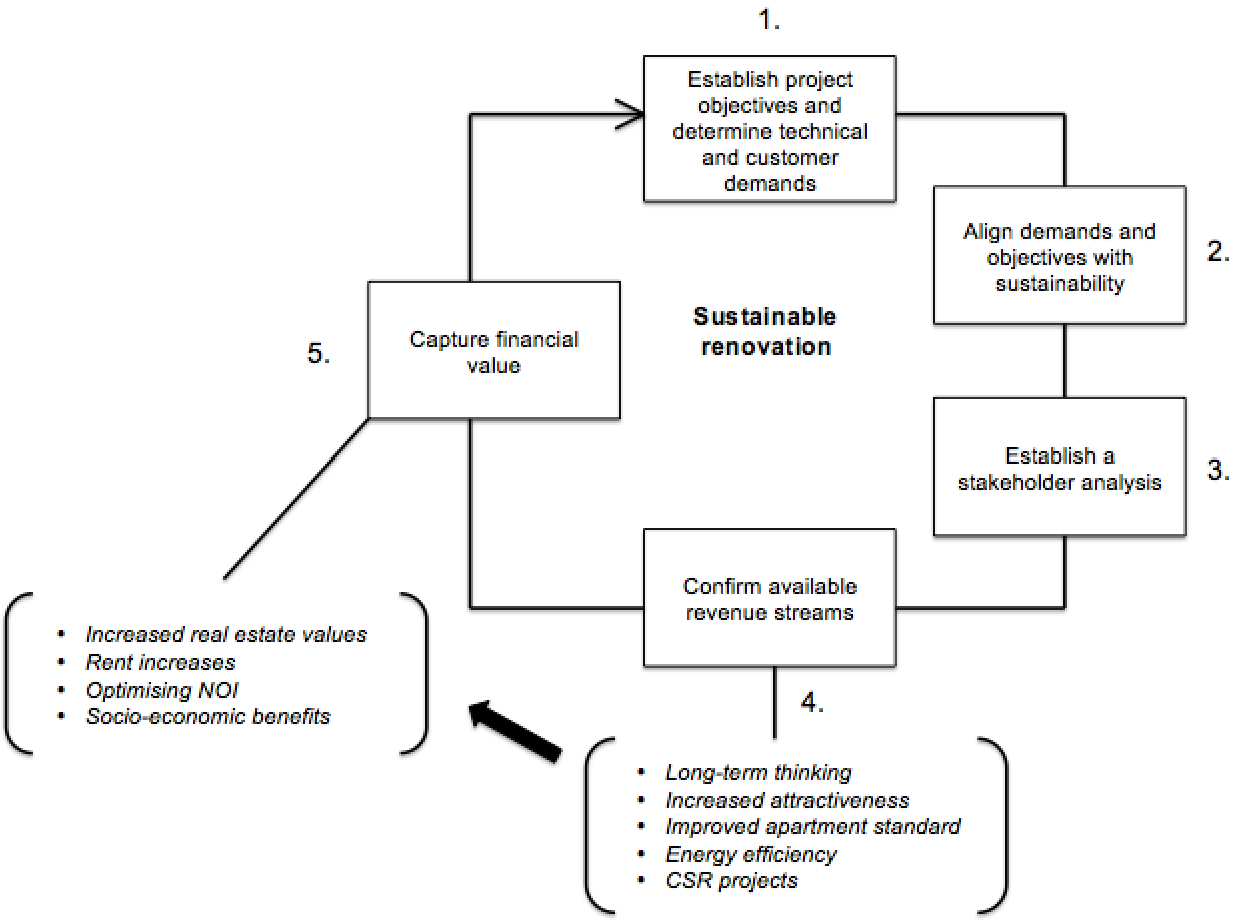

Business models in sustainable public housing renovation

Master of Science Thesis
In the Programme Design and Construction Project Management

TIM JONSSON
NICODEMUS STILLER

Department of Technology Management and Economics
Division of Service Management and Logistics
CHALMERS UNIVERSITY OF TECHNOLOGY
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MASTER'S THESIS E 2016:046

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TIM JONSSON

NICODEMUS STILLER

Tutor, Chalmers: Pernilla Gluch

Tutor, company: Mikael Dolietis

Department of Technology Management and Economics

Division of Service Management and Logistics

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Department of Technology Management and Economics
Division of Service Management and Logistics
CHALMERS UNIVERSITY OF TECHNOLOGY
SE-412 96 Göteborg
Sweden
Telephone: + 46 (0)31-772 1000

Cover:
The authors tailored business model.

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TIM JONSSON
NICODEMUS STILLER
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ABSTRACT

Renovating deteriorating housing properties in a sustainable way while still achieving a financially profitable project is a challenge for housing companies today. This problem is even more evident in socially deprived areas, which in Sweden often comes in the form of Million Homes Programme properties. What are the business prospects of sustainable renovation and is it possible to design a business model encompassing the economic, environmental and social dimensions in a balanced and sustainable manner. The aim and objective of this thesis was to investigate and design a business model concerning sustainable housing renovation for public housing companies. The model was also to be applied on a real life scenario concerning a future renovation project at Siriusgatan, Bergsjön in Gothenburg. The case at Siriusgatan consists of 12 apartment buildings with 1200 apartments, afflicted with severe technical complications as well as socio-economic problems regarding the residents and the area as a whole.

The business model presented in the thesis was developed based on an interview study as well as existing research, which constituted a theoretical framework concerning business models and sustainable housing renovation. The notion of business-like behaviour and sustainability in relation to renovation projects was investigated in order to formulate a business model. The findings revealed that incorporating sustainability in the project, especially merging the social and economic dimensions is troublesome. Problems concerning "renoviction" due to financial motives of increased rents hinder and diminish the social dimension. The history and fundamental social values of public housing companies also inhibits the business-like approach, being central in the formulation of a business model. Nevertheless, certain elements in the form of CSR projects and viewing the project and investment in a long-term perspective could help bring the sustainability dimensions together. Bringing together customer and technical demands with the project objectives are another key identified, which could serve as a platform for the project to take off from. In the end, for the project to become profitable, the financial value generated by revenue streams identified in the business model, need to be captured. Renovation projects in areas such as Siriusgatan do however need to be managed with care, especially when it comes to the social and economic dimensions.

Key words: business models, sustainable housing renovation, Swedish Million Homes Programme, properties, public housing companies, profitability

Affärsmodeller inom hållbar allmännyttig bostadsrenovering

Examensarbete inom masterprogrammet Organisering och ledning i bygg- och fastighetssektorn

TIM JONSSON
NICODEMUS STILLER
Institutionen för teknikens ekonomi och organisation
Avdelningen för Service Management and Logistics
Chalmers tekniska högskola

SAMMANFATTNING

Att renovera föråldrade flerbostadshus på ett hållbart sätt samtidigt som projektet ska leverera ekonomisk lönsamhet är ett problem för dagens fastighetsägare. Detta problem blir ännu mer tydligt i socialt utsatta områden, som i Sverige ofta handlar om miljonprogramsområden. Vad är då affärsmöjligheterna med att renovera hållbart och är det möjligt att konstruera en affärsmodell som omfamnar dem ekonomiska, ekologiska och sociala dimensionerna på ett balanserat och hållbart vis. Målet och uppgiften med detta examensarbete var att utreda och utforma en affärsmodell gällande hållbar bostadsrenovering. Modellen skulle appliceras på ett riktigt projekt i form av den kommande renoveringen vid Siriusgatan, i Bergsjön, Göteborg. Fallet vid Siriusgatan består av 12 flerbostadshus med 1200 lägenheter med stora tekniska brister, men även samhällsekonomiska problem gällande de boende och området i stort.

Utformningen av affärsmodellen som presenteras i detta examensarbete baserades på en intervjustudie samt tidigare forskning i form av ett teoretiskt ramverk som behandlar affärsmodeller och hållbar bostadsrenovering. Synen om affärsmässighet och hållbarhet i relation till renoveringsprojekt utreddes för att kunna formulera en affärsmodell. Resultatet fann svårigheter i att inkorporera hållbarhet i projektet, speciellt med avseende på de sociala och ekonomiska dimensionerna. Problem gällande ”renoviction” på grund av finansiella motiv och höjda hyror förhindrar och förminskar den sociala dimensionen. Historiken och de grundläggande sociala värderingarna hos ett allmännyttigt bostadsbolag förhindrar också ett affärsmässigt tänk, något som är en central del när det gäller utformningen av en affärsmodell. Likväl finns det element i form av CSR-projekt och att se projektet och investeringen i ett längre perspektiv, som skulle kunna hjälpa att föra samman hållbarhetsdimensionerna. Att föra samman kundkrav och tekniska behov med projektets mål är en annan identifierad nyckelfaktor som skulle kunna fungera som en plattform för projektet att utgå ifrån. För att projektet slutligen ska bli lönsamt krävs det att det finansiella värdet, skapat av inkomstströmmarna, vilka har identifierats i affärsmodellen, fångas upp. Renoveringsprojekt i områden likt Siriusgatan behöver dock hanteras varsamt, i synnerhet när det handlar om dem sociala och ekonomiska dimensionerna.

Nyckelord: affärsmodeller, hållbar renovering, miljonprogrammet, fastigheter, allmännyttiga bostadsbolag, lönsamhet

Contents

Preface

This thesis has been conducted as the final part of our master's programme and will conclude our studies here at Chalmers University of Technology. The research has been carried out in cooperation with Familjebostäder in Gothenburg and it has been interesting and educational to study the business prospects of sustainable housing renovation. We would foremost like to thank our main supervisor Pernilla Gluch at the Division of Service Management and Logistics at Chalmers for guiding us through this master thesis. Special thanks go to Mikael Dolietis, our supervisor at Familjebostäder for enabling us to do this thesis, as well as the entire staff of the Renovation Group at Familjebostäder for providing us with help, work space and information concerning the project at Siriusgatan. An extra thank you to Camilla Wictorsson at Familjebostäder for taking a special interest in our thesis, supporting and motivating us during the process. We would also like to extend our thanks to Ingrid Josefsson, doctoral student at the Division of Service Management and Logistics for helping us formulating our interview study and Paula Femenias at the Department of Architecture at Chalmers for general input. Moreover, we would like to direct our gratitude to all the interviewees taking part in our interview study and providing us with the findings of our thesis. Our final thanks go to our peer-reviewers for providing us with helpful critique.

Gothenburg, May 2016

Tim Jonsson & Nicodemus Stiller

Abbreviations

- Boverket = the National Board of Housing, Building and Planning
- CSR = Corporate social responsibility
- EUR = Euro
- LOU = the Public Procurement Act
- NOI = Net operating income
- NPV = Net present value
- OE = Operating expenses
- SABO = the Swedish Association of Public Housing Companies
- SEK = Swedish krona
- WTP = Willingness to pay

1 Introduction

In this chapter, background information concerning the thesis's main subjects and themes will be presented as to provide an understanding of the topic. The thesis objective, aim and overarching research questions as well as limitations will also be presented.

1.1 Background

Today, society is facing a difficult and demanding task of managing ageing, socially and physically deteriorating housing stocks. The awareness of this problem is growing, however the knowledge and experience of appropriate approaches is still insufficient. Repairing and enhancing these ageing properties is one solution and this notion is most commonly referred to as renovation, which is defined by van der Flier & Thomsen (2007) as:

"Transformation (process) of the physical, functional, financial, architectural and ecological characteristics of a building or project (product) to realize a comprehensive and useful extension of the lifespan."

Sustainable renovation is an important challenge in today's society, with the goal of integrating economic, technical, social and ecological needs of different stakeholder groups. But what are the business prospects (for the owner) of renovating deteriorating housing properties and how can these be aligned with the above-mentioned aspects of sustainability? Are there any relevant business models applicable to this problem?

According to the academic literature there is no commonly shared definition of what a business model is (Williamsson, 2014). However, the Cambridge Learner's Dictionary (2016) online does offer the following definition, which is applied in this thesis:

"A description of the different parts of a business or organization showing how they will work together successfully to make money."

Renovations can come in a variety of forms depending on the property owner's needs, financial capacity, but also governmental policies and regulations as well as the depreciation of the building. The economic aspect of renovation is often based on how renovation measures affect and enhance the real estate value (Kaklauskas et al., 2007).

The social aspect has its core in different social needs, which should be considered in order to successfully carry through with a sustainable renovation. There are also environmental impacts, government policies, legal acts and taking care of the residents who cannot afford renovations. All of the above-mentioned aspects need to be managed and integrated during the renovation process in order for a sustainable renovation project to be successful (Kaklauskas et al., 2007). Furthermore, Kaklauskas et al. (2007) states that more attention should be paid to knowledge management and knowledge transfer in renovation projects in order to improve the integration of understanding the concept of sustainable renovation. To acquire some perspective of what sustainability actually is, one could contemplate the European Commission's (2015) definition of the concept of sustainable development, which is as follows:

“Sustainable development stands for meeting the needs of present generations without jeopardizing the need of future generations - a better quality of life for everyone now and for generations to come.”

Business models and its connection to housing renovation seems to be lacking in current academic research and was therefore deemed as an appropriate topic to investigate. However, the terms do occur in trade press such as Fastighetsnytt and Byggindustrin concerning property and real estate management, as such the term is used in the industry but not a scientifically researched topic.

1.2 Swedish Million Homes Programme

There was an increased welfare in Sweden during the post-WWII era, which generated an increasing demand for apartments, which in turn led to a housing shortage (Kindbom & Sandblom, 2015). The parliament of Sweden decided to increase the building pace and build 100 000 new residences a year during a ten year period between 1965-1974 in order to solve the housing shortage problem. This was accomplished by building in a more rational and industrial manner than what had been done before. Three story high apartment blocks was most commonly built during this period, although many associate the Million Homes Programme with very high and large apartment blocks of six to eight stories. In the beginning of the programme mostly large apartment blocks were built, but during 1971 the demand for these types of living arrangements decreased and problems with vacancies emerged. Nevertheless, the demand for smaller houses was still high and the construction of these continued. One third of the constructed housing was however single-family houses (Boverket, 2014b).

The apartment blocks that were built soon became unattractive because of their non-personal appearance. Many moved away from these apartments, leaving the most socially vulnerable tenants left in these areas (Kindbom & Sandblom, 2015). Today, the Million Homes Programme has a bad reputation due to segregation, high level of unemployment and a high degree of low-income households in need of welfare support. Because of this, these areas have been labelled as “problem areas” with a negative social label (Nytorp, 2015). Another problem, explained by Stenberg (2012) is that the primary residents in these apartments have changed since it was built. Since the idea was to solve the housing shortage at the time, the primary residents were the nuclear family. Nowadays, they have been exchanged with a family network with children around every other week, in law parents staying as lodgers, single households, youths in collectives and unemployed citizens. Furthermore, these areas and apartments havw been populated with both Swedish people and people with foreign backgrounds with global ambitions and double identities (Stenberg, 2012). Due to the residential changes there has been increased strain on the apartments, which has led to an increased tear and worn. These social problems have in many cases lead to increased criminality and insecurity amongst the residents (Kindbom & Sandblom, 2015).

During recent years, an increase in the need for renovation has been discovered and it has frequently been debated how to deal with these properties. Some of the problems regarding the properties are low energy efficiency and generally old, run-down apartments with low standard (Nytorp, 2015). In addition, several of these housing estates have been built with materials harmful to both environment and occupants, like asbestos for example. In many cases they also have technical installations that are worn, old and out-of-date which do not meet the technical requirements anymore. There is also a higher demand of accessibility (Kindbom & Sandblom, 2015). A large amount of the buildings of the Million Homes Programme were built before the oil crisis in 1973. Since the energy was relatively affordable until 1973, the buildings constructed before this date has imperfect isolation, now causing economic problems due to a large consumption of energy (Björk, 2012).

Generally, apartment buildings are renovated each 30 years, which is normally financed with increases in apartment rent. Public housing companies have certain requirements on their return on investment and if the refurbishments cannot be covered by increases in rent, then the investment will have to be covered by decreased operating costs (Nytorp, 2015). In the year 2011, calculations showed that around 830 000 of the apartments from the Million Homes Programme still remained. Of these, 320 000 are in very critical condition and in need of immediate renovation (Kindbom & Sandblom, 2015).

1.3 Objective, aim and research questions

The objective of this thesis is to investigate and evaluate possible approaches when it comes to establishing business models in the context of public housing renovation projects from a property owner's perspective. Sustainability aspects regarding environmental, economic and social viewpoints will be taken into account when dissecting the concept of business models in relation to renovation. The research presented in this thesis aims to create and provide a framework, or a set of guidelines in the shape of a business model, used in order to successfully execute sustainable renovation projects. The framework should be general in nature and applicable to a variety of public housing renovation projects.

The overarching research questions aimed to be answered in this thesis are the following:

- Is it possible to design a general business model concerning sustainable public housing renovation?
- If so, how could this model be shaped and what parts could it consist of?
- In what way could this business model be applied in a real life scenario?

1.4 Limitations

The scope of this thesis is limited to the public property owner's perspective. The research presented revolves around the property owner's perspective concerning multi-family housing renovation projects. As such, it excludes renovation of commercial, industrial and other non-housing real estate. The thesis concerns the interaction between the property owner and other parties and stakeholders in a renovation project. The qualitative research conducted in the form of an interview study is limited to the context of the company Familjebostäder and their project at Siriusgatan, Bergsjön. It should also be noted that the project at Siriusgatan, which constitutes the case, is in an early phase, which has placed limits in the thesis concerning discussion and conclusions.

1.5 Outline of the thesis

This thesis is broken down into seven distinct chapters arranged and presented in the following way, displayed in Figure 1:

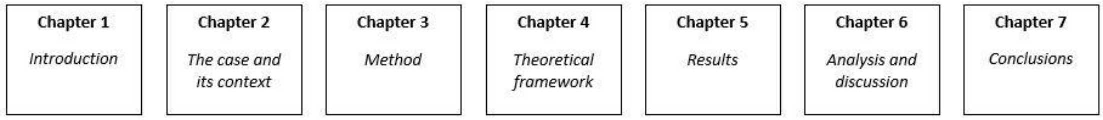

Figure 1 - The overview of the thesis divided into main chapters

Chapter 1 - *Introduction* familiarizes the reader with the main subjects of the thesis and contains background information concerning the topics covered as well as the objective, aim, research questions and limitations of the thesis.

Chapter 2 - *The case and its context* presents the project at Siriusgatan and the context it is situated in.

Chapter 3 - *Method* details the research approach and methods used in order to accomplish the aim previously formulated in the introduction.

Chapter 4 - *Theoretical framework* presents previous theory and research regarding the main subjects of the thesis as to create a framework for the analysis of the results.

Chapter 5 - *Results* present and explains the empirical findings based on the interview study.

Chapter 6 - *Analysis and discussion* encompass the analysis and discussion of the results, related to and within the context of the theoretical framework.

Chapter 7 - *Conclusions* present the concluding thoughts of the thesis as well as suggestions for further research within the field.

2 The case and its context

In the following chapter the case project at Siriusgatan and its context will be introduced. The real estate company Familjebostäder and their tool for managing the project process, GBP, will be briefly presented as they are the owner of the properties compromising the case project. The information presented in this chapter was gathered from internal documents at Familjebostäder as well as from their website, familjebostader.se.

2.1 Familjebostäder in Gothenburg

Familjebostäder in Gothenburg (henceforth referred only as Familjebostäder) is a municipality owned housing company in Gothenburg, Sweden, founded in the 1950s. Originally, the objective was to acquire housing estates and especially "landshövdingehus" in Majorna, Gothenburg in order to save these from being demolished. Over time, they have broadened their business and today they manage both existing estates as well as engaging as a client in new construction. As of being a public company the board of Familjebostäder consists of politically elected members due to the type of ownership.

Familjebostäder owns about 18.000 residential apartments located mostly in central and semi-central areas in the city of Gothenburg, areas where the market demand is significant. Familjebostäder also operates to a lesser degree in the market of commercial properties, a segment where they own about 960 premises, which they rent out to shops, grocery stores and other public organisations etc. (Familjebostader.se, 2016).

2.1.1 Organisation and operation

Familjebostäder is a part of a larger corporate group, together with other municipality owned real estate companies, called Förvaltnings AB Framtiden. Förvaltnings AB Framtiden is in turn owned by Göteborgs Stadshus AB, a company wholly owned by the municipality of Gothenburg. Framtiden has a vision they and their daughter companies follow (Familjebostader.se, 2016):

"We are building the sustainable society for the future."

It is Framtiden who defines the goals for both the corporate group and for every belonging enterprise, with the basis of this derived from the municipality's budget. Thereafter, it is up to each district and unit of each company to develop an operational plan aligned with these goals and visions (Familjebostader.se, 2016).

Familjebostäder is a large company with approximately 234 employees, which are divided into different branches. The CEO, real estate development, economy, communication/market and human resources belong to the head office. Majorna/Hisingen, Kungsladugård/Skärgården, Nordost and Väster/Centrum are the different districts where Familjebostäder's properties are located and are directly under the CEO in the hierarchy. Each district has its own separate office located within the area of their properties, although some employees belonging to the districts sometimes work at the head office as well (Familjebostader.se, 2016). This hierarchy is illustrated in Figure 2.

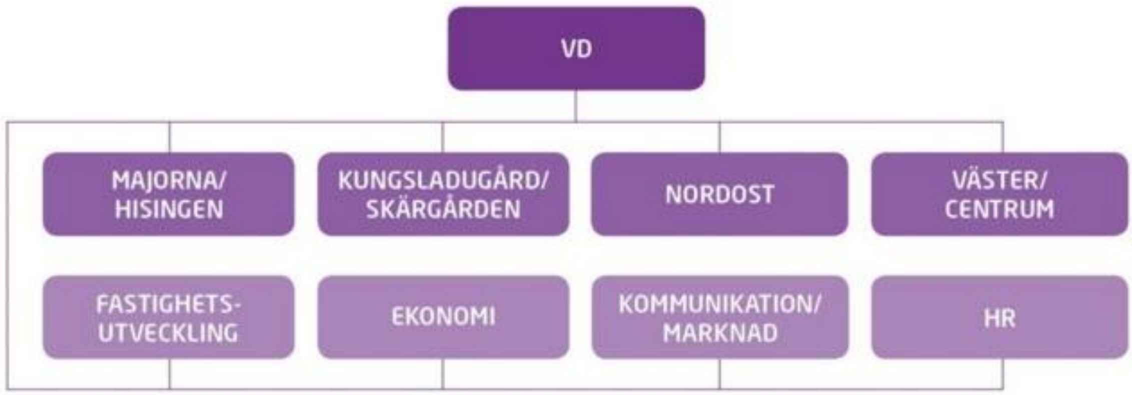

Figure 2 - The organizational structure of Familjebostäder (Familjebostader.se, 2016)

2.1.2 Vision and mission

Familjebostäder has a goal and a vision, which should be embodied in all of their business (Familjebostader.se, 2016):

"We create enjoyable surroundings, together with more and more citizens."

This vision are explained by three core principles (Familjebostader.se, 2016):

- **Well-being**
  Creating well-being and comfort for both residents and co-workers, the residents should enjoy their accommodations. Meeting or exceeding the expectations of the service Familjebostäder provide can accomplish this.
- **Forward**
  Always thinking forward in order to improve both the residents living environment and the employees working environment.
- **Together**
  Help, listen and respect each other will make the process easier.

Familjebostäder also has a business concept they follow (Familjebostader.se, 2016):

"Manage, develop, acquire and rent out real estate. This should be conducted effectively, with a long-term perspective and with healthy finances. Familjebostäder shall have satisfied customers and provide service and quality of the right level. The company shall have full control of its operations and keep what is promised."

2.1.3 Responsibility and obligations

Since Familjebostäder is a public company, their responsibility goes beyond just developing and managing properties. They also have a responsibility to act socially sustainable in the areas where their tenants live. A core component of their business is to have a constant dialogue with their tenants. In addition, as of Familjebostäder's public nature, it is owned by the citizens of Gothenburg and therefore has a mission of developing Gothenburg by creating safe and enjoyable surroundings (Familjebostader.se, 2016).

Familjebostäder as a public company, have to conform to the LOU (the Public Procurement Act) when dealing with procurement of consultants, contractors, sub-contractors etc. for different services needed in their business. This means that Familjebostäder have to go public with the services they need in such a fashion so that everyone, both national and international actors, can make a tender to perform the service. Thereafter, Familjebostäder and all the other public companies need to choose the lowest tender. However, there are certain requirements such as quality, competence, experience and previous references, which are also considered when choosing the tender. Familjebostäder also follow a project process called GBP (collective building process) when working with different projects, which will be explained in the following section.

2.1.4 GBP – Gemensam byggprocess

GBP is a collective building process, which the city of Gothenburg has developed and implemented in the different enterprises owned by the municipality by a directorate in collaboration with the enterprises. This has an aim to secure the quality of the building process and to support and help navigate the employees through the projects. The municipality of Gothenburg has a vision with the GBP:

"The city of Gothenburg shall be an effective and professional developer, with a quality assured building process common for the entire municipality, aiding both management and employees when undertaking construction work."

GBP is a web-based bank of documents that municipality-owned companies and their employees have access to and compromises helpful knowledge, experiences, tools, and methods to implement and manage building projects. It covers the six sub-processes within a building project along with areas concerning management and procurement and is illustrated in Figure 3.

1. **Pre-study**, during the pre-study, descriptions of the needs/problems and the opportunities identified are carried out, but also how these will be fulfilled. The pre-study is decision basis for further orientation.
2. **Programme**, the purpose of the programme is to describe the architect's vision and what the technical functions are. The programme is the basis to for example ensure the costs of the project and procurement of consultants.
3. **Design phase**, during the design phase, descriptions from the former phases are converted into finished documents and blueprints. These constitute the basis for the procurement of contractors.
4. **Production**, the production will realize the documents into an actual object.
5. **Finish of the project**, during this phase, experiences, documentation and outcome are collected before the hand-over of the finished object.
6. **Warrant services**, all warrant/guarantee commitments are summarised and followed-up in order to coordinate these for the property management process.

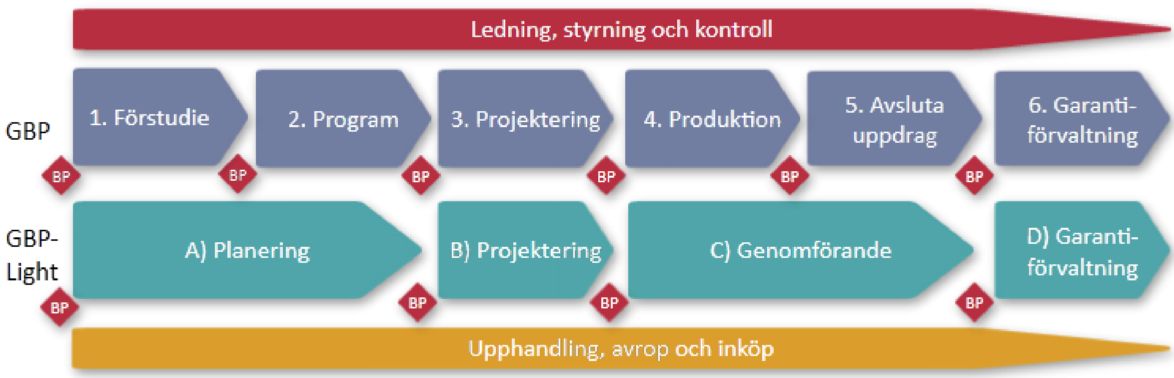

Figure 3 - An overview of GBP

Furthermore, it makes sure certain requirements are met or exceeded for each building project:

- Starts with a commitment ordering which clarifies framework, roles and mandate.
- Driven with support of self-monitoring, which consists of activities and related directions.
- Ends with a final report or similar document to enable knowledge return and capture.

These points or requirements are together a collective operation method for each company owned by the municipality, albeit adjusted by each company to best fit their business. All projects with a budget of over 200.000 SEK should follow GBP. There are different documents for different kinds of projects or sub-processes within the project where activities are pointed out with different colour-codes to support the self-monitoring:

- Red means you have to do the activity in a certain determined way.
- Yellow means that you have to do it, but you determine how you do it.
- Green means that it is optional to do the activity but may be of significance for the project.

2.2 The case project at Siriusgatan, Western Bergsjön

The area of Bergsjön was primarily built during the 1960's and 1970's and most of the buildings are a part of the Swedish Million Homes Programme.

Statistics from the website of the city of Gothenburg showed that 73% of all housing in the neighbourhood where Siriusgatan is included was built in the period 1961-1970, 22,1% between 1971-1980, and the rest 4,9% in other years from 1940 and forth. The dwelling units are disseminated with forests in between, connected by bicycle paths and walkways. The area consists mostly of large apartment blocks, where the case of Siriusgatan is included. Familjebostäder owns 12 buildings divided into 1200 apartments with approximately 3040 tenants at Siriusgatan. The buildings are 7-8 stories tall complemented with lower car-park buildings. Siriusgatan is located within 10 kilometres from the city centre of Gothenburg. Presented in Figure 4 is a map of the location for the case project at Siriusgatan.

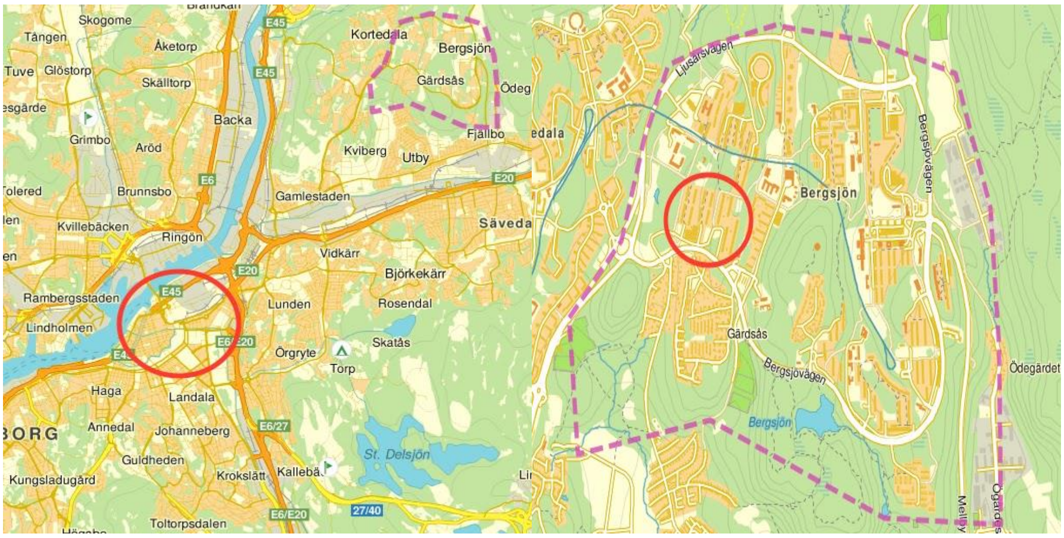

Figure 4 – To the left is an overview of Gothenburg. The circle frames the city centre and the dotted circle frames the area of Bergsjön. To the right is a close-up of Bergsjön where the circle frames the buildings at Siriusgatan (Eniro.se, 2016).

Presented in Table 1 are statistics and information about the inhabitants and the neighbourhood of the west part of Bergsjön, where the case project at Siriusgatan is located. In comparison, statistics of the city of Gothenburg are also presented. The statistics are from the year 2014, except from the income, which is from the year 2013.

Table 1 - Statistics for the residents in Bergsjön compared to Gothenburg (Goteborg.se, 2016).

Theme	**Western Bersjön**	**Gothenburg**
Inhabitants	7667	
Income (2013)	159.900 SEK (13.325/month)	276.000 SEK (23.000/month)
Born abroad	53,2 %	24%
Unemployment	15,3%	6,6%
Unemployment amongst inhabitants born abroad	19%	12,7%
Unemployment among inhabitants born in Sweden	8,8%	4,1%
Education level	Lower than high school: 29% High school: 40% Higher education: 30%	

2.2.1 The property stock's nature

The case concerns the planned renovation project at Siriusgatan in Western Bergsjön. The estates are wrought with significant problems, not only of technical nature such as changes of the piping and HVAC system, but also regarding the socio-economic state of the area. Familjebostäder is taking initiatives when it comes to the development of the entire area as a whole with the aim of increasing the attractiveness and socio-economic status of the area.

The properties are in extensive need of renovation as well as modernisation measures and are generally in a deteriorating state. The estates are structurally made of concrete with facade elements also made out of concrete. There are also problems with leaking of heat causing low U-values and thereof high OE (operating expenses) resulting in a low NOI (net operating income). Meanwhile, Familjebostäder has found that their tenants have a low solvency. In Figure 5 some of the properties at Siriusgatan is presented.

Figure 5 – Some of the properties at Siriusgatan (The authors, 2016)

The project has two target audiences; the current residents as well as attracting new residents. The current residents have a low will of paying high(er) rents and the neighbourhood has a damaged popular image regarding attracting new residents. Meanwhile the residents are very interested of being involved in influencing their living arrangement. Familjebostäder has discovered that the displacement of the area is high and residents often seek to move to a neighbourhood with a better reputation and higher status when possible.

Today, the properties at Siriusgatan have a low rent level, which is an effect of the 1990's discovery of possible vacancy risks. Familjebostäder made the decision of keeping the rent at a low level and be delicate with increasing the rents in order to increase rent in other parts of Gothenburg instead. This has enabled the possibility for one-person households to rent larger apartments. An interesting note is that the private property owners in the area generally have a higher rent level than Familjebostäder. Displayed in Figure 6 is another picture of Siriusgatan, at the horizon the area of Kortedala can be seen.

Figure 6 – Walkway at Siriusgatan with Kortedala at the horizon (The authors, 2016)

The installations in the properties are from the time when the buildings were first built, with some complementary additions like supply air tackles. Because of the generally outmoded installations, the buildings have a high energy consumption, but the goal is to reduce the consumption by 50% after the renovation.

According to Familjebostäder, the following immediate technical problems have been discovered in the properties at Siriusgatan:

- Installation leakage
- Leaky envelope
- High U-values due to bad or lack of proper insulation
- Moisture in outer wall
- Deficient indoor climate
- Surface layers are deficient, both inside and outside
- Presence of harmful substances such as asbestos, PCB and radon has been found

In addition, around the area of Siriusgatan, social and economic problems have been discovered and there is a need for an improvement of the built environment along with increased social support. The economic issue for Familjebostäder as a project owner of this case primarily concerns the required rate of return and its relation to the project parameters. Social problems such as overcrowded apartments and vandalism in the neighbourhood have a negative effect on the technical systems since there is an unusual degree of wear and tear and an inadequate sense of responsibility and social control. Another goal with the project is to keep as many residents as possible in the neighbourhood, which limits the increase of rent when renovating the properties. As of today an increase of 25% in rent has been set as a roof in order to accomplish this.

2.2.2 Renovation proposals from Familjebostäder

Up to this day, four different renovation alternatives have been discussed at Familjebostäder, but the company has chosen to pursue two of these alternatives further. The different alternatives have been evaluated in accordance to a framework proposed by the Swedish research group SIRen (Sustainable Integrated Renovation). The social, environmental, technical, economic and design basis dimensions have been taken into account. At this point in time nothing has yet been decided and the project is still in an investigation process. The first alternative is a cautious renovation where the least possible actions are taken in order to keep the rents at a low level. This alternative will include an all-embracing refurbishment of the outdoor environment in the area. Moreover, the envelope of the buildings will be renovated, for example, the outer wall will get complimentary insulation as well as an overall renovation of the facade. Windows are to be changed to new and more energy efficient ones and the roof will be changed. This will, on the other hand only secure the facade short-term until they develop a new strategy and makes a decision on another more substantial action programme. The standard in the apartments will not be improved, which will keep the NOI low while at the same time not reaching the energy vision of Familjebostäder. On the other hand, this alternative will have a minor effect on the residents economically as the rent increase is calculated to be 5%. Meanwhile the devaluation of the project will be kept reasonably low. The second alternative is a more comprehensive renovation where the indoor climate system, both the water and heating system will be improved along with a focus on the energy efficiency of the buildings. These actions will consider issues for the whole building with a long-term perspective, which will generate a new technical lifespan of 50 years meanwhile improving the comfort and standard of the apartments. This renovation alternative has been calculated with a rent increase of 25%. Furthermore, this alternative will reach the energy vision of Familjebostäder and generate lower OE regarding energy consumption and reduced maintenance costs, which in turn will lead to a higher NOI. This alternative will generate a higher devaluation as this renovation alternative is more comprehensive.

2.2.3 The development of the Western Bergsjön area

Familjebostäder has a vision for the development of the area:

"The new area is a colourful district where creativity flows. We who live here feel safe, proud and environmentally conscious. We live in a pleasant district where others willingly come to live and experience nature and culture."

This development will have its main focus on new and attractive living arrangements, which will be developed together with the current residents.

In addition, several overall goals have been stated:

- Increased safety and comfort
- Increased attractiveness of the area
- Increased welfare

Specific goals regarding the residents have also been put forth in the development:

- Give the residents the possibility to participate and put forth their suggestions in the project
- The residents should want to stay in the neighbourhood and enjoy living there

In order to achieve this, Familjebostäder believes that a dialogue process which involves as many actors as possible, such as the local residents, people working in the area, politicians and Stadsbyggnadskontoret, could be beneficial for the project. Familjebostäder believes that this process will contribute to new ideas and thoughts useful for the project to accomplish their vision. A collaboration project between eight different real estate owners has also been launched, called Bergsjön 2021. This collaboration aims to increase the life quality for all inhabitants in a future Bergsjön. It has been found that about 90% of the residents want to be able to influence the renovation of the apartments and their highest priority is measures connected to the indoor climate.

3 Method

In this chapter the different methodological approaches of the thesis will be presented and explained. The reasoning behind the chosen method types is argued for and explained in light of the thesis objective, aim and research questions. The general methodological approach of the thesis contain the following:

- A literature review in order to establish a theoretical framework related to the topic of the thesis.
- An interview study was conducted with individuals both related to the case and other relevant individuals in the organization in order to acquire a deeper understanding of the company and the topic in hand from different hierarchical levels.
- The interview study then formed the foundation for the results in conjunction with the theoretical framework.
- The results was developed into an analysis, discussion and conclusion connected and supported by the theoretical framework and research questions.

This combined approach was chosen as it provides different viewpoints to the problem of formulating a business model concerning sustainable housing renovation. A customer survey was discussed, but was neglected due to the early phase of the project. The theoretical framework provides an understanding of the concept of business models, sustainable renovation and how they could be connected and linked to each other. It also offers information and background of what previous research in the context of the thesis topic has focused on and what problems have been examined. The interview study brings forth a chance to acquire in depth knowledge of how the notion of business models is perceived in conjunction with renovation projects in the context of Familjebostäder’s business and their project at Siriusgatan. Are business models used and how do they affect the renovation projects? Since the thesis has a case project as a foundation for developing a business model regarding sustainable housing renovation, and the fact that the project is in an early phase, the interview study was chosen as the most appropriate one in order to collect as much data as possible.

3.1 Literature review

Establishing a relevant theoretical framework is an important part of the research process as it provides the researcher with a solid knowledge base concerning the topic at hand. It also gives an insight of where there are possible holes in existing research and what methods could be applied when investigating the chosen topic (Bryman & Bell, 2011).

In order to gain an understanding of current research within the field, a literature review was carried out. Literature in the form of scientific articles was found on academic databases with the main ones being Google Scholar, Summon Chalmers Library and SCOPUS. Using keywords, both in English and Swedish, such as *sustainable renovation, housing renovation, business models, housing management* and *public housing companies*. Additional articles and information was gathered from Boverket (the National Board of Housing, Building and Planning), the research centre Nationellt Renoveringscentrum and the research project Sustainable Integrated

Renovation (SIRen). Apart from scientific articles found online, relevant books in the form of course literature from previous courses as well books acquired from the Architecture library of Chalmers University of Technology, the main library of Chalmers University of Technology and the Gothenburg City library was used. The references used were written in both English and Swedish. Some of the quotations was translated from Swedish to English by the authors of this thesis and was carefully examined so that the meaning would not get distorted. The literature found was examined and evaluated as recommended by Bryman & Bell (2011) in order to determine their relevance to the thesis topic, after which the ones corresponding the most was chosen. Literature concerning both Swedish and international contexts was used as a way of broadening and diversifying the thesis perspective. The aim of the literature review was to provide a theoretical framework, which in turn could support a specific argumentation, analysis, discussion and conclusion concerning the formulation of a sustainable housing renovation related business model.

3.2 Interview study

The interview study process was performed according to the seven stages suggested by Kvale & Brinkmann (2009):

1. *Thematisation*. The purpose of the interview study was formalised and what questions sought to be answered by the study.
2. *Planning*. The study was planned and structured before commencing the interviews. Interview questions was prepared and created with regards to the thesis purpose and research questions.
3. *Interview*. The actual interviews were performed.
4. *Transcription*. In preparation for a proper analysis the recorded interviews was written down.
5. *Analysis*. The interview material was analysed. Relevant information was sorted into different categories and subcategories.
6. *Verification*. The validity and reliance of the interview was examined and compared with the purpose and research questions presented in the introduction chapter.
7. *Reporting*. The material of the interview study was composed and presented in the chapter results and later analysed in the analysis chapter.

3.2.1 Interview design and interviewees

Fundamentally there are two different kinds of interview types when it comes to qualitative data collection, namely (Bryman & Bell, 2011):

- Unstructured
- Semi-structured

The unstructured interview is very much akin to a regular conversation as the interviewee responds spontaneously to questions asked by the interviewer, which in turn can follow up with additional points on the go. In the semi-structured interview, the interviewer has prepared a list of questions regarding relatively specific subjects, commonly referred to as an *interview guide*. The interviewee is however given plenty of room for interpreting the questions. Both of the interview types are considered flexible and even the semi-structured one does allow for questions to be asked which are not explicitly stated in the interview guide. The interview guide is usually established based on some basic elements: (A) order the questions in a logic way, (B) create questions which aim to answer the research questions, (C) use a relevant and easy to understand language, (D) avoid asking leading questions, (E) always record individual interviewee background information (Bryman & Bell, 2011).

Due to its flexibility compared to other forms of qualitative data collection, interviews were chosen as it is often the preferred method of choice when it comes to data collection (Bryman & Bell, 2011). A semi-structured interview study was conducted in order to acquire an understanding of how individuals related to the case project think of renovation projects as a business and if the notion of business models affected the project. Specific focus was also placed on the sustainability aspects of renovation and their relation to business models. The interview guide formulated and used in the study is presented in Appendix 1 and 2 and consists of the main themes *introduction and background*, *renovation projects in focus* and finally *the project at Siriusgatan*.

Ten interviews were carried out and the interviewees had different professions, specializing in different areas related to renovation projects, spanning technical, social, financial and administrative fields. The roles of the individuals ranged from project managers, department managers, varying specialists, to highly ranked senior managers. Employees at Familjebostäder were primarily interviewed as well as one external consultant. Furthermore, there was a width in the hierarchical level amongst the interviewees with individuals representing operational, tactical as well as strategic levels. Seven out of the ten interviewees worked or were involved with the case project. The interviews lasted for approximately one hour, conducted in private conference rooms and were audio recorded in order to be transcribed. The interviewees were later given the possibility to read through the transcription and comment what was said during the interview. All interviews were held in Swedish and thereof all quotations made from the interviews are translations by the authors, carefully examined to avoid distortion.

The interviewees are anonymously presented and grouped together based primarily on their function in the organization and to a lesser their degree hierarchical level. Below is a list of the different interviewee groups and a description of their relation to the organization:

- **Strategic level** - these are individuals who are not directly working in the project but have an overview of the business as a whole.
    - Senior Manager 1
    - Senior Manager 2
    - Senior Manager 3
    - Senior Manager 4
- **Operational level** - individuals who actively work and drive the project process forward.
    - Project Manager 1

    - Project Manager 2
    - Project Manager 3
- **Support level** - members of the organization who act in a supportive role regarding the project.
    - Support Staff 1
    - Support Staff 2
    - Support Staff 3

3.2.2 Processing the interview study

The results chapter is based on the interview study and carried out according to the stages 5, 6 and 7 as described by Kvale & Brinkmann (2009) in chapter 3.2. The material from the interviews was analysed using a software programme called NVivo into which the transcription of each interview was uploaded. A main theme, categories and subcategories was early established in order to sort out the relevant material from the interviews and is illustrated in Table 2. The baseline of the interview and overarching theme was named business model, which is the main topic of the thesis and what the research questions are based on. The different categories were created based on the theoretical framework explaining what a business model is and how it can be designed. Furthermore, the categories were also based on the interview questions, which in turn were based on theory about business models and our research questions. These categories were further divided and developed into subcategories in order to single out in-depth findings out of the interviews for further investigation. When going through the interviews, quotes were placed into the different categories in which they felt best suited and later divided further into subcategories.

Table 2 – The table represent the main theme, categories and subcategories and how these are connected.

<table>
<tr><th>Theme</th><th>Category</th><th>Subcategory</th></tr>
<tr><td rowspan="16">Business model</td><td rowspan="4">Business-like</td><td>Strategy</td></tr>
<tr><td>Profitability</td></tr>
<tr><td>Value-adding</td></tr>
<tr><td>Sustainability</td></tr>
<tr><td rowspan="3">How to earn money</td><td>Long-term thinking</td></tr>
<tr><td>Increase attractiveness</td></tr>
<tr><td>Rent increase</td></tr>
<tr><td rowspan="4">Stakeholder relations</td><td>Internal relations</td></tr>
<tr><td>Customer relations</td></tr>
<tr><td>Partners</td></tr>
<tr><td>Competitors</td></tr>
<tr><td rowspan="3">Obstacles and risks</td><td>Can influence</td></tr>
<tr><td>Cannot influence</td></tr>
<tr><td>Flaws identified at Familjebostäder</td></tr>
<tr><td>Finding new ways of doing business</td><td>-</td></tr>
<tr><td colspan="3">Siriusgatan</td></tr>
</table>

The processing of the empirical findings was an iterative process, which resulted in a restructuring of the former categories and subcategories seen in Table 2. During the analysis of the empirical findings together with the theoretical framework, certain misalignments were discovered when formulating the business model. This led to the development of new and restructured categories and subcategories seen in Table 3. These categories and subcategories were also used as headlines in the results section of the thesis and constituted the main empirical body on which the analysis was based.

Table 3 - The revised version of categories.

<table>
<tr><th>Theme</th><th>Category</th><th>Subcategory</th></tr>
<tr><td rowspan="17">Business models</td><td rowspan="2">Business-like approach</td><td>Project objectives and determining demands</td></tr>
<tr><td>Sustainability</td></tr>
<tr><td rowspan="4">Stakeholders and internal relations</td><td>Customer relations</td></tr>
<tr><td>Partner</td></tr>
<tr><td>Competitors</td></tr>
<tr><td>Internal relations</td></tr>
<tr><td rowspan="6">How to earn money</td><td>Long-term thinking</td></tr>
<tr><td>Increase attractiveness and real estate values</td></tr>
<tr><td>Improved apartment standard and rent increases</td></tr>
<tr><td>CSR project and socio-economic benefits</td></tr>
<tr><td>Energy efficiency and optimized NOI</td></tr>
<tr><td style="display:none"></td></tr>
<tr><td rowspan="3">Obstacles and risks</td><td>Can influence</td></tr>
<tr><td>Cannot influence</td></tr>
<tr><td>Flaws and difficulties identified at Familjebostäder</td></tr>
<tr><td>Finding new ways of doing business</td><td>-</td></tr>
<tr><td colspan="3">Siriusgatan</td></tr>
</table>

3.3 Approach to analysis, discussion and conclusion

In the analysis and discussion, the empirical findings from the interview study were evaluated and analysed within the established theoretical framework. From the theory, the questions about what a business model should present were asked and constituted the starting point in creating a business model. In order to answer the research questions, findings from the interview study were integrated with the theoretical framework. The empirical findings were linked and supported by theory regarding business models in general but also brought together with theory concerning sustainable housing renovation. The answers were later evaluated and converted into an explicit model detailing how both financial and customer value can be delivered in a sustainable way. The illustration of the model has its base from a model presented by Teece (2010).

The model was then applied on the case at Siriusgatan following the model step by step, demonstrating how the model could be used in order to generate and capture both customer and financial value in a renovation project. The implementation of the model was based on the empirical findings and supported by the theoretical framework. Aside the from the business model's specific application, other important issues discovered in the interview study were discussed in relation to the case.

In conclusion, the analysis and discussion were summarized and the most important issues were brought forward. Finally recommendations and suggestions for further research were proposed based on gaps discovered in the theory.

4 Theoretical framework

In the following section, different concepts related to the thesis will be defined and explained. Theory regarding business models in general but also in the context of real estate, property renovation and public entities will be presented as to give an understanding of the main subjects of the thesis. Furthermore, concepts regarding sustainability and corporate social responsibility (CSR) in renovation projects will be presented. Beyond the subjects mentioned above, other important concepts and theories related to the thesis will also be presented in this chapter.

4.1 Renovation of properties from a business perspective

Buildings, like all other matter, deteriorate as they are subjected to the wear and tear of time and use. Because of this fact, buildings are in need of repair as they age, which is often called renovation. Renovation itself is the process of restoring the building to its original state, or even enhancing it beyond its original status (Astmarsson et al., 2013). In essence, the purpose of renovation projects is to prolong the beneficial use of a standing building and acts as a cost-effective alternative to new construction (Mansfield, 2009). The need and scope of renovation projects is contextual according to Astmarsson et al. (2013) and depends on the original state of the building, what level of maintenance has been done and what demands the occupants have. Hansson et al. (2009) describe two different perspectives concerning the life cycle of a property and are illustrated in Figure 7:

- Subjective life cycle, deals with the consequences the property has for its owner.
- Objective life cycle, deals with the actual physical life of the property, from the cradle (new construction) to the grave (demolition).

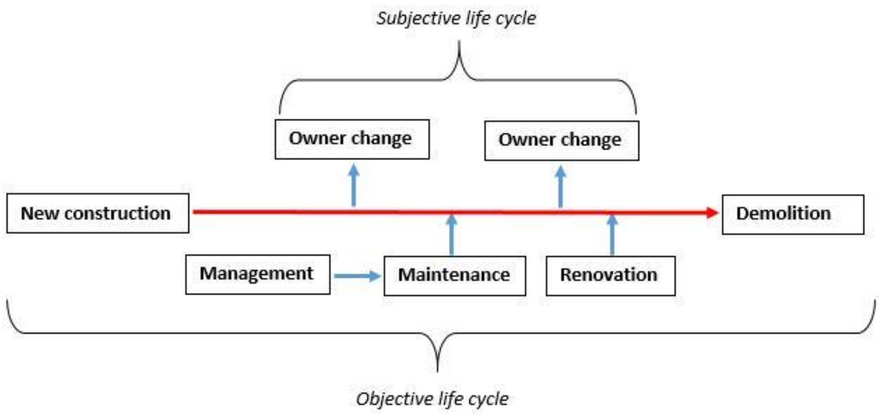

Figure 7 - Life cycle perspectives presented by Hansson et al. (2009)

Initiating a full-scale renovation of a property often involves a substantial financial undertaking from the property owner or client's side, depending on the scope of the project. The property owner is compensated in the form of increased real estate value and possible increases in rental income (Astmarsson et al., 2013). Lower operating and maintenance costs originating from improved energy efficiency also increases the economy of the building. Although, Astmarsson et al. (2013) also concludes that barriers often plague renovation projects caused by economic issues.

Figure 8 explain how the lifetime and value of a property is improved as a result of a renovation measure (Kaklauskas, et al., 2007).

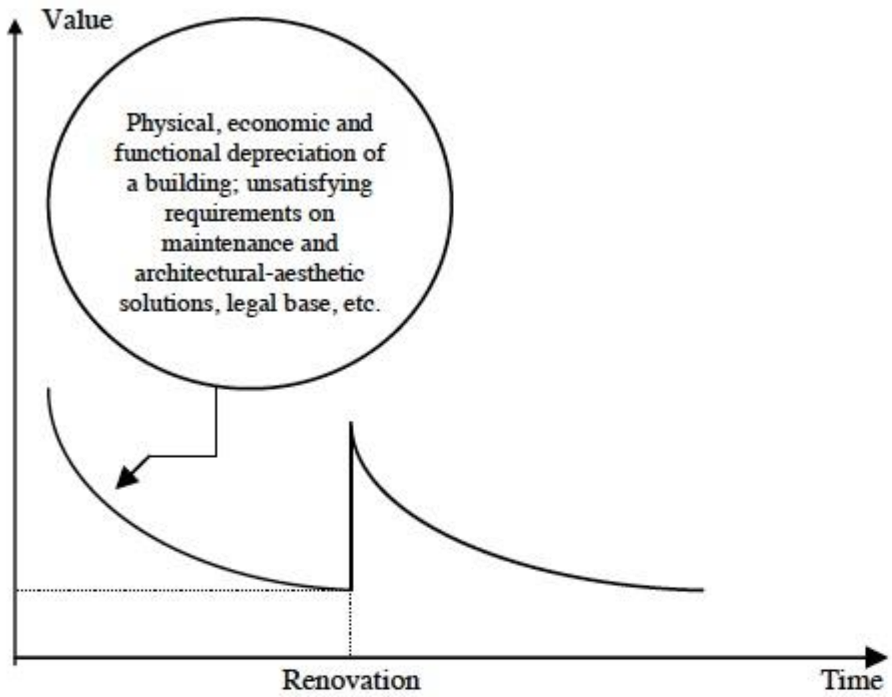

Figure 8 - The impact of renovation on a property (Kaklauskas et al., 2007)

The need of renovation in the Million Homes Programme is as of today significant (Stenberg, 2015). Already in 2008, the real estate industry called for major renovation needs for up to 40% of the entire programme stock. Stenberg (2015) states in line with Astmarsson et al., (2013) that the major obstacle for sustainable renovation projects is the financial aspect of it. Stenberg (2015) continues and argues that today's problem of dramatically increased rents as a result of renovations, causes both social and political implications. Empirical research in the field of sustainability concerning renovation is minimal compared to that of new construction, even as the yearly addition of new construction is marginal compared to the already existing stock (Mansfield, 2009). Mansfield (2009) further declares that existing buildings can be considered as unexploited assets with significant improvement potential for the environment as well as being a non-renewable resource bearing important cultural and economic values. Several key advantages of renovation projects, as opposed to new construction, were identified by Mansfield (2009) in the United Kingdom and is presented below:

- Efficiency advantages concerning construction time
- Lower project costs in total
- Less construction and demolition waste
- More effective use of urban land by utilizing existing stock

- Increased use of recycled and reused building material
- Standards regarding quality in traditional construction often surpass that of current standards
- Improved integrated energy conservation
- Eco-system benefits due to new construction's encroachment on nature
- Minimising the prevalence of environmentally harmful materials such as PCB, PCP, formaldehyde etc.

Mansfield (2009) did however also recognize some negative factors concerning renovation projects:

- Renovation is only seen as viable when the benefits and costs are assessed over the extended life of the building
- Daily maintenance costs can be higher compared to a new building
- Present criteria's concerning sustainability may not be reachable within a renovation project as of today
- The possibility of misaligning with the demands and trends of the market
- The difficulty of matching the environmental performance of newly constructed buildings

4.1.1 Financial value of renovation projects

The baseline of a business model is that it is supposed to detail how the company earns its profit, i.e. how do they earn their money (De Wit & Meyer, 2014). In the case of a property renovation, the project can be deemed economically sound for the owner if it yields an appropriate return on the invested capital (Lind, et al., 2014). This return on invested capital can in the case of property renovations be brought about by an increase in rents as a result of a higher apartment standard stemming from the renovation, lower OE due to increased energy efficiency, and an increased real estate value. In Figure 9 an illustration of how a formula for calculating the return on invested capital can look like, is presented.

$$ROIC = \frac{\mathrm{NetOperatingProfit} - \mathrm{AdjustedTaxes}}{\mathrm{InvestedCapital}}$$

Figure 9 - Formula for calculating Return on Invested Capital (ROIC)

In Sweden, there is a distinction between what is called an investment and what is called maintenance in terms of renovation projects (Lind, et al., 2014). Lind et al. (2014) continues and states that maintenance is typically seen as something which does not improve the standard of the apartment or property and is consequently included in the rent. An investment on the other hand, is something that increases the standard of the apartment and thus affects the rent and the value of the property at hand (Lind, 2014b). An increase in apartment standard originating from an investment is what validates a higher rent. Originating from the fair-value rent system or “bruksvärdeshyra” regulated by Swedish law, which determines that the rent should be a reflection of comparable objects (Hyresnämnden, 2015).

4.1.2 Social implications of renovation projects

The residents WTP (willingness to pay) is linked to renovation measures by Lind (2015) who states that the residents WTP need to be greater than the allowed increase in rent, for the renovation to be considered socio-economically profitable. This relationship can become a problem, especially in less financially stable households and can lead to poorer households not being able to pay the rent for their apartment after a renovation. The residents are thereby forced to move after the renovation, leading to the concept called “renoviction” (Lind et al., 2014). Boverket (2014a) delves deeper into this subject and concludes in their study that major renovations often result in less financially endowed households are forced to move out of their renovated apartment. Residents of renovated apartments are 1,8 times more likely to move compared to residents of apartments not subjected to renovation. Furthermore, households who choose to remain receive increased income support from the government, something which dampens the move frequency. The study by Boverket (2014a) revealed a correlation between renovations and increased segregation and concluded that households choosing to move often resettle in areas with lower school results and lower average-incomes.

Since the Million Homes Programme constitute such a substantial part of the Swedish housing stock, Lind et al. (2014) argues that whatever type of strategy is used, regarding the renovation of these properties, will have a significant influence on the future development of the housing market. As the technical quality of the homes built during the Million Homes Programme is very diverse, this makes generalizations of what measure is to be done with them difficult (Lind et al., 2014). Although from a strictly economic perspective no measure has to be taken at all, as it can be a rational choice to withhold from doing any measures (Lind, 2014b). Lind (2014b) continues and argues that there are typically five fundamental alternatives, from an economic perspective, when considering potential measures of an ageing residential building. These are:

- Demolish the existing building and construct new
- Demolish the existing building without new construction
- Withhold any measures and continue to rent out as long as the apartments can sustain the regulated standard of living
- Withhold any measures but vacate the building
- Execute renovation measures of different scale (both major and minor)

However, as the general technical quality of the buildings often is good, Lind et al. (2014) argues that it will be more of a choice of how they should be renovated and to what degree.

4.1.3 Incentives for renovating properties

Renovation projects in socially deprived areas or communities have been proven to be economically sound (Blomé, 2010). There are however implications concerning renovation projects and Astmarsson et al., (2013) states that through studies of the Danish renovation market, the main barriers of successful renovation projects can be split into two categories; economic and informational. The economic side revolves around the lack of financial incentives and life cycle outlook. Astmarsson et al., (2013) continues and explains that lack of overview, low political consciousness and no common view amongst project stakeholders constitute the informational barrier. In terms of more economically efficient properties with lower OE, Dalenbäck (2012) argues that investments made in energy efficiency measures could reduce the energy usage by 50% in existing buildings. On the other hand, Dalenbäck (2012) also argues for a change in the economic framework concerning property investments as to increase the incentive to execute energy efficiency investments. Blomé (2010) though, argues that renovation projects can be economically profitable both from a societal, or socio-economic perspective but also from a strictly business perspective regarding the profit of the property owner. Alas, concerning the positive business perspective there is also empirical data that suggests otherwise as Lind & Lundström (2008) found that the renovation measures done in Gårdsten, a suburb north of Gothenburg, Sweden was not economically positive for the property owner. Lind & Lundström (2008) were however, in line with Blomé (2010), and also deemed their positive from a socio-economic perspective. Both Blomé (2010) and Lind & Lundström (2008) were able to identify several socio-economic cost drivers linked with the renovation measures done in each area:

- Crime rate, number of police calls in the area
- Rescue-service frequency, number of fires in the area
- Employment level in the area
- Damage done to property and the built environment, smashed windows, graffiti etc.

The socio-economic side of renovation measures is often difficult and complex to evaluate, as it is largely dependent on other underlying factors such as societal and political structures. Although there are some parts of the perspective that can be directly linked with renovation measures. Blomé (2010) found that the costs concerning police and rescue-service had a high correlation with the renovation measures done in Herrgården, a socially deprived area in Malmö, Sweden. The project had seemingly lowered the crime rate and number of fires in the area, which resulted in a socio-economic profit. Furthermore, Blomé (2010) states that housing companies can affect the development in socially deprived areas by undertaking an active and conscious management of the properties and surrounding area. Similarly to Blomé (2010), the renovation projects studied by van der Flier & Thomsen (2007) also revealed that successful renovation measures could affect the development of an area or neighbourhood. Overall the projects investigated by Blomé (2010) did not generate any substantial monetary yield and the cash flow was estimated to be close to zero at the end of the investment period. Although when factoring in the increase in the properties residual value, stemming from the project, the investment was deemed successful seen from a strictly business point of view (Blomé, 2010).

The scope of the projects in the case of Herrgården (Blomé, 2010) and Gårdsten (Lind & Lundström, 2008) were substantial and included major investments in order to restore the properties to a proper standard. However, Blomé (2010) and (2012) concludes in his findings that small-scale projects, in the form of CSR (Corporate Social Responsibility) initiatives can be profitable for the owner as well, with lower costs in areas such as maintenance of outdoor environment, refuse disposal, broken windows, removal of graffiti, general destruction etc. An active relationship management brought about these reductions in cost where programmes regarding youth projects, tenant mobilisation and networking were launched. This was done in order to enhance the relationship between the staff and residents, in addition to improving the resident's level of safety and satisfaction (Blomé, 2012). The youth projects can come in a variety of shapes and Blomé (2010) names for example cleaning squads, summer jobs and anti-graffiti groups. Projects for adults come in the form of tenant mobilisation, which includes stairwell hosts, and neighbourhood watch walks. Likewise in terms of owner-tenant relationship, van der Flier & Thomsen (2007) argues that the relationship between the owner and the tenants is crucial when it comes to achieving a smooth renovation process and emphasizes the importance of involving the tenants in the early design process.

Lind & Lundström (2008) declares that in the case of the renovation project in Gårdsten, it would seem that similar measures might not be economically sound from a business perspective. The project in Gårdsten as a whole was considered positive by Lind & Lundström (2008) since the socio-economic improvements originating from the project outweighed the loss the property owner made. Furthermore, the authors stress the need of a systemic mindset when approaching projects of this nature, in order to create a sustainable environment. Thuvander et al., (2012) share this view and states that, as sustainable renovation processes are complex in nature, a synthesized, systemic approach is needed in order to make the right decisions regarding renovation measures. Moreover, the authors' call for a wider spectrum of values, such as cultural, social and architectural, is adhered when developing policies and business plans for renovation projects.

Lind (2014a) returns to the case of Gårdsten in 2014 to do a re-evaluation in order to see if the positive effects have sustained over time. Lind (2014a) concludes that in light of the post-financial crisis situation, the project does seem to be more or less economically profitable, this time from a socio-economic as well as a business viewpoint. The market value of the properties has increased substantially and the positive trend regarding the societal aspects has continued. The renovation of a social housing estate in Hof Loevesteijn in The Hague, Netherlands as studied by van der Flier & Thomsen (2007) applied a mixed model of renovation and new construction of condominiums for sale as some renovated apartments were combined resulting in fewer dwellings. In the end the different stakeholders deemed the project an overall success and it was in fact financially profitable as the deficit stemming from the renovation was covered by the profits of the condominiums sale. Although the rise in rents was considerable and went from a mean of 261EUR to 461EUR. In the end the project resulted in a profit and a greater mix of dwellings due to the combining of rental apartments with new condominiums. In a study of the renovation strategy of a public housing company in suburban Stockholm, Lind et al. (2014) investigates the company's strategy of different "standard-levels" of renovation, dubbed mini, midi and maxi with mini being the lowest and maxi being the highest. Lind et al. (2014) concludes that all levels had a positive NPV (net present value) and deemed profitable but that the midi and maxi were preferable from an economic perspective. The authors however argue that sustainable renovation is possible but that there are problems in balancing the different aspects of sustainability in the same vein as Thuvander et al. (2012) states.

4.1.4 Experiences from renovation projects in Million Homes Programme properties

This chapter present examples of similar renovation projects in Million Homes Programme estates as the case project at Siriusgatan. The following sections are separated from the other theory, as they are bachelor and master thesis and not scientific papers.

4.1.4.1 Vivalla, Örebro

A refurbishment project was carried through in Vivalla, a neighbourhood in Örebro, Sweden, primarily consisting of apartment buildings from the Swedish Million Homes Programme. In this project, a form of strategic partnering was used. This project was a collaboration between ÖrebroBostäder and Skanska, where both partners were involved at the very start of the project and developed the project together. Within the project, the actors developed a concept called “the tenants are building”, where a number of unemployed residents in the area was offered an internship in order to help the craftsmen during the renovation process. The objective of this was to increase the economical and social status of the area, but also to reduce general destruction in Vivalla. The project's main objective was to make the area more attractive, both by increasing the standard, but also by creating a safe outside environment and to connect Vivalla with the rest of the city. There was also a goal of reducing operating and maintenance costs, whilst also making the properties more energy efficient (Nytorp, 2015).

At the project's conception there was a focus on listening to the residents, who did not want the rent to increase dramatically. This lead to three renovation levels with different possibilities of choosing apartment design, for example level of renovation for the kitchen. In the end, the concept did not meet the residents’ expectations and demands and only 8% of the residents moved back into their apartments after the renovation was complete. Instead, ÖrebroBostäder choose the level of renovation, generating an increase in rent of 20-37% (Nytorp, 2015).

According to interviews carried out by Nytorp (2015), strategic partnering was seen as a successful way of working, and the partners were satisfied of being a part of the project from the beginning as they could exchange knowledge and experiences throughout the whole process.

Furthermore, Nytorp (2015) states that a good economy is required in order to build sustainable, but on the other hand, building a social sustainable society leads to increased welfare and better economy. A critical issue is that the property owner in many cases will not make any profit from this kind of refurbishment project without substantially increasing the rent. As the residents in these areas often are not able to pay the increased rent due to the increased apartment standard they are forced to move.

The author argues for an improved reputation and increased attractiveness of the area as a whole is needed before starting renovation measures of this type. Furthermore ÖrebroBostäder was forced to write-down the project with 100 million SEK and all interviewees implied that the project would not be profitable from an economic perspective. Although there was a socio-economic profit from the “the tenants are building” programme with 362 000 SEK/year (Nytorp, 2015).

4.1.4.2 Järvalyftet, Stockholm

The built environment around Järva, in Stockholm, Sweden is a part of the Swedish Million Homes Programme and there has been a debate about how the area should be refurbished. Svenska Bostäder, a public housing company has started a renovation project together with the city of Stockholm, which embody 6000 apartments in the area of Järva with a project timeline from 2010 to 2020 with a yearly investment of 500 million SEK. In addition, Svenska Bostäder's objective is not only to increase the standard of the apartments, but also to highlight social implications of the area, with an aim to increase the safety of the area and decrease local unemployment. The project is also a part of a governmental effort for the development of sustainable cities and is partly financed by the government. Furthermore, Svenska Bostäder wanted to improve Järva both financially and socially. One part of the project was to involve tenants in the decision-making process, for example regarding their own apartment design and outdoor layout. Different choices of design in the apartments generated different degrees of increase in rent. In addition to this, Svenska Bostäder started in a wider sense to collaborate with their suppliers and encouraged them to employ local residents in order to decrease unemployment. 800 tenants received education and started to work in the project and out of these 800, 400 were permanently employed after the project's completion. Both the city of Stockholm and Svenska Bostäder financed this employment programme at a total cost of 2 million SEK. In relation to the programme cost, the actual value received from this particular programme was almost 289 million SEK or 273 000 SEK per each apartment, or even more if the residual value had been taken into account, which was considered a very profitable investment (Kindbom & Sandblom, 2015).

There has been a trend regarding the decrease in crimes in the renovated areas, which in turn increase the feeling of safety in the area. Meanwhile, as a neighbourhood becomes safer, it will also increase in attractiveness, which can lead to new tenants from different social classes deciding to relocate in the area. Segregation will decrease and the tenants will feel a higher degree of belonging in society. According to Svenska Bostäder, the project strengthened the interaction and integration between the tenants, but also the social capital of the area. The establishments of jointly owned premises could explain a part of this. Furthermore, Svenska Bostäder feel as the tenants trust has increased for them due to being involved in the renovation process. The authors also found that there has been an increase in income and decrease in economic support for the tenants, meanwhile the attractiveness of the area has raised due to a decrease in crimes (Kindbom & Sandblom, 2015).

The apartments that were refurbished during the period 2010-2014 got an increase in rent of about 27%, while those who had not yet been refurbished, got an increase of about 8,1%. Based on calculations from the project, the investment was considered non profitable and the largest economic benefit was derived from decreased operation costs of the buildings and not from increased rents. This socio-economic profit has been calculated to around 277 000 SEK per each apartment, only taken into consideration the period for the project itself (Kindbom & Sandblom, 2015).

Kindbom & Sandblom (2015) found a difference in the private and public companies in their business model in the field of renovations in an interview with a private actor. The authors found that the private actor renovate their apartments when a tenant moves out and it is up to the new one to decide if the increased standard is worth the new rent which follows. The public actor, on the other hand, clears out the whole building and their tenants during a refurbishment project and strive to make the renovation economically sustainable for their residents so they can stay in their apartments despite an increase in standard. In addition to this, the private actors also seem to increase the rents more than what the public actors do (Kindbom & Sandblom, 2015).

4.2 Business models

"A good business model begins with an insight into human motivations and ends in a rich stream of profits." (Magretta, 2002). According to Magretta (2002), business models can be seen as stories that explain how an enterprise works.

On a business level, the strategy of creating and sustaining competitive advantage depends on what type of business model the firm has developed and how the model relates to the environment the business is situated in (De Wit & Meyer, 2014). The authors continue and argue that this competitive advantage can only be achieved if the business model is able to create value for the customers, which is superior to that of competitors. This notion is likewise supported by Magretta (2002) who claim that explaining customer value is essential. In essence, the business model explains the configuration of resources (inputs), how they are used (throughput) and what value the product/service (output) is intended to create for the customer (De Wit & Meyer, 2014). Magretta (2002) describes this as a value chain consisting of two parts. The first part consists of activities regarding making something, like designing, purchasing raw materials and manufacturing. The second part includes activities of selling something, like finding customers, transacting a sale or delivering a service. The business model should also be aligned with the competitive environment according to Teece (2010), and will, together with proper governance and leadership, technology, products and suitable people in the organization make the enterprise competitive.

Strandin (2014) argues for the importance that a business model should both straighten out and explain the interaction between business partners, customers and suppliers. Furthermore, Strandin (2014) states that a business model should be flexible and constantly updated to reflect the current situation on the market. This is important since the different industries, customer needs and demands, technologies and markets are constantly changing. Moreover, Williamsson (2014) points out that competitive power and the renewal of a company's business model is regarded as having a high correlation. It is also something that involves a wide degree of complexity as stated by Williamsson (2014), especially when dealing with a company that already has a grounded business model. This comes into light as existing organizations often experience difficulties in changing their business model as the new model often comes into conflict with already established routines and procedures. Furthermore, Shafer et al. (2005) found that there is still a degree of confusion among executives about how to use the concept of business models and that there is still no definition that has been fully accepted.

4.2.1 Defining and conceptualising the business model

Shafer et al. (2005) found in their study 12 different definitions and 42 business model components and developed these into four categories most commonly used;

strategic choices, creating value, capturing value and the value network. From these components, the authors developed a definition of a business model;

"A representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network." (Shafer et al., 2005)

Generally when defining the business model as a concept, it is usually labelled as a system describing how value is generated and captured within a company, operating in a specific context. The business model details the company's business logic and describes how they earn their profit and is therefore, in a way, the realization of a company's strategy (Williamsson, 2014; Shafer et al., 2005). This notion is further highlighted by Teece (2010) who states that the business model should mediate logic and data together with other core components, which as a whole add value to the customer, meanwhile providing a clear structure of revenues and costs for the enterprise. In Figure 10, a descriptive illustration is presented, explaining the different components and how they together create value both for the customer and the company.

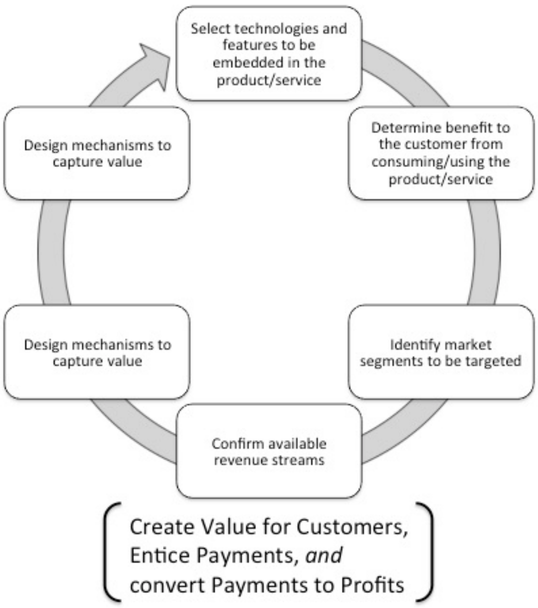

Figure 10 - Example of a business model (Teece, 2010)

The business model is therefore concluded as a significant factor according to Williamsson (2014), in relation to the company's value creation and is often thought of as the single most important aspect in regards to generating revenue. Shafer et al., (2005) confirms this and state that the fundamental aspect of a business is to create and capture the returns from this value. Additionally, Shafer et al., (2005) state that a model is nothing else than a representation of reality. Teece (2010) further develops this argument and states that the business model should embody both organizational and financial aspects of a business and might be embedded in the business plan as well as income statements and cash flow projections, although the core of the model is still conceptual in nature. However, Williamsson (2014) also declares that several different opinions exist of what a business model in truth is within the academic world. Although most scholars seem to agree that a business model is something that explains how a certain company, based on a set of different parameters, operates. These parameters can have their origin from within the company as well as outside and the business model is shaped in accordance. The parameters themselves, as described by Williamsson (2014), can be physical such as the company's access to funds and resources or the distance to the market, but they can also be legislative in nature and revolve around adaptation to current regulations and norms. Additionally, Teece (2010) states that in business models, assumptions are made about customers, behaviour of revenues and costs, changes in user needs and the most likely responses of competitors. Teece (2010) also argues that designing a business model properly, implementing it in the whole organization, then evaluating and improving the model is a critical success factor for an enterprise in terms of revenues and costs.

Williamsson (2014) defines several key questions which together depicts what a business model is, these are:

- How does the company create value for its customer?
- For what type of customer does the company create value?
- What is the internal source of advantage of the company in relation to its competitors?
- How is the company positioned in the market in relation to its competitors?
- How does the company earn its money, i.e. price its products?
- What are the time, scope and size ambitions of the company?

Strategy is something that is highly connected to the notion of business models and the concept is often viewed as a reflection of a company's strategy (Williamsson, 2014). Nevertheless, it is important to note that a business model is not a strategy itself, but rather generates an analysis, testing and validation of a firm's strategic choices. Shafer et al. (2005) claim that the easiest way to do this is by translating one set of strategic choices into a single business model. Below in Figure 11 is an illustration of how a business model could be configured. Furthermore, Williamsson (2014) states that the concept of business models is a rather young notion, having been established as a new academic field within strategy research in the late 1990s, emerging with the Internet and the digitalization of society.

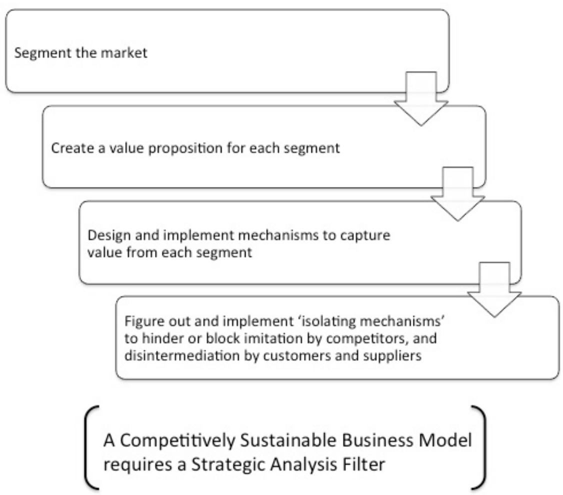

Figure 11 - Example of a business model (Teece, 2010)

4.2.2 Breaking down the business model

Osterwalder (2004) has attempted to create a deepened understanding of what a business model is by breaking down the concept word by word and establishing definitions of the words "business" and "model". The author found the following definitions;

"*Business - the activity of buying and selling goods and services, or a particular company that does this, or work you do to earn money."*

"Model - a representation of something, either a physical object which is usually smaller than the real object, or as a simple description of the object which might be used in calculations."

Thereafter, Osterwalder (2004) tried to combine these definitions into a description of the concept saying that a business model is *"a representation of how a company buys and sells goods and services and earns money."* Furthermore, Osterwalder (2004) found that this is a briefing of a company's business logic, which explain the way a company earn its money, or what it offers, to whom and how they accomplish it.

Dahle et al. (2012) has developed a framework for business models based on a model developed for describing companies' business models in Osterwalder (2004). This framework is a simplification of the nine elements described in Osterwalder (2004), formulated as six questions which should be asked. The nine elements presented by Osterwalder (2004) is:

- Delivery
- Income
- Costs
- The segment of the customer
- Customer relations
- Distribution channel
- Partners
- Competences/resources
- Value to the customer/offering

These nine elements has been transformed by Dahle et al. (2012) into the following questions based on the business idea/concept of the company and should embrace the customer needs covered, to whom you sell, how you sell your solution, how you make money out of it, how you deliver it, who your competitors are and who you choose to cooperate with and is illustrated in Figure 12.

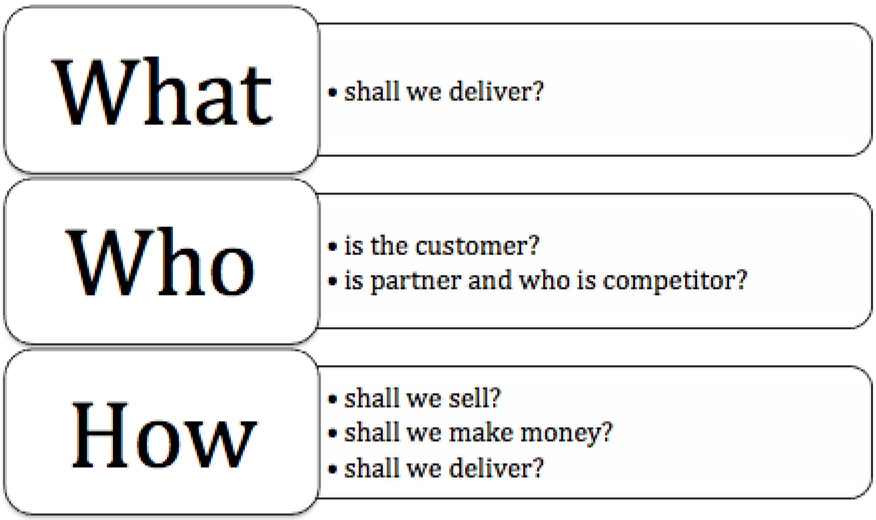

Figure 12 - The business models core elements (Dahle et al., 2012)

The response to these six questions are highly dependent on each other and have to be adjusted to a model that works together as a whole (Dahle et al., 2012). Strandin (2014) state that the core of the business model is developed through three different levels; strategic, tactical and operative and that these together are supposed to generate value to both customers and the company. Furthermore, Strandin (2014) argues for several external influences on a company's business model; technological solutions, competitiveness on the market, customer demands, changes in the social environment and changes in laws and regulations.

4.2.2.1 What?

The first question to be asked is what should be delivered by mapping out customer needs and demands in order to satisfy them by creating value based on the most important demands (Dahle et al., 2012). This could be established by communication with the customer to get an understanding of their needs and demands and through this knowledge develop a service or product, which will be value-adding for the customer. By creating high value products and services to customers, the company will get loyal and satisfied customers, which will give good word-of-mouth references to other potential customers, leading to less costs in advertising and marketing for the company. This can result in, acquiring larger market shares which in turn lead to higher profits (Strandin, 2014). According to Strandin (2014), value is created through a combination of product and service quality, price and image, but also in the eyes of a customer, meeting or exceeding their expectations.

4.2.2.2 Who?

Secondly, a company must to ask themselves who their customer is and who their partners and competitors are. In order to determine the target audience, the company also need to decide which geographic area and which industry they will act in (Dahle et al., 2012). The authors argue for the importance of getting to know the customer, because the better you know your target audience, the more precise the business model becomes. Strandin (2014) argues for the benefit of engaging in a specific industry, which Dahle et al. (2012) agrees with because the customers will value references within their own industry, but also the importance of being able to communicate your business so your customer will be convinced to buy your product or service. This will also lead to a better understanding of your competition on the market (Dahle et al., 2012; Strandin, 2014).

4.2.2.3 How?

Furthermore, the company should state how they aim to sell their products or services and how the customers will pay for them at a marketable competitive price level. Furthermore, a price model has to be determined, which is appropriate for the product or service, for examples monthly payments, price per hours etc. Another aspect to establish is whether or not the company should engage external sponsors in order to generate income. Finally, the business model should state how to deliver the products or services, which is dependent on what type of product and service it is. The importance here is to optimise the value-adding functions of adaptability, instructions and service (Strandin, 2014; Dahle et al., 2012).

4.2.3 Functions of a business model

According to Osterwalder (2004), there are five functions of a business model: *understanding and sharing, analysis, management, prospectus and patent*. Within the first function, understanding and sharing, Osterwalder (2004) found that "*a business model helps capturing, visualize, understand, communicate and share the business logic of the company*". Therefore, a business model presents the business logic in a clear and easy way, where all components are explained comprehensibly, leading to less or no misunderstandings of the core business logic (Strandin, 2014; Shafer et al., 2005; Magretta, 2002). By structure the business model enables the possibility to express it in a more tangible way, which could help managers to communicate and share the business to other stakeholders (Osterwalder, 2004). Furthermore, this will help and improve the planning, changing and implementation of a business model. Secondly, the analysis part of a business model can help the company to *"improve measuring, observing and comparing the business logic"*. A business model improves the measuring because it shows which areas to monitor in a business, and makes it easier to identify relevant measures in order to improve management. However, since the core logic of a company can change over time, it is important to have a clear and structured business model in order to understand what has changed. A structured business model will also allow companies to compare their business model with their competitors, based on the fact that things are only comparable if it is seized and understood in the same way. The third function, manage, will help improve the design, planning, changing and implementation of the business model. By having an ontology that describes the elements of the model and their relationships, will help designing a more sustainable business model. A proper structure of the business model that is easy to understand will furthermore help the reaction from external pressures and ease the process of modifying the model accordingly. The alignment of the strategy, organization and technology of the company is created by the business model and will help decision makers make more informed and better decisions. The fourth function, about prospect, can according to Osterwalder (2004) promote innovation by change and mix the different elements of the business model. Meanwhile increasing readiness for the future through a portfolio of business models and simulation of possible business models to be better prepared for the future. The fifth and last function of a business model is the patent, where companies might seek to get a patent for a specific business model solution so no other company will copy theirs (Osterwalder, 2004). This can be presented in layers of functions, which is illustrated in Figure 13:

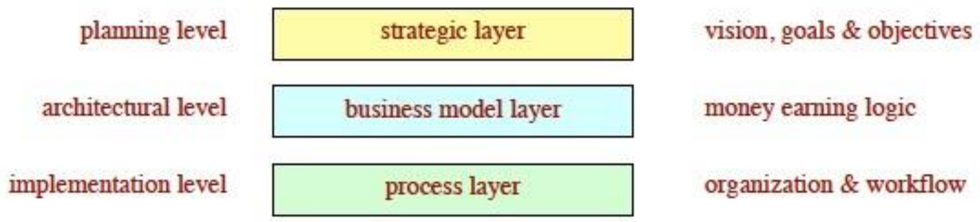

Figure 13 - A business model's layer of functions (Osterwalder, 2004)

4.2.4 Possible implications when designing a business model

The business model impacts the company's business and can be a powerful strategic tool for the company's business. Shafer et al. (2005) discovered four problems that can arise regarding the definition of a business model:

- Faulty assumptions concerning the principal core logic
- Restrictions in the strategic choices contemplated
- Confusion regarding the value creation and value capture
- Inconsistent assumptions regarding the value network

If the core logic of a company's business model is based on flawed or untested assumptions of the future, the business can be in danger, as acting without certainty is associated with a higher risk level. Furthermore, a business model should ensure that the set of choices resulting in the business model is internally consistent and supportive of the entire company. A business model should also be aligned with the whole package of the core logic for creating and capturing value, since it could be problematic to have a too limited set of strategic choices, which could lead to a volatile business environment. To avoid this, it is important according to Shafer et al. (2005) that *"the business model is a reflection of the strategic choices made, it highlights the need to consider holistically a range of strategic decisions"*. Secondly, it is appropriate for the senior management to assure that the strategic decisions dealing with company's core logic and internal consistency are collectively considered. Another common problem is that executives focus too much on value creation while forgetting to emphasize the value capturing, leading to difficulties in capturing economic returns in the same proportion as the value they create. An inadequate assumption about the value network, assuming it will continue unchanged into the future can be hazardous for the company if you base your business model on this long-term assumption (Shafer et al., 2005).

4.2.5 Business models in real estate and housing companies

The business of owning, operating and maintaining various properties, both residential and commercial in nature, can generally be described as property or real estate management (Palm, 2015). The real estate business can generally be split into four major segments as according to Kyle et al. (2000):

- Residential real estate
- Commercial real estate
- Industrial real estate
- Special-purpose real estate

The management of real estate encompasses the processes and activities that aim to create long lasting and sustainable value for both the owner and the customer i.e. the tenant. The perspective of the processes can either be short- or long-term (Ling & Archer, 2013). The long-term primarily concerns issues such as investments in existing or new properties and their corresponding risks. The short-term, on the other hand, deals with contract relations and the day-to-day business of maintaining the properties as well as providing proper customer service. Ling & Archer (2013) continues and states that property management is at the very heart of real estate management and a core function in the business of owning real estate. Over the years, the Swedish real estate industry has seen a shift in focus and Palm (2015) states that the focus has been on the technological and engineering aspects of properties and the management of these, but is now going towards being a service inclined business with the customer in focus. As stated by Kyle et al. (2000), communication is a key factor in relation to tenant satisfaction and that both tangible and intangible measures should be used in order to maintain a high tenant satisfaction. Nowadays, Palm (2015) claims that the property itself is only seen as one of several components of a service offer and that without the customer's opinion, the property is nothing but an empty shell. Palm (2015) argues that the real estate management process should be seen as a sequence of transformation in which the activities in the management process are able to generate environments suitable for the customer. This idea is in line with how De Wit & Meyer (2014) defines the concept of business models in terms of input, throughput and output and can be seen in Figure 14. In addition, the sequence harkens back to Williamsson (2014) as at the very heart of a business model, it explains, in a simple way, how the business actually works.

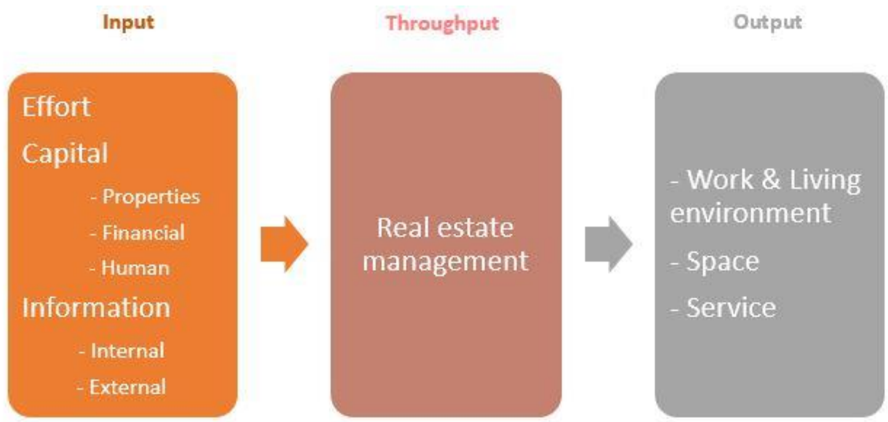

Figure 14 - Conceptualization of the transformation sequence (Palm, 2015)

Palm (2015) stresses the importance of maximizing the output of the value-adding activities in order to meet tenant demands. Maintaining good tenant relations is also adhered by Kyle et al. (2000) who state that successful property management is largely dependent on achieving a good relationship with the tenant. Furthermore, Palm (2015) declares that the value-adding activities regarding property management can be divided into two main categories; continuous activities and long-term activities. The long-term activities revolve around optimizing the property over time, how the lifespan of the property can be extended, and how and to what extent investments should be utilized. The continuous activities on the other hand, concern the short-term and daily management of the property, such as maintenance and customer relations (Palm, 2015). In monetary and financial terms, the efficiency of a property from the owner's perspective is often expressed in its NOI (Ling & Archer, 2013).

4.2.5.1 Public housing companies in general

Nowadays, governments and public institutions are facing strict budgets, meanwhile the public service demand is increasing, leading to implications for public-sector organizations (Micheli et al., 2012). But what separates a public company from its private counterpart? Fundamentally there are certain typical characteristics of publicly managed organizations, which distinguish them from private enterprises. Regarding this, Boyne (2012) stresses that the main difference between public and private generally is that the public organization is owned by a collection of members representing political communities whereas shareholders own the private companies. In terms of housing, this comes in the form of private and public housing companies and Andersson (2013) explains that these public companies, in a Swedish context, are owned by the municipalities but are in fact managed by professionals at arm's length from political power. On the other hand, Boyne (2012) argues that public companies in the end are effectively controlled by constraints determined by the political sphere, which sets them apart from their private counterparts. Moreover, the publicly managed organization is distinguished by how they are most commonly financed, which is by funds originating from taxpayers (Boyne, 2012). These public companies, as explained by Corvellec et al. (2011) need to follow certain pricing practices such as prime cost price, regulated by Swedish law. This means that their charges cannot exceed the cost of the services or utilities they provide, but also that they are not allowed to compete by operating at a loss. Public companies are also obligated to procure services via the public tendering process LOU (the Public Procurement Act) (Corvellec et al., 2011). As a way of increasing the efficiency of publicly managed organizations, a specific business model has emerged in recent times. This model comes in the form of commercialized partnership, which Micheli et al. (2012) describe as a collaboration between the public and private sector with focus on increasing economic value from public-sector assets, and still serve a public-sector mission. In this partnership, the private sector will provide their expertise and technological solutions and the public sector provide the rights to assets, such as data or facilities. Development of new services or service delivery systems and sharing commercial advantages is at the heart of innovate public services. Reward sharing is commonly implemented to motivate the private sector partner to enter the partnership in order to provide a public service (Micheli et al., 2012).

Micheli et al. (2012) stresses 3 core factors to consider in order to develop a successful business model using a commercialization partnership:

1. Focus on customer priorities
2. Engagement route
3. Sharing of intellectual capital and skills

In addition, legal and contractual structure, and decision-making mechanisms should be clearly stated and established (Micheli et al, 2012).

The purpose of the public housing companies in Sweden is to supply each designated municipality with rental housing, manage rental estates and offer its tenants the opportunity to influence their living (Boverket, 2014c). Today, municipality owned housing companies constitute about 20% of the entire housing stock in Sweden, which provide homes for about 14% of the population (Andersson, 2013). These companies, as of their public nature, are allowed to make a profit but it is however not their main focus. Instead Corvellec et al. (2011) state that their focus is on serving the public good, which can include efforts to increase human welfare or general improvements. Their projects and activities should be aligned with social, environmental and economic values of their public service mission. A balance of financial inflow and outflow is critical for a successful value creation for municipality-owned companies (Corvellec et al., 2011). During the last two decades, the privileged status of the public housing companies in Sweden has been contested as a result of a stepwise change in the regulatory system. There has been a trend where public housing has been incrementally sold off, or converted, to other tenure forms. This trend is especially strong in the capital of Stockholm where there has been a drop from 32 to 21% in the portion of housing owned by public companies in the years between 1990-2008. The decreasing trend can also partially be explained by the lack of new construction of public housing in relation to construction of other tenure forms (Andersson, 2013).

4.2.5.2 Public housing companies' business-like procedures

Historically in Sweden, there has not been any proper regulation regarding whether a public housing company should run its operations in a business-like manner, until the year 2011 when a new law, dubbed the Allbo-law (Law 2010:879) was imposed. This new law states that publicly owned housing companies should act business-like in their way of doing business, which in reality means that they should adapt to the determinants set by the market (SABO, 2011). This trend has also been seen concerning the legislated fair-rent system, which has largely been influenced by historical costs (Turner & Whitehead, 2002). Turner & Whitehead (2002) claims that the recent development has been going in a direction where market-forces more-and-more influences the fair-rent system. Although the law regarding business-like activities is relatively new, it does seem like most of the public housing companies in Sweden has been working according to competitive business procedures for several years. Examples of this include public housing companies' use of proper evaluation and comparison of investments and working according to a required rate of return with its origin in the market (SABO, 2011). However, there does not seem to be a clear definition of what business-like procedures in fact is (Windell, 2015) and Windell (2015) argues that public housing companies are given a range of maneuver when it comes to engaging in public welfare activities. It is therefore up to the respective company to determine what public welfare projects could have positive effects on the long-term profitability.

The required rate of return should always be contextual and be based on the specific project's financial and business risk, if done according to business-like procedures (Lind & Lundström, 2011). However, SABO (2011) contradicts this view and argues that the required rate of return could instead be imposed on a company level and not in each specific project. Furthermore, SABO (2011) states that there is nothing that prevents the company from having different required rate of returns in different type of projects. SABO (2011) motivates that this in turn opens up the possibility of executing projects that are less financially stable and with a rate of return below the established required rate of return. The public housing companies' range of maneuver, in the way of running their business, is large, according to SABO (2015) which states that the act of balancing the aspects of business-like procedures and public welfare is in the end governed by political forces, both locally and nationally.

4.3 CSR in business

Corporate social responsibility (CSR) can be defined in many ways, but concerns in an overall perspective, a wide range of issues where companies are encouraged to behave in a socially responsible way (Dahlsrud, 2008). In reality the concept can be regarded as being a system composing of five dimensions:

- The environmental dimension
- The social dimension
- The economic dimension
- The stakeholder dimension
- The voluntariness dimension

On the other hand, Grankvist (2012) only highlights the *economic, environmental* and *social* dimensions when discussing the nature of CSR, which confirm the fact that there is no single definition of the concept. Traditionally sustainability is described as the intersection between the *economic, environmental* and *social* dimensions where the goals of all three are achieved and sustained (Gröndahl & Svanström, 2011). This intersection is demonstrated in Figure 15. However, Gröndahl & Svanström (2011) also state that it often comes down to compromising, as it is difficult to achieve the goals of all three dimensions. In a business perspective the economic dimension is, according to Grankvist (2012) about how to run a company in order to maximize profits while still acting responsible in the stakeholders' eyes. When dealing with the environmental dimension, Grankvist (2012) explains the way companies run their operations in a way where the planet are not affected negatively. The author's last dimension, social responsibility, deals with the way a company should act in order to be considerate of fellow citizens' health and wellbeing. Furthermore, Grankvist (2012) emphasises the importance of balancing these dimensions in order to successfully achieve a long-term sustainable operation, which constitutes what the author refers to as the ethical aspect.

Figure 15 - The three dimensions of sustainability described in e.g. Grankvist (2012)

Based on this, Grankvist (2012) makes the following conclusion: for a CSR strategy to be successful it needs to be applied according the local context and the parameters within that context. Relating CSR to housing management is something that Blomé (2012) does, and questions whether CSR can be profitable for landlords in the context of housing management. The study shows that there are potential for profitable (in monetary terms) CSR programmes and relates CSR to an active relationship management in conjunction with the tenants. Blomé (2012) found that strict economic benefits such as lower OE and new business opportunities can be derived from CSR programmes.

Reviewing available CSR research, Dahlsrud (2008) found that that the definitions often emphasize different dimensions of CSR. The concept is described as a phenomenon, but the definitions themselves fail to offer any real guidance on how to manage the challenges with the phenomenon. It all comes down to the understanding of how CSR is socially constructed in the context in which the companies operate and not so much about defining it per se.

Dahlsrud (2008) quotes the government of the United Kingdom, 2001 which defines CSR as the following:

"Corporate social responsibility recognizes that the private sector's wider commercial interests require it to manage its impact on society and the environment in the widest sense. This requires it to establish an appropriate dialogue or partnership with relevant stakeholders, be they employees, customers, investors, suppliers or communities. CSR goes beyond legal obligations, involving voluntary, private sector led engagement, which reflects the priorities and characteristics of each business, as well as sectorial and local factors."

There are however more concise definitions, such as the one Dahlsrud (2008) quotes from McWilliams & Siegel (2001):

"Actions that appear to further some social good, beyond the interests of the firm and that which is required by law"

4.4 Summary of theoretical framework

The business model of a company can be described as a system detailing how the enterprise generates and captures financial as well as customer value. The components of a business model focus on explaining the business core logic and should incorporate both organizational and financial perspectives. Furthermore, it should embrace the customer needs, to whom you sell, how you sell your solution, how you make money out of it, how you deliver it, who your competitors are and who you choose to cooperate with. These are questions that should be answered by the business model. There is however some traps which need to be considered when designing and implementing a successful business model such as flawed assumptions about the underlying the core logic, limitations in the strategic choices considered, misunderstanding about value creation and value capture and flawed assumptions about the value network.

Renovation is a process that aims to restore or enhance a building to its original state or beyond. The renovation should prolong the beneficial use of the building and the scope of the renovation typically depends on the current technical state of the building in addition to what maintenance has been done previously and what the resident demands are. The economic rewards of a renovation project from a property owner perspective is an increased NOI due to decreased OE and increased rents as well as increased real estate value. There are however social implications stemming from renovations, primarily in socially deprived areas, which include the term “renoviction” and describes the situation where residents are forced to move after a renovation due to rent increases. There are however examples of sustainable renovation projects of socially deprived estates in Sweden demonstrating that sustainable renovation are possible. In order to successfully achieve a sustainable renovation, one must consider a wide range of aspects and approach the project with a systemic mindset. As the Million Homes Programme constitutes such a large part of the entire Swedish housing stock, the approach taken when renovating these will have a significant impact on the development of the housing market in Sweden.

5 Results

This chapter presents the results acquired from the interview study. The data is divided and presented in different categories and subcategories associated with business models, renovation and sustainability. The results represents both the collected and diversified view of the different employees in Familjebostäder as well as external consultants working with their renovation project at Siriusgatan. The themes were singled out based on the empirical findings, which in turn were based on the theoretical framework and the research questions. The categories and subcategories themselves are to a wide degree interconnected, which will be further elaborated upon in the analysis and discussion. Individuals specifically connected to the case project at Siriusgatan were primarily targeted as to provide results relevant for the case.

5.1 Business-like approach

In terms of business-like procedures in relation to renovation projects, the empirical findings have been shifting. Some individuals have expressed a concern that the concept of a business-like approach is difficult to define as well as to incorporate with the owner directives and historical background that a public housing company has. Each renovation project is supposed to be profitable and able to carry its own economical weight as stated by Senior Manager 1 and should not burden the entirety of the company. At the same time, Senior Manager 2 states that there is a balance act between being business-like and taking a social responsibility. Senior Manager 2 illustrates this by expressing that:

"...and this is where the difficulty is located, to achieve a profit while at the same time undertaking a social responsibility. This is our owner directive, we are supposed to be profitable, business-like and we are to undertake a social responsibility, so it is a balance act there."

This notion of connecting social and societal responsibility with the business is a view seen amongst several interviewees as well as having a long-term philosophy regarding the company's investments.

5.1.1 Project objectives and determining demands

In Figure 16 below the first step of the business model is presented.

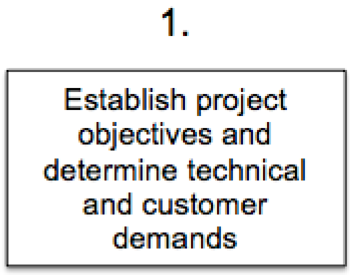

Figure 16 - The first step of the business model.

The strategy of Familjebostäder is at heart to provide a good living to an affordable price and generate positive public welfare (Senior Manager 1). This view is further expressed in their way of engaging in economically difficult renovation projects. Support Staff 3 states that Familjebostäder's main objective in renovation projects is not to maximize the rent increase, even though this might increase the financial outcome of the actual project, as this could lead to implications for the residents. This idea resonates with other employees as well and Project Manager 2 elaborates that it is often a scaling act to find the right balance between rent increases and what a reasonable increase from a resident's perspective is.

Project Manager 2 argues for the importance of properly investigating the different needs of both customers and the property, in an early stage before rushing into a project. An idea of implementing a funding system is supported by Support Staff 1, who argues that without having a fund to finance your project, you have to finance the renovation by an increased rent. Senior Manager 4 also expresses himself in a business-like fashion and explains their objective as:

"The property generates a value. It is our investment; we must assure that that value is sustained. In a best-case scenario it increases, but we must assure that it is sustained. That is the number one priority I would say."

Both Senior Manager 3 and Senior Manager 2 argues that it is important to have a dialogue and actually ask the residents what they would like and what they desire. Support Staff 2 puts forth the following answer in relation to this matter: *"Maybe it is only half of the residents who are aware of that the basement is newly-painted"*. Support Staff 2 elaborates further and states that it is important to see the resident's perspective of each measure and try to see what they would get out of it, how their environment could be improved. Senior Manager 1 who states that by having a dialogue with the residents you will achieve a higher customer satisfaction as well as improved delivery and further emphasizes the customer dialogue. In terms of resident satisfaction, Support Staff 1 argues that it is important to locate and focus on rent increases, which ultimately is beneficial for the customer. Support Staff 2 also delves into this topic and states: *"...be on a level where the cost is reasonable for the resident in relation to what he or she receives."*

5.1.2 Sustainability

Below in Figure 17 the second step of aligning the objectives and demands with the sustainability dimensions is shown.

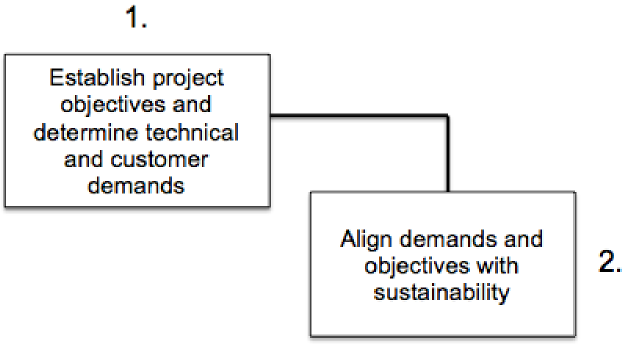

Figure 17 - The second step of the business model.

As one of the fundamental aspects of the thesis was to investigate how and if the concept of sustainability could be incorporated with business models, this subcategory was given. The interviewees adhered to all three sustainability aspects with particular emphasis on the social and economic dimensions. All three aspects are necessary in a renovation project in order to achieve a long lasting and technically robust product (Senior Manager 3).

The dimensions themselves are generally seen as counter opposites of each other and Support Staff 1 states that it often comes down to finding the right balance between the three. The economic dimension is however seen as particularly fundamental according to Support Staff 1 and highlighted by Senior Manager 4 in the following way:

"...the economic [dimension] is somewhere the entire basis of it, without it will not be possible. Just because it is socio-economically good, but if Familjebostäder makes a lot of bad investments then even we would go bankrupt. So we have to make sound investments, which is the condition."

Familjebostäder employ social sustainability clauses in their contract procurement, for example clauses which state that the contractor have to employ people who are long-term unemployed (Project Manager 2; Senior Manager 3; Senior Manager 4; Senior Manager 1). On the flipside, Senior Manager 3 does however state that measures such as these are not their main priority and that in the end, Familjebostäder is a real estate company. Project Manager 2 explains that if any surplus value can be proven in the social or environmental dimension, then the economic side can be partially neglected. A strong financial position does however enable other sustainability perspectives according to Support Staff 1, while Project Manager 3 argues that in the end, if the financial calculation for a project does not add up, then the other dimensions are more likely to be downplayed. Environmental related sustainability work is often seen as an expense in the project phase, but is something that can generate profits in the long run (Senior Manager 3).

Views regarding the difficulty of merging the financial and social perspectives of a project were also presented. Both Project Manager 1 and Senior Manager 2 states that it is difficult to both achieve the required profitability while also incorporating social dimensions and that one side often shines at the other's expense. This is also present when taking environmental aspects into account. However, there are also profits to be made as Senior Manager 3 argues, for example that without environmental considerations, the initial investment cost would indeed be lower, but is deemed profitable in a long-term perspective.

5.2 Stakeholders and internal relations

In projects, *stakeholder analyses* are used to a varying degree but are nonetheless seen as an important tool in the early stages of a project in order to prioritize and manage stakeholders properly (Senior Manager 2; Project Manager 1). Within this category of the empirical findings, the relation Familjebostäder has with different stakeholders concerning customers and main partners and competitors is presented. The view of the internal relations is also brought forward in order to later discuss the underlying factors affecting the internal use of a business model. This has been done in order to get a better understanding of their position on the market and how they interact with each other concerning their customers, partners and competitors within their projects and day-to-day work. The findings have shown some lack of conformity that will further be discussed later in the thesis of how this could affect the company or the outcome of the case project. Figure 18 presents the third step of the business model, which deals with analysing project stakeholders.

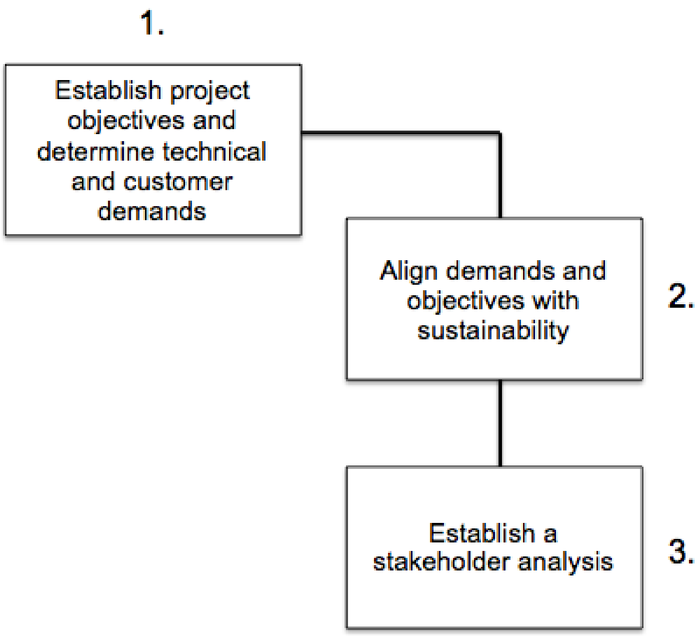

Figure 18 - The third step of the business model.

5.2.1 Customer relations

Familjebostäder are very considerate of their customers and cherish the relationship with them, which is especially seen in the districts where there is a significant focus on getting good grades from customer surveys. The district works close to their tenants and listen closely to them about what needs to be done in the properties. Support Staff 2 stated for example: "*I want good grades from our residents"*.

Although, Senior Manager 4 stated that "*I do not think you should build a relationship because you have to or want to have good grades. You should build a relationship and bring in their viewpoints because it actually improves the project"* which is supported by Support Staff 1 who states that the communication between Familjebostäder and their customers should lead to something concrete. Support Staff 3 further states that a good relationship with the customers ease their own work.

All interviewee's stresses the importance of having a good communication with the customers, the difficulty with this is to involve and communicate with them at the right time in a project. If customers are involved and informed too early while the project still have many loose ends and still can be shut down, they would feel disappointed because they expected Familjebostäder to do something which never happened. If the residents instead were informed when everything is decided, they would feel forgotten.

Project Manager 1 stated that it is "*very important with information and communication, which from the very beginning tell the residents what they can influence".* This is supported by Senior Managers 1 and 2, Project Manager 2 and Support Staff 3 where Senior Manager 1 also points out the importance of asking the customers what is important for them in their living environment. This will give Familjebostäder another viewpoint of what needs to be done and might decrease the possibility of missing something. According to Support Staff 3, this will lead to satisfied customers and they will feel more involved in the project. Project Manager 2 further states that an involvement of the tenants physically could lead to a decrease in vandalism because they feel more attached to the property and cherish it more. Furthermore, both Support Staff 3 and Senior Manager 2 states that the communication with the residents will lead to a better understanding of the project and why they need to do certain actions, especially those actions which will lead to an increase in rent. Although, Project Manager 2 thinks that *"a rented apartment should not have so many options, it is better to have a high standard from the beginning and then the customer does not need to make any choices. That is the problem, you start with a standard that is too low, which only generates extra work".*

Since Familjebostäder is a municipality owned company, they have to get the residents' approval when renovating, which makes this relationship even more important.

5.2.2 Partners

Familjebostäder have many actors that can be seen as partners in their projects. It is important to build a healthy relationship with them and involve them in an early phase of the project, especially since Familjebostäder at several occasions have chosen partnering and consortium as a form of cooperation. Senior Manager 3 states: "*if you involve other actors early, you can benefit from it. It is a way to show trust towards each other. We must show our budget, and they must show their expenses [...] you have to be open and honest and be aware that you are working towards the same goals".* Furthermore, Senior Manager 4 argues that "*...early, open and transparent dialogues, you know the hidden incentive dialogues. When you do them in a very early phase, you get less appeals and the process will be improved".* Using partnering is supported by Project Manager 3 who thinks it is a win-win situation because you clearly show that you have a common vision in the project. Project Manager 3 further argues for the importance that external partners should be informed and aligned with Familjebostäder’s goals, strategy and business model when the project starts. Although, there is a concern from Project Manager 1 that a too early involvement with other actors, will create a lot of questions which will lead to anxiety. Another important thing that was brought up by Support Staff 2 was the importance of visiting the building site to build a relationship with the craftsmen. This could lead to better input from their side, suggesting different and new methods that could benefit the project.

Another important actor in Familjebostäder’s projects and day-to-day business is the residents’ association who control and decide which rent is acceptable and have the resident's best interest in focus and tries to keep the rents as low as possible, which obstruct Familjebostäder’s work. As Support Staff 2 states, supported by Support Staff 3: “*they control us much more closely than the private sector”.* Senior Manager 1 continues and states *“the residents’ association wants to be involved in an very early phase so they can influence [the project] very much”.* According to Support Staff 2, there seems to be a lack of understanding for economic calculations from the residents’ association, which is connected to the fact that Familjebostäder do not want to be completely open with their calculations towards the residents’ association.

Another aspect revolving around value-adding activities is the demand placed on suppliers and contractors employed by Familjebostäder. There is a positive attitude to have high demands on suppliers and contractors, but in order to receive anything from it, the demands needs to be monitored and controlled. The demands have no use if they are not monitored and followed-up according to Project Manager 2 and their quality and relevance need to be evaluated, a view also shared by Project Manager 1 who asks: *“Does it cost more than it tastes to state this demand?”*

5.2.3 Competitors

Because of how the real estate market is in today’s day and age, with increasing prices in recent years and housing shortages, there seems to be a lack of competitive view at Familjebostäder. As Project Manager 1 states: *“I do not know if we have any competitors. It is very easy to lease out apartments today”.* Support Staff 2 who thinks that Familjebostäder do not need to feel threatened or competitive from or towards anyone supports this. The interviewee still point out that the there is a competitive view towards the other municipality owned companies in the sense of getting good grades in customer surveys because they operate with the same conditions. Towards real estate companies in the private sector Support Staff 2 states that there is a competitive view in the sense of creating living environments with a level of high well being.

Something that was mentioned a lot as important, but is done less, is collaboration and having a dialogue with other property owners. Several benefits were mentioned, for example Senior Manager 1 explains: “*to collaborate with other property owners so the value of traditional, conventional renovation increases if you collaborate with other property owners”* and Project Manager 1 continues: *“I think collaboration with other property owners is important for both the economic and social [aspects]”*. Although there is a scepticism about a common standard in a neighbourhood, as Support Staff 2 puts it: “*When it comes to what condition Bergsjön should be in, it is probably impossible to cooperate”.* Additionally, Support Staff 1 and Project

Manager 2 argues for the difficulty of collaborating with private companies because they have other interests with their properties which are primarily economically driven. This collaboration is according to the interviewees especially doable when modifying a whole neighbourhood and mostly concerns the outdoor environment, which could improve the feeling of safety in the area (Project Manager 2). Support Staff 2 further underlines the importance of having a dialogue and good relationship with other property owners to get them improve their properties because "*if we have good-looking neighbours, the value of our properties will increase*" and if they do not, the value of Familjebostäder's properties will not increase as much.

Instead of cooperating in the sense of doing a project together, Senior Manager 2 talks about taking advantage of each other by doing the same actions and thereby for example using the same contractors. The contractors could continue with the competitors' properties when they are done with Familjebostäder's or vice versa. Another interesting thing which can be combined with this is to help each other in renovation projects to make the process smoother as Senior Manager 4 stated: "*if we help you with your evacuation, you help us with ours*" when talking about systematic planning and purchasing.

Furthermore, in some perspectives according to Project Manager 2, it is more beneficial by owning all properties in a neighbourhood, but Support Staff 1 on the other hand argues for the importance of having mixed types of ownership in the sense of incitements for rent increases. The interviewee continues and states that the dialogue with other property owners is also important for the knowledge of their plan of action.

5.2.4 Internal relations

"*We have an enormous knowledge within this enterprise*", stated Senior Manager 1, and further elaborated upon the fact that they are doing so much more than many other real estate companies, especially compared to the ones in the private sector, which the public know nothing about. The interviewee feel that the company are a little too neutral and are afraid to show off what they are doing and be proud of it, which is a shame because of the great knowledge they possess.

Generally, employees of Familjebostäder have a sound relationship and think of each other as knowledgeable. Support Staff 3 explains the following: "*we have a lot of experience in this group, it will be a good thing when you support each other*". Although the employees possess great knowledge, there are some shortcomings according to Support Staff 1: "*I am afraid they experience that they fill in something and do not know what comes out. They do not understand what comes out […] I think the knowledge about profitability is poor*". The interviewee further states that if they know the basic principles of real estate economy, they would not be so vulnerable in their work and their attitude and knowledge about profitability would improve. On the other hand Support Staff 1 argues that profitability is only one part in a project and it is unreasonable to demand complete knowledge in every part of a project. Instead, the interviewee suggested that there should be someone working more deeply with these kinds of questions side by side with the project managers, or at least have some kind of specialist knowledge close by and stresses the importance to have competence in real estate economics.

“We do not have the same objectives with our properties” states Support Staff 1 who believes this depends on what position in the company you have. For example, the employees belonging to the districts are more concerned about having satisfied customers, giving them high grades in customer reviews and with a focus on maintenance, which does not increase rent and only causes costs for the company. Meanwhile, the interviewee wants to put a stronger focus on generating money by doing measures, which will increase the NOI and market value of the property and thereby increase their income by increasing rent. As a suggestion, the interviewee desires a more comprehensive model of how they should work within this field and how to involve the districts at another level in order to establish a common view for the management of their properties.

Familjebostäder is a large company with many employees, which is positive regarding areas such as internal knowledge but may be negative in relation to effectiveness. Support Staff 2 stated that they may not have the most effective ways of working and that there is a need to compress the hierarchy in order to serve the customer faster. In addition to this, since many employees have been employed in the company for many years, Support Staff 2 argues that it might be difficult to implement new methods. Although the connection between the head office and the districts has been improved since organizational restructuring a few years ago. The hierarchy might also explain the lack of knowledge about the firm’s business model and its content.

5.3 How to earn money

One of the fundamental functions of a business model is to explain and detail how the company is supposed to earn money and generate profits. In order to successfully accomplish this, it is important to *confirm available revenue streams* and then finding ways to *capture this financial value*. Presented in Figure 19 is the fourth and fifth step of the business model, which are highly dependent on each other, concerning the confirmation and capturing of financial value.

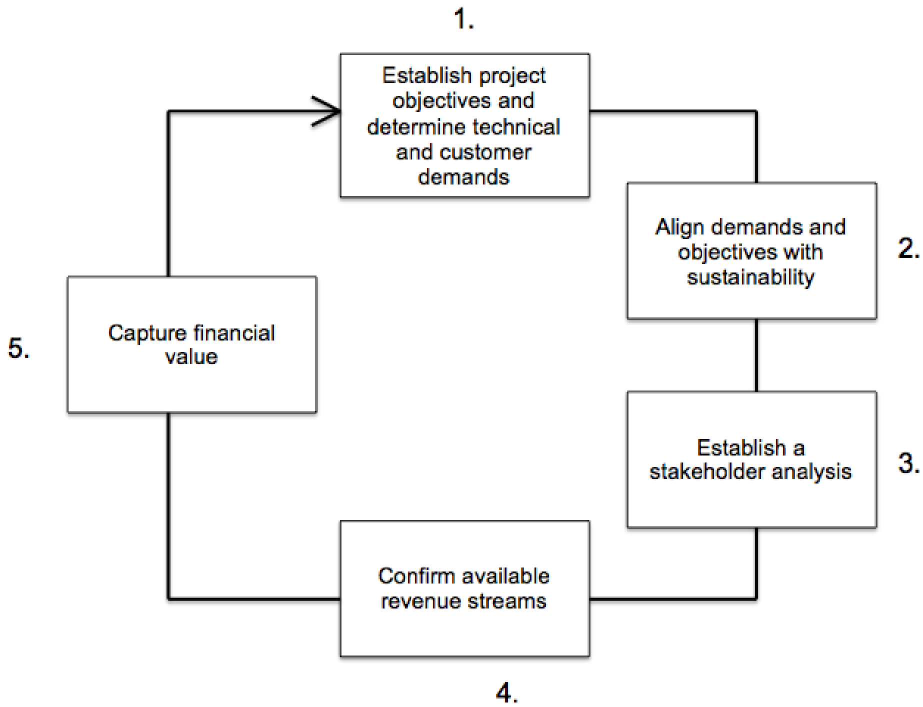

Figure 19 - The fourth and fifth step of the business model.

5.3.1 Long-term thinking

Long-term thinking and the philosophy of seeing investments in a longer perspective are present in many of the interviews. As Familjebostäder is a public housing company, Senior Manager 1 states that they have an edge compared to their private counterparts as they can see their investments over an extended period of time. Project Manager 3, who argues that public housing companies have a greater chance of working towards a long-term philosophy as taxpayers and politicians back them, shares this view. Senior Manager 3 also agrees and argues that it is an advantage of being a real estate owner who acts in a long-term perspective. Long-term investments is also mentioned by Senior Manager 2 who argues that private actors, governed by shareholders, are more focused on quarterly reports and generally do not have the same long-term investment philosophy that public housing companies have. Making the right investments while taking the long-term perspective into consideration is exemplified by Project Manager 1 who states: *"That we do not do the wrong investments or how to put it. You imagine that it [the investment] is supposed to be in a long-term perspective."*

Senior Manager 1 states that there have been examples of other renovation projects where there have been socio-economic developments in the long-term perspective in conjunction with increased real estate values. This is supported by Senior Manager 2 who states that if the area of Western Bergsjön, where Siriusgatan is located, could be linked closer with surrounding areas with higher real estate values, the value of the properties at Siriusgatan could also be increased. Senior Manager 2 and Senior Manager 4 see a long-term development of the entire area of Western Bergsjön as a result of renovation and renewal projects.

There is also a view of that extensive and robust renovation measures will pay off financially over an extended period of time (Senior Manager 3; Support Staff 1). Although, it can be difficult to make the right investment decisions when considering a longer time span according to Senior Manager 4, who states: *"With the required rate of return and the financial control we have. Sometimes this can cause the decisions we make to seem as not so smart when viewed in a 100 year perspective."*

Project Manager 3 also argues that the value of the property should be viewed in a longer time period and ultimately, properties possess a lasting value that many other products lack. Senior Manager 4 stresses the importance of seeing each cost over its entire life cycle instead of focusing on the initial investment cost.

Support Staff 1 who claims that the financial perspective is deeply rooted and will always be the governing parameter also emphasizes the economic aspect. Several interviewees expressed recurring thoughts concerning profitability in a long-term view and Senior Manager 2 relates that seeing the investment in a different light and in a long-term perspective is a valid option, but that proper models are currently lacking. Support Staff 3 and Support Staff 2 also support the idea of long-term investments, where Support Staff 2 argues that a renovation may not be profitable the first years after project closure, but that over the extended lifetime of the building, it is always profitable. Having a shared business model, in the form of a common required rate of return concerning profitability, amongst all public housing companies in the municipality is perceived as positive (Project Manager 1).

5.3.2 Increase attractiveness and real estate values

Several interviewees described the business and renovation projects in ways connected to strategies, planning and rational decision-making. The interviewees exhibited both strategic ideas at micro and macro level. There is an idea of changing/increasing the attractiveness and the overall view of Western Bergsjön and in a wider sense entire Bergsjön in the future and in a long-term perspective (Senior Manager 2).

Increased attractiveness in terms of monetary value generation revolve around how an increased attractiveness and reputation of an area or neighbourhood can lead to increased real estate values for the property owner. By having an active and conscious property management, Support Staff 2 argues that in a long-term perspective, the reputation of the area could change for the better. Although Support Staff 2 also believes that the state of neighbouring properties affects the value of Familjebostäder's properties. This idea regarding the co-dependency of other property owners is coherent in several of the interviews and Support Staff 3 states the following: *"If you want to make an effort in an area, it would have been good if the others also did it, if you want to enhance the area."*

The cooperation needed in order to increase the attractiveness of an area is also stressed by Project Manager 2, who argues that it does not matter if Familjebostäder is the only ones having properly managed estates in areas with other property owners. The importance of cooperation between property owners regarding renovation projects is also adhered by Support Staff 1 and argues for the importance to see the larger picture. Senior Manager 1 also believes that it is important and beneficial for Familjebostäder to increase the general view and opinion of Bergsjön and argues the following: *"We must do this and there are also values down the road. That if we change the image of Bergsjön the real estate values will be increased."*

Other persons in the organization, for example Senior Manager 2, who argues that an increased attractiveness of the area will lead to higher real estate values, also make this correlation between the area's attractiveness and the market value of the properties evident. Concrete suggestions to increase the attractiveness and reputation of Bergsjön is offered in the form of new construction and densification projects in order to bring in a more diverse customer demographic (Support Staff 2; Project Manager 3).

Project Manager 2 explains that Familjebostäder is able to influence and affect an area in many more ways if they own all properties in that area. On the other hand, Senior Manager 1 explains that areas with a large degree of rented apartments could elevate with a portion of co-operative condominiums contributing to a mixture of tenure forms and increasing the level of personal commitment in the area. This is supported and explained by Senior Manager 2 in the following way:

"In larger areas we can actually sell [properties] because we want co-operative condominiums, trying to get actors to buy in order to get a mix [of tenure forms] but then it is a conscious strategy and not about making money on that particular sale."

A risk of having a single property owner in an area is also presented and Senior Manager 2 argues that there is a risk with this and contemplates that a mix of public and private is healthy, although maybe not with small enclaves within continuous housing estates.

5.3.3 Improved apartment standard and rent increases

Rent increases concerning renovation projects originate from the improved level of apartment standard the residents receive after project closure. The view of the interviewees is rather diverse and no real clear-cut consensus exists amongst the interviewees. Rent increases are perceived as a balance act in the sense of how high the increase can be (Senior Manager 2; Support Staff 3). There is also an opinion that rent increases can be difficult to manage in projects in relation to the aspect of social sustainability versus the economic dimension. Project Manager 1 provides the following statement:

"It is the social aspect, plain and simple. If we are to be altogether business-like, i.e. completely profitable then the rents could run too high and that does not really play well into our commitment as a public housing company."

Rent increases are also seen as problematic by Support Staff 2 in the sense of renovation measures, which do not yield a rent increase due to difficulties in defining the project. The fact that rent increases affect the residents are also problematic as they dictate what technical measures can be done in a renovation project, perhaps leaving out measures that from a technical or environmental standpoint needs to be done (Senior Manager 4). In some cases, a gradual increase of rent is used, splitting the increase over several years instead of a lump raise (Senior Manager 3). Rent increases is nonetheless perceived as something which drives the profitability of renovation projects according to Support Staff 1 and with the right rent increase a renovation project can become profitable (Senior Manager 3).

5.3.4 CSR projects and socio-economic benefits

Several interviewees share the opinion that social sustainability efforts in form of CSR-projects are economically profitable for Familjebostäder, even if they are not directly labelled as CSR (Senior Manager 1). By launching social efforts aimed at youths and young adults, Support Staff 3 argues that troublesome youths are listened and adhered to, which could reduce damages on properties and general destruction. Senior Manager 2 who states that an increased presence and support from the property owner can reduce costs linked to damages, such as vandalism, done to properties also shares this notion. There is however, a perceived difficulty of proving this relation. There is also a view that social projects, both in renovation projects and in the daily property management, of CSR-nature are also profitable (Support Staff 2; Support Staff 3).

5.3.5 Energy efficiency and optimized NOI

Support Staff 1 states that there is a lack of focus on the NOI in order to increase the income and maximize profits of the properties. This is supported by Senior Manager 4 who states that the environmental and economic aspects does not go hand-in-hand because even though they reduce the energy consumption through certain renovation measures, it does not take into account how much the NOI will increase in a long-term view.

5.4 Obstacles and risks

This section will bring forward those findings that constitute some sort of obstacle or risk for Familjebostäder to act in a business-like manner and for the business model to function properly. It is divided into obstacles possible to influence, impossible to influence, or at least very difficult to influence and finally flaws that has been discovered within the company. These perceived obstacles and risks will help when it comes to formulating a business model and how it relates to risks.

5.4.1 Can influence

One obstacle that could be influenced in order to improve projects and act more business-like which has been brought forward in the interviews is lack of knowledge, primarily regarding real estate economics. Another one, which might be even more important, is that the employees at Familjebostäder do not share altogether the same goals and vision with their properties (Support Staff 1).

The specific issue of short-term calculations is supported by Support Staff 2 who states that "*when we calculate the renovations, we do, we often calculate with a shorter time span than they [the properties] actually stands […] this makes it more profitable than we think from my perspective*". One problem with this could be that “*our obstacles are that our models we use today are lagging”* (Senior Manager 2). According to Senior Manager 2, new models are on the other hand in progress and especially important is to try and connect profitability calculations with social sustainability, a notion that is supported by Senior Manager 1 and Project Manager 1.

Support Staff 1 argues that the districts do not have as much business-like focus in their work as the head office and that they are not as dependent on rent increases, which is seen as a problem in economic terms. Support Staff 2 supports this and states, “*It is at several occasions we do not increase rents even though we have improved something because we are having trouble defining the project”*. This could have its ground that they may not have as strict conditions and responsibility for their actions at the district (Support Staff 1). Project Manager 1 states that rent increases is a major part in reaching the conditioned profit and that Familjebostäder cannot increase their rents as much as they would like because of the social aspect they have to consider, derived from being a municipality owned company.

5.4.2 Cannot influence

Since Familjebostäder is a municipality owned company they have certain rules and regulations that is mandatory to comply with. In some cases it appears that it could be seen as an obstacle regarding the day-to-day work according to the interviews. The Public Procurement Act, LOU is one regulation and type of procurement, which sometimes can prevent them from doing valuable investigations and be more business-like (Senior Manager 3; Project Manager 1; Project Manager 2). Project Manager 1 continues and argues for the difficulty of other actors working with Familjebostäder: “*We have LOU. It can be difficult working with us [...] there are so many rules and regulations we have to relate to all the time. Because of that, I do not think we are so popular”*. Project Manager 1 continues within this topic and states that:

“No, at least not in boom years [when asking if they have any benefits as a company]. In recession on the other hand, then we can have benefit and we get very popular. It is troublesome right now because we are not so interesting for contractors”.

Another issue connected to the fact that Familjebostäder is a public company is that they are controlled more strictly by the authorities and have a certain political pressure in relation to rent increases. This specifically has been mentioned by almost all interviewees, that the resident’s association makes it very difficult for Familjebostäder to act business-like and make profits out of their renovation measures in their properties:

“*I can feel that the resident’s association does not think business-like. We try to think business-like, we try to think about the customer, meanwhile the resident’s association often think of themselves [...] they have trouble looking at the bigger picture and have difficulties seeing that if it will not be profitable for us, we will not take action”.*

According to Senior Manager 4, many actors are thinking short-term and the resident’s association is one of them, thinking solely about the current tenant and the fact that they should have a low rent. When there is a need for renovation, this hampers Familjebostäder because they are having trouble getting the rent increase they need for a specific measure, which leads to less measures even if it is needed.

Thereof Familjebostäder have to work and optimize their measures according to the resident's association and their list of what actions generate which rent increase and does not regard the properties technical condition. Senior Manager 4 continues: *"we have a rent system which is very out-of-date and it is only the resident's association who thinks it works"*.

Furthermore, the rents cannot be too high because Familjebostäder have a responsibility as a public housing company to provide apartments suited for every social group. This means that they cannot increase rents too much, which has its ground in the social aspect of sustainability (Project Manager 1).

5.4.3 Flaws and difficulties identified at Familjebostäder

During the interviews, some flaws within the company have been discovered and one of them seems to be a lack of knowledge in some cases concerning their business model or business plan and what it actually contains. Additionally, Familjebostäder's business model appears to be more understood at the head office than in the districts and Support Staff 1 comments that the business model has never been shown for the employees at the district. Another difference between the head office and the districts is that the district's focus is to repair to extend the lifetime of the properties, which does not generate any rent increase. Furthermore, a lack of knowledge about real estate finance has been brought forward which hampers a business-like mindset in projects according to Support Staff 1.

As been stated before, Senior Manager 2 feels that their financial models dealing with profitability is lagging and need an update in order for the company to act in a more business-like manner and long-term perspective approach. Another thing that Senior Manager 2 brought forward which could improve the projects is to always conduct a proper stakeholder analysis, which is not always done due to resource shortages.

Senior Manager 2 points out their importance of being a public company, but also the difficulty of it, which is highly connected to keeping their rents low in certain neighbourhoods:

"We also have a responsibility of doing actions which will not increase the rent too much because then we get a process where the residents living on the fringe today will not be able to live there while it does not matter for the ones having economic support, because that is just money going around the system. Thereof it is important to think of what mix we have in the neighbourhoods. Where should the people not able to live in a municipality owned apartment go?"

Support Staff 2 states that *"we may not be the most efficient ones when it comes to optimize time and have short chains [hierarchy]"* concerning other companies which may have succeeded with actions which customers can experience as particularly value-adding.

Finally, the employees at Familjebostäder appear to not have a common vision of the project since Support Staff 1 stated that: "*we do not have the same goals and vision for what we want with our properties"*.

5.5 Finding new ways of doing business

This section involves findings from the interview study concerning thoughts and ideas in how to find new ways of doing business.

Senior Manager 3 describes a situation where residents in socially deprived estates with low incomes are vulnerable to rent increases caused by renovations. Senior Manager 4 tries to come up with different solutions to this specific problem of how this could be financed: *"In one way, it is better to renovate the central locations first, because we can take out a high rent which gives us economical possibilities to renovate later on"*. Additionally, Support Staff 1 thinks that you should not be too afraid of trying new things in a otherwise conservative business: *"I think that the more diversified you are, the better. [...] I think the whole construction industry is very same-same [...] you should try different things"*.

Senior Manager 4 talks about changing perspectives of how you can earn your money and which actions could generate profits. You can according to the interviewee boost up the rents by renovating the components which generate a high rent increase and leave behind the things important for the buildings technical conditions which is maintenance and does not lead to any rent increases. Senior Manager 4 wishes that socio-economic aspects would generate economic profits as well and states that:

"We need to find a calculation model and calculate social development […] we need to think about the money we earn which is not shown in our accounts. We earn money visible for the neighbourhood [...] then you need to change the perspective [...] can we in any way finance with funds or something like that".

Furthermore, in order to cut costs in a project, specifically in Bergsjön, Senior Manager 4 suggested that you could hire residents studying at the university to solve the language barriers and helps with the dialogue with the tenants in the neighbourhood instead of hiring a consultant who costs a lot more for the company. Additionally, the relationship with the customer will improve as you ease the contractor's work and create jobs for people in the area by doing these social efforts.

An interesting thought from Senior Manager 4 was that to do procurement the other way around. Thereby, instead of calculating what the cost will be for different actions, establish a final cost and proceed from that point. We quote: *"I think the ones [actors] who has succeeded [to build] cheap today go out on a procurement and says they are interested to pay 22.000 SEK per square meter, what do we get? And then they let people [contractors] fight about it on the market".*

5.6 Siriusgatan

This section revolves around the part of the interview study directly concerning the renovation project at Siriusgatan and the interviewees' thoughts and ideas about the project. The general consensus is that the difficult and complex situation of merging the social and economic spheres plagues the project. On one hand, the project has financial conditions regarding profitability, while the other concerns the residents and how they could be affected by different renovation measures.

The project at Siriusgatan has been an issue for a long time with a previous project almost reaching the construction phase. The previous project was however wrought with problems and was ultimately shut down. Several interviewees (Support Staff 1;

Project Manager 1; Senior Manager 1) describe and relate the shutdown with the project of not having been anchored properly internally. The senior management group and Senior Manager 2 state the following: *"Basically you could say that the project was not firmly established in the senior management group"*

Support Staff 2 describes the situation accordingly: *"That we only developed one alternative, that is what I think we lost on the most and how we anchored it in the board.* Support Staff 2 also described that the project was not cemented firmly in the internal organization as something negative. Regarding the current conception of the project, Project Manager 1 claims that before they move ahead with the new project, they will compile all research material and then properly present and anchor it with the senior management group and then await their decision.

The economic and social dimensions was brought up frequently by many of the interviewees as being difficult to merge and manage in the case of the project at Siriusgatan. The needed rent increases in order to reach the conditioned profitability was deemed hazardous from a resident's perspective as a large portion of the residents had a lacking ability to pay. Senior Manager 3 mentions a fear that the residents would not afford to pay the new rent after the completion of the renovation. There is also a risk based on possible vacancies in a long-term view, which places a roof on how high a possible rent level could be (Support Staff 1). Concerning the lack of private actors in the area, Project Manager 3 comments that it seems as if the public housing companies are putting the most effort in developing Bergsjön. Support Staff 1 expresses a similar idea: *"I would really have liked if the private actors had gone ahead. [...] That they had done something that we could have tagged along on, instead of us initiating."*

The size of the housing estates at Siriusgatan and number of apartments is seen as troublesome and Senior Manager 1 argues that there is no lack of ambition regarding the project. On the other hand, it is incredibly complex and the measures Familjebostäder finally chooses will have great ramifications in the area. This view partly echoes in the reasoning of Support Staff 1, who states that the major challenge with the renovation project at Siriusgatan is the grand scale of it. The interviewee further elaborates that the project could be broken down into manageable parts, although there are still difficulties in tackling the basic technical needs of the properties. The struggle of managing the social dimension concerning the residents, and at the same time, the economical dimension regarding rent increases is also evident in the following comment by Senior Manager 4:

"But on Siriusgatan we can come across something, we cannot forget that. The core of the people who built this community might be those who have lived here and retired here. A retiree cannot affect his or her income that much. The single mother who has a minimum wage job, she is very vulnerable to 400 SEK [a month] rent increase."

There is also a struggle, as explained by Senior Manager 1, when it comes to managing current residents and acting just and fair in a long-term perspective. Something has to be done but who are to pay for it, the interviewee argues the following:

"That is the struggle, in what perspective should you look at it? The discussion is here and now, we who live here now cannot pay. But what about those who will come in 20 years from now, who we as real estate owners also must take responsibility for. [...] If not, then there is a risk of holding back and holding back to a point where you

cannot hold back anymore. Then it will be the third or fourth tenant who has to pay for all of it at one time."

The difficulty of managing the residents is also made evident by Support Staff 2, who claims there is a balance act between of when and how to inform and communicate with the residents. Where in the project life cycle should the residents be informed? Senior Manager 2 also expresses the desire for a low base level rent with optional rent increasing choices for the residents, but also comments that the technical need of the properties is significant. This idea is adhered by Project Manager 1 who also states that having different rent levels with additional options for residents with varying incomes could be beneficial for the project. There are also problems with integration and the occurrence of overcrowding apartments in the area (Senior Manager 4). Another social problem commented by Support Staff 3 is that there are examples of bad apartment utilization in the area where there are single person households living in apartments suited for families of four.

An interesting viewpoint was the discussions about rent levels, where opinions seem to be a bit divided: *"I think, primarily that Familjebostäder has very cheap apartments and that presence is very important on the market, but I would prefer that we would have create a niche so the right people get the cheap apartments" (Support Staff 2).* In contrary: *"Because we have very low rents, which is something you do not talk about, so that is a trouble in Familjebostäder, the low rent level. This is both a resource and a problem when you have chosen to focus on procentual rent increases" (Support Staff 1).* Although, Support Staff 1 thinks it is necessary to have affordable apartments, this is also a problem for the company in order to be profitable.

6 Analysis and discussion

The following chapter presents the analysis together with the discussion of the empirical findings accounted for in the previous chapter results. The analysis and discussion was conducted within and in relation to the established theoretical framework in order to answer the overarching research questions:

- Is it possible to design a general business model concerning sustainable public housing renovation?
- If so, how could this model be shaped and what parts could it consist of?
- In what way could this business model be applied in a real life scenario?

6.1 Formulating the business model

A business model can be created by applying a framework such as the ones described by Williamsson (2014) and Dahle et al. (2012) and should answer certain questions regarding how the company run its business. According to Dahle et al. (2012) there are specific questions that need to be answered when formulating a business model. These questions related to the theoretical framework will be answered in conjunction with the empirical findings from the interviews in order to create a business model for sustainable housing renovation.

Teece (2010) argues that a business model should include both organizational as well as financial aspects and will therefore be included in the argument for a business model. Economic profitability in large-scale renovation projects has been proven by both Blomé (2010) and Lind (2014a), which is an essential part of a business model. The economic dimension is however only one out of three dimensions and in order to establish a sustainable business model regarding renovation a synthesized approach needs to be taken (Thuvander, et al., 2012).

6.1.1 What – provide relevant value for the customer

Principally, Familjebostäder's renovation projects aims to deliver good and affordable living accommodations to its residents. But what are the needs of the customer? That is a key question according to Dahle et al. (2012). Creating value modelled out of customer demand is also stressed by Williamsson (2014) and De Wit & Meyer (2014). Several interviewees express having a good relationship with the residents but voices are also raised that this relationship should not be built just for the sake of it. The interview study revealed that benefits could be drawn from having a good relationship and adhering to the customer. The relationship between the resident and the property owner is also commented by van der Flier & Thomsen (2007) who deem it positive for the project to involve the residents in the process. Strict economic value can also be gained from a healthy resident-owner relationship as stated by Blomé (2012). Focusing on renovation measures which provide customer value while at the same time providing financial benefit for the property owner is also seen as important. This view is also adhered by Palm (2015) who argues for the importance of meeting tenant demands by maximizing the value-adding activities.

6.1.2 Who – relationships with project stakeholders

Normally in a renovation project the customer is already on beforehand defined, namely the current resident, as in the case project. The communication needs to be clear in order to minimize the risk of misunderstanding from the residents' side. Both Kyle et al. (2000) and Palm (2015) agree with this view and state that good resident relationship and communication is an important aspect in achieving a successful property management. By knowing your customer, Dahle et al. (2012) states that the business model becomes more precise. This is in line with Familjebostäder's philosophy of having a close relationship with their residents. The service-inclination resonates with Palm (2015) who argues that the Swedish real estate industry is emphasizing service more than it did earlier. Involving other stakeholders early is seen as beneficial, however the timing must be right. An important tool for managing stakeholders were brought up by several interviewees is the stakeholder analysis in order to properly sort out possible partners and competitors, but also which stakeholders to engage and manage more closely. Specific regard to the residents' association were commented as a problematic stakeholder and handling them seems critical as their impact on the actual projects can be quite severe. Identifying relevant partners is also commented by Osterwalder (2014) as a component of a business model and could be an important piece in major renovation projects, an example of this is the strategic partnering featured in the renovation project in Vivalla, Örebro (Nytorp, 2015).

6.1.3 How – making profits and delivering the project economically

Illustrating how profits are generated is at the core of a business model and should exemplify how profits is captured from the value the business or projects deliver (Shafer, et al., 2005). Delivering a profitable renovation project is largely dependent on rent increases due to an improved apartment standard. Rent increases do however pose problems regarding social aspects of the residents, typically seen in socially deprived areas and need to be managed if the project is to be deemed sustainable. Merging social and economic sustainability is generally perceived as troublesome. Something which (Lind, et al., 2014) labels as "renoviction" is the scenario where residents are forced to move due to increased rents. This notion is also commented by (Boverket, 2014a) who state that "renoviction" could further increase segregation. The problem of "renoviction" is exemplified in the project at Vivalla, Örebro where only 8% moved back into their apartments after the renovation was complete (Nytorp, 2015), which is also seen as a risk at Siriusgatan. There are however other factors that affects the profitability of a renovation project, namely increased real estate values over an extended period of time (Lind, 2014a) as well as decreased OE (Astmarsson, et al., 2013). On the topic of decreased OE, Dalenbäck (2012) states that the right energy efficiency measures could reduce the energy consumption of 50%, substantially optimizing the property's NOI meanwhile acting environmentally sustainable. This notion is tocuched upon by several interviewees which expresses that there is a lack of effort or focus in optimizing the NOI of the properties, which could inhibit the long-term perspective. Investments concerning environmentally friendly measures may increase the initial investment outlay of a project. It is however percieved as beneficial in the long run, echoing the idea of Dalenbäck (2012) in bringing the economic and environmental dimensions together. The idea of increased real estate values is shared by Familjebostäder but also that it is related to the general opinion and view of Bergsjön as an area and an increased attractiveness and standard of the area will lead to higher real estate values. Being able to see the finanical benefit of a renovation in a long-term perspetive is also emphazised in the interview study.

The economic benefits of CSR projects is another dimension which is expressed and argued for at Familjebostäder, especially in how social projects can lead to lower OE as a result of reduced damage done to the properties. Such projects is argued for by Blomé (2010) and (2012) which proves that certain social projects does have an impact on the profitability for the property owner. Supporting the residents and launching activities in the area could lead to less general destruction but it is however in spite of Blomé (2010) and (2012) findings, it is still pervieved as difficult to prove this relation and new models concerning measuring social profitability is called for. Engaging willing residents with relevant knowledge actively in the project is also percieved as a way to cut costs while at the same time creating a commitment amongst the residents. Järvalyftet, a project studied by Kindbom & Sandblom (2015) who also argued that social projects in renovation projects can provide strict economic values in addition to social values considering the long-term development of the area. These arguments are in line with Familjebostäder envisions the development of Siriusgatan and Bergsjön as a whole. Furthermore, Kindbom & Sandblom (2015) discovered a decrease of for example crimes in Järva after project completion, which could decrease costs and generate economic benefit in a socio-economic perspective. This perspective is highlighted at Familjebostäder to be necessary to involve in their profitability calculations that today is out-of-date according to the interview study. Engaging and employing residents practically in the projects is also proposed by several interviewees who state this could be financially beneficial and aid the project process.

6.1.4 Presenting the business model

The basis of the model is to illustrate how a renovation project generates value for both the customer i.e the resident as well as for the property owner. The value for the customer is acquiring a living accomodation according to his or her prescribed needs and demands while the value for the property owner is a healthy and improved property, generating an optimized cash flow seen over an extended period of time. Figure 20 is a representation of the authors tailored business model with a following description of its components.

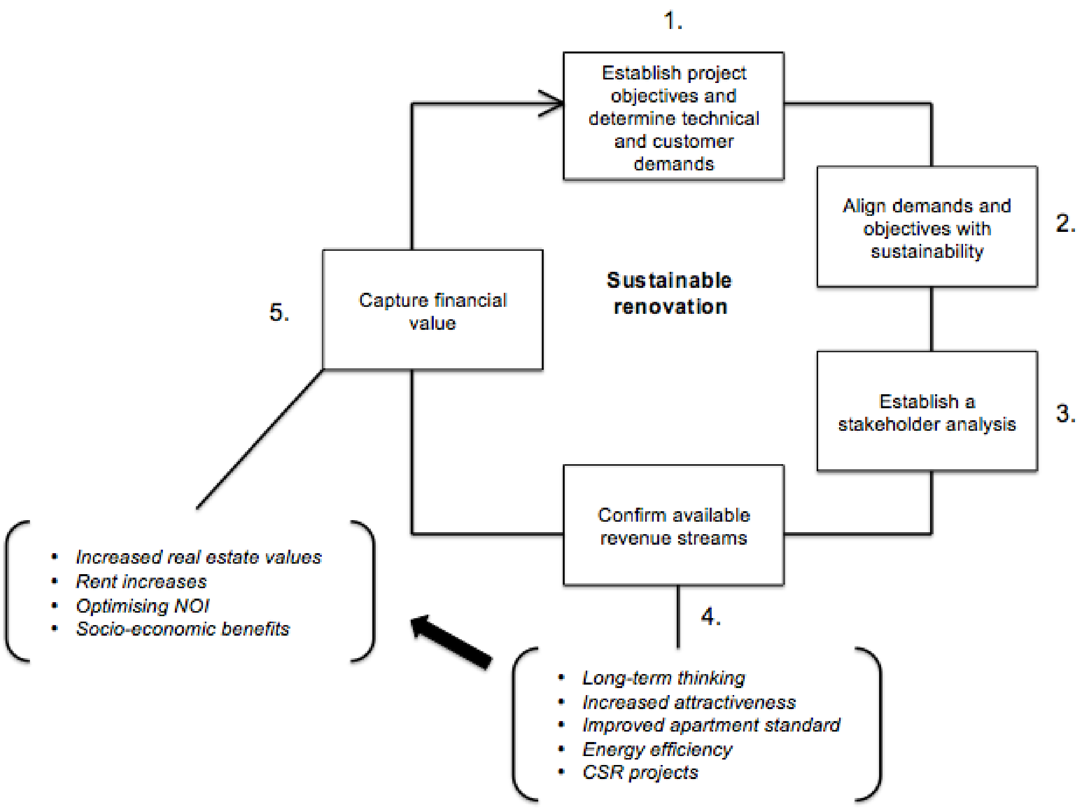

Figure 20 - The tailored business model and its components for sustainable renovation of public housing

1. What are the project's overall objectives? Furthermore, determining and establishing what the customer demands are is crucial in being able to deliver relevant value for the resident. These customer demands should then be compared and aligned with the technical needs of the property at hand together with the project's objectives. This forms the base upon which the project rests.
2. The objectives and demands should then be aligned and brought together with the sustainability dimensions. The different dimensions should be entwined and support the demands and objectives in order to provide the most benefit, i.e what sustainability measures would best suit and enhance the technical and customer perspectives of the project in order to fulfill the objectives.
3. The management of stakeholders is important as it could lead to future problems and obstacles being noticed and dealt with at an early stage. A stakeholder analysis should also map out possible partners and competitors which could benefit or hinder the project both organizationally and financially. Who are the important stakeholders and how do we manage them?
4. The next step is to confirm what revenue or income streams are available. These are measures stemming from the physical renovation which can be incorporated into renovation projects as a way of increasing the positive cash flow after project completion. Options which increase the value both in a short-term and long-term perspective should be considered.
5. The capture of finanical value is critical in terms of profitability and achieving an economically sustainable project. This stage is to a wide degree dependant on the previous step in the model and revolve around capturing the financial value derived from the physical measures established. How can the NOI be optimized and how does the proposed renovation measures affect the long-

term value development of the property? In socially deprived areas socio-economic benefits become even more important as they have the power to influence finanical values in the long run.

The business model proposed considers the above mentioned factors and seeks to incorporate social and environmental aspects while still having a strong economic profitability focus.

6.2 Implementing the model at Siriusgatan

In this chapter the business model proposed in chapter 6.1.4 will be applied on the case at Siriusgatan. Each of the steps in the model will be explained and their relevance and benefit for the project will be argued for.

6.2.1 Establish project objectives and determine technical and customer demands

What the specific customer demands are of the residents at Siriusgatan is to date not known, but what is known is their low ability to pay. High rent increases are seen as hazardous for the residents with a risk of "renoviction" being imminent. This poses problems such as the general technical state of the properties is relatively bad with major renovation measures deemed necessary for the prolonged sustenance of the buildings. This somehow sets the tone of the project, the difficulty of merging economic and social sustainability. Important here is to locate and target rent increasing measures which generate the most customer value. By listening and providing the customer with relevant technical solutions, the renovation could provide value for both the residents as well as for the property owner, and the increased rent could be accepted by the residents to a higher degree. These technical and customer demands needs to be connected and entwined with the overall project objectives.

6.2.2 Align demands and objectives with sustainability

The sustainability dimensions of the renovation project at Siriusgatan will need to be incorporated with the demands and objectives of the project. It could include measures to decrease energy consumption and waste to aid the environment in the long run, albeit not in the actual project process. Social sustainability could be included in the renovation process by engaging willing residents or local citizens with relevant knowledge in the actual project. This could create an enhanced commitment to the project, which in the end could lead to a smoother project process with lower costs. In this way the three dimensions could be brought together and support each other.

6.2.3 Establish a stakeholder analysis

Engaging and managing project stakeholders could be critical in certain renovation projects such as the one at Siriusgatan. Both negatives and possible positives need to be thoroughly examined before initiating a project in the scale of Siriusgatan. What are the influencing and deciding stakeholders and how could they be managed? The tenants' association needs to be managed closely and introduced early to the project so their voice can be heard and planned for. Partnerships with contractors could be a viable option as it could be a way of sharing the risk as well as reward of the project and has been used in similar projects. The option of establishing a consortium with other property owners is hindered by the fact that Familjebostäder is the only actor in the local area at Siriusgatan and own all the estates. There are however possibilities in aligning with other actors in a larger macro-perspective concerning the whole area of Bergsjön, which is seen in the Bergsjön 2021 initiative (see section 2.2.3). This could generate an increased attractiveness of the area, which will increase the real estate values, which is beneficial for all involved actors in a long-term perspective. Aside from external stakeholders, different professionals within the own organization should be contacted and involved in the project at an early stage.

6.2.4 Confirm available revenue streams and capture financial value

In terms of profitability in renovation projects, four main components have been identified, which could be applied at Siriusgatan in order to capture value from the revenue streams, enabling a successful project:

- Increased real estate values
- Rent increases
- Economic benefits due to CSR projects
- An optimised NOI due to energy efficiency measures

Improved standard due to renovation will normally lead to rent increases and have a major impact on the profitability of a renovation project. Moreover a long-term perspective of increased attractiveness could lead to higher real estate values. However, in socially deprived areas, such as Siriusgatan, this could lead to serious social implications. The area is wrought with social problems such as high unemployment, low average incomes and alienation and there is an overhanging risk of "renoviction" when increasing the rents to a certain level. Rent increases need to be delicate and carefully planned for, determining an upper level or roof in terms of rent increase could be favourable ta avoid the problem of "renoviction". Identifying other ways of achieving a healthy cash flow in the project is important and could include incorporating measures that increase energy efficiency as it also increases the NOI and strengthens the profitability of the project in a long-term view. The problem in this is that the increased NOI in the long-term is not accounted for in the project's profitability. This strengthens the importance of having a long-term perspective when investing in a project, or in this case, having a longer time-perspective in profitability calculations. The incorporation of environmental and social sustainability while still being profitable is a delicate matter as a whole and is often a balance act, and in the case of Siriusgatan, special regard for the social aspects should be taken.

Measures that increase the property value could also be crucial to single out and prioritise in order to meet profitability conditions. Actions such as densification in the area with new buildings and establishing a variety in types of ownership could be one effort of increasing the attractiveness in the neighbourhood. This could also attract new people to the area and possibly other social groups, leading to a more integrated neighbourhood. Integrating the area of Bergsjön with areas nearby with higher real estate value, as been mentioned by several interviewees could also increase the market value of the properties in Bergsjön. Additionally, in order to successfully implement a holistic approach to increase the attractiveness of the area, a close collaboration with other property owners in the area could be beneficial. Therefore, it could be crucial to transform so called competitors to partners and develop a closer collaboration with the goal of accomplishing an improved well being in society and increased attractiveness of the area, which all actors will benefit from. There is however a barrier regarding this as other actors may have different interests and intents with their properties compared to public housing companies and it could therefore be difficult to implement such an idea. This difference between public and private property owners is discovered in Kindbom & Sandblom (2015). There does however seem to be some sort of collaboration concerning the overall development of Bergsjön in the form of the group Bergsjön 2021, which aims to develop through different projects and new construction. Finally, measures which typically distinguish municipality owned companies such as Familjebostäder is CSR projects and could be launched, and according to Blomé (2012), lead to socio-economic benefits for the company. Another example is the case project of Gårdsten by Lind (2014a), which did prove to be economically profitable both in a societal and company perspective. Although today, Familjebostäder cannot include these benefits in their profitability calculations since it is difficult to prove the relation between the two. There is a need to update the profitability calculations regarding measures that could be connected to profits, especially in terms of CSR projects, otherwise there is a risk of public housing companies not being able to fulfil their purpose in society and at the same time act business-like. Therefore, establishing a calculation framework of socio-economic effects derived from CSR projects will be beneficial, as shown in Lind (2014a), and enable the possibility of meeting the required rate of return in a wider sense. It also brings the social and economic dimensions closer together.

6.2.5 Underlying factors in a business model

Apart from specific parts related to the business model, other underlying and problematic factors that could affect the organisation have been identified. Sorting out these internal issues could be beneficial in order for the business model to function properly. These are mainly internal issues concerning knowledge and general approach or philosophy in the organisation, which needs to be aligned in order to successfully implement the business model in projects. In order to avoid ambiguity, a collective idea, in how to tackle the projects but also in how the daily management of the estates is run, could be beneficial. In order to act business-like and properly understand a business model and its components, it is important to possess knowledge in the financial and economic fields of real estate. It could be beneficial to establish a common vision and knowledge base in an early phase of the project, which is also brought forth by Shafer et al. (2005): is everyone in the project clear with the business model and does everyone share the same vision regarding the goals of the project? If not, then the business model might not be explicit enough and could need revision. Establishing the basics and formulating a relevant and easily understood business model could create a solid foundation for the project to rest on.

Further concerns regarding the ability to act business-like was identified, for example LOU seems to be an obstacle to be altogether business-like when procuring the project in preparation for the construction phase. Even though there is a law that states that public housing companies should act business-like, the philosophy of acting in this way does not seem to permeate the company and their procedures. Introducing such a philosophy and aligning it with the social values of the company could strengthen the application of a business model.

For the business model to work properly and meet profitability conditions, more ways to calculate profitability in regards to socio-economic benefits could be needed. Proving and evaluating the effects of CSR projects would be important when arguing for the implementation of socio-economic benefits into profitability calculations. A common problem with a business model according to Shafer et al. (2005) is the inability to capture the economic value created, which is the case in CSR projects. The capturing of economic value from CSR projects could be done by introducing measurable key ratios for different actions, which would need to be continuously monitored. Arguing for an extended lifetime of different renovation measures in profitability calculations could also help to meet profitability conditions. This could however lead to an increased risk as there is less margin between the economic and technical lifetime of the measure. Incorporating these ideas while developing a long-term perspective could help the project meet the profitability conditions and at the same time contributing to a higher degree of sustainability.

The tenants' association does seem to be a key stakeholder, which affects projects in a negative way. Bringing the tenants' association closer to the project while educating them in why and how renovation measures are done and their correspondence with rent increases could be a way of managing them. This could help to establish a sense of trust and shared knowledge with an important stakeholder, which could improve the project delivery. There does also seem to be a clash when it comes to the different perspectives of the tenants' association compared to a housing company, as the tenants' association only considers the current resident while the housing company views the property for an extended period of time. Establishing a mutual ground in this matter and understanding the different perspectives and their effect on the project could be important to sort out.

7 Conclusions

This thesis investigated the application of a business model approaching sustainable renovation of public housing and aimed to see if it was possible to apply such a model in a real life project. The results from the interview study and subsequent analysis revealed that merging the sustainability dimensions of such a model is perceived as difficult, especially in regards to the social and economic dimensions. Achieving a profitable project while at the same time undertaking a social responsibility towards the current residents is a balance act. There are however financial profits to be found in the social dimension and the notion of CSR projects was positive, both from a social and economic perspective. Capturing and proving this financial value is an essential part of the proposed business model. Linking customer needs and demands to renovation measures, which generate financial value for the owner, is key in being able to achieve a profitable and economically sustainable project in order to capture the financial value of CSR projects.

The problem of merging social and economic sustainability can to some degree be derived from the fact that public housing companies have an extended social responsibility and a history of being a social provider. The history and rooted beliefs concerning social responsibility is at odds with a business-like mindset, typically associated with the application of business models. New models for calculation methods that account for socio-economic benefits in renovation projects are needed.

In the case of Siriusgatan, a holistic approach should be taken with specific regard to social factors, as the risk of “renoviction” is imminent. Rent increases will need to be handled delicately and the customer demands should be investigated and evaluated in order to bring the sustainability and technical dimensions together. Striving to increase the attractiveness in the entire area together with other stakeholders, instead of focusing on a single project could be beneficial in terms of social, environmental and economic perspectives in the long run. The benefits that the sustainability dimensions bring to the project should be incorporated with the technical state of the building as well as the residents’ demands, and finding the intersection between the three is deemed important.

This thesis has presented a business model concerning sustainable public housing renovation, which has been applied on a real life scenario. A well-configured business model could serve as a platform for a renovation project, demonstrating how sustainability can be brought together with both customer and the technical renovation demands of the building. Finally, emphasis should be put on both creating and capturing the value of an investment in order to meet profitability conditions.

7.1 Recommendations and further research

There has been a significant amount of previous research on the topics of business models and sustainable housing renovation, although there seems to be a lack of research on these two topics together. Further research embracing these two topics seems necessary in order to fully investigate the problems with the Swedish Million Homes Programme and the occurrence of “renoviction”. Even though there has been a lot of research conducted concerning the topic of business models, the topic is still a young scientific notion and does not have a single clear definition yet. Different researchers explain the topic in a similar way, but in order to prevent misunderstanding and ambiguity, a common established definition could be helpful for further research. It would have been interesting to in-depth investigate the differences between private and public housing companies and their business models in housing renovations. Moreover, in order to capture profitability for public housing companies, profitability calculations, especially to capture the value of CSR-projects needs to be investigated, developed and implemented. Another interesting idea could be to study and determine if selling some of the properties, or converting them to co-operative condominiums, could help finance large renovation projects and how this could affect the long-term development of the area as a whole. Incorporating renovation with new construction could be interesting to study as the profits of the new construction could perhaps help motivate a financial shortfall stemming from the renovation.

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Appendices

Appendix 1 – Interview questions in Swedish

Inledning & bakgrund

- Namn
- Roll/befattning
- Utbildning

- Hur ser projektprocessen ut i stort samt specifikt i ett renoveringsprojekt?
- Hur prioriterar ni de områden som skall renoveras? Vad är det som gör att man renoverar ett område vid en viss tidpunkt?
- Vilken position anser du Familjebostäder har på marknaden? Vilken roll uppfyller ni, jämfört med era konkurrenter? Vad tror du att ni på Familjebostäder har för fördelar?
- Vet du om det finns någon vedertagen modell/plan/strategi från företagsledningen när det gäller affärsmässighet i projekt? Om ja, → hur ser du på den?
- Hur ser du på renoveringsprojekt sett som en affär?
- Hur arbetas det med CSR (socialt ansvarstagande) frågor, i stort och specifikt i renoveringsprojekt?
- Hur påverkar ekonomiska leveranskrav/avkastningskrav från högre instans inom bolag och koncern ett renoveringsprojekt? Hur resonerar du kring projektens ekonomi och lönsamhet i förhållande till hållbarhet och affärsmässighet?
- Känner du att det finns något eller några mekanismer som hindrar er från att agera affärsmässigt i era projekt?

Renoveringsprojektet i fokus

- Vet du om det finns några specifika arbetssätt/rutiner när det gäller renoveringsprojekt inom Familjebostäder? Om ja, → Hur ser dessa arbetssätt ut? Hur skulle ett sådant arbetssätt kunna utformas?
- Uppfattar du att de boendes betalningsvilja/styrka påverkar projekten. Om ja, → hur?
- Hur ser du på hållbarhet i förhållande till renoveringar (socialt, ekologiskt och ekonomiskt)?
- Vilket värde (för företaget, kunden och samhället) anser du Familjebostäder ska leverera i ett renoveringsprojekt (beroende på tjänst personen har)? hur påverkar detta det dagliga arbetet? För extern som är involverad: vet ni vad Familjebostäder vill leverera för värde i projekten?

- Anser du det är viktigt att det är att involvera boende i renoveringsprojekt? Hur brukar ni resonera kring detta i projekten? Om ja → på vilka sätt och hur påverkar de boendes involvering projekten?
- Hur tidigt och på vilket sätt anser du mest fördelaktigt att involvera andra parter inom renoveringsprojekt?
- Skulle högre krav på entreprenörer och andra aktörer i projekten kunna påverka resultaten? Om ja, → hur?
- Tror du att ett närmare samarbete med övriga fastighetsägare i området skulle generera bättre förutsättningar för renoveringar? Hur skulle detta i så fall påverka resultatet?

Projektet på Siriusgatan

- Var du med i den tidigare projekteringen på Siriusgatan? Om ja, vilken roll hade du?
- Vad var det som gick fel i det tidigare projektet? Hur kommer det sig att man börjar om med en ny projektering?
- Har den tidigare projekteringen påverkat det nuvarande projektet och i så fall hur? Vad görs annorlunda i den nya projekteringen?
- Hur upplever du ambitionsnivån och målsättningen när det gäller projektet på Siriusgatan och Familjebostäder i stort?
- Finns det något tänk kring nivåer gällande lägenhetsstandard vid renoveringen på Siriusgatan? Vad har ni för olika generella renoveringsnivåer?
- Vad är det minsta möjliga ni måste göra gällande renoveringen av Siriusgatan? Skiljer sig detta jämfört med den tidigare projekteringen?
- Hur ser du på möjligheten att använda sig av olika paketlösningar som hyresgästen kan välja vid renoveringar? Hur skulle dessa paketlösningar kunna utformas och vilken inverkan skulle det kunna ha på projektet i stort men även i relation till hållbarhetsaspekter.

Appendix 2 – Interview questions in English

Introduction & background

- Name
- Organisational position
- Education

- How does the project process look like, both in general but also in renovation projects?
- How do you prioritise the areas to be renovated? What determines a renovation is to be done in a certain neighbourhood at a specific time?
- What position do you consider Familjebostäder has on the market? What role do you fulfil, compared to your competitors? Which benefits do you think Familjebostäder has?
- Do you know there exists a generic model/plan/strategy from the top management team considering profitability in projects? If yes, → what do you think about it?
- What are your thoughts about renovation projects seen as a business?
- How does Familjebostäder work with CSR-related questions, both in general and specifically in renovation projects?
- How do economic claims such as required rate of return from higher instances within the company and corporate group affect a renovation project? How do you reason about a project's economy and profitability in correlation to a sustainable and business-like perspective?
- Do you feel that there are certain mechanisms that hinder you from acting in a business-like manner in your projects?

Renovation projects in focus

- Do you know if there is any specific operation methods/routines concerning renovation projects within Familjebostäder? If yes, → how does these methods look like? How could they be designed?
- Does the residents WTP/payment strength affect the projects? If yes, → how?
- What value (for the company, customer and society) do you think Familjebostäder should deliver in a renovation project (depending on what role the interviewee has in the company)? How does this affect the day-to-day work? For an external interviewee: Do you know what value Familjebostäder wants to deliver in their projects?
- Do you think it is important to involve the tenants in renovation projects? How do you normally reason concerning this in projects? If yes, → in what way and how does the residents' involvement affect a project?
- How early do you consider it to be most beneficial to involve other parties within a renovation project?

- Would higher demands on contractors and other actors in a project affect the results? If yes, → how?
- Do you think a closer collaboration with other real estate owners in your neighbourhoods would generate better conditions for renovation projects? If so, how would it affect the results?

The project at Siriusgatan

- Where you involved in the former design process at Siriusgatan? If yes, what role did you have?
- What went wrong in the former project? How come you start over with a new design process?
- Has the former design process effected the current project, and if so, how? What do you do different this time?
- How do you experience the level of ambition and goals concerning the project at Siriusgatan and Familjebostäder in general?
- Are there any thoughts about different renovation levels concerning the project at Siriusgatan? What general renovation levels do you have?
- What is the least you have to do concerning the renovation at Siriusgatan? Does this differ today from the former design process?
- How do you look at the possibility of using different package solutions the resident could choose from at renovations? How could these packages be designed and what impact could it have on the project in general, but also in relation to the sustainability aspects?