Reflection

The aim of this chapter is to reflect upon the process of this research. The reflection includes points on research topic, process, methods, graduation lab, relevance and dissemination.

10.1 Research topic
10.1.1 Position within graduation laboratory

This research was conducted within the 'Sustainable Urban Area Transformations" graduation laboratory under the theme of Urban Development Management. The Urban Development Management graduation handbook stated about this graduation laboratory, "…this theme supports more applied research questions about financial instruments and sustainability measures, as well as more fundamental questions about sustainability in existing urban areas" (2018). This research added to the existing body of knowledge on sustainable urban area transformations by focusing on circularity, a form of sustainability, in hotel real estate. Hotels, similar to other commercial or residential real estate contribute to an urban area as a whole.

In transforming an urban area, hotels can even act as catalysts or anchors for future development. This was the case in all three case studies explored in this research and is also true for the real estate of the graduation company. For example, The QO Hotel is located in a previously industrial area of Amsterdam, and with the help of the developers of the hotel, the area has been rezoned by the City for sustainable mixed-use development. Additionally, hotels provide space for the public and can inform them about an urban area's intentions. This is true for the Hotel Jakarta where entire ground floor space is open to the public and provides dining and recreational facilities to a primarily residential area.

Lastly, the research is applicable beyond hotels to real estate in general. The beginning of this research explores the topic of circularity and circularity in real estate that could be applied more generally. The recommendations chapter of this research includes recommendations for the real estate industry and policy that can be applied to the development of sustainable urban areas.

10.1.2 Position within Urban Development Management

The theme of Urban Development Management concerns the intersection of place, product, person and process as seen in figure 10.1 (Urban Development Management graduation handbook, 2018). This research investigates the role of the real estate manager to implement circularity specifically in hotel buildings. For this, research was conducted into the way real estate managers build networks and use tools for implementing change. Circularity in the built environment is a concept that takes time and effort to implement, and the body of research on the subject is still growing and needed to have a better understanding of how to implement. This research furthers that body of knowledge by looking at an actor (the real estate developer), their process for implementing a product (a circular hotel), in an urban setting.

Figure 10.1: Urban development management (Urban Development Management graduation handbook, 2018)

Additional actors seen in this research include the national and local government who use strategies such as capacity building, stimulating and regulating to steer towards desired outcomes in a given area. As shown in chapter 8, public actors are moving towards more of a facilitating role, and this was seen through case studies as well. In the case of Hotel Jakarta, the developers were incentivized by the municipality of Amsterdam to develop a building with a high sustainability level because it was a requirement of the tender. Therefore, the municipality used their tools as managers towards a sustainable urban area transformation.

10.1.3 A new perspective

From when I first heard of the term circularity, I was skeptical of its value. I have been working on the topic of sustainability in the built environment for several years, but circularity seemed too vague to me to actually add value to sustainability. So much so that I even turned it down as a concept for my group's Urban Redevelopment Game. Only four months later I decided to focus my thesis on the subject, but with the caveat that circularity was nothing more than a buzz word for sustainability. Now nine months later, and hour and hour spent researching and discussion circularity, I feel I have a strong understanding of the concept, and what it means for sustainability, especially in the built environment.

During my research, I noticed people casually interchanging the words circular, sustainable, and green. But is something sustainable always circular, is something green always sustainable? The terms are colloquially used interchangeably. This then became my decision to decide if something found in theory or empirical research was really contributing to the definition of circularity that I had agreed to, or was it just sustainable or just green?

After my research, I still agree that circularity stems from sustainability, but I have grown to appreciate it as its own school of thought. I believe it helps to make sustainability more concrete, making it more measurable and setting clearer goals for what is circular and what isn't. When thinking about sustainability it is hard to define a goal, what makes a building sustainable or not sustainable? My personal idea of a sustainable building has evolved beyond a LEED Platinum certification, which I would still consider sustainable but not circular. One of the challenges for circularity is that it is also known by different names, such as C2C. This makes it harder to find a consensus on how to advance the topic. As Sybren Bosch (2017) of the sustainability consultant Copper8 says about the topic, "As long as we are not sharp enough in wild statements being thrown around, circular economy becomes nothing more than sustainability 2.0."

10.2 Research process

The research process was iterative in that I constantly moved back and forth between literature and empirical research, benefiting from the snowball effect where one piece of information or interview leads to another. This led me to adjust my conceptual model and research questions continuously throughout the process. The process and the outcome remained unclear until just the step before, revealing themselves as I moved further through the process.

Working with a graduation company provided the opportunity to be embedded into an organization already working on the topic of circularity in hotels. This was beneficial in providing a test case to take a deep dive into my research and gain a concrete understanding of my tested initiatives. One challenge of working with a graduation company is to remain impartial as a researcher. While working with TSH I remained unbiased by challenging their definitions and actions towards circularity, using my research results as evidence. I strived to lead the expert panels as an outsider, and make recommendations as a consultant, and not a member of the company. Another challenge of completing research within a company is that the research results are most oriented towards the research company. I believe that my research results are most beneficial for TSH because I used a TSH project as a test case and held expert panels with only employees TSH. I do feel that this approach was beneficial for the context of the research, and that recommendations also apply to other hotels considering implementing circularity initiatives. The external validity could be increased by holding an expert panel with representatives from other hotels, or that could be done in further research.

Because my research was qualitative in nature, and I was looking to understand the point of view of internal actors, I made use of the phenomenology philosophy. "The phenomenologist attempts to see things from that person's point of view" (Bogdan and Taylor, 1975, pg 13-14). This approach was used throughout my interviews and case studies to document the perspective of others.

Before the P1 I made a last-minute decision to switch the focus of my research to circularity in hotel buildings and operations. At the time this was an anxious decision for me because of the time I had already invested in another topic. In the end I am very happy I did, I believe I found a subject that is highly relevant in practice and deserves much more research in theory. This was further reinforced by the empirical research in which practitioners discussed their efforts but also described their uncertainties regarding circularity. This was further reinforced by the partnership with the graduation company, TSH, who are invested in this subject.

The time before the P2 and really up until the P3 was when most of the literature review took place. In addition to academic literature, it was surprising to find the number of consultant and professional reports written on the topic. Although these are not reviewed in the same way as an academic paper, I found they showed a more updated view of practice at the moment. Many of the reports I found were written in past year or two, highlighting the interest of practitioners on this topic. Empirical case studies were held until the P3, adding a deep knowledge of practice to the research and providing many further insights to review again with theoretical research.

Following the P3, a partnership with the graduation company added additional relevance to the topic but also provided a case study with which to test my findings. I found this partnership extremely beneficial because I could gain a better understanding of the hotel industry and real estate development in general. Through this partnership I also gained the insights of circularity and MEP consultants who could further help me verify my research.

My mentors at the TU Delft were patient with their time and supportive with their feedback. I appreciate the opportunity to explore my own research subject with their support. Feedback was provided on both content and methods and helped to shape the direction of my research. My mentors at the TU Delft were also keen to present new perspectives to explore and gave valuable feedback in terms of other considerations to include. Their feedback was incorporated continuously with each step of research.

My contact at the graduation company, and many other collogues and consultants, provided extremely invaluable input in the test case and expert panel design. The goal of this part of the research process was to gain practical insight so this feedback helped significantly. I feel that the research benefited greatly by working from within the graduation company, providing direct access to collogues for feedback as needed.

10.3 Research methods

Literature review

The literature review was used to define the main concepts that would later be used in this research. To do so, a broader research on the concepts of circular economy and circularity in the built environment were carried out. From there it was my duty as the researcher to aggregate the information and select a definition for use in the rest of the research. While these concepts were defined for the purpose of this research they are still debated in theory and practice. The literature review also revealed a gap in literature on this topic. Many problems were presented but not many solutions and the connection between circularity and hotels had not been made.

Exploratory interviews

The exploratory interviews provided a great opportunity to explore the topic in practice and further define the gap in research. These initial interviews allowed me to freely explore the topic and engage with practitioners, leading to potential case studies and contacts for in-depth interviews. In addition, having these informal, enthusiastic conversations was motivational to continue on with my research.

Case studies

The case studies used were selected because they are front runners in the hotel industry. This makes their unique qualities valuable to learn from. The use of case studies in this research was intended to gather all qualities which make them unique in the theme of circularity. Initially a fourth case study was begun, but after an initial interview it was seen that this case did not provide significant additional information to the first three cases, I decided that the case study research had been saturated. In an effort to get a complete picture of every case study, the method of triangulation was used, wherein multiple actors from each case were interviewed. As the research progressed, there were questions I wished I had asked the interviewees, and in some cases I was able to get clarification through another interview, but this is part of the research process.

Test case

From the case studies a list of circularity initiatives that had already been implemented was made. To further understand the differences between the circular initiatives and a traditional initiative the test case of TSH Delft was used. Because this case is in development by the graduation company, I was able to gain first hand insight into the project including quantitative data that I did not have access to during case studies. Once the differences between a traditional and circular initiative were understood, I was able to use this information as the basis for a conversation about the strategic and operational considerations for implementation.

Expert panel

For the discussion on strategic and operational considerations of implementing circularity initiatives I assembled two expert panels made up of employees of TSH. One panel could provide strategic considerations while the other could provide operational considerations. Additionally, the expert panel provided a third opinion to validate research findings. My intention for the panel was to act as an independent researcher wherein I made an effort to lead the panel in an un-biased manner and to allow the panel to discuss the topics amongst themselves. It was difficult not to interject with my own research findings but that was not the intention of the panel. I found this an insightful opportunity discuss each actor's concerns about the circular implementations.

In general, I feel that the research methods began very broadly in an exploratory way to find the gap in literature and practice. From here, research became gradually more specific through the literature review. The case studies and in-depth interviews were even more refined research leading to the most granular research of testing circularity initiatives with the test case. This is the most refined research moment, using background knowledge gained from the steps before to get a tangible understanding of circularity in practice. The expert panel could then use these tangible examples for discussion but also speak again about circularity as a concept. This led to recommendations regarding the test cases but also more generally for the graduation company, practice and policy. In this way the research process can be visualized in figure 10.2.

EXPLORATORY INTERVIEWS

LITERATURE REVIEW

IN-DEPTH INTERVIEWS
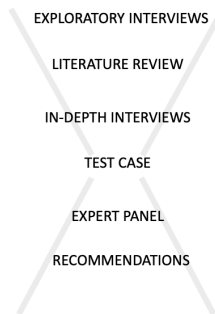
TEST CASE

EXPERT PANEL

RECOMMENDATIONS

Figure 10.2: Research method overview, own image

A challenge I encountered with this methodology was that it remained unclear until just before a step was to be performed. When I originally laid out the framework I wondered if each step would be necessary and what exactly would be needed at each step. As time went on I was able to update the framework as needed and it provided a clear structure to my research. A limitation I experienced with this methodology was the need to conduct additional expert panels. While I conducted two within the graduation company, I could have conducted an additional with people unfamiliar to the case studies to get broader feedback. I could have proposed this on my own in the expert panel design, but I did not see the opportunity for it within the methodology framework.

10.4 Ethical dilemmas

Prior to the P2 presentation, I filled in the "registration form for human research by students as part of regular courses" check list. The intention of the checklist is to ensure no harm is caused to interviewees, and all questions were answered "no". Bryman (2012) shares the Framework for Research Ethics. This framework was reviewed, and this research complies with all aspects. One such aspect is that information should not be shared beyond the initial consent given. All interviewees were informed of the

intent and nature of this research, and that any information they shared with me would be publicly shared. No one who participated in this research appeared to have a problem with this and willingly and enthusiastically participated in the research.

10.5 Research relevance
Scientific relevance

This research adds to the existing body of knowledge on circularity, circularity in the built environment and specifically circularity in hotel buildings and operations. This research aimed to fill the gap in literature by illustrating how the hospitality industry can meet the goals of the Paris Climate Agreement by implementing circularity initiatives. This research begins to fill this gap by providing solutions but also making recommendations to future hotel real estate managers on what to consider when implementing circularity. As the research on this specific topic was extremely thin, this research can also provide a base for future research.

Societal relevance

Climate change effects everyone, therefore every industry should investigate how it can contribute to emissions reduction. This research provides recommendations and examples to the real estate industry as a whole but also specifically the hotel industry on how to do so. This research supports the initiatives Paris Climate Agreement and the Netherlands Vision for a Circular Economy by 2050 by making the topic of circularity more concrete and offering suggestions for implementation. The societal relevance is the implementation of circularity in hotel buildings and operations which could lead to lower emissions and reduced resource use.

Sectoral Relevance

Progressing the theme of sustainability in the built environment, circularity offers a more tangible solution to the negative environmental externalities of real estate and hospitality industries. As the hype around circularity grows, and governments are presenting agendas on it, all sectors need to act to reach the outlined goals. This research helps to provide clarity to the definition of circularity in real estate and how it can be implemented in hotel buildings and operations. Both the real estate and hotel industry suffer from having too many standards for a sustainable product, this research on circularity helps to solidify it by asking for closed material loops, energy neutral buildings and complete water reuse.