, the founders as well as its leading themes, boundaries and its possible gaps. The result of this exploration is presented as the literature review focussing only on relevant findings on the topic.

Both popular literature and academic research on this topic have been explored. It can be concluded that both need to be included to allow for a comprehensive image of designers in the founding team of startups. Within the academic research body there is a considerable amount of publications about the possible benefits of designers in an entrepreneurial setting, but only

little was to be found in the area of actual hands on, investigative research, asking the question what exactly designer founders do on a day to day basis in startups. This research attempts to clarify the roles of designers in startups by extracting information about their day to day tasks.

The search of relevant sources to this work has been driven by firstly, the aim to understand what researchers have already concluded about the role of a designer in the founding team of a startup, and secondly, examining the characteristics of found research and identifying possible gaps in its research body. As this topic is at the crossroads of two fields, both publications of design as well as business have been considered. The literature review was conducted through Google Scholar, Aalto University Libraries, and common outlets publishing about business, startups and design such as: The Harvard Business Review, The Design Management Review, Google Ventures, under the following search words and combinations of them: DEO (Design Executive Officer), CDO (Chief Design Officer), designer founder, founding team, design in business and startups.

In order to identify significant and relevant literature, the results from the first search were cross-referenced with the references of publications concerning themselves with similar topics. Not all selected literature does meet the highest academic standards. The selection has been made predominantly

according to relevance to this topic. In the reviewed literature the following themes emerged and can be elevated as relevant or more prominent than others. The insights are presented accordingly in the following two categories: firstly, aspects relevant to design in business in general and secondly, design in entrepreneurship specifically.

2.1 Design in business in general

Design's position in organisations is changing

Design has traditionally been a junior function, usually to be found under the departments of marketing or engineering (Lorenz, 1994). As such design is, together with other obstacles faced with the challenge of "not being considered as important" (Acklin, 2010). But the roles of designers have been changing: "large corporations are creating executive positions for designers[...] meant to establish a connection between design function and the executive suite" (Conley, 2007). While the appreciation for design is changing and these more influential roles are created, Conley (2004) observed that designers are often reluctant to take the step into operations or management as it is perceived as losing impact over the traditional design work.

Design is hard to define

The broadened role of designers is hard to define, as their tasks change and the term "design" now encompasses a wide range of activities that range from "something that could be called engineering to something that could be called art" (Lawson, 2006). And while, when considering all the tasks designers perform, a "broad definition of design [is] in essence correct, [it] is not useful in the understanding of design in practice" (Margolin, 1989). In addition, possibly due to its integrated nature, design is challenging to quantify as companies and individuals struggle with its general definition and changing reach (Moultrie et al., 2009).

Challenges in integrating design and collaboration

The integration of design in a organisational structure, as well as in a new team, can be a difficult task (Lorenz, 1994; Conley 2004, 2007). As mentioned, companies are creating executive position for designers moving them into middle and top management (Conley, 2007). But even when top management "recognises the potential power of design and the versatility of designers[...], the way is often barred by turf warfare with engineers and marketing specialists" (Lorenz, 1994). Design's traditional position within the corporate hierarchy as a junior function makes it difficult to now give it sufficient weight next to marketing and engineering (Lorenz, 1994). These potential conflicts could be based on many grounds around the collaboration. One of them could be their different foci and lacking understanding of the other departments' requirements. Every sector (marketing, engineering etc.) has its own requirement list and believes in its importance. In the end, "engineering can't commit to what marketing desires, and marketing can't approve a technical spec that doesn't illustrate the actual use of the product" (Conley, 2004). In addition, the responsibilities are often blurred especially between marketing and design (Conley, 2007).

However, it is suggested that it might be easier to implement design into managerial roles when founding a new company, as this new company does not have to undergo a reformation of organisational structures (Conley, 2004; Lorenz, 1994).

Design's abilities and contribution in businesses

Chris Conley (2004) has described the seven "core competencies of design when leveraged in business".

According to his work design has:

- The ability to understand the context or circumstances of a design problem and frame them in an insightful way.
- The ability to work at a level of abstraction appropriate to the situation at hand.
- The ability to model and visualise solutions even with imperfect information.
- An approach to problem solving that involves the simultaneous creation and evaluation of multiple alternatives.
- The ability to add or maintain value as pieces are integrated into a whole.
- The ability to establish purposeful relationships among elements of a solution and between the solution and its context.
- The ability to use form to embody ideas and to communicate their value (Conley, 2004).

These results are based on Conley's own casework and his professional experience. He does not appear to have conducted empirical research into the seven points' applicability or impact.

Additional abilities highlighted by other research are: a designers ability to contextualise a briefing and reframing it, possibly opening up the solution space (Senge, 1999), a designer's ability to process information and visualise it (Lorenz, 1994) and the designer's work with users in general (Brown, 2009). Dunne and Martin (2009) and Brown (2009) also state that when designers empathise with a counterpart they have the ability to understand their perspectives and identify their needs.

One ability that impacts the company in itself is a designer's ability to act as a translator between different departments and especially between marketing and engineering (Dreyfuß, 1955). The idea of the designer as a collaborative force or glue in a company is supported by Lorenz (1997) who states that one strength of effective designers is that they "contribute their own work, but also contribute to those of the other disciplines, and stimulate, interpret, and synthesise it. This involves hard skills, systems and corporate structures, as well as the designer's soft skills" (Lorenz, 1994).

2.2 Design in entrepreneurship in particular

The founding team

According to many practitioners and scholars, the "perfect founding team" of a startup is multidisciplinary (Ries, 2011; Blank, 2012). As Blank (2012) states the perfect founding team today is a group of individuals from the backgrounds of: engineering or data science; the hacker, business; the hustler and design; the designer. Formerly it was widely acknowledged that a startup team would only need a "hacker, and a hustler" (Blank, 2012) illustrating design's former position as a junior function in organizations.

Design's abilities in startups in particular

The general process of design has been described as not aiming to find a hidden solution but to create new ideas and approaches (Brown, 2009; Lawson, 2005). Conley (2007) concurs by stating that design is additionally beneficial when applied in the early stages of a business before a product, service or communication has been fully defined.

Lorenz (1994) suggests that the "visualization of an action, service or product and its communication could be the real core of why design is needed in startups". These abilities gain importance in startups as they often face the challenge to communicate unfinished ideas and products (Lorenz, 1994).

2.3 Discussion and limitations

In the research body and the reviewed literature two significant gaps could be identified. Firstly, to the best of the authors knowledge, there is no consistent empirical evidence into the task designers perform as part of the founding team in a startup. To collect this empirical evidence within the context of the Helsinki capital area startup scene is the focus of this work.

There is existing research about what designers should or would be capable to contribute in a business (Dreyfuß, 1955; Conley, 2004; Brown, 2009; Senge, 1999). However, there are no empirical studies conducted with regards to whether or not designers actually carry out the corresponding tasks. In addition the existing research, while occasionally referring to a designer's work in startups (Conley, 2007; Brown, 2009), does not actually examine specifically the designer's position and role as an integral element of a startup's founding team.

To illustrate the problem: the presented research indicates that designers are associated with user work. However, without asking the designers if they actually work with users in their position, it is impossible to know if the corresponding skills are deployed.

Secondly, there is the question of willingness of designers to fill managerial or strategic roles. This will not evolve to be the leading question of this work but as a designer in a founder position would almost surely have a management function, it is a question that needs additional insight.

Generally speaking, the majority of the existing work appears to lack its focus on reality. In startups, day to day work, long time strategies often have to make way for practical approaches. This is a circumstance that is not reflected in the found research but is important to give the work more relevance in the startup environment.

3.0 Methodology

3.1 Data collection

The empirical data used in this study was collected through interviews. The interviewees are founders or members of the management team of a startup of five different startups based in the Helsinki capital region who own shares of their company. In order to understand the interviewees' day-to-day work and gain insight into the task distribution among them, several participants per startup were interviewed. This was crucial as the perception of one's own work was deemed to be highly individual. In-depth, semi-structured interviews were chosen as a method to gain efficient and time effective insight into the day-to-day work of a founding team. Gaining a similar insight while observing the team would have required considerably more time and a higher level of commitment from the participating startups. As this is the work of a master's student and not

of a seasoned researcher, emphasis was put on describing the entire research process in detail to make all actions transparent and reproducible.

3.1.1 Selection criteria for startups and Interviewees

In order to avoid personal bias concerning the selection of startups, several staff members of local accelerators and communities from the Helsinki startup ecosystem, namely Startup Sauna, Vertical Accelerator, Junction Hackathon, Summer of Startups, Maria 0-1 and members of the student organisation Aaltoes (Aalto Entrepreneurship Society) were approached to submit suggestions following a short description of the research project. In total 14 suggestions for possible participating companies were collected and personal introductions were made. Personal introduction to each startup were seen as a benefit as small startups receive many requests on their time and are usually cautious about allocating time for something that does not clearly advance the business development.

The success of the startups was not considered in the selection. The purpose of this research was not to examine outstandingly successful companies and giving evidence as to how to reproduce success, but to examine a cross section of companies representative to an average startup the reader might encounter in the Helsinki capital region.

Startup selection criteria

In order to maximise comparability of the interview results the final five participating startups were selected under the following criteria: location, age/stage, product category, involvement of design and availability in the timeframe of this thesis work.

- **Location:** the companies selected are startups from Finland. This selection was made to ensure consistency concerning a similar business and social environment.
- **Age/stage:** as the tasks in a startup change fast, all startups selected must have a limited operating history of no more than 5 years counting from their official founding date.
- **Involvement of design:** the startups selected must have no less than one designer in their founding team or have a designer in an active position in the management team, equaling a c-level position that adheres corresponding voting rights similar to a founder, and own shares to the company. Furthermore the designer in the team must have a formal design education.
- **Product category:** as tasks can differ significantly according to the type of business of a company, all selected startups are focusing on the business-to-consumer sector and have at least one hardware component as part of the offering. This includes exclusively hardware-focused startups but also allows for startups that have a product that consists of a hardware component paired with a digital service.

- **Availability:** only startups that were able to conduct the interviews from mid-January 2017 to mid-February 2017 were included.

Interviewee selection criteria

In order to ensure the relevance of data collected in the interviews, the interviewees were selected under the following premises:

- At least one of the interviewees per startup must be a designer who is also a founder or holds a position in the management team equalling a c-level position that adheres corresponding voting rights similar to a founder. The designer to be interviewed must own shares of the company.
- The designer in the team must possess a formal design education.
- When selecting the interviewees the aim was to choose one interviewee from each the following professions: design, engineering and business.
- The selected interviewees per startup must work together closely and frequently.
- All interviewees must be part of the management team, have a c-level position or own shares of the company to ensure a similar level of responsibility towards the company's development.

3.1.2 Sample size

Five startups were selected to participate, and the number of interviewees per startup was kept open to allow for the use of any gained insight to take effect on the number of interviews conducted. In the end, a total of 15 interviews were carried out. Three startups participated with three interviewees, one startup participated with four interviewees and one startup participated with two interviewees.

The startup participating with four interviewees was the first to be interviewed as a test and it was deemed unnecessary to interview more than three professionals to gain sufficient insight into such small teams. All participants were interviewed separately in in-depth, semi-structured interviews that lasted from 45 minutes to 75 minutes. The whole sample was sized to ensure a sufficient amount of data to derive indication and to be within the scope and extent of a master's thesis.

3.1.3 Goal of the interviews

Introductory 15 minute phone interviews

The goal of the introductory phone interviews was to verify that the companies and interviewees meet all criteria and get a first understanding of the designer's position and background. In addition these interviews were used to establish direct contact to all participating team members separately and grow the con-

tact person's interest in the results for the company. In order to offer an incentive to the companies to participate in this study, feedback sessions were offered reflecting on their internal cooperation after all of their selected members had been interviewed and the collected data had been reviewed.

Main interviews

The primary goal for all conducted main interviews was to gain knowledge about the team's day to day work and the role designers take as part of the founding team. When designing the interview structure, connecting interview, tasks and the use of interview materials, the following aims were leading:

- Produce relevant data.
- Build in structures that allow to reassess the given information.
- Establish an interview environment that encourages honest answers and trust.
- Support detailed answers.

3.1.4 Interview Structure

The interview guide and additional tasks were specifically developed to cater to these goals. In order to keep all interviewees motivated to answer all questions to their best ability, it was not emphasised that this work was solely concerned with design, but the interviewer expressed equal interest towards all professions.

Building trust and establishing common ground

All interviews were conducted following the same 11 question interview guide that included two tasks for the interviewees to complete. To allow for a natural conversation to unfold the interview questions were not always asked in the same order. This allowed the conversation to flow freely and naturally. As the interviewees come from different backgrounds, the language was intentionally casual and no profession-specific terminology was used. The aim of the first few questions was to understand the interviewees' responsibilities and establish common ground. This was deemed significant to gain trust. Many young startups are careful with the information they provide to the public as information travels fast in the Helsinki startup ecosystem and investors are known to ask around. Warm-up questions in the interview guide were:

- Have you had a good day so far?
- What have you been working on today?

This was used to establish common ground as, due to the author's background, it was always possible to relate to at least one of the performed task. In addition it was promised not to reveal data that was given off the record. The interviewees would also be able to see what had been written and approve it. All individuals have been given the chance to review the parts of this thesis that concern either them or their company.

The interview guide design:

The included tasks and related questions were created following several leading questions. These questions were important to answer the research question and they also allowed the interviewee to approach the possible answer from various different angles. These leading questions are influenced by the implications from the literature review. The interviews focused on extracting insight into the following questions:

- How is the company structured?
- How do the interviewees present their company and their position in it?
- How does the team collaborate?
- What tasks does the interviewee perform and with whom?
- Does the interviewee feel understood and valued in their team?
- What does the interviewee believe are design's assets in entrepreneurship?

Following these questions and the overall goal the following interview guide was written:

Interview Guide

1. Please tell me your name, official title and general responsibilities?
2. What's your unofficial title? Is there a task that is not within your field but you are known to be good at?
3. Have you had a good day so far? What have you been working on today?
4. **Task:** Can you draw an organisational chart for me illustrating how your company works?
5. **Walk through task:** I would like to understand how the company works and who works with whom on what? Please explain your drawing: (How many people and departments? C-level positions? Hierarchy? Areas of expertise and responsibilities?)
6. **Task:** What are your main tasks? Could you please sort your tasks into the following groups?

   First ring: my tasks.
   Second ring: tasks I share with somebody.
   Third ring: tasks I participate in.
   Fourth ring: things I get informed about.
   Fifth ring: I have nothing to do with that.

7. **Walk through task:** With whom do you work regularly together? What tasks do you complete together?
8. Do you believe that the other management team members know what you are doing? Do you believe that they understand what you are doing and why?
9. What do you think of design as a core asset to entrepreneurship? What do you think is the reason to have design in your startup?
10. What do you believe are your colleagues' biggest assets? Why are they awesome and you are working with them?
11. What is the next big step for your company?

Interview materials

The paper materials used in the two tasks were designed to show the interviewees that there was additional effort put into the preparation and encourage them to complete the tasks to the best of their abilities.

First the interviewees were asked to draw an organisational chart (Question 4) and later to write down their tasks according to responsibility (Question 6). When the interviewees had completed the tasks (Questions 4 and 6) in the interview guide, they were asked to walk the author through their drawing or notes (Questions 5 and 7).

This structure was developed based on several research methods to increase the reliability of the answers and to give the interviewees more time to think without causing an uncomfortable gap in the conversation. Chi (1997) suggests that it can be beneficial to incorporate not only verbal transcripts but also drawings and gestures, but as reporting and interpreting gestures is highly subjective (Schofield & Anderson, 1987) and difficult to execute with only one interviewer, it was decided to exclude the recording of gestures. Asking the interviewee to explain their drawings back to the interviewer was meant to limit the researcher's own interpretation of the non-verbal cues (Cassell & Symon, 2004). The complete interview, including the developed tools, was tested and produced good results. The test individuals would, while explaining their drawing to the interviewer, comment on their drawing and reiterate.

As the tasks possibly offered various levels of information, additional leading questions were developed:

- Which tasks do the interviewed designers perform within their founding team?
- Who in the founding team does the designer collaborate with?
- How involved is the designer in the R&D activities of their startup?
- How integrated is the designer in communication activities within the company and to the outside?

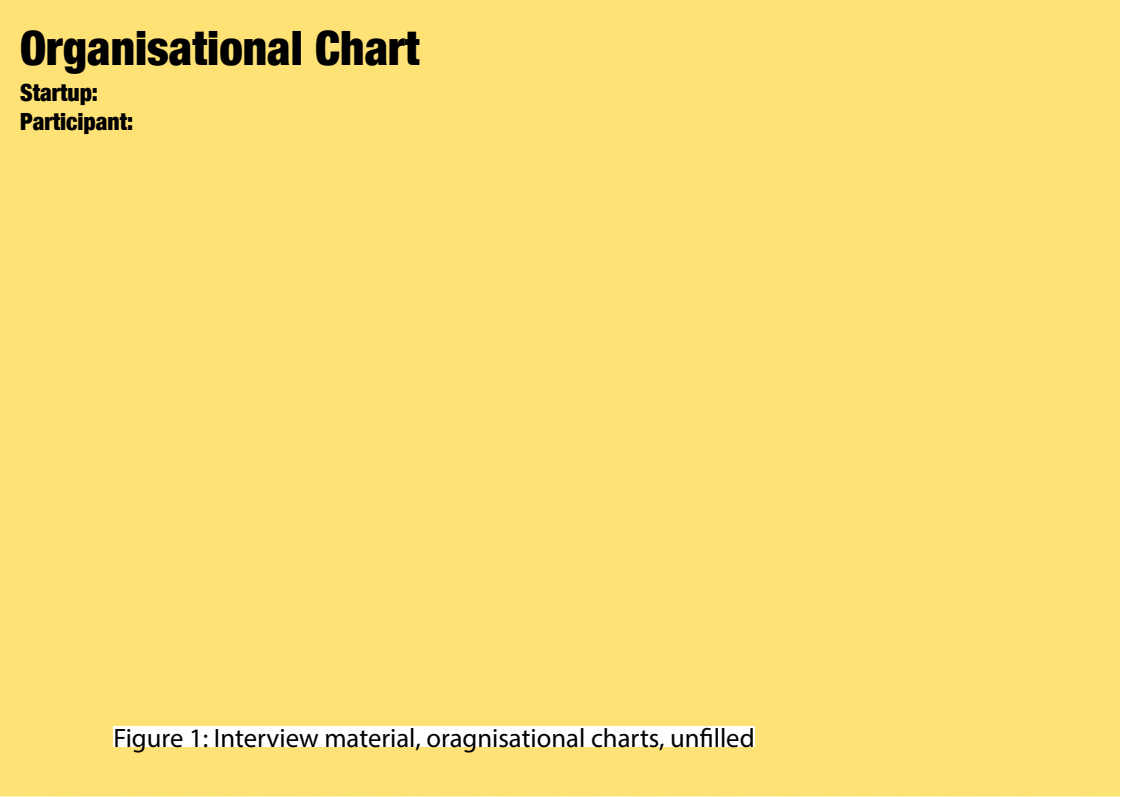

Figure 1: Interview material, oragnisational charts, unfilled

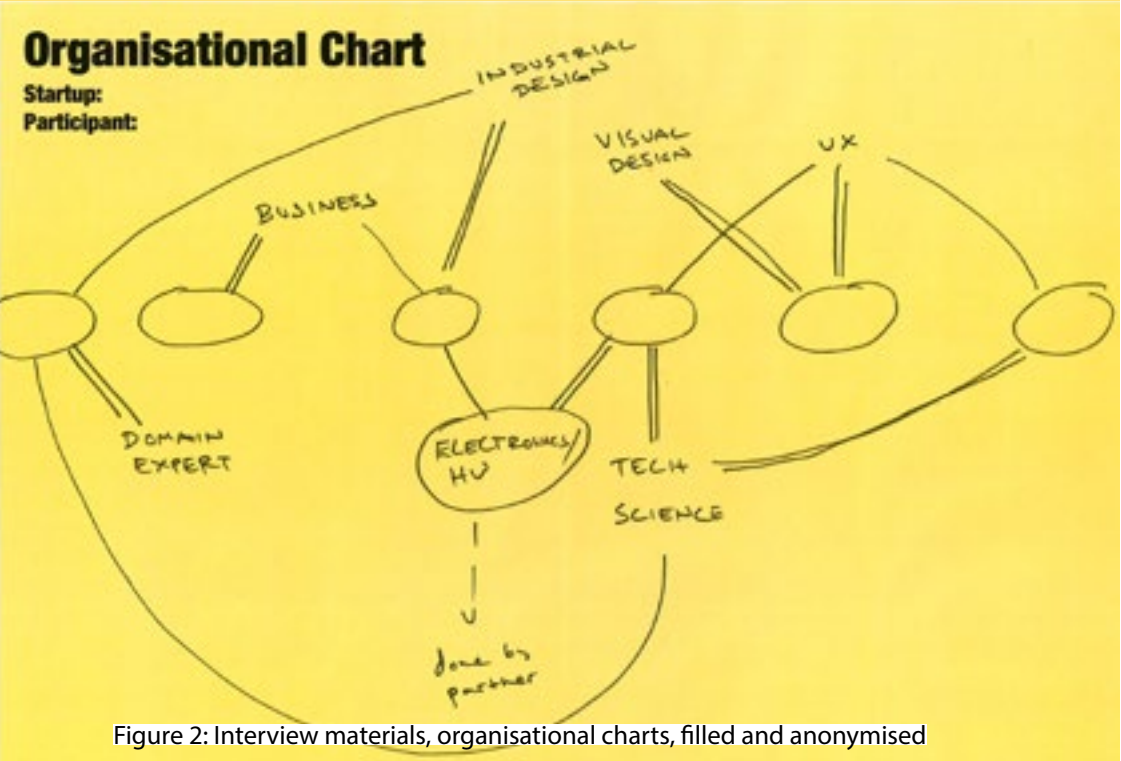

Figure 2: Interview materials, organisational charts, filled and anonymised

- How involved is the designer in the founding team's business decisions?
- How does the founding team work together as a whole?
- How integrated is the designer into the whole team's activities?
- How does the founding team understand the position of design in their team?
- Are tasks double-claimed by different founders or completely missing?

The two tasks

Question 4, tasks 1: Organisational charts.
In the first task, question no. 4 in the interview guide, the interviewees were asked to draw an organisational chart of their company utilizing the prepared interview material as shown in figure 1. All interviewees were told they should not focus on drawing an official organisational chart but rather one that reflected their day-to-day involvement with their founding team. In question No. 5 they were prompted to walk the interviewer through the drawing, explaining their drawing and thoughts. Figure 2 shows an example of an organisational chart created by a member of company(A) where names have been removed. In cases where the interviewee was not familiar with the principles of organisational charts, a template with several different versions was shown and completed ad-hoc by the author, filling in arrows and departments while explaining the task further.

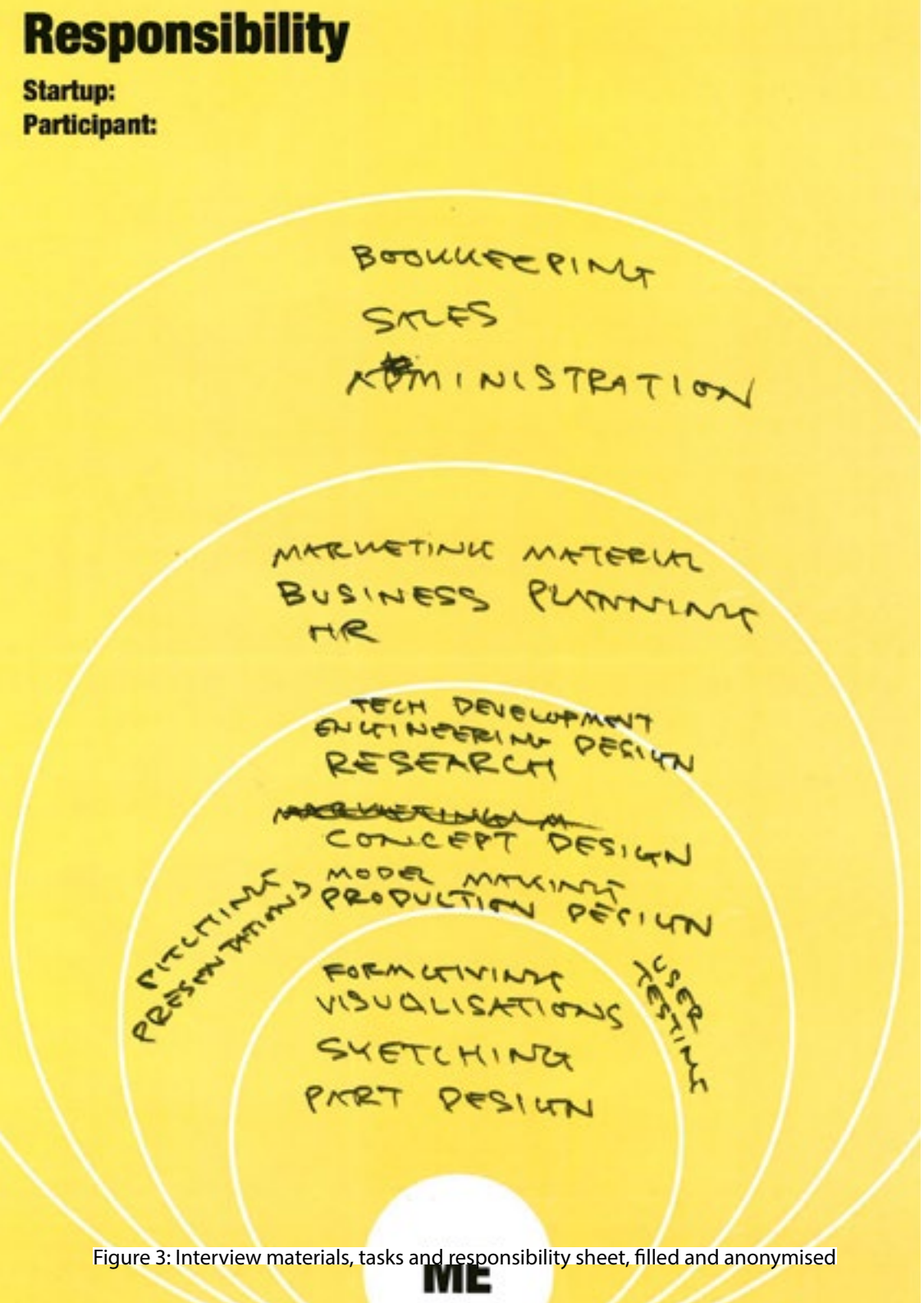

Figure 3: Interview materials, tasks and responsibility sheet, filled and anonymised

Only half-completed organisational charts were shown, to engage the interviewee and show that there is no particular standard of answer required.

Question 6, Task 2: Tasks list

In the second task, question no. 6 in the interview guide, the interviewees were asked to write down their day-to-day tasks. The material prepared for this task can be reviewed in figure 3. The interviewees were asked to sort their task into the following order:

- First ring: my tasks.
- Second ring: tasks I share with somebody.
- Third ring: tasks I participate in.
- Fourth ring: things I get informed about.
- Fifth ring: I have nothing to do with that.

Test interviews showed clearly that some additional material would be beneficial to help interviewees remember all their task. When an interviewee struggled remembering all their tasks, they were handed a tasks sheet that contained a list of general startup tasks such as: product development, business strategy, copywriting, user research, social media and others. Over 30 different tasks were suggested. The sheets were not explained to the interviewees further, but simply handed to the participants.

3.1.5 Documentation

All interviews were documented utilising the following tools:

- The interviews were audio recorded and the recordings are stored.
- The interview material was scanned and stored.
- The interviewer took notes during the conversation.

Approximately half of the interview time was spent on the two tasks included in questions four to seven. Following the interviews the interviewer listened through the audio recording of the time spent on the tasks and brought the notes of the interviewer, the interviewees drawings and the audio recording together.

3.1.6 Treatment of data

Anonymisation

In order to uphold the participating companies' and individuals' anonymity the companies' names were given pseudonyms and the interviewees' names were removed. To ease reading, comprehension and recognition for the reader, the companies we renamed with a descriptive title to their fields of operation. The interviewees have been named descriptive to their position in their company, as this research revolves around different professions and positions in startups.

In addition, each company and its participating interviewees have been given identifiers from(A) to (E). Within paragraphs that only concern their respective company the interviewees will be referred to as 'designer(E)' to indicate their position. In the paragraphs that concern company independent information and discuss several companies at the same time the interviewees were named 'engineer(E) of Help Guide Oy(E)' or simply 'engineer(E)' to ease the reader's quick association. All positions that are mentioned without numbering are members of the company who have not been interviewed. List of pseudonymisation/ anonymisation utilised for companies and interviewees:

Startup: Sports Wearable Oy(A)
Interviewees: Business professional(A)
Designer(A/1)
Designer(A/2)
Engineer(A)

Startup: Easy Model Oy(B)
Interviewees: Business professional(B)
Designer(B)
Engineer(B)

Startup: Clean Construction Oy(C)
Interviewees: Business professional(C)
Designer(C)

Startup: Responsible Mobile Oy(D)
Interviewees: Business professional(D)
Designer(D)
Engineering(D)

Startup: Help Guide Oy(E)
Interviewees: Business professional(E)
Designer(E)
Engineer(E)

Different data types and their analysis

The interviews and the included tasks resulted in three different sets of data that required separate treatments to cater to their different characteristics. In the following sections the data and its treatment is described.

Data concerning the organisational charts

The tasks concerning the organisational charts was created to support the author in understanding the company structure and finding out if the interviewees of one company perceive it in the same way. In addition, the resulting charts gave conclusive indication of the designers' positions as well as which other individuals they were working with. The hand-drawn charts have been considered in conjunction with the audio files when the interviewees explained their drawings to the interviewer.

The organisational charts of one company were compared to each other. As the drawings did not show large differences between the different interviewees' versions a single organizational structure was derived for each startup. The information retrieved from this exercise is reported in the beginning of the results chapter to support the reader's understanding of each company.

Data concerning the task lists

The task lists have been treated in several ways to experiment with the data and increase the results drawn from them:

The first comparison was achieved by entering the task lists of each interviewed founder in one table per startup. The information drawn from the physical papers were cross-referenced with possible further explanations of their tasks from the audio recordings. After a detailed comparison of all tasks per company, it became evident that the founders' individual lists showed inconsistencies and double claims of tasks within their respective founding team. In some cases the interviewees were not sure if a task is a personal task that they are working on alone, or if a colleague or colleagues are contributing. Especially the difference between a task for two founders (ring two: tasks I share with somebody) and group task (ring three: tasks I participate in) showed inconsistencies when comparing a company's individual task lists.

In the collected data this resulted in the following simplified scenario and more versions of it: team member 1 has stated that he or she is working on product design together with team member 2, but in contradiction, team member 3 has stated that he or she is contributing to the task as well. These inconsistencies were visualized for better understanding to the author by a second column next to each individual task column that indicates if a different founder had claimed the same task or had given a different ranking between first ring: "my tasks" and fifth ring: "I have nothing to do with that" (figure 4)).

Furthermore, tasks sorted into ring four: "tasks I get informed about", have not been considered further in this research. During the interviews it became evident that, due to the small team size, the interviewees would have to add almost all tasks of the team into this category. This information was not useful to the definition of designers' roles nor understanding the team's overall tasks division.

During the process of analysis it became evident that the tabular form, as used by the author to understand the team's task distribution, does not deliver a good overview for the reader. Through hand drawn experimentation with the data a form factor was found that delivers a clear understanding of the company's task distribution in one visual per company.

These visuals are utilised in the results chapter 4.2 to support the introduction of the companies. Furthermore, as this work focuses specifically on the designer's role, the individual tasks lists specifically of the designers have been compared to each other to gain additional direct comparison into the designers' tasks independent of their company. These results are presented in chapter 4.2.6 and visualised in figure 15.

Business Founder	Tasks:	Engineering founder	Tasks:	Design founder	Tasks:
	(1) my tasks		(1) my tasks		(1) my tasks
	Fundraising		Manufacturing partnerships (Europe)		3D Modeling
	Presentations		Social Media Twitter		Technical drawings
	Pitching				Rendering
	Target markets				
	Internal workshops				
	(2) Tasks I share with somebody		(2) Tasks I share with somebody		(2) Tasks I share with somebody
	3 Business planning		3 Engineering design		3 Contacting
			2 Desk research (technology)		2 Model making
	3 Comms with partners		3 User research		3 Comms with partners (manufacturing)
	2 Accounting		2 Usability		3 Form design (execution)
	2 Copy writing				3 Structural design
	Sales				2 Mechanical design
	1 Internal comms				3 Idea creation
	3 Hiring (HR)				
	2 Administration (Load)				
	2 Customers development				
	3 User research				
	(3) Tasks I participate in		(3) Tasks I participate in		(3) Tasks I participate in
	3 Product development		0 Production oversight		3 Hiring (HR)
	3 Product design		3 Product design		0 Graphics
	2 Social media		2 Customer development		
	3 Usability		3 Business startegy		
	4 Engineering design		3 Idea creation		
	(4) Processes I get informed about		(4) Processes I get informed about		(4) Processes I get informed about
	Quotations with suppliers		Finacials		Administration
	Partner development, supply chain				
	(5) I have nothing to do with that		(5) I have nothing to do with that		(5) I have nothing to do with that

Figure 4: Tasks and responsibilities compared for Easy Model Oy(B)

Verbal data and consolidation of all data

Relevant parts of all interviews were transcribed, and significant indications from the paper materials were added to the transcript. Afterwards, the material was treated utilising the principles of a thematic analysis as it is a known way to address large data sets and it can be used within different theoretical frameworks (Braun & Clarke, 2008). The general approach of all analysis was theoretical as the formation of themes was highly driven by the author's interest and research question (Braun & Clarke, 2008).

The different themes for the analysis emerged from the data. Practically, the transcribed data was printed, the different arguments taken apart, and clusters were formed that followed a similar theme. If necessary, additional subcategories were formed. Themes were not only formed due to the prevalence among the whole dataset, but also due to relevance to the research question. A prevalent theme was directly addressed by several interviewees across the data set such as the perceived capability of designers to improve communication and visualisation. A theme defined due to relevance was selected because it had a direct impact on the research question, such as the quote of one interviewee that the responsibilities between her marketing department and the design department are very unclear.

The data set was treated in two different ways:
To achieve a comprehensive understanding of the founding team's organisation and task distribution the material was first separated in individual statements (Chi, 1997) and then grouped into emerging topic groups concerning the structure of each company. As apparent, the emerging themes were linked highly to the questions asked in the interviews and according to the researcher's focus. The emerging themes were:

- Structural information about the company.
- The team's position towards design.
- Position of the designer.
- Integration of design in the whole company.

After an overall understanding of each company's work habits was formed and the general results by company had been concluded, the data was separated in individual statements again, and new emerging themes were defined. These themes were company independent, but also largely driven by the initial research aim. In the following overview the main categories found within the data are presented and exemplified by one to three quotes from the interviewees.

1. Category: designers' perceived capabilities

Subcategory: general capabilities
"If you outsource you can get more variety. If you have only one designer, you can get only one result."
Business professional(D)

Subcategory: capability, user work
"We want to design a product that people want to use not need to use. That's why we need designers."
Business professional(A)
"I did sales for ½ year to learn about our customers."
Designer(C)

Subcategory: capability, product improvement
"Designers are educated to think more open and broader, they can also focus on the essence of a product" Designer(B)

Subcategory: capability, communication and visualisation
"Designers can put complex things into a nutshell, they can create a form that people understand." Designer(D)
"Design helps to keep information flowing efficiently."
Engineer(D)

2. Category: designers' mindsets

Subcategory: towards managerial jobs
"Design needs to be involved in board room level decisions" Designer(A/1)
"It's not that I am not interested in business, I am just only interested in design." Designer(B)

Subcategory: towards their own traditional design practice
"I want to be a specialist, we call it master. If you know everything, you know nothing." Designer(B)
"Designer lose their soul when they go into management. When they stop dreaming and sketching they lose something. They need their own little passion project." Designer(D)

3. Category: design as a magnet for talent

"When design was hot in [place of previous employment], it functioned as a magnet for other talent." Designer(D)

4. Category: integration of design

"The designer can be the hub or glue for a company. No designer will succeed in being the hub or glue if they don't allow the others into their area." Designer(D)

"Whether you need design, depends on the product you are making." Business professional(D)

"I find myself appreciating other backgrounds and I believe that's part of the designers trade." Designer(E)

5. Category: Designers and their business education

"I did not have any business education. What I know, I have learned due to my previous and current jobs." Designer(A/2)

"Sometimes he [designer(B)] doesn't understand what we are talking about [ref: business decision making]" Business professional(B)

"I have no experience in startups and no education for that. I want to learn from the others." Designer(A/1)

6. Category: motivation of designers

"I started working in Company(B) because I could claim ownership of the complete product design." Designer(B)

7. Category: designers work with the business dev.

"I work together with business professional(A) very closely. I would say the most." Designer(A/1)

"Designer(A/1) wants to be involved in the business. His comments are not always useful. But I don't want him to stop." Business professional(A)

The different statements were put into context utilising the data from the first analysis. After this step a selection on what findings were most prevalent and relevant to the research questions was made. The selected focus areas to be presented in the conclusions are findings that:

- are directly related to the roles of designers as part of their founding teams.
- elaborate design's perceived capabilities in a startup.
- explain the integration of design into a founding team.
- concern the education of designers and the requirements they face as a founder.

4.0 Results

In the following chapter the selected startups are introduced, followed by the results of this study. First, the findings will be presented for each company to enable the reader to become familiar with the reality of the different companies and their work habits. Later, the results are presented independently of the company and are organised by emerging themes from the data.

The startups that fulfilled the selection criteria, for this study have been operational for different time periods with different amounts of working hours dedicated to the development of their companies. The scope spans from companies that employ a team full time to ones that work on a need basis with all founders still having regular jobs. In four of the five cases, the companies have a similar size of the founding team with four to six founders while one has an exceptionally large team of 13 active founders. Two of the companies do not work regularly in one place. One of the companies has all their founders based in Helsinki but all are working in different offices and another one has their founders spread all over Europe.

The entrepreneurs interviewed are from the fields of business, engineering, and design except one participant who is a mathematician by education but has also studied entrepreneurship while in university. Even within their educational specialisations the interviewees are very diverse and do not share a similar background.

All companies in this study either have a designer in their founding team or committed a designer within the first six months from the founding date by offering them shares of the company.

The founding team of company(A) was interviewed first, with four participants. Their interviews were also used to examine whether it was beneficial to interview more than three persons per company. The results showed a slight gain of richness in detail but there was no significant change in the emerging themes. Therefore, subsequently three founders per startup were interviewed.

4.1 Selected startups and interviewees

Company (A): Sports Wearable Oy

Sports Wearable Oy is designing a wearable device that helps athletes in a specific sports sector improve their performance. The product consists of a wearable ankle sensor and a supporting app. The company is currently a side project to all of its active contributors.

- Founded: 2016
- Team description: 6 founders out of which 6 are active shareholders
- Interviewed: 1 business professional, 2 designers and 1 software engineer

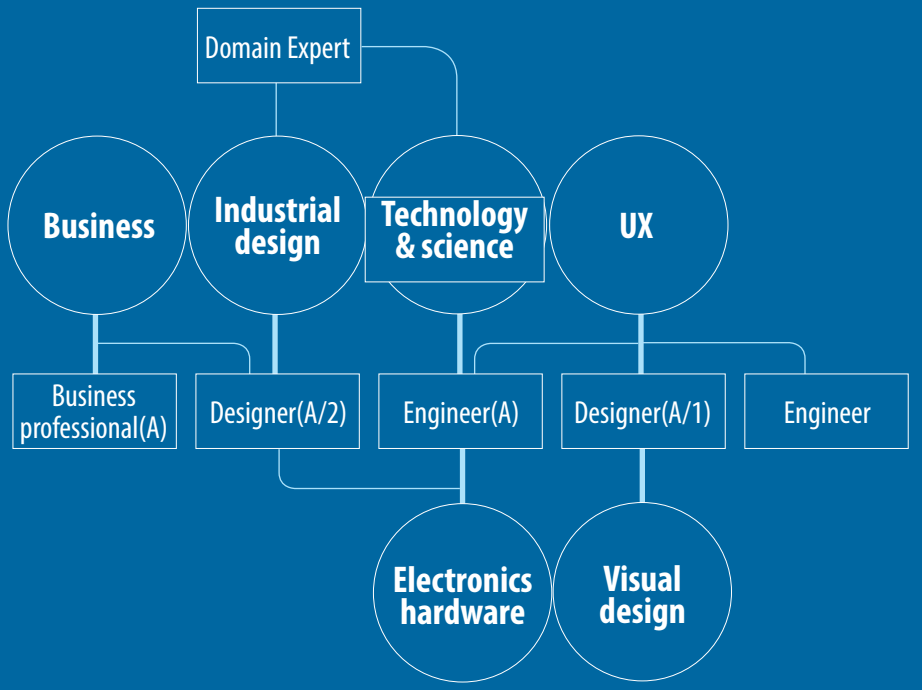

Figure 5: Organisational chart for Sports Wearable Oy(A)

Company (B): Easy Model Oy

Easy Model Oy designs sleek 3D printing solutions for the front offices of creative agencies. The company has three original founders and their first hire was an industrial designer who also owns shares of the company. All team members work full-time for the company.

- Founded: 2016
- Team description: 5 team members out of which 4 are active shareholders and 3 founders
- Interviewed: 1 business professional, 1 designer and 1 engineer

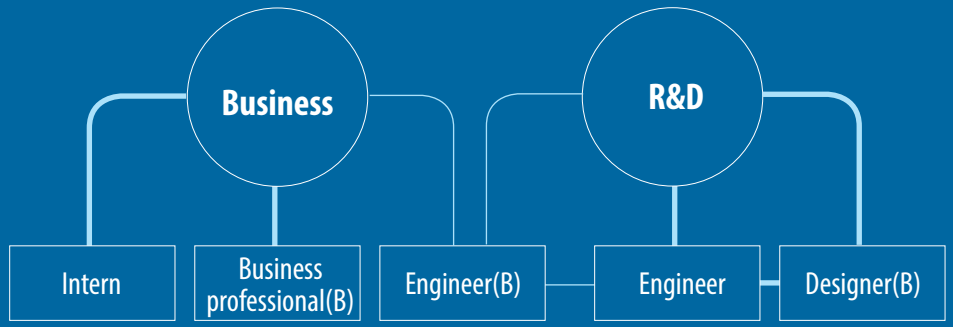

Figure 6: Organisational chart for Easy Model Oy(B)

Company (C): Clean Construction Oy

Clean Construction Oy builds and rents out machines that support a healthier environment for workers by providing dust free air in construction sites. All members of the company work full-time.

- Founded: 2013
- Team description: 4 team members out of which 2 are founders and 3 are active shareholders
- Interviewed: 1 business professional and 1 designer

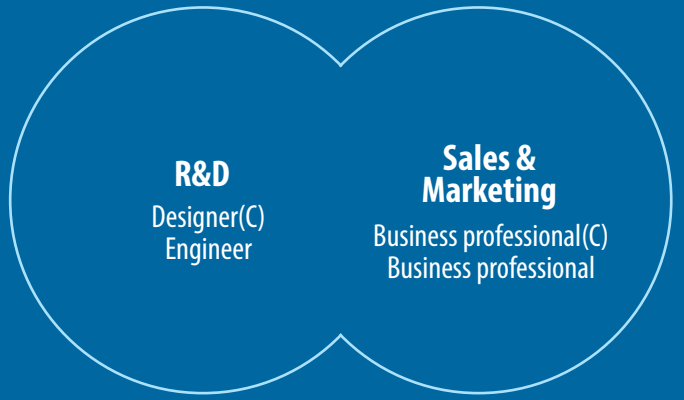

Figure 7: Organisational chart for Clean Construction Oy(C)

Company (D): Responsible Mobile Oy

Responsible Mobile Oy aims to build modular and environmentally friendly mobile devices. Currently only two team members work full time for the company.

- Founded: 2014
- Team description: Large Team with 13 founder's and over 13+ shareholders
- Interviewed: 1 engineer, 1 designer and 1 business professional

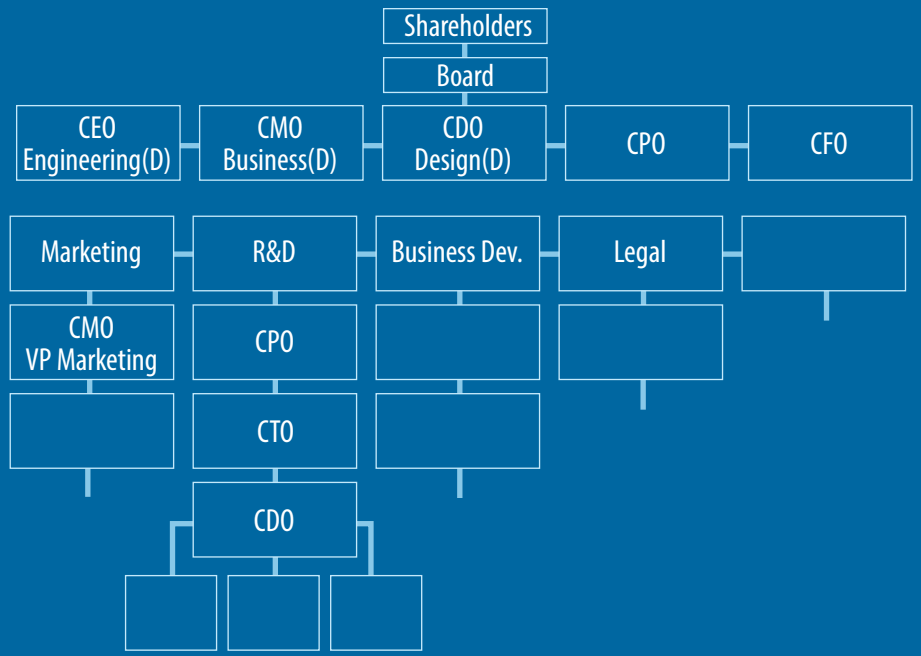

Figure 8: Oragnisational chart for Responsible Mobile Oy(D)

Company (E): Help Guide Oy

Help Guide Oy produces a low tech tool that supports non-experts with giving accurate first aid. The original founders have exited Help Guide Oy approximately six months ago. When the company was still active, all team members worked part-time for it.

- Founded: 2013
- Team description: 3 team members out of which all 3 are founders and all 3 shareholders.
- Interviewed: 1 engineer, 1 designer and 1 business professional
-

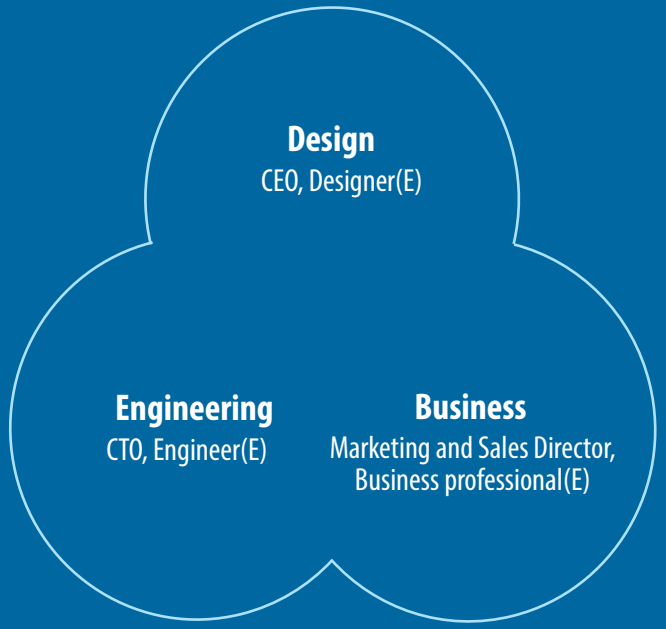

Figure 9: Organisational chart for Help Guide Oy(E)

4.2 Introduction to the startups and their internal collaboration

The results reported in this subchapter are derived from the interviewees task lists and organisational charts. In this part these insights are presented per company and will later be combined with all other interview material in a thematic analysis in chapter 4.3.

The following company presentations and the visualization of their task distribution among founders provides a more comprehensive understanding of each company's internal collaboration and emphasises in particular the designers' positions in each company. The general structure for the more detailed introduction of the startups is as follows:

- The team
- Work practice
- Design in the company
- Position of the designer

4.2.1 Sports Wearable Oy (A)

The team

Sports Wearable Oy's team consists of a six persons: two software developers, two designers, one domain expert and one business professional. The four founders interviewed for this study are the two designers, one business professional and one engineer.

Work practice

So far, the company has been a side project for all of the founders even though they all relate to it with true passion. The team does not usually work together in one place and thus communicates constantly over the online platform Slack to organise their collaboration and keep everybody updated. All team members have worked in cross disciplinary teams before, and specifically mentioned their respect and trust for each other. They also emphasised that there is no hierarchical difference between the team members.

The whole team works in a cross disciplinary fashion. Each founder performs tasks that coincide with skills acquired during their education as well as other tasks not directly related to their studies. In addition, each team member is involved in additional group tasks linked to their experience or interests. For example: the business(A) team member used to run a large research and development team of designers and engineers that

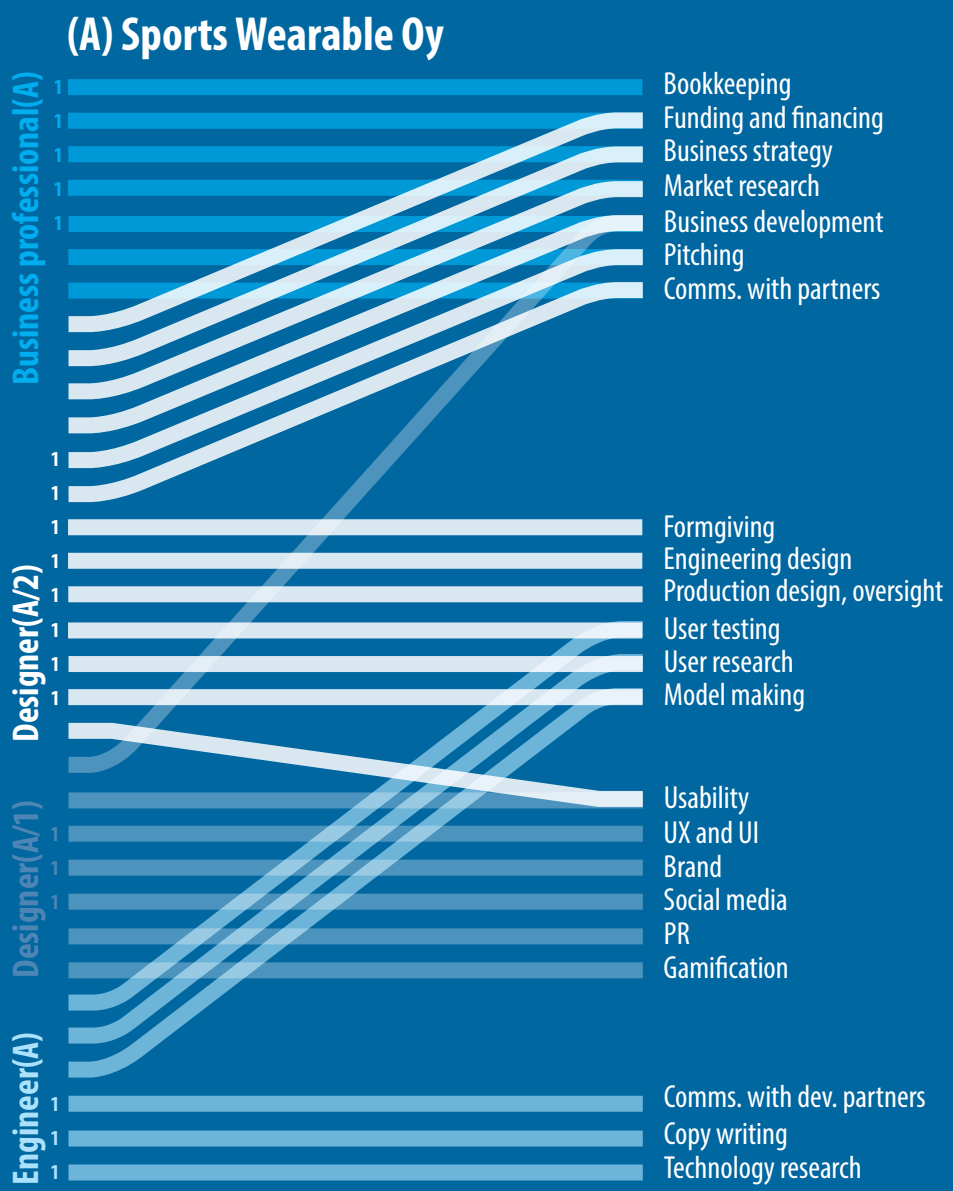

Figure 10: Individual task division in Sports Wearble Oy(A)

worked on different digital products. In Sports Wearable Oy he enjoys also getting involved with research and development execution. Designer(A/2) is heavily involved in the business development of the company as he has previous experience in running his own businesses and is working currently in design consultancy. Designer(A/1) has no startup experience but involves himself with the business side of his company out of interest.

Design in the company

Design is respected by all the interviewees as a way to improve their product and is thus considered as a vital part of their whole company. Noteworthy is that all interviewed team members have been in contact with design practice in their previous or current work.

Position of the designers

In Sports Wearable Oy the two designers are at the centre of the company. Designer(A/1) has a unique position of being the father of the idea and has brought the team together. His personal tasks include UI and UX design of the digital product as well as the design of the company's brand. In his role as the UX designer, he works closely together with the engineer(A) who is responsible for the technical implementation of their app.

Designer(A/1) actively involves himself into business decisions in Sports Wearable Oy. Despite the lack of previous experience in running a business, he emphasised that he is interested in the business development of the company as he aims to learn how to run a startup. The other interviewees with more business experience have mentioned that his suggestions are not always useful. However, they also pointed out that they appreciate the contributions of the designer and do wish for him to continue in a similar manner in the future. Designer(A/1) has a strong sense of ownership of the project and the company. However, he does not see himself as more important than the other team members.

Designer(A/2) works frequently with almost all the team members and has the least personal tasks that he conducts by himself. His personal tasks include the physical product design as well as the optimization and planning of the production. As the figure 10 (p.68) demonstrates, the second designer is collaborating on different tasks with all the individual team members. Designer(A/2) works especially closely with the business person(A) on such tasks as business strategy, market research and fundraising. The two designers(A/1; A/2) work on several group tasks together. They also give feedback on each other's design work (product design, UI, etc.) due to their educational background as designers.

According to the business tasks that they share the business person(A) and the designer(A/2) appear to drive the company's business development.

4.2.2 Easy Model Oy (B)

The team

The team of Easy Model Oy consists of a five persons who are two engineers, one industrial designer and two business professionals. All team members are first time entrepreneurs. For this study, two founders were interviewed, namely business person(B) and engineer(B), as well as the company's designer(B) who is also their first employee and shareholder.

Work practice

Some of the team members of Easy Model Oy are still completing their education, and thus it is not clear how much time is dedicated to the company alone. When asked to draw their organisational charts, all interviewees described the company's operations consistently in two departments: customer development or business development, and research and development. The research and development team consists of two engineers and designer(B), who work closely together. Tasks are distributed not only by profession but also according to other practical factors, such as language and existing networks.

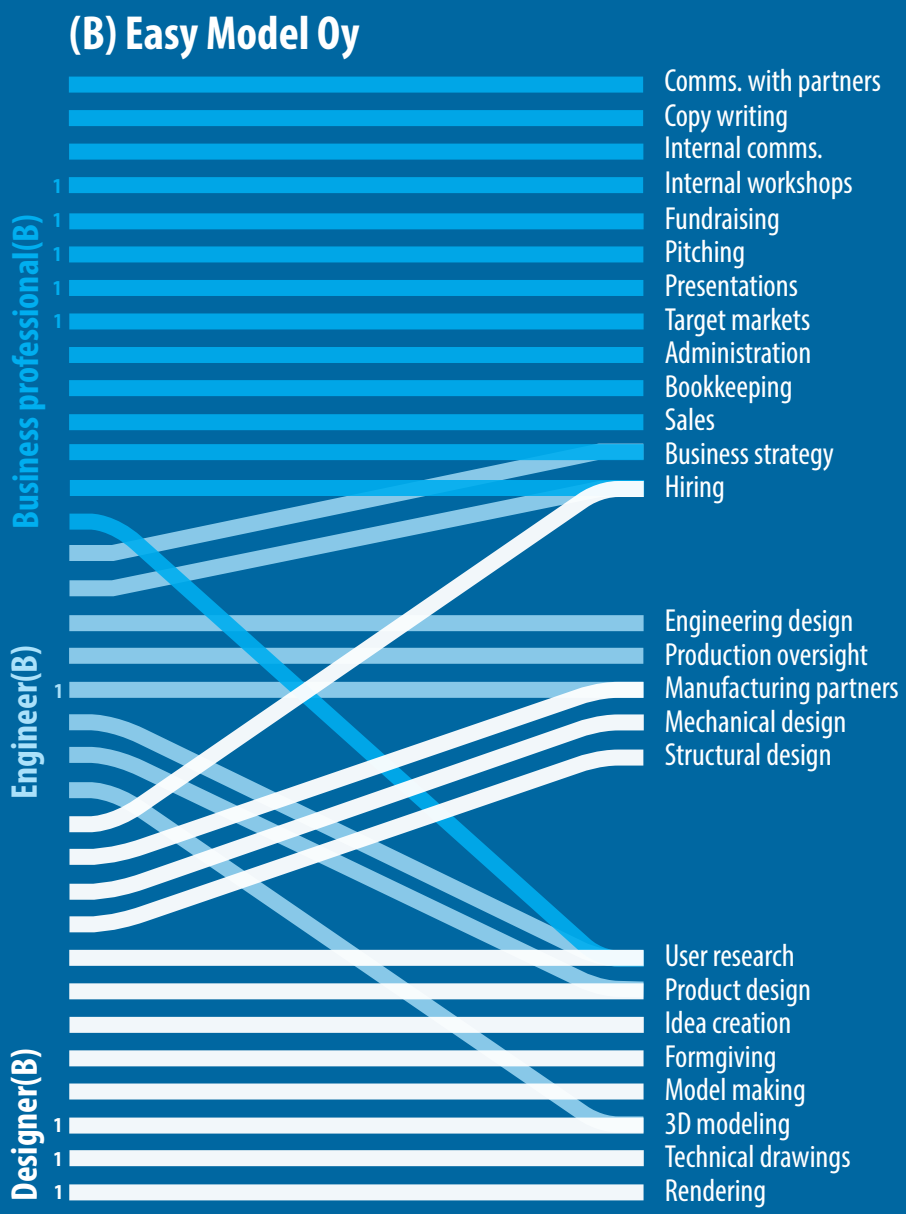

Figure 11: Individual task division in Easy Model Oy(B)

The execution of most administrative work and budgeting is conducted by the business professional(B) with the help of their administrative assistant. The engineer(B) interviewed for this study, has a supporting role in both departments. He performs a broad spectrum of tasks and helps wherever support is needed.

Design in the company

The company originally had no designer as a founder. However, after approximately six months designer(B) was hired, who now owns shares of the company. All interviewees stated that design is essential to their company since their business idea relies on producing aesthetically pleasing 3D printers for the front offices of creative agencies. All interviewees elaborated further that for them design refers mainly to the looks and feel of the exterior of a product. Two interviewees added that design could be utilized in making the product more understandable as well. The view of limiting design to formgiving and usability, stands in contradiction to the current trend, in which design is seen as a more holistic profession. This traditional view on design was especially surprising, since at least two of the team members are currently studying in Aalto University and participated in courses that underline interdisciplinarity and emphasise a generally broader view on design. The engineer(B) is currently participating the PdP course, which is a product development course intended to facilitate collaboration between design, business and engineering and the designer(B) is a student of the

Collaborative and Industrial Design program of Aalto University. This particular program is not focussed on traditional design traits such as formgiving but rather on co-creation and service design.

Position of the designer

When reviewing the data gathered for this study, it appears that the designer(B) has a slightly lower position in the hierarchy than the three founders of the company.

All interviewees stated that the designer(B) is minimally involved in making business decisions. Designer(B) affirmed that he has no interest in being involved. In contrast, the engineer(B) and businessperson(B) would like the designer to contribute a little more to the business issues. However, they also continued on to explain, contradictory, that they do not think the designer(B) should intervene in some topics. The business(B) founder stated specifically that the designer has no business education and thus questioned his understanding of the field. According to the business professional, this lack of education sometimes poses a challenge when explaining business related issues.

The designer(B) has emphasised that he exclusively wants to work on the form design of the company's product. He stated that: "It's not that I don't like business, it's just that I am only interested in design" and "I want to be a specialist, we call it a master". The designer(B) continued to explain that ownership of the project is a important for him. In his previous employment he had been a structural designer in a large company working on a small detail of their product. Therefore, he saw the work at Easy Model Oy as a chance to claim ownership of the whole product.

As mentioned above the designer(B) is not participating in any business related tasks and is only actively working together with his colleagues from the R&D team. He works closely with both engineers and they appear to support and give constant feedback on each other's work. While the designer(B) is responsible for the execution of the product design, the other team members of the R&D are also contributing. All the tasks that the designer(B) performs completely alone and under his own responsibility are execution tasks such as 3D Modeling, technical drawings, and rendering, which have little to none relation to the company's overall strategy.

4.2.3 Clean Construction Oy (C)

The team

Clean Construction Oy consist of four team members including one engineer, a designer(C), a mathematician by education, who is performing sales and marketing and therefore labeled as the business founder(C), and a second business professional, who is working mainly with sales. The team used to consist only of a business professional(C) and a designer(C), but has recently grown. The company, unlike most startups, finances itself through their own revenue.

Work practice

Clean Construction Oy works in two teams; sales and marketing and research and development. The company has two offices and and thus they do not physically always work at the same place. The research and development team works very hands on, building prototypes of all qualities. Before hiring additional employees, the two main founders worked closely together on all necessary tasks.

Design in the company

The interviewees understand design as a key factor in the success of their product. Originally, the designer(C) was hired to work with user insights and improve the product. When talking about design, all team members mentioned working with users. The designer(C) said that he believes that in every company, there is a need to have someone in the team whose only responsibility is to find out what their customers want and need.

Position of the designer

The designer(C) owns a small amount of shares and has equal voting rights to the other founders. Technically, the business founder owns most of the company and can overrule his team, however, he could not recall a time where this was necessary. The designer(C) is focussed on a user centered approach to product development. When interviewed, he told typical design insights that can be derived from extensive ethnographic fieldwork and how user testing identifies underlying needs. To learn more about their customers' needs, he did participate in sales efforts for several months but emphasised that he did not enjoy the task. Previously, the designer(C) used to perform most research and development tasks on his own with support of the business(C) founder, but as a new team member has joined the company, he now works closely together with the hired engineer. The designer(C) expressed relief and happiness over the extension of their team.

As the company used to be extremely small with just two active and permanent members, everybody in the team is involved in all tasks. However, even if this appears to be changing in the moment, there is not enough development to make any

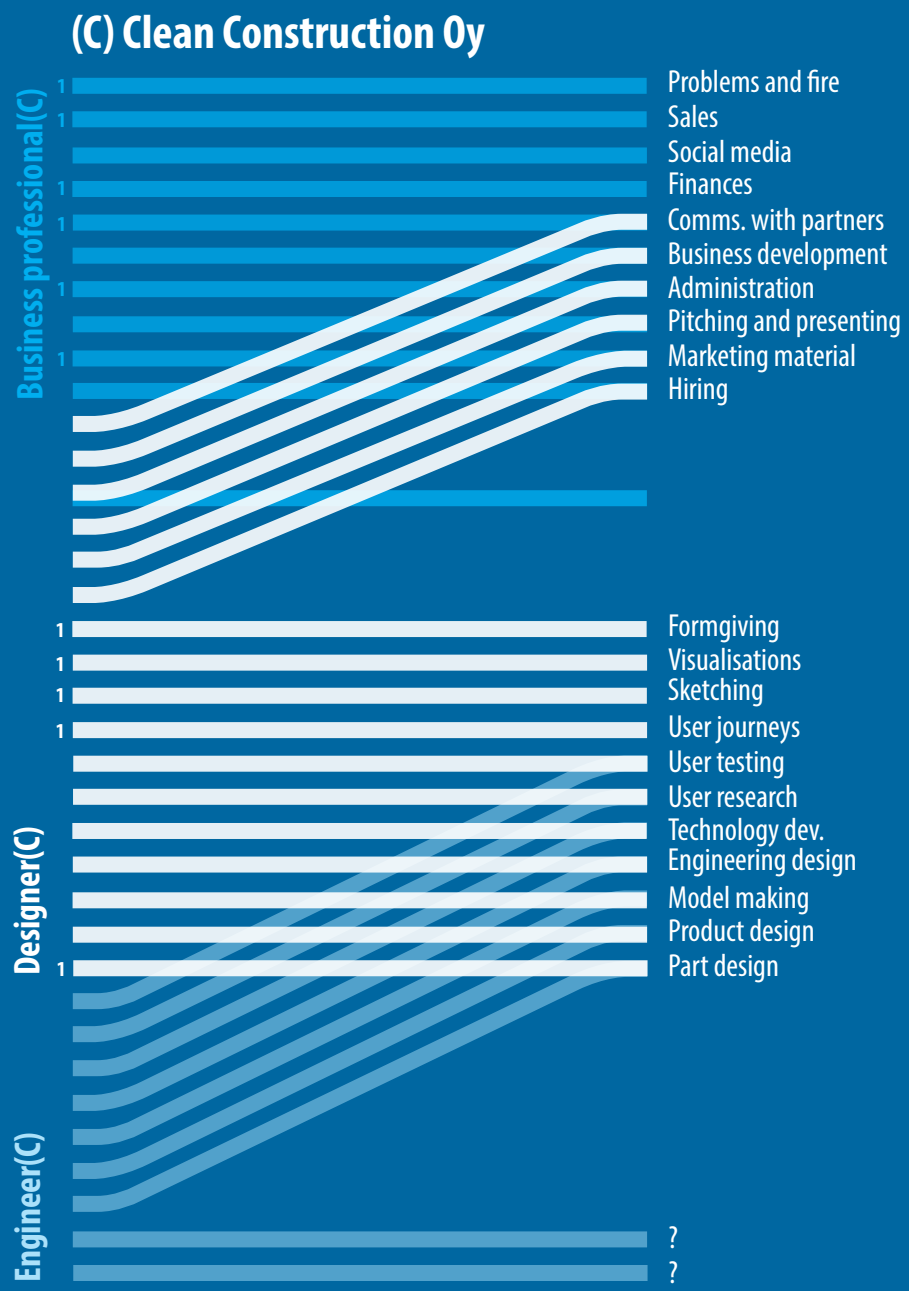

Figure 12: Individual task division in Clean Constructions Oy(C)

conclusive statements on the matter. The designer made clear that if asked, he would always prefer a steady salary over shares of the company. He is currently involved in strategic business decisions, which are decided on the shareholder level at Clean Construction Oy, but does not like to be too involved in the administrative tasks.

When asked why he joined the Clean Construction Oy, the designer answered that: "Two and a half years ago, they did not understand why the customers bought their product and only one customer was willing to buy twice."

4.2.4 Responsible Mobile Oy (D)

The team

Responsible Mobile Oy consists of an unusually large team of 13 original founders and have more people working on an operational level. The different hierarchy levels are organized as follows: Shareholders, Board, Managerial Level and Operations. The team members interviewed for this study were the CEO of the company an engineer(D), the Marketing VP as the business professional(D) and the CDO as the designer(D).

Work practice

The company does not work in one place but is scattered all over Europe. The largest part of the team resides in Finland.

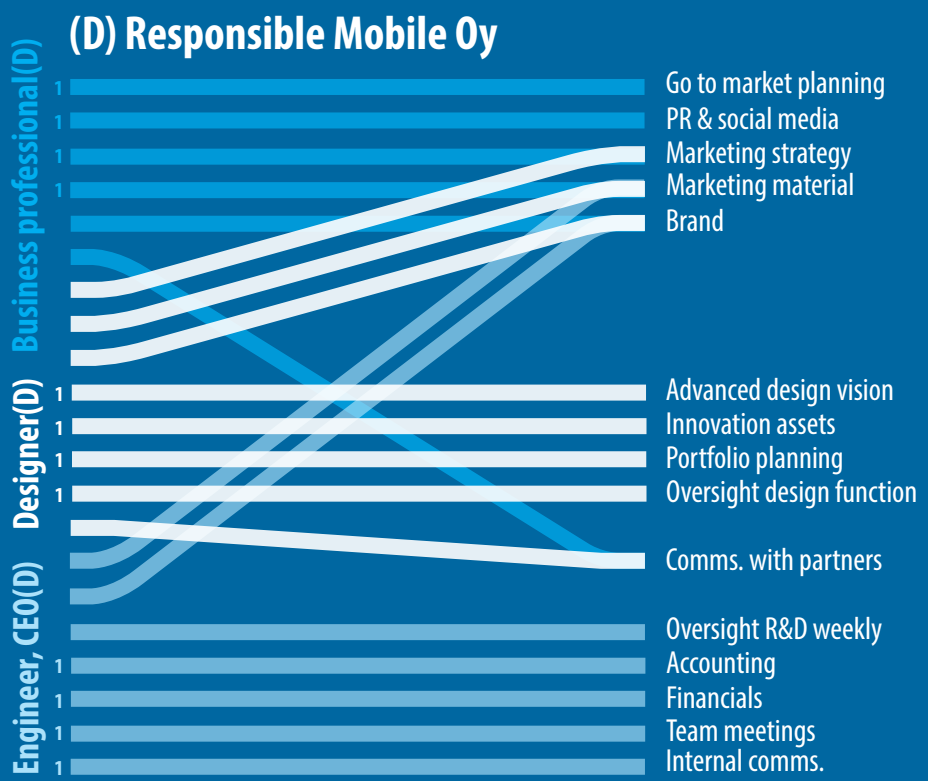

Figure 13: Individual task division in Responsible Mobile Oy(D)

Part of the team has chosen to bill the company for the work they have performed than receive a steady salary. All contributions are decided upon and reviewed according to agreements on deliverables. When organizing their work, the team relies on a structure in which people are assigned to their area of responsibility or task as responsible, accountable, consultant or informant. As a result, all contributors know the level of their responsibility to a certain task.

According to the business professional(D), the company tries to work in a matrix organization, as illustrated in figure 8 (p.64), but very often the organisational structure looks like a spider's web in which their engineering professional(D), CEO, is the center. In their weekly meeting the CEO, gives an overview on what has happened throughout the company and reflects on his colleague's performance and presents how the company is currently developing from his standpoint.

Design in the company

Responsible Mobile Oy has a design team on the operations level, who is designing the product, and creating different marketing and visual material. Additionally, they have a designer(D) on the board level in the position of a CDO. He is in charge of integrating design in all aspects of the company and leading the design team. The design team was hired already before the CDO was appointed. It is noteworthy that the three

members interviewed for the study, did not appear to have a common understanding of design as a profession. While the designer(D) has a very holistic view of a design executive, the business founder stated that she thinks that the design function could be outsourced. She also stated the benefits of outsourcing design as such: "If you outsource you can get more variety. If you have only one designer you can get only one result". In the public eye, the design is seen a major driver of the company.

Position of designer

The interviewed designer(D), the CDO of the company, is responsible of overseeing the design team and their work. He holds a supervising role rather than producing material himself, and mentioned that he always contributes and comments on all designs. The CDO's(D) tasks are more cross disciplinary by nature and typically concern the company as a whole. He is personally responsible and the main contributor on creating the advanced design vision for the company, managing the company's 'innovation assets' and planning the future product portfolio. Previously, he has held a very similar position in a much larger, leading technology company.

The designer, CDO(D) and engineer, CEO (D) act as the spokespeople for the company. The CDO(D) works closely with the interviewed business professional(D) on issues related to marketing. Since the company is thriving towards a truly holistic brand image, the CDO, CFO and the business professional work on the band together. The design team works both under the CDO(D) on the product development and for the businessperson(D) to create marketing material.

4.2.5 Help Guide Oy (E)

The team

Help Guide Oy consists of three original founders: one engineer(E), one business professional(E) and one designer(E), who is also the CEO. The original founders of Help Guide Oy have sold the company in summer 2016. All original founders have been interviewed to speak about their active time in Help Guide Oy. In this study, the presented data is from the time the original founders were still actively working in the company.

Work practice

The team has not worked full-time on the company but has made it into a habit to work regularly together. The founders knew each other from a multidisciplinary course (ME310) at Aalto University and since then decided to build a business together upon an existing and awarded concept created by the

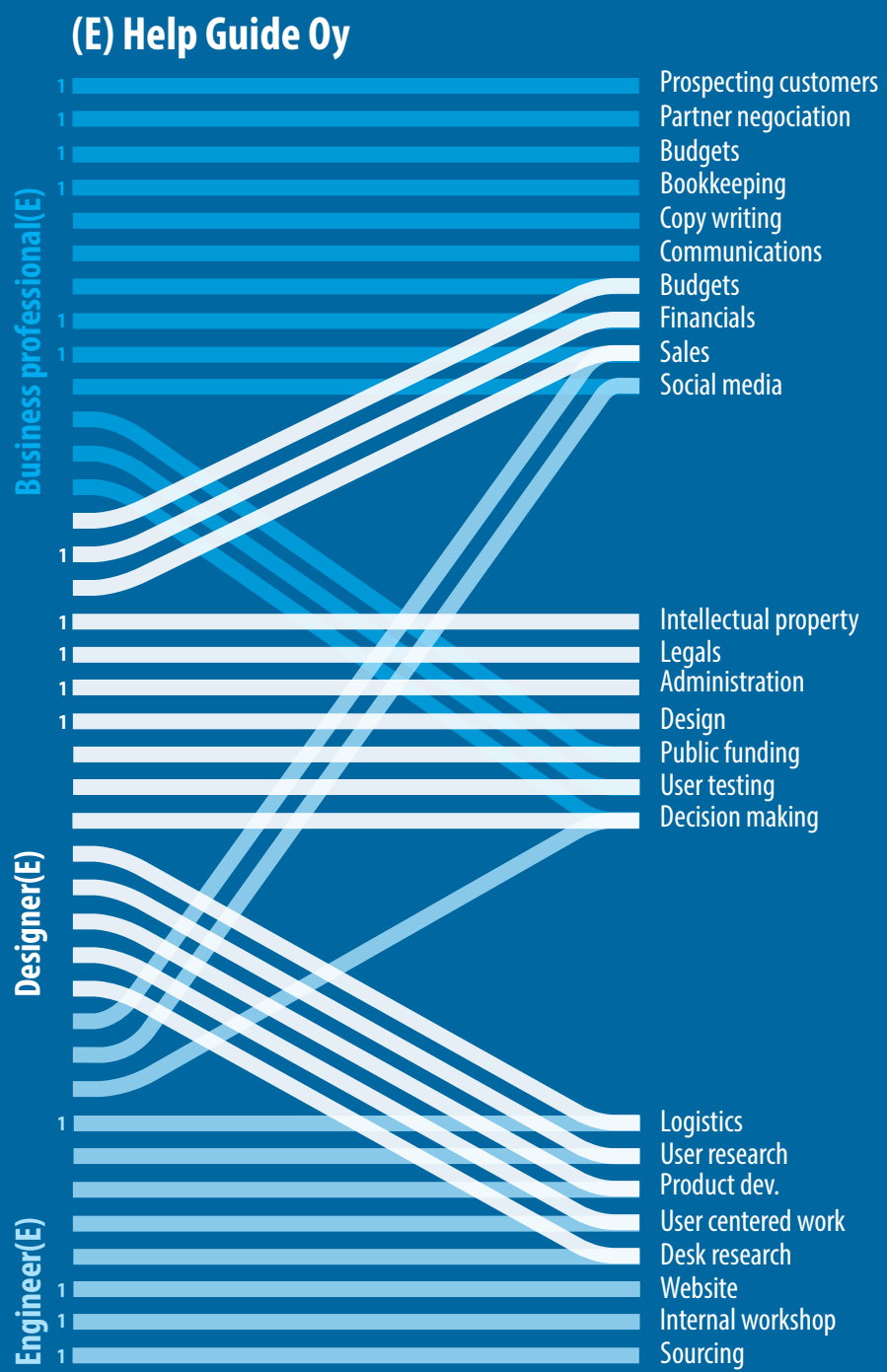

Figure 14: Individual task division in Help Guide Oy(E)

designer(E). Each interviewee reported a large difference in task division when looking at different times of the company. Their tasks changed drastically from the beginning of the company to the time shortly before the sale.

Design in the company

All the interviewees have an integrated view on design and are well practiced with utilising design thinking methodologies in product development. The engineer(E) has worked several years as a teaching assistant in one of Aalto University's courses (ME310) on design thinking.

Position of designer

During the first year, the company focused largely on product development when the following years were focused on business development and sales activities. In the first phase, the team collaborated closely. The designer(E) and the engineer prepared the user tests, and the whole team would execute and evaluate the tests. Due to her past in teaching, the engineer lead the planning of user involvement. When later the focus was shifted towards sales, the whole team conducted sales and the necessary preparations under the lead of the business person(E). The business person(E) hereby worked on roughly 50% percent of the sales while the engineer(E) and designer(E) shared the other 50% of sales related tasks.

Later both, the engineer(E) and the designer(E), stated that they did not enjoy the sales process nor felt like they were good at it. The designer(E) and engineer(E) worked very closely together on matters related to research and development such as user testing and fieldwork. Together with the business person(E) the designer(E) collaborated on funding issues, such as budgets and public funding applications, as well as general administrative tasks. When examining the task division within the company, the designer(E) appears to been involved in all parts of the company development at some point in their history. The designer's(E) tasks significantly dependent on the stage of the company. When analysing only the time that the company was not actively engaged in product development, the designer(E) conducted administrative tasks and was responsible for all intellectual property and legal issues. This was rather unusual as in a typical company the product development cycle would start again after the first launch, aiming to deliver the next version of the product or prepare a new product.

4.2.6 Cross company core tasks of designers

As this work focusses on the roles of designers it was important to find what tasks to the interviewed designers had marked as their personal tasks (first ring: personal task). In all figures concerning the task distribution, the personal tasks are marked with the number 1. Figure 15 (p.88-89) shows the tasks designers have identified as such and classifies them into tasks related to design, business and engineering, as well as lose subgroups within the departmental order such as different ways of formgiving, user work, mechanical engineering and production engineering, administration etc. Tasks that are highlighted as yellow are tasks that did not fit clearly into one department. Note, that there is additional information on all interviewees regarding the relationship to their tasks that is elaborated on in the following subchapters and is not included in this overview.

Figure 15 (p.88-89) shows clearly that all interviewed designers execute tasks that involve traditional design skills such as different ways of formgiving and visualizing. While designer(D) does not execute the tasks primarily himself, he did made clear that he stays involved and gives suggestions and guidelines to the design team he supervises. Only designer(A/2) and designer(C) have listed working with users as part of their personal tasks but designer(A/1) and designer(E) have listed them as a tasks that they share with somebody (second ring: tasks I share with somebody).

Cross Company Core Tasks of Designers

*Yellow tasks are tasks with no clear corresponding department

	Designer(A/1)	Designer(A/2)	Designer(B)	Designer(C)	Designer(D)	Designer(E)
Design	UX and UI	Formgiving	3D Modeling	Formgiving	Oversight design function	Design
	Brand design	Model making	Rendering	Visualisations	•	•
	•	•	•	Sketching	•	•
	•	•	•	•	•	•
	•	User testing	•	User journeys	•	•
	•	User research	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	Advanced design vision	•
	•	•	•	•	•	•
	Social media	•	•	•	•	•
Engineering		Engineering design	Technical drawings	Part design	•	•
		•	•	•	•	•
		Production design	•	•	•	•
		Production oversight	•	•	•	•
		•	•	•	•	•
		•	•	•	•	Intellectual property
Business		Communication with partners	•	•	•	•
		•	•	•	•	•
		•	•	•	•	Financials
		•	•	•	•	Administration
		•	•	•	•	•
		Pitching	•	•	Innovation assets	•
		•	•	•	Portfolio planning	•

Figure 15: Comparison: cross company core tasks of designers

Only designer(D) has named the strategic tasks of creating an advanced design vision for the whole of his company. This task has been organised into the area of design tasks but also involves business strategy.

Reviewing the interviewees' involvement in engineering we can see that designer(A/2), designer(B) and designer(C) are executing tasks in the space of engineering. The tasks claimed are related to the fields of production engineering and mechanical engineering.

Designer(A/2) works in a company in which no other mechanical engineer is available and has a strong product design background himself. Designer(B) conducts his technical drawings together with the engineers in his team and designer(C) elaborated that, while he used to design the parts in the past, he has now given this task to a newly hired mechanical engineer.

Only three of the interviewed six designers have core tasks in business. Only two of these have been defined to have impact on the greater business strategy of their companies. While designer(A/2) only listed pitching and communication with partners as personal business tasks (first ring: personal task) he has listed several more of them to be shared with the business founder(A) of his company. Both founders drive the company's business development together.

This is visible in figure 10 (p.68) illustrating all tasks of the team. The tasks of designer(D) suggest that he holds the only definitive design executive position among the interviewed designers. This is indicated by his oversight over the design team and lack of personal design execution tasks. In addition he is responsible for innovation assets and portfolio planning as two of his core tasks. These are, while related to design, usually executed by a business professional.

An unusual case is designer(E) who is involved in business tasks that are specifically rejected by other designer founders, namely, financial planning and day-to-day financial dealings such as paying bills and other administrative tasks. As these tasks are typically executed by business administrators, they are not suggesting a significant impact of designer(E) on his company's business strategy. For this reason he represents a designer who is involved in the business side of his company but does not entirely meet the criteria of what is referred to as an 'integrated strategic designer' later in this work. The two designers(A/2, D) that work with their company's strategic business side are not the only designers in their respective companies. They design colleagues hold traditional design positions.

4.3 Comprehensive results

By studying the organisational charts drawn by each interviewee, it can be concluded that all participants depicted a reasonably coherent version of their respective companies. This indicates that all interviewees have a good understanding of the structure of their respective businesses, and even more important, share the same idea of the company's structure. All participants knew their position and responsibilities, and could describe their work and daily tasks of their colleagues. When comparing each individual's task lists, it became clear that each individual has a slightly different perception of their own and their colleagues work. In general, the data showed inconsistencies but no aspects that were directly contradicting or reflecting a larger issue within the company.

When prompted if the interviewees believed that the other team members know what they are doing, all participants answered in the affirmative. They believed that the other team members are aware of their tasks but also pointed out that they were not completely sure. These results indicates close working relationships within the teams as none of the interviewees answered with a negative statement. Nonetheless, since they were not completely affirmative on this matter several of the interviewees started to ponder on their internal communication and possible ways to improve it.

4.3.1 Two roles of design in the founding team

When analysing the results concerning the role of a designer in startups, it becomes clear there are some significant similarities in the role between all interviewed companies. All designers are, to varying degree, involved in their companies research and development efforts as well as perform key tasks in their product development. In addition, all designers in this study have an educational background in industrial design.

The empirical work of this thesis suggests two possible roles for the designers: The traditional and the strategic designer. The possible emerge of these two roles has been foreseeable reviewing the literature and was affirmed with the interviews of the Helsinki based founding teams. How significant the difference between these two roles is emphasised when put into the context of a small team of typically 3-6 founders.

Role 1) The specialized or the traditional designer

When being a part of a founding team in a startup, the specialized designer works on traditional design task such as graphic design, corporate identity and formgiving among others. A design specialist works predominantly in research and development.

Role 2) The integrated or the strategic designer

The integrated designer conducts some traditional design tasks but in comparison to the specialist, the strategic designer works more frequently with other members of the founding team and appears to have greater impact on general management as well as business decisions. An integrated designer works with both the research and development and with the business development.

For the purpose of clarity: designer(A/1), designer(B) and designer(C) have been identified as traditional designers. While they are very different in their attitude towards more integrated roles, their focussed involvement in traditional design tasks as illustrated in figure 15 (p.88-89) put them into this category. None of them regarded a business tasks as part of their personal core responsibilities.

Apart from his tasks, designer(A/1) is interested in the business side of his company but appears held back due to lack of business knowledge. Designer(B) wants to solely focus on product design and actively withdraws himself from any business decisions. Designer(C) has been involved with the business development when the company was a two people operation but does nowadays focus on his design work with users and product design.

Designer(A/2), designer(D) and designer(E) have been identified as integrated designers. Designer(A/2) still performs product design tasks but is largely involved in the business development. Designer(D) is a typical CDO or DEO and oversees the work of the design department and otherwise works almost exclusively on the strategic level. Designer(E) is an integrated designer who has worked very closely with his team. This is due to the fact that his team's working habits are rather unusual and much task distribution was conducted not by profession but rather by affinity. He is not always included when speaking of the integrated designers.

As the position of the different designers must be seen in the context of the whole founding team, it is significant which companies employ which kind of designer. The two designers, who are founders and hold a general integrated position, where part of founding teams that had several designers. In both companies, there was at least one additional designer that occupied the role of a traditional designer. The following results can be drawn from this insight: firstly, a small company with a very limited number of employees or founders must have great appreciation for design already beforehand in order to spend their limited resources on several designers within a small team.

This appreciation seems to allow the integrated designer to obtain his position and gain influence. Secondly, combining the workload of a traditional designer and an integrated designer is likely to be unmanageable for one person.

When defining the differences between the two identified roles, it is important to remember that as all designers undergo at least some form of traditional design training, they will always have their abilities rooted in the traditional design. All three integrated designers, interviewed for this work, found this significant and understood their education in traditional design as a strength, which they wanted to cultivate and keep alive.

4.3.2 The influence of design education on designers in founding teams of startups

All interviewed designers are industrial designers by education, however they have received their training in different schools and countries. While an industrial designer's education can come in many different forms and is difficult to compare, one similarity stood out when analysing the data: None of the designers had received any business education throughout their studies.

While some designers had gained experience in growing and running their own businesses and developing concepts from

a business perspective in their professional lives, none of the designers in this research had received even basic business education by their respective Universities. This finding indicates a controversial situation, in which integrated designers are expected to contribute to their companies' business development but lack fundamental education needed to have reasonable access to the field. One of the interviewees, business professional(B), even stated that the limited understanding of basic principles of business is a problem, when attempting to include their designer(B) into their business decision making.
It was not part of this research to investigate if these universities offer business courses to designers in general and the interviewed designers did not choose to seize those opportunities or if the universities do not offer business education for their design students.

4.3.3 Designer's interest in management positions

When analysing the position that the interviewed designers had towards their own practice and work, one significant aspect emerged: Several of the designers, interviewed for this study, draw their professional motivation from personal ownership of their project. In general, it appears that motivation through ownership could be beneficial when founding a new business. Ownership of a project was important for several designers, whether their role was integrated or specialised designer.

Apart from ownership, the designers' position towards their own practice can be split among the lines of the two roles of designers identified among all participants.

The traditional, specialised designer:
"It's not that I dislike business, I just only want to focus in design." Designer(B), Easy Model Oy
The traditional designers tend not to be interested in being involved in their company's business development. As an exception, designer(A/1) was partly interested in his company's business development and was motivated to get involved. However, this was referable to his general feeling of ownership of the company. Designer(B) from Easy Model Oy(B), did not want to leave the creative space of his own expertise under any circumstances. He believes that mastery can only come with full dedication and thus did not displayed any personal feeling of responsibility towards the business development of their company, which is a rather untypical trait in the startup business. Designer(C) was involved in some of the business development out of necessity, however, he made clear that it truly was out of necessity.

The integrated, strategic designer:
"Designers lose their soul when they go into management. When they stop dreaming and sketching they lose something. They need their own little passion project." Designer(D), Responsible Mobile Oy
The integrated designers interviewed for this study had a large amount of management tasks as part of their responsibilities, but kept some amount of traditional design work as part of their routine. In addition, it was observed that the designers defined themselves by their design tasks, always naming the tasks clearly associated with their profession first. According to this insight it seems that there is an attachment to the traditional roots of the profession. Designer(D) of Responsible Mobile Oy(D), stated that "designers lose their soul" when they go into general management. He believed that, in order to be a good designer of any kind one must keep the traditional design tasks actively in mind. He suggested that designers in management would benefit of being involved in some traditional design tasks such as formgiving or concept development process. He also stated that if this was not possible the managerial designers should at least keep up with some creative side projects.

4.3.4 Integration of design

Those interviewees who worked with a small founding team had generally a similar perception of their jobs and responsibilities as well as an unified understanding of the importance of the different professions. As a company with a larger team, Responsible Mobile Oy(D), incorporated several different views on the matter. Necessity and the right usage of design stirred differing opinions amongst the interviewees. This insight can indicate that diversity of opinions grows with a larger team size, or be a warning for a rather more significant problem in their collective image of the company. In Responsible Mobile Oy(D), who had created the position of a Chief Design Officer held by designer(D), challenges and disagreements within the team surfaced during the interviews. Officially, the company named design as part of their core competences but not all members fully agree with this. Their business professional(D) stated that she believes that design can be deployed as a function, which does not have to be present at all times. A possible influence for this view could be the business professional's(D) possible lack of previous experience with design but it was unclear how much she had worked in multidisciplinary teams before. Designer(D) did not only report problems in cross departmental collaboration but also within the existing design team that consists of traditional designers. As the designer(D) was hired after the design team was formed, he believes that the team feared losing ownership of their work.

In contrast, all team members of Sports Wearable Oy(A) have experience working in multidisciplinary teams. In this founding team everybody regarded design as a main function of their company and all professions are equally appreciated. This indicates that if the members of a company are familiar with design, designers have no problem claiming a more comprehensive role. Within Sports Wearable Oy(A) no profession was singled out as more important or influential than another.

Designer(D) suggested a simple solution to the challenge of integrating design and baring with resistance: "If you allow colleagues of other professions to enter your field and to work on 'your' idea, they will invite you to participate in their work eventually." It seems that in his own company, Responsible Mobile Oy(D) this idea is not working yet, while in Sports Wearable Oy(A) everybody lets the other founders join their work, and thus the team appears to be working well together.

4.3.5 Design's perceived capabilities

"We want to design a product that people want to use, and not need to use." Designer(A/1) of Sports Wearable Oy
A unifying result that became apparent in this study is the belief that design improves the company's product. Exactly how design improves the product and by which means, was not generally agreed upon, but the participants had similar opinions within their respective companies.

"Every company needs somebody who takes care of what their users need". Designer(C) of Clean Construction Oy
All interviewees share a similar understanding when it comes to design and its direct link to active engagement with users and potential users. Typical design tasks were often mentioned in direct correlation to the understanding and interpreting of user needs and to gain user insights. Most interviewees indicated that the general aim to understand users is directly related to the improvement of their product and how users experience the interaction with it.

Stepping into design's practices and its perceived possibilities in entrepreneurship, contextualizing a problem is a vital part of designs contribution. This idea was supported for example by the interview with designer(C) of Clean Construction Oy(C), who described a mismatch between the needs of their company's customers and the needs of their products users. As a

company, Clean Construction Oy(C) is essentially in the business of selling a less polluted workplace, a benefit their product's users are not fully aware since the pollution is not visible. Usually, their users prioritize easy to handle and more efficient machines. This essential problem surfaced after the designer(C) had conducted fieldwork by observing and interviewing both the users and the buyers. As a consequence, Clean Construction Oy(3) installed a feature in their machines that made the pollution visible for the users, contextualising the problem by adding additional dimensions to the problem statement.

"Designers produce visually pleasing materials."
"Designers produce well thought through material."
"Designers support a better flow of information."
Different interviewees, of several companies
A straightforward role of the designer in a young startup, is in communications as the producer of communication materials. This is a role that should not be underestimated. According to the interviewees, designers are great in producing material that emphasizes a specific point or divides a complex problem into understandable and easy to process slices. Next to the improvement of the product and working with users, the communication skills of a designer were one of the prevalent themes during the interviews. Several of the interviewees agreed that designers improve their outgoing material not only aesthetically but also make it easier to understand. This indicates that while designers

bring the traditional skill of visualising their ideas and projects, they also seem to have a systematic ability helping them to take information and while processing it transform it into more comprehensible format.

"When design was new and hot in my previous job, it functioned as a magnet for other talent." Designer(D) of Responsible Mobile Oy

Design can function as a magnet for other talent as already indicated in the literature. This insight was also brought up by designer(D) who was leading a design unit in a large company with an integrated design focus. He stated that in his experience, strategic design and a company that has presented itself as design-led, can act as a magnet to talent of all professions. This could indicate that integrated designers are able to help in creating companies that people want to work for. Most likely this realization is either related to the company culture and the way of working or the success of set companies.

5.0 Conclusion & Discussion

Design in startups is a trend topic in the entrepreneurship scene and much was written about it in popular literature. But while discussed frequently by practitioners, little academic research has been conducted into the roles of designers as part of the founding team. The relevant research predominantly focuses on design in the context of larger companies as well as designers as part of teams in the work environment. In said research implications are expressed concerning the potential meaning of their findings for startups. But to the best of the author's knowledge no research is examining specifically the designer's role as a founder of a startup.

5.1 Findings concerning the roles of designers, their perceived capabilities, their integration and their educational backgrounds

This work focuses on defining the role of designers as founders of startups. As only a fraction of startups become successful, the participating startups were not selected by success factors. This provides this research with a representative cross section of under 5 year old startups. 15 founders from five startups based in the Helsinki capital area participated. Participants from the backgrounds of design, engineering and business have been individually interviewed. The utilized methods and goals for the interviews were informed by implications of existing research and the opinions of practitioners from popular literature. The resulting data has been analysed and cross-referenced. In conclusion there are four main findings which will be discussed in more detail in the next sections:

- There are two roles of designers in the founding team: the traditional, specialised designer and the integrated, strategic designer.
- The perceived capabilities of designers are predominantly related to traditional design.
- Earlier and active integration of designers is more effective.
- The integrated strategic design role requires business education.

5.1.1 Two roles of designers: integrated, strategic design and traditional, specialised design

The research question of this thesis was posed as follows: What is the role of a designer as part of the founding team of an under five years old startup based in the capital region of Helsinki? In direct answer to it two different roles could be identified: the traditional, specialised designer and the integrated, strategic designer. Detailed definitions of these roles can be found in the results in chapter 4.2 (p.92).

Designers of both roles work together with the engineering side of their startup but the two roles differ from each other in their representative's involvement in the business side of their companies. The integrated strategic designers are hereby professionals that work both with the research and development of their companies and collaborate with the business development as well. However, while the collaboration of designers with their business colleagues was affirmed by opposing the different interviewees' interview data, it was not within the scope of this thesis to establish how much impact the designers' work subsequently has on their company's business strategy. To measure this impact would require additional research, including long term monitoring of the companies and a larger sample to account for companies leaving the study due to bankruptcy or exits.

5.1.2 Designers' perceived capabilities

While the role of the integrated strategic designer was defined in this research, the perceived benefits associated with a designer in the founding team are still predominantly related to traditional design. All interviewees, including the designers themselves, mentioned design's capabilities in reference to traditional design skills. The predominant perceived capabilities are:

Communication and visualisation

According to almost all interviewees designers have the ability to improve communication. They do so by simplifying complex information and visualising it pleasingly.

Products

Addressed by many participants was the capability of the designer's work to improve the product. While it was not clearly pinpointed exactly how design achieves this, one recurring way mentioned in this context was the improvement of the product by working with users, but there are likely more ways that were not explicitly mentioned and could be investigated.

User work

Within this sample design is highly associated with working with users, such as interviewing, user testing and ethnographic field work.

While the designers described a broad impact of design, only designer(D) addressed specifically how design methodologies can be utilised when making business decisions. However, neither the designer's engineering counterpart(D) nor the CEO of Responsible Mobile Oy(D) mentioned a similar benefit. This directly challenges the impact of the designer's work on the company's business strategy. Furthermore, it could also indicate a mismatch between the two professionals concerning the perceived strategic impact of design on business decisions in the company. While the designer(D) believes his work has high impact on the company's business strategy the CEO(D) does not, or failed to mention it throughout the interview.

5.1.3 Integration of design

The findings show that companies that include designers in the founding team from day one of their operation struggle less with the integration of design than companies which asked a designer to join shortly after setting up the company and even less than companies which deployed design later on in their development. This indicates that design is more integrated and appreciated if all founders had touch points with design or worked with designers before. A case of good integration is Sports Wearable Oy(A). Their designers(A/1, A/2) are well integrated in a company where all founders have worked previously with designers and are reasonably familiar with its

methodologies. However, the individuals in this company recognise the value of all founding professionals and therefore this appreciation is not unique to design.

Overall this research indicates that the collaboration between design and engineering is functional and the significant indicators in defining designers' roles within their founding team can be found in the collaboration of design and business. The designers defined as the traditional, specialised designers are well integrated and able to leverage the extent of their role. Particular attention should be drawn to the integrated and strategic designer: While their collaboration with research and development operations appears functional as well, they do face challenges in collaborating with the business side of their companies. While, as in the previously cited case of Responsible Mobile Oy(D), the understanding towards the impact of design on the business strategy did not seem to match between the designer(D) and the CEO(D), in the same company the business professional(D), the Marketing VP of the company, has pointed out that the responsibilities and involvement between the marketing department and the work of the designer and CDO are unclear. This indicates a shared area of responsibility between marketing operations and design. In Sports Wearable Oy(A) designer founder(A/1) is held back in contributing to the business development by his missing knowledge about the business of entrepreneurship.

5.1.4 The educational background of designers in this work

All designers in this survey are industrial designers by education. None of the designers had any formal education in business. This can result in different roles even within one company. While designer(A/2) of Sports Wearable Oy(A), who has business experience from previous engagements, is working very closely with the business person(A) on the business strategy, designer(A/1) would like to be more involved but is lacking the basic knowledge.

5.2 Expanding research on design practice in startups

As existing research is focussing on design in larger companies and organisations, and on designers in teams, this research gives further insight into designers' roles in the particular setting of a founding team. The definition of the two roles of designers within a founding team is part of this work's contribution.

There is, to the best of the author's knowledge, no research into this particular context. As designers are becoming members of the traditional founding team, (designer, engineer and business professional) this specific environment needs to be further understood.

This work opens a new area for researchers aspiring to understand design in entrepreneurship and gives suggestions throughout the conclusions towards promising future research.

As the day to day business of startups is very different from the organisation of a larger company, it can be assumed that the roles of designers in startups also differ from the roles of designers in larger companies and need further research.
The circumstances of the context of a startup build the framework for decision making in startups and need to be understood.

The work has indicated that a leveraged executive strategic design position as described by researchers is not yet reality in startups and individuals aspiring to claim that position face problems and possibly need necessary education. While designer founders in an integrated strategic position exist, it became evident that their strategic work is not yet recognised as a benefit of design. Investigating the reasons would be highly beneficial and provides a promising research opportunity.

Research is influencing education and a thorough understanding of the environments students go into is beneficial as entrepreneurship and design's position in entrepreneurship are gaining popularity.

5.3 Implications for designer's practice in entrepreneurship

In brief, the implications for entrepreneurship suggest three actions that startups wanting to include design can implement immediately, and which are expanded upon below:

1. Integration is an active process. Help everybody in the company learn about design and possibly experience its methodologies. This is a good practice for all professions.
2. If your company wants both a traditional design function and strategic design in their business development you should possibly employ different designers for these functions.
3. Designers are motivated by ownership over their projects, use it!

Integration is an active process

The defined roles of designers in this work can help entrepreneurs and aspiring designers to understand their role clearly and their colleagues to understand the differences in design roles. It has been indicated that an earlier integration of design leads to a more appreciated role of the designer. Therefore, including design from day one of a startup will leverage its capabilities better. In addition it is beneficial to a successful integration that all founders have previously been in contact with

design. When a founding team identifies design as a key component in their strategy they can implement these finding as a tactic, including designers from the creation of the company and actively inviting other people to utilise design methodologies as a platform.

The ambiguous borders between marketing and design as addressed in the case of Responsible Mobile Oy(D) imply a large overlap. While it would need further research to suggest a broad solution, understanding the role of the strategic integrated designer more as a platform than as part of the design function could help improving the collaboration. Designer(D) of Responsible Mobile Oy(D) suggested that this could be achieved by inviting colleagues of other professions to work in the design field, with the goal for them to invite designers into their projects.

One designer can not encompass two different roles

While the role of the strategic designer in research appears reasonably clear, in the environment of a founding team its definition seems less straightforward. It is significant that the identified integrated strategic designers in this research where to be found in companies (D,A) that had an additional designer in the traditional designer's role, or a whole design team representing the design function. This implies that both roles encompass too many tasks for one individual and require different

education. If a startup wants a designer as part of their strategic business development as well as a traditional design function, it appears to be necessary to employ several designers.

Designers are motivated by ownership

Several designers have addressed that their general motivation for a project stems from personal ownership of the project itself. This appears to be a good motivation for aspiring entrepreneurs, as ownership is a significant circumstance when founding your own company.

5.4 Implications for the education of designers

The results suggest that an individual, aiming to fill the position of an integrated strategic designer, needs business education as part of their studies or later in their career. This would cater to their aspirations.

Furthermore, it is indicated that an individual in a traditional designer position does not necessarily need business knowledge. However, as exemplified by the case of Easy Model Oy(B), the team would benefit from a business knowledgeable designer. As a shareholder the designer has decision rights, and understanding the business challenges is highly beneficial. In this case the team would benefit from their designer's business education as it would, at the very least, ease communication

between them. As a traditional designer with no aspirations towards business strategy he or she should not be expected to be knowledgeable about business.

Overall, none of the interviewed designers received any business training during their formal education. However, it has not been examined in this research how this came to be. It is unclear if the designers' respective design schools do not offer business education or if the designers did not decide to seize the opportunity. When surveilling designers as part of a founding team this gains importance. As a shareholder with voting rights a basic education in business could be considered necessary to execute the position as a founder responsibly.

All designers carry out tasks that are related to traditional design. The integrated strategic designers described that it is important for them to continue to be involved in these tasks in order to operate successfully as a strategic designer. This implies several conclusions: Designers feel that the traditional design tasks are important to them even if they have claimed a more strategic role in their company. These different traditional design tasks represent their difference from the business professionals and could be the origin of the way they approach their work. This in consequence would imply that traditional design education is necessary to become a designer of any kind.

5.5 Process relevant choices and limitations

Choice of topic

The goal of this thesis was reached in parts due to the preexisting active involvement of the author in the Helsinki startup scene. As the author was already a member of the small and very interconnected ecosystem it was easier to gain access to the right startups and convince them to participate. In the beginning, this active involvement was also recognized as a potential cause of bias but preventive steps, such as the preselection of startups by other practitioners in this ecosystem, were put in place. In addition some attention was dedicated to build trust between interviewee and interviewer. As news travel fast in the startup scene this was essential to produce reliable data.

Success factors

The decision to not select the startups by success factors has been essential to the aim of the research. Firstly, as only a very small percentage of startups succeed, it was deemed more valuable to examine a representative cross section of the Helsinki startups. Secondly, defining the denominators of what constitutes a success in this context, as well as defining how much of that success happens due to the involvement of design, goes far beyond the scope of this research. However, such additional insight would support further research following this work and give it additional relevance. The two aspects would most likely

need to be researched separately.

Choice of data collection method

Interviewing the participants in individual interviews has proven to be a good choice to gather data for this work. The commitment of the interviewees towards this research was limited due to their time constraints but the depth of insight gained through them was more than sufficient. Interviewing several founders per startup has proven to be absolutely necessary in order to assess and cross-reference the different founders' answers of one company. Several participants stated that the interview process had given them some further insight into their own collaboration with the team and indicated to utilise that insight in the future. Within a larger research project the collected data could be re-enforced by conducting selective second interviews to eliminate or further investigate inconsistencies within the first data collection. Additionally, observations of the team's typical workdays would help verifying the interviewees' statements.

Interview guide and design of materials

The design of the interview guide and the interview materials have proven to be very effective. To assure a focussed outcome of the interviews they have been tested with two entrepreneurs beforehand and were adjusted according to the surfacing problems. The practice of first asking the participants to draw or write down their thoughts, and secondly walk the interviewer through their drawing has been very beneficial. For the interviewees this allowed them to think about their answers in the first round without creating pauses in the conversation. In the explanatory round, while elaborating on their own drawings, the interviewees could revise their statements again. Concerning the presentation in this work it would have been beneficial to anonymise all participants before their interviews by having them use identifiers and being able to utilise their work materials directly to enhance the argument within this work.

While the interview guide and the included tasks produced sufficient results, one specific problem concerning the particularity of questions was identified: After finding inconsistencies in the collected data concerning the task division within the companies, it could be pinpointed that the definition between responsibility for a task and executing a task would need a more clear definition to sharpen the results.

The visualisations made to illustrate the task division followed the author's goal to make it intuitively understandable for the reader without the need for it to be described task by task. This was also necessary to be able utilise this research later in entrepreneurship practice. Several ways of visualisation were tested and the most effective and efficient one was selected.
As the tasks were described in the interviewees own words, the

data and subsequently the visualisations could be improved by grouping tasks referring to the same action and renaming them into a single term. This change could impact the results.

5.6 Reflection

Personally, as a founder and designer myself, the results of this research have been disheartening. As somebody who clearly embodies the role of the integrated strategic designer, and in the beginning of my professional career, it was stressful to find that the strategic design position that appears to be reality within research is not yet reality in entrepreneurship. However, it is imperative to adhere that all interviewed designers, including the ones that stated clearly that they are not interested in the business development of their company, are working in a startup and own parts of their respective businesses. They have at some point in the last five years decided to step into entrepreneurship and self employment, therefore clearly identifying the interest toward the responsibility to be in charge of one's own business.

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7.0 Appendices

Appendix 1: Interview materials

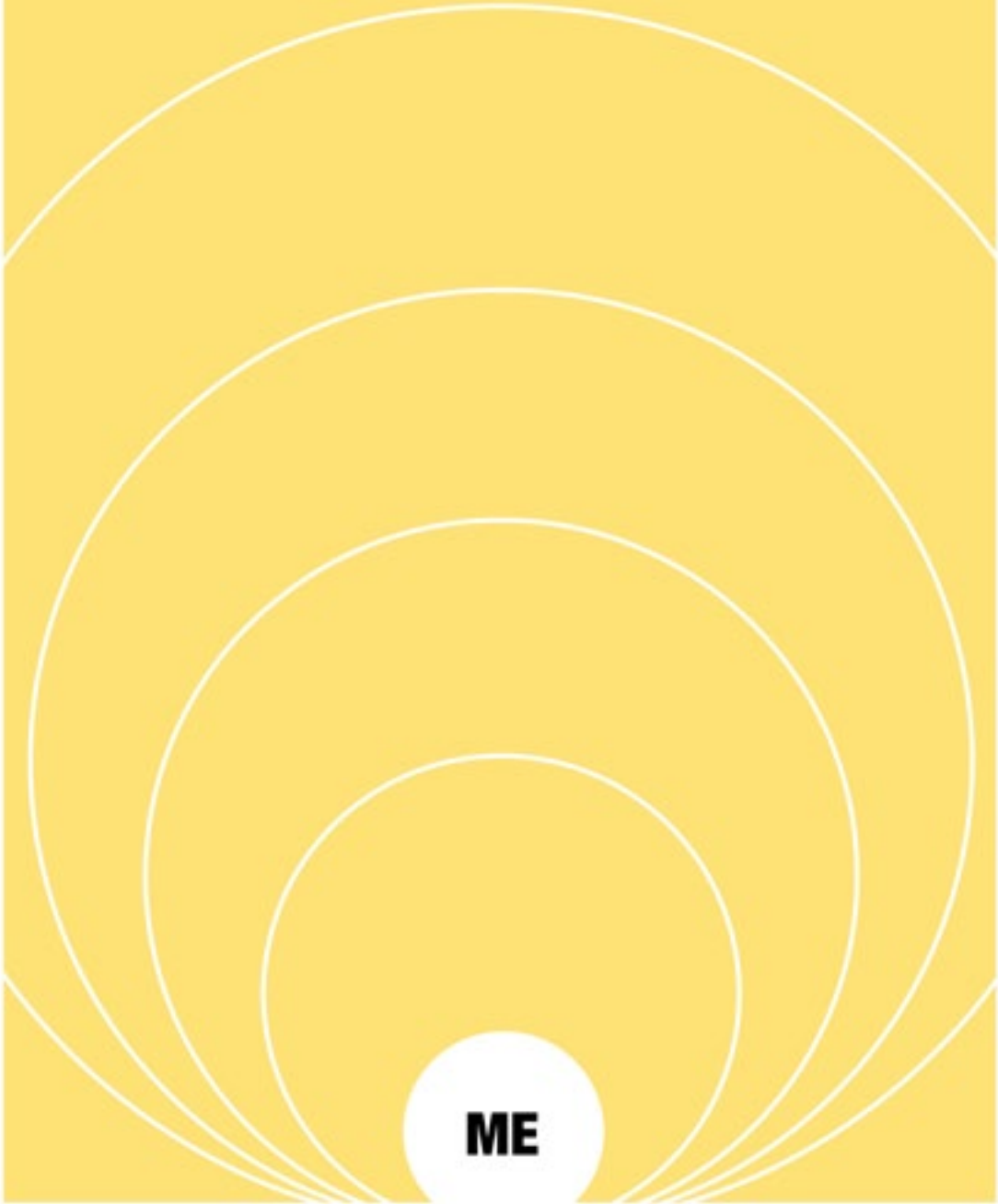
Organisational Chart

Startup:
Participant:

Organisational Chart

Responsibility

Startup:
Participant:



Appendix 2: Abbreviations

CDO	Chief Design Officer,
DEO	Design Executive Officer
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CMO	Chief Marketing Officer
CPO	Chief Product Officer
CTO	Chief Technical Officer
VP	Vice President
R&D	Research and Development
UX	User Experience
UI	User Interface
PR	Public Relations
dev.	Development
ME310	Mechanical engineering 310, Aalto University Course
PdP	Product development Project, Aalto University Course