From start-up to scale-up

A study about the characteristics of starting architectural firms and their business models
Introduction
This document consists of a reflection on the research process. It reflects upon several points from the initial approach, to framing the proposal, developing the content, collecting the first results, the synthesis and concluding on the findings. It discusses the societal relevance as well as the scientific relevance and validity of the results. Furthermore, the methodology and the research design will be reflected upon and an evaluation of the overall research process will be presented.

Research relevance

Scientific relevance
The scientific relevance concerns the contribution of the scientific literature about the business models in the field of architecture. In particular as it adds scientific knowledge about a group that has not been studied individually, namely the starting architectural firms. The use of a mixed-method approach was beneficial because different kinds of data could have been analyzed that later in the process it made it possible to compare the theoretical framework with the empirical results. Also, it gives validity to the results, mainly by the different outcomes concerning the definition of the starting architectural firms.

During the research process, several topics occurred that need more exploration. For example, during the process of defining what a starting architectural firms is, the difference between starting architectural firms with founders with and without experience appeared. Further research is needed to gain more insights on the effects of previous work experience on the formation of a firm and the effects on the business model. Also comparing business models of starting and older architectural firms might give insight in the specific characteristics of starting firms. Furthermore, one of the reasons for clients to choose starting architectural firms is because of their low labour prices. A more in-depth study about the considerations from the client point of view to hire starting architectural firms over an established firm might be a revelation to better understand the strengths and weaknesses of starting architectural firms. This could for example help starting architectural firms to propose better market-orientated value propositions.

Societal relevance
The choice to study business models through case studies that are currently in a start-up phase is relevant to observe and evaluate their current position towards the business side of a firm. Lessons can be learned from the process, while at the same time offering the option to propose aspects that can be improved so the chances of survival or competitiveness of starting architectural firms could be increased. Furthermore, it offers the possibility to bring academia closer to the practical environment of the architectural firm, which results particularly valuable in a context in which such collaboration is not usual.

This research provides insights in the business models of starting architectural firms in the Netherlands. From the findings, some lessons can be learned and recommendations can be proposed for starting architectural firms and other related parties. The first and the most obvious for starting firms is the importance of consciously setting up a business model. Setting up a business model could add the competitiveness awareness and the flexible attitude could add to the
resilience in a changing market and therefore could increase survival possibility over time.
Second, as the professional network is the most important source for both advice and acquisition, a recommendation for starting architects is to actively start enlarging this network from the beginning.
Third, as there are plenty of governmental programs and other incubator and accelerators that can financially support starting businesses, it might be a possibility for starting architects to apply for these kinds of funding. It could give starting architects the freedom to focus more in the projects they would like to do instead of working on projects that do not fit their ambitions. This could spur the transition between start-up and scale-up.
Lastly, in the Netherlands, architects are not educated for entrepreneurship at the university or other schools. In their education no courses have been dedicated to the aspects of starting an own firm. This implies financial, organizational and acquisition knowledge. A recommendation for educational institution and/or architectural associations is to offer help and support to this kind of aspects.

Research design
The concept of a research as an iterative process and with the framework of Eisenhardt it was possible to continuously revise new literature and information, as well as to structure it within the research. As along the way, the definition of a starting architectural firm had to be adjusted, the research design had been beforehand set up to accommodate this iterative process. The design was kept unchanged, which has been an important starting point when defining the research design.

Research methods
Even though the research is mainly qualitative, the addition of quantitative data about the starting architectural firms enriched the research results. The qualitative part also formed the base for the selection for the case studies. This resulted in that the qualitative and quantitative methods connected well with each other.

Explorative interviews
The explorative interviews served to support the problem statement well. The choice of interviewees connected well with the aim and practical relevance of the research, namely a representative starting architectural firm and a member of the Royal Institute of Dutch Architects.

Literature review
From the beginning, it became clear that the subject to be dealt with was very broad and covered a large deal of diverse fields such as entrepreneurship, management literature, construction (management) literature and professional service firm literature. As there has been written a lot about business models in different fields, it was a challenge to pick out the most relevant literature about this subject that came closest to starting architectural firms. As, in general, there has been no scientific literature conducted about especially this group, it was challenging to construct a relevant body of literature.

Questionnaire
The questionnaire was the quantitative part of the research. It functioned as a method to collect quantitative information about starting architectural firms as well as it served as a selection method for the case studies. The dual function added
value to the interconnection between the research methods. The results of the questionnaire had some limitations however. Firstly, based on the first definition of a starting architectural firm 51 starting architectural firms were found in the database of the KvK (reference date 1-1-2014). 11 starting architectural firms are found from a personal network. This implies that not all starting architectural firms are registered in the KvK, which leads in a hard to determine magnitude of the desired sample group.

Secondly, the findings of the questionnaire are a representation of 40% of a sampling of 62 starting architectural firm. After the closure of the questionnaire, no follow up has been conducted about the nature of the non-response. The reason why the firms that did not respond, has not been taken in consideration and therefore limits the research.

Thirdly, as the questionnaire has been sent by electronic mail, the there is no interviewer to clarify of probe the questions. Also respondents may not be completely truthful with their answers. Reasons could be social desirability bias and attempting to protect privacy.

**Case studies**
The case studies were the biggest part of the empirical research. It played the leading role in the synthesis of the findings and in the conclusion. The interview provided, by far, the deepest understanding of the business models and the implicit characteristics of starting architectural firms.

The limitation of the case studies is related to a limited timeframe. Only six starting architectural firms are represented in the case studies. The case studies form a representation of the respondents of the questionnaire based on five predetermined criteria. As the sample size of the questionnaire has its limitations on the representation of the entire population, also the selection of the case studies therefore have its limitations on the representation of the entire population and therefore is subjected to selection bias. Also, the information on exposure is subjected to observation bias. Nevertheless, objectivity in the analysis has been aimed for through systematic coding of the case study data.

**Research process**
The framework of Eisenhardt and the research design as an iterative process has been very helpful to review the decisions made in every step of the research, adjust the focus of the research if needed and continuously reduce the scope of the process.

The overall process was very positive and enjoyable for me. Especially the case studies were very revealing to see the bigger picture and to keep my goal of why I started this research. The conversations with the architects encouraged me to continue the research and make the best out of it. The greatest reward from the process was to keep my curiosity alive and broadening its scope. I think there are many possibilities and opportunities for further research that should be explored with hopefully the same enthusiasm as I had in conducting this research.