Reflection

At the end of the paper, it is important to reflect back on the research process, and a degree to which the initial aim was achieved. This final part is thus devoted to reflection on the research and on the personal process.

I greatly benefited from the research experience on both personal and professional level. During the thesis time, I not only gained a lot of new knowledge about the researched topic and about proper ways of conducting a scientific research, but I also had an opportunity to meet incredibly interesting people from the field. Throughout the research there were times, through which I moved with ease and excitement, others during which I had to fight with frustration and difficulties. All these bits and pieces left me at the end more mature, knowledgeable and humble. I began the research with high ambitions, hard statements, and a tendency to jump to quick and easy solutions. In the process, thanks to great feedback from my supervisors, colleagues and friends, with whom I discussed my on-going work, I started to follow Elon Musk’s words: “I think that’s the single best piece of advice: constantly think about how you could be doing things better and questioning yourself”. At the end, I feel that this particular issue is the most valuable one I have gained from my thesis; an ability to think critically about information that is provided to me and constantly reflect back on my opinions and actions.

Reflection research

This research was carried out in ten months. The first five months consisted of writing a research proposal and defining a research scope. The remaining five months were devoted to the actual research. The methods chosen for approaching the research were literature study, scope interview, Delphi method and semi-structured interviews.

The literature study phase marked a rather rough start of the thesis. At the beginning of the thesis work I found it quite difficult to clearly frame the research scope, which would then easily filter relevant scientific articles for my literature review. Instead I went through great number of articles in order to search for the right path, leaving me however more overwhelmed; in other words, I was experiencing difficulties to step down from the “general notion of sustainability” on a big scale and frame my research into the scope of the built environment. Moreover, the focus of my research has shifted several times. At first, I intended to clearly separate drivers and barriers of sustainable office development, however the issue proved to be much more complex to be able to do so. The more I dived into the literature, the more interconnections I found in between various factors I have set. Next to the literature review, I have performed three scope interviews, which have not only greatly helped me to narrow down my research focus and specifically showed me possible research pathways, but were also extremely helpful in shedding some light on the Prague context.

Another difficulty appeared in P2 period when I needed to set some definitions, specifically what I mean by “sustainable office buildings”, which were the focus of my research. I defined them as buildings that have achieved top levels of environmental certifications as LEED or BREEAM. This definition, although widely used in the market, was however questioned several times later on during the interviews, pointing out that energy efficiency of certified buildings is sometimes comparable with other non-certified buildings and that not always are the occupants of certified offices more satisfied. Throughout the process, I sometimes found myself confused by all these different aspects of sustainability and their interrelations and I had to re-evaluate what exactly is the issue I am researching and whether I am keeping the right direction.

The empirical research consisted of Delphi panel, in which first round was performed in person and thus allowed combination with semi-structured interviews. From the two methods used, the semi-structured
interviews seemed to be more fitting for the purpose of the explorative nature of this study and during the discussions a lot of interesting issues were brought up. The Delphi panels did not reach as high consensus as was initially hoped for, probably due to the heterogeneity of the expert panel, interrelations between the rated factors and a fact that for some respondents it might have been too difficult to grasp the whole complexity of such rather new topic. Moreover, the Delphi method requires longer-lasting involvement of the respondents as they are being asked to review their answers in several rounds. Although most of the respondents were very keen on setting up a meeting for the first round and gave a lot of interesting opinions in the interviews, unfortunately, in the second round most of the respondents did not react on the plea to adjust their answers. Also by sending reminders and appeals to react, the whole data gathering process then took much longer than expected. Typically, the process of Delphi rounds should be repeated until desired consensus is reached, however, I cannot imagine this happening as I experienced respondents’ fatigue and reluctance to participate already in round two. In the process, this was quite a disappointment for me, and I would recommend other students using Delphi for their research to make sure of the lasting interest and enthusiasm of their respondents throughout the whole empirical research.

The research in general could have been done better, if 1) more respondents were involved which would increase a chance of more respondents reacting in the subsequent rounds, 2) the respondents would be more specifically defined as “members” of one of the three (developer-investor-tenant) perspectives and 3) the first round of the Delphi was analysed faster in order to follow up quicker on the meetings and thus keep up the interest of the respondents. Moreover, during the empirical research phase it became apparent that several additional sustainability factors could have been used in the research, such as demand level, unfulfilled expectations, legal boundaries, subsidies, personalities of company’s management, etc. Due to continuity of the Delphi these were however impossible to implement in the research in later stages. Perhaps to avoid such situation, a few more scope interviews could have been done right after finalising the theoretical framework in order to validate the list of factors before starting the actual Delphi.

Lastly, I experienced some difficulties in drawing conclusions separately from the quantitative and qualitative part of the research. Drawing conclusions in the qualitative research in general requires some expertise in addressing concepts from the collected data; the amount of opinions and interests, which are often quite subjective, makes it hard to draw hard black and white conclusions. The final findings of the research are due to the chosen topic and not high consensus in the Delphi thus rather general and less concrete than I have hoped for at the beginning.

Reflection personal process

The first step of the thesis process is choosing a research topic. Although I was certain from the beginning that I want to focus on the soft side of sustainability, searching for the drivers behind it, I experienced a lot of difficulties with narrowing down the thesis topic and defining the final product of the thesis, as already discussed above. I spent a lot of time reading articles about the issue of sustainability in general terms, and the complexity of the issue kept me from setting up an aim reachable in a one-year-long research project. In the period between P1 and P2 my focus shifted from retrofit of existing offices to mostly newly-built certified offices. The reasoning behind this decision was a need for testing the hypothesis whether or not the retrofitted office buildings are more sustainable than the newly-built office building. This could have been a thesis topic by itself and it was not the way I wanted to go. Moreover, even though this hypothesis would have been taken as truth and used as a starting point of the research, it was very questionable whether the respondents in the Czech Republic, who later proved to be very financially driven, would be able to align with such statement.

The planning of the research was estimated at the beginning of the process and finalised in the P2 research proposal. It was however adjusted several times afterwards due to changes in the research methodology, time changes of performing the empirical research in Prague and due to other university obligations. What
proven very useful for me was setting up several layers of goals, starting from main milestones as P1 to P5, divided into separate topics which needed to be addressed before each milestone, and finally by writing down more specific to-do list per each week as I moved to next topic. However, this task-division need to be done very cautiously and must involve some buffer periods for cases, when the research does not go at planned speed, which in my experience happens most of the times.

Performing the empirical research in a different country than the current country of residence was sometimes also an obstacle. Firstly, I had only limited time when I was personally present in the Czech Republic and when the interviews could have been performed. This time did not fit several potential respondents and thus they could not actively participate in the research. Secondly, in the sampling procedure I had to rely solely on my contacts and could not use contact databases of the university. Getting the contacts thus became quite time consuming. And lastly, it was sometimes difficult to operate in two languages and effort had to be put into being precise on the correct interpretation of the interview set-up and findings. This “language-barrier” might have been also a reason for potential misunderstanding of some respondents about the meaning of a few sustainability factors.

On the other hand, I was very lucky to interview the true experts in the field of sustainability in Prague. This field still remains quite small in the Czech Republic, so it could be said that throughout the research I have met most of the people involved in the field. This was confirmed during the interview round, as at some point the respondents started recommending me to contact other respondents, with whom I have already met. These new acquaintances have already proved to be very valuable for my future career, as following up on the research, I have already started collaboration with Czech Green Building Council and entered into discussions about possible job positions. The thesis thus has marked an important milestone in both my professional as well as personal development.