MASTER THESIS

ASSET-MANAGEMENT

WITHIN DUTCH HOUSING ASSOCIATIONS

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BEHAVIOURAL, MANAGEMENT AND SOCIAL SCIENCES

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Preface

This thesis is written to conclude the Master of Business Administration programme and thus my period as a student of the University of Twente. In this preface I would like to reflect and thank the people that guided and supported me throughout my time as a student.

In 2005, after graduating from VMBO-T, I went to Almelo for the three year MBO course of Ondernemer Groothandel. At that time, I wasn't sure what direction I wanted to go and since the course was pretty easy I finished it without any effort. I knew that my study capacities exceeded the MBO and therefore, in 2008, I started studying at Saxion Hogeschool in Enschede. I enjoyed my time there and while I was learning about the characteristics of the Real Estate sector, the number of job vacancies plummeted as a result of the financial crisis. After I graduated in 2013 and received the Bachelor of Business Administration (Real Estate Management) I chose to continue to study and pursue a Master degree. I am happy I made that decision at the time because I know, although I do not always agree with this, a Master degree is a good starting point for a work career.

Now I want to thank a couple of people. First of all, I want to thank my parent for their (financial) support. Secondly, I would like to thank my girlfriend Suzy for her ongoing support and trust in my abilities. In addition, I would like to thank the supervisors at Aareon for their advice and feedback throughout my period in Emmen. I really enjoyed my time at Aareon as the people of the unit Treasury were always open for questions and a laugh. Last but not least I want to thank my supervisor Ir. H. Kroon and Dr. P.C. Schuur for their feedback.

Enschede, May 2016,

Frank Veldwijk

Management summary

Background: In recent years, changes have taken place in the Dutch social housing as a result of economic and regulation developments. The credit crisis of 2008, along with several scandals, deteriorated the image and financial position of housing associations in the Netherlands. In response, the Dutch government wanted the social housing sector to become more efficient and transparent. Hence, housing associations began using business-like approaches and methods which, until then, were only used in commercial real estate organisations. To enhance the efficiency of the entire property portfolio it has become vital to have an understanding regarding the performance of individual housing complexes. Aareon did not have sufficient knowledge on which aspects and indicators are of importance to gain insight into the performance of individual complexes.

Objective: Aareon wants to anticipate on the recent developments in relation to their range of software products. In particular the concept of asset-management, which is an increasingly common term in the sector, is relatively unknown within the organisation. Asset-management focuses on improving the financial and social return of individual housing complexes. To achieve this, knowledge about the concept is necessary. The thesis emphasizes on the concept and aims to give the software developers at Aareon information about what aspects and indicators matter. The research objective of this thesis is thus to explore the concept of asset-management and to provide a solid advice on how to structure and design the concept within the (renewed) software products of Aareon.

Research question: *"What are the functional information requirements concerning asset-management in order to provide a better understanding of the performance, both financially and socially, of housing associations regarding their social dwellings?"*

Research method: In this thesis the theoretical part is the starting point for semi-structured interviews. This implies that a qualitative research method is chosen. The theoretical part consist of four chapters and follows a chronological order. First, the concept of asset-management is described. Second, the emergence of performance measurement methods are explained in relation to the social housing sector. The subsequent chapters elucidate on financial and social performance indicators which are essential for an effective implementation of the concept asset-management within Dutch housing associations. These four chapters are tested in practise through interviews with asset-managers of six housing associations across the Netherlands. The final chapter consists of a summary of the interviews added with convincing quotes from respondents. The theoretical part is compared with the practical part and based on this, the conclusion, limitations and further research possibilities are described.

Results: Asset-management is a concept that has become well known in the Dutch social housing sector. In various literature sources and professional journals it is defined as the answer to the question on how to improve the financial and social returns of individual complexes. However, scientific and practical evidence whether the returns actually improve does not yet exist. Hence, the reluctance of Dutch housing associations when the question is asked whether the concept has been implemented or not. Housing associations argue that the concept can support to improve the returns of individual complexes but are not convinced yet. In addition, the existing organization structure as well as the information systems are not ready for a sudden

change towards the concept of asset-management. In closing, once the effectivity has been proved within Dutch housing associations and the returns are improving, it is plausible that more housing associations will follow.

Conclusion:

As mentioned before, the reasoning behind this thesis is to inform the software developers at Aareon on what aspects and indicators are fundamental when housing associations choose to implement the concept of asset-management. Asset-managers are interested in both financial and social indicators. However, the financial indicators are far more important for both internal as external purposes. The strategic indicators: ICR, DSCR, LTV and the Solvency can be considered as the financial leeway of a housing association. The financial indicators at the tactical level of a housing association provide the necessary insight into the performance of a housing complex. The following indicators are essential for a better understanding of the performance: BAR, NAR, IRR, Cash Return, Capital Return, Market value, Business value and the Maintenance costs if it concerns the financial aspect. The following fields should be described to evaluate the social return: Rent Potential, Availability, Affordability, Quality, Energy-Index, Liveability, Durability and the Vacancy Rate. The financial performance is fairly straightforward to determine through universal methods and indicators. In contrast to the social performance which is more challenging due to the lack of methods and common used indicators. This is due to the fact that in the past only the financial performance mattered. The social housing sector is slowly but steady shifting from a sector where the social performance receives a more significant role. Nevertheless, the social performance of a housing associations will only be discussed if the financial performance is sufficient enough. The recent introduction of the new Housing Act and the related restriction to assign a social dwelling to whoever is interested, also called the 'Passend Toewijzen' concept, it is possible that housing associations find it harder to see the added value of implementing the concept of asset-management. The 'Passend Toewijzen' concept has made it almost impossible to change the rent of a social dwelling after mutation or renovation since social dwellings are only rented out for a rent appropriate for their income. This means that housing associations have become less able to manage the revenue part of their organisation. In addition, the target group has become much smaller as a result of this measure. The future will tell whether housing association dare to introduce the concept of asset-management.

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Chapter 1: Introduction

This chapter will elaborate on the purpose of the thesis. Firstly, the firm is presented and the reason behind this research is described. Then, the current issues, as well as contextual information about the social housing sector in relation to the firm makes the relevance of conducting research into the topic evident. The main research and sub-questions will be explained. Finally, the research goal and gap will be discussed in the last section of this chapter.

1.1 The firm: Aareon

Aareon Nederland B.V. (hereinafter referred to as Aareon), a subsidiary of Aareon AG, is a consultancy and IT systems firm which focuses mainly on the Dutch property sector. Aareon offers ERP (Enterprise resources planning) systems tailored to the individual needs of their clients, supplemented with additional integrated services and add-on products, such as CRM and Treasury solutions, Internet-based service portals and mobile applications. An ERP system is a management software tool for an integrated view of core business processes (Scheer & Habermann, 2000). The various systems and products work together simultaneously to create a digital ecosystem called – Aareon Smart World. The ecosystem connects property companies with owners, tenants and business partners. Aareon Smart World enables clients to optimize and redesign their processes more efficiently.

The parent firm, Aareon AG, is present at 27 locations and divided over six European countries. These countries include Germany (headquartered in Mainz), France, United Kingdom, Norway, Sweden and the Netherlands. In 2014, just over 1,200 employees worked at Aareon AG. The firm is a wholly-owned subsidiary of the Aareal Bank Group. Aareal is specialized in facilitating financing for the property segment. Therefore, collaboration and transfer of knowledge between Aareal Bank and Aareon AG is enhanced as the two organizations operate in the same sector.

Aareon's products and services are designed to help organizations managing properties, including social housing associations, to achieve their corporate goals. In general, these goals are translated into reducing costs, exploring new sources of income or to improve the quality of the existing processes. The organization pursues a profitable growth strategy to expand its market position. The unit Treasury and Vastgoed, located in Emmen the Netherlands, is becoming aware of the 'new' concept of asset-management within the social housing sector. Hence, their desire to learn more about the concept and to find out whether there are product possibilities. This research will focus on the concept as Aareon aims to innovate constantly in the field of IT software. The next paragraph describes the current market developments of the Dutch social housing sector.

1.2 Background

In the mid-19th century housing associations were introduced in the Netherlands. At that time, living circumstances of the labour class were insufficient and unhealthy. The first housing associations were privately owned and aimed to improve these circumstances. The introduction of the Housing Act in 1901 led to restrictions from the government regarding privately owned public dwellings. Since then, solely organisations approved by the government were allowed to manage public housing associations (Montfort, Schultz, & Buwalda-Groeneweg, 2015).

From the early 20th century until the end of the Second World War, the social housing sector experienced moderate growth. In the period after the war the Netherlands suffered massive housing shortages. The social housing sector became a weapon in the battle against housing shortages and the government was closely involved with housing associations during the construction of new dwellings (van Bortel & Elsinga, 2007). As a result of this collaboration, housing associations slowly became semi-public institutions. The financial risk was negligible and associations were assumed to execute governmental policy only. This changed during the 1990s.

Housing associations became, as part of an (inter)national trend, more administratively and financially independent (Gruis, 2005). A widespread interest of measuring performance in the social housing sector led to the deregulation, decentralisation and privatisation of housing associations in the Netherlands. The Social Rented Sector Management Order (SRSMO), in Dutch known as the BBSH, replaced the detailed regulation of activities towards a system of retrospective accountability. Housing associations gained more freedom to develop their own policies. One of the challenges during the nineties was the restructuring of problematic post-war neighbourhoods. The requirements the Dutch had regarding social dwellings altered from an emphasis on quality instead of quantity. These developments led to a demand for market-oriented management with a government in a more facilitating role (Nieboer & Gruis, 2013).

In the years after the turn of the century, housing associations showed considerable economic growth (Montfort, Schultz, & Buwalda-Groeneweg, 2015). Housing associations began using business-like approaches and methods such as strategic business planning, balanced scorecards, portfolio analysis and benchmarks (Nieboer & Gruis, 2013). The large capital and reserve position of housing associations made it possible to develop and implement their own policies without interference of the government.

However, the increased financial position raised questions about transparency and accountability. The image of the social housing sector was affected when it appeared that a majority of housing associations were unable to elucidate about the allocation of public money (Buruma, 2013). Furthermore, several scandals in the past few years (housing association the 'Woonbron' lost 265 million euro renovating an old cruise ship while 'Vestia' suffered great losses speculating on derivatives) harmed the social housing sector even more (Helderman, Koedijk, & Schaar, 2013). The Dutch House of Representatives decided to conduct a parliamentary inquiry into misconducts within housing associations.

These deficiencies, along with the credit crisis of 2008, put pressure on return figures across the sector. Indirect returns (sale value of real estate) had dropped and therefore the direct returns (exploitation efficiency) had to improve (IPD/aeDex, 2009). In other words, the social housing sector had to professionalize, both administratively and financially, to remain credible.

In essence, the problems within the Dutch social housing sector can be traced back to the following three words; transparency, legitimacy and efficiency. First, transparency contributes to a clearer picture about societal goals and performances. Legitimacy concerns the relationship between the government and housing associations. An increase in efficiency, both financially and socially, creates investment opportunities to strengthen the position of housing associations in the Netherlands.

Asset-management is an approach to improve the efficiency and transparency in the social housing sector (Ortec Finance, 2013). At this time there is a lack of knowledge about this concept within Aareon, hence the firm's request for knowledge into this topic. The purpose of this research is to provide the firm with advice towards the concept of asset-management.

Aareon, as a software developer, wants to know whether there is a need for custom made software focused on asset-managers of housing associations in the Netherlands.

1.3 Problem statement and research questions

The problem statement forms the intent of the entire research and needs to be specific and informative (Creswell, 2014). The essence of the problem is as follows: Aareon develops software for housing associations. The Dutch social housing sector, of which housing associations are part of, is subject to changes. One of these changes has led to an increased pressure on the financial position of housing associations. In short, the increased pressure and several other developments caused the need for organisations to manage their dwellings in a more professional way.

In recent years, asset-management has become a common term within housing associations in the Netherlands. More and more Dutch housing associations are employing asset-managers to gain more insight into financial and social performances. Aareon is eager to learn more about the topic and the various aspects and indicators that come along. The aim is to find out whether there is a demand for a customized module within their software, and if there is one, how to structure and design it.

The above stated aspects and background information led to the following main research question of this thesis:

> "What are the functional information requirements concerning asset-management in order to provide a better understanding of the performance, both financially and socially, of housing associations regarding their social dwellings?

To answer the main research question, six sub-questions have been formulated. These questions serve as a basis for the main research question but are treated individually.

The main topic, asset-management, has several definitions and therefore it is crucial to make a founded distinction. The first sub-question is explored through literature and can be considered as the theoretical introduction for this research.

1. *What are the features of asset-management in regard to the social housing sector and how can it be of added value for housing associations?*

Once the main concept and the potential benefits and shortcomings in relation to the social housing sector are described, the main features are evaluated. Subsequently, performance measurement will be explained in general and then focused on the social housing sector. The following sub-question will address this.

2. *What is performance measurement and how is the performance measured within the social housing sector?*

After the second sub-question elucidated on what aspects must be considered to analyse the performance, the following sub-question concerns an inquiry of the current financial performance methods.

3. *How are the financial performances of social dwellings measured?*

Housing associations and commercial real estate organizations are distinguished by the difference between the financial and social aim. To explain these differences, the next sub-question will focus on this matter. The previous sub-question gave insight into financial performance measurement methods. The following sub-question will examine the way how social performances are measured.

4. *How are the social performances of social dwellings measured?*

The previous sub-questions mentioned different methods of assessing the performances of housing associations. Aareon aims to find out more about which ratios and indicators asset-managers are interested. The following sub-question will, through interviews, explain on what level of detail asset managers want insight in the performance of social dwellings.

5. *To what extent of detail are asset-managers interested in the financial and social performance of managed social houses?*

Aareon wants to find out how the performance of the social dwellings should be presented in their software. Aareon aims to counter a potential need for asset-management software. The potential need and the design of the software will be derived through interviews. The sub-question is as follows:

6. *What are the requirements of asset-managers, concerning the financial and social performance of social dwellings, in regard to displaying this within the renewed software of Aareon?*

1.4 Research goal

The research goal of this thesis is to provide a well-founded advice for Aareon towards asset-management in the Dutch social housing sector. Aareon, as a developer of IT-software, is in the process of modernizing their existing software. The developments in the Dutch social housing sector, along with the renewal process of their software, led to the question whether there is a demand for a customized module aimed at asset-managers within the software Aareon provides. The aim is thus to find out if there is a demand and if there is one, how it should be structured and designed.

1.5 Research Gap/Scope Relevance

The concept of asset-management within the social housing sector is still in its infancy. Housing associations are wondering if the concept is of added value for their daily operations and real estate software developer such as Aareon don't know enough about the concept to develop a product around it. Therefore, in order to avoid a loss of market share, Aareon needs to learn more about the concept.

Chapter 2: Method

The second chapter will focus on how this research will be conducted. In the first section, the research design is described. The conceptual model is depicted to show the structure of the thesis and subsequently the approach of collecting data is described. The chapter ends with an elaboration concerning the research method of the main research question and the sub-questions.

2.1 Research design

The research design is twofold and can be divided between an exploratory and a descriptive design. Since the subject is relatively new in the social housing sector an exploratory design is appropriate. Exploratory research is used to find out more about a relatively new subject or interest (Babbie, 2009). Often, this form of research serves three purposes, (1) to satisfy the researcher's curiosity and desire for better understanding, (2) test the feasibility of undertaking more extensive research and (3) to develop methods to be used in a subsequent research (Babbie, 2009). However, since certain aspects will probably come from existing literature concerning the commercial property sector a descriptive research is also justified. The objective of a descriptive research is to answer questions of what, where, when and how. The method is used to describe certain characteristics of a population or phenomenon being studied (Babbie, 2009). The emphasis of this research will be descriptive. A qualitative research method, where the aforementioned research designs are part of, will serve as basis for the entire research.

The aim of the research is to analyse the theory, and eventually verify this in practise. A qualitative approach to confirm certain results from theory in practise is by using a cross-sectional study. A cross-sectional study involves observations of a sample of a population or phenomenon made at one point in time (Babbie, 2009). Gerring (2012) indicates that a small sample size is sufficient for the combination of qualitative research with a cross sectional design. The sample size is too large when the data becomes saturated. The basic concepts of a subject will be obvious after six observations and reaches the point of data saturation after twelve (Guest, Bunce, & Johnson, 2006).

The first two chapters describe the rationale behind the thesis as well as the method for a successful completion. The theoretical framework is discussed in the following three chapters and the findings will be evaluated and serve as starting point for the last two chapters. These two chapters will consist of a framework derived from the theoretical part and are to be proved in the empirical phase. Results from the theoretical phase and empirical phase will lead to the final chapter which is the conclusion, limitation and further research. Table 1 depicts the structure and the paragraphs of the thesis.

H1	H2	H3	H4	H5	H6	H7	
Introduction	**Method**	**Asset-management: an introduction**	**Performance measurement methods (PM)**	**Financial performance measurement (FP)**	**Social performance measurement (SP)**	**Analysis and results of the interviews**	**Conclusion, limitation and further research**
The firm: Aareon	Research design	Definition	PM in general	Monitoring the FP of housing associations	Definition	AM in practise	
Background	Data collection	AM in general	PM process	FP indicators at the strategic level	SP in general	FP indicators in practise	
Problem statement and RQ	RQ, sub-questions and method of research	AM within housing associations	PM methods	FP indicators at the tactical level	SP measurement methods	SP indicators in practise	
Research goal		AM as a profession	PM in the social housing sector	FP indicators at the operational level	MKBA	Design AM software module	
Research gap/scope				Valuation methods	Performance agreements		
		Conclusion and SQ 1	Conclusion and SQ 2	Conclusion and SQ 3	Conclusion and SQ 4		

Table 1: Schematic representation research

2.2 Data collection

To answer the research questions an extensive literature research will be executed regarding the first four sub-questions, followed by interviews to answer the last two sub-questions. First, an initial evaluation of the existing literature concerning the subject will be conducted. This is done to get a first sense about the subject and the scale of it. The next two paragraphs will elaborate in detail on the different methods of collecting data.

2.2.1 Literature research

The initial stage of the thesis is primarily to gather literature and information about the subject. To collect literature, online methods such as the internet will be extensively used. A distinction between journals and websites such as Scopus, Google Scholar is made regarding the subject to collect information. The following key terms were used to find literature: Asset management; Social housing sector; Financial performance; Social housing; Main issues social housing sector in the Netherlands; Woningcorporaties; Toekomst Woningcorporaties; Social Performance.

Furthermore, literature on the subject is available within Aareon. One of the thesis supervisors has recently started a course towards 'Portefeuille & Asset management for housing associations' at the University of Delft. The University gathered valuable articles which were used to form the theoretical basis of this thesis. In addition, an asset-management course was given in Emmen at Aareon for employees of the unit Treasury. From this course valuable information is obtained.

2.2.2 Semi-structured interviews

Distinctive findings from the theoretical part will be assessed in practice through interviews. A semi-structured interview is a qualitative approach to collect data. Interviews are used to gather opinions, perceptions and attitudes. In addition, interviews are favourable for researchers to gather information on past or present behaviours or experiences (Harrell & Bradley, 2009). There are diverse techniques to conduct an interview. An unstructured interview is characterized by a low degree of control while a structured interview is controlled and questions are fixed and asked in a specific order. Semi-structured interviews are often used when a researcher wants to dive deeply in a subject and to comprehend the provided answers thoroughly. In this research, the choice was made to conduct semi-structured interviews, because it allows new ideas to be brought up but still ensure that, via a guide with questions and topics, all pertinent material is covered (Harrell & Bradley, 2009). The structure of the interview questions will be similar to the structure of the thesis. The outcome of the interviews should provide new insights and ways of thinking that are not described in the theoretical part. The interview questions can be found in appendix I.

2.2.3 Sample of respondents

The respondents will come from six housing associations throughout the Netherlands. The objective is to interview employees with the function of asset manager/portefeuille manager. The six housing associations will differ in size (number of social dwellings) and organization structure. This will give Aareon an impression of the concept of asset-management in practise.

2.3 Research question, sub-question planning and method of research

The research questions can be answered through the use of various methods. The preferred method to answer the sub-questions is depicted in the table below, see table 2. In order to achieve a well-founded answer of the main research question there has been made a distinction between answers that are likely to be derived from theory or practise.

Research approach sub-questions	Answering by utilizing		
	Theory	Emperical	Both
1. What are the features of asset-management in regard to the social housing sector and how can it be of added value for housing associations?	√		
2. What is performance measurement and how is the performance measured within the social housing sector?			√
3. How are the financial performances of social dwellings measured ?			√
4. How are the social performances of social dwellings measured ?			√
5. To what extent of detail are asset managers interested in the financial and social performance of managed social houses?		√	
6. What are the requirements of asset managers, concerning the performance of social dwellings, in regard to displaying this within the renewed software of Aareon?		√	

Table 2: Research approach of sub-questions

Chapter 3: Asset-management: an introduction

This chapter will give insight into the concept of asset-management and the responsibilities of an asset-manager. First, a definition of the concept will be provided. After the selected definition is chosen, the characteristics of the concept are described. In the first chapter, a brief description of asset-management in the social housing sector was given. In this chapter a further elaboration on the necessity of asset-management will be given as well as ongoing trends and developments. Moreover, to implement the concept, several models are developed to support this process. These will be evaluated in this section. The first sub-question; "*What are the features of asset-management in regard to the social housing sector and how can it be of added value for housing associations?" will be answered in this chapter.*

3.1 Definition

The concept of asset-management is a frequently heard term in the world of business administration. However, an unambiguous definition is missing (Gruis & Nieboer, 2007). In the financial sector the term is used to describe people and companies that manage investments on behalf of others, in short investment management. In the production sector the concept is used to focus more on cost efficiency, whereas a dictionary refers to an advice given, from banks and financial organizations, to customers about investments (Cambridge University Press, 2015).

In general, the above-mentioned terms and definitions emphasize on optimising the financial performance of assets. The social housing sector also strives to, in addition to the financial goals, optimize social performances (Nieboer & Gruis, 2004). Therefore, the following definition of asset-management in the social housing sector is used throughout this thesis:

"Asset-*management concerns the process of creating value within the owner's (housing associations) objective through the acquisition, use and disposal of real property assets (social dwellings)* " (MacNair, 2010)

In the Netherlands a growing number of housing associations are interested in asset-management. A study by Ortec finds that nearly eighty percent of the Dutch housing associations are engaged in implementing the concept (Ortec Finance, 2013). The need for more efficiently operating assets is growing (Bijsterveld, 2011). Housing associations are expected to provide insight in their performances more often. The next section explains the concept more thoroughly.

3.2 Asset-management in general

The previous section led to a definition of the concept. The next step is to discover the applicability and significance in general. Worldwide, all levels of society are facing considerable managerial challenges. In existing literature, asset-management has been mentioned as possible solution for the following challenges; emerging economies are in the process of trying to identify the lowest cost / highest return investments while developing economies are in the process of understanding infrastructural life cycle costs. In addition, more developed economies use the concept to find ways of extending the life cycle of various structures, ranging from oil rigs to buildings (Davis, 2008). As described previously, the concept

of asset-management is used in various sectors and disciplines to tackle managerial challenges.

Assets are, according to the dictionary, items of property owned by a person or company and are considered to possess value to meet debts, commitments and legacies (Oxford Dictionaries, 2016). This definition of the word 'asset' shows the broadness of the concept as well. There are several types of assets which are explained below.

Assets with a short life cycle (< 1 year) and readily turned into cash are in the financial accounting terminology known as current assets. Current assets are also referred to as cash, prepaid expenses, inventory and marketable securities on a balance sheet. Non-current assets are not expected to be recovered, meaning in monetary value, until after twelve months past the balance sheet date. A non-current asset can be either tangible (buildings) or intangible (computer software). Non-current assets include properties, capital equipment, plants and long-term investments (Bazley, Hancock, & Robinson, 2015). In this thesis assets are referred to as non-current tangible assets. A 'fixed asset' is another term for this.

In short, asset-management is a concept that can help organisations to achieve their 'performance' objectives and to determine the optimal combination of activities based on these objectives. The concept can support organisations to (DTF Government of Victoria, 2015) (Davis, 2008);

- Improve the operating performance of their assets;
- Reduce the total costs of operating their assets;
- Reduce the capital costs of investing in the asset base;
- Minimise the environmental impact of operating the assets;

Asset-management can be explained as a mind-set to recognize physical assets not as unchanging lumps of plastic / concrete / metal, but as objects that change and deteriorate with use and eventually stop working. The 'asset life cycle' encourages managers to reach decisions about assets in a whole-of-life context (DTF, 1995).

3.2.1 Asset life cycle

In order to obtain more knowledge about the assets of an organisation, it is essential to acknowledge and understand the life cycle of assets. Organisations manage numerous different types of assets. Understandably, social dwellings are the key assets of a housing association. This form of assets are characterized by a long life cycle (Campbell, Jardine, & McGlynn, 2011). To keep assets operational, resources are required. Decisions concerning fixed assets have long-term implications. Therefore it is supportive to divide different phases in terms of their life cycle. The asset life cycle approach is used within organisations to understand the full impact of an asset purchase or disposition better. The aim is to enhance the quality and length of the asset's life (Campbell, Jardine, & McGlynn, 2011). The life cycle of an asset can be divided in the following four phases, see figure 1:

- Acquire;

This phase covers the identification of the need for a new asset. The strategy of an organisation needs to be scrutinized to ensure a proper acquisition. This is also called the planning phase.

- Commission;

In this phase the asset is constructed, tested and will eventually be fully functional.

- Operate;

The phase where an asset spends the most time in. The asset provides the function for which it was designed. In the case of a fixed asset, this phase could last decades. The asset will be maintained and monitored to meet any change in condition

- Dispose;

This phase involves decisions about the disposal, retirement and liquidation of an asset. At the moment an asset is acquired, it is often too hard to consider the future disposal value. For instance, real estate prices are subject to changes. Therefore, the decision to dispose an asset in ten years could be a justified decision today, but can turn out wrong in the future.

Figure 1: Life Cycle of an Asset (Department of Treasury and Finance, 2000)

The life cycle of an asset approach aims to support organisations expanding their view and understanding of assets. A further insight in how assets are acquired, operated, maintained and eventually disposed can improve the completeness and rigor of asset-management. A life cycle decision example from practise: In former times, one manager's duty was to look after a particular life cycle phase of an asset while another manager was responsible for another phase. This resulted in the following issue; a manager responsible for acquiring new assets chose, without insight in the entire life cycle of an asset, to buy an asset with the lowest purchasing price. However, this turned out to be an incorrect decision because the maintenance costs appeared to be significantly higher and the disposition price lower compared to other acquiring possibilities. In case the manager considered the entire life cycle of the two assets, another decisions would have been made (Davis, 2008).

3.3 Asset-management within housing associations

To recap, the definition of asset-management in this thesis is to create value within the owner's objective through the acquisition, use and disposal of real property assets. To achieve this objective, several strategic management models have been developed to align the strategic goals of a housing association with the financial feasibility. Housing associations can use these models to implement their policies developed at the strategic level and directed at the operational level. In the following subsections the existing strategic management models, as well as two commonly used policy models, are elaborated and discussed.

3.3.1 Organisational levels of Real Estate Management

One of the well-known models in the real estate sector is the real estate 'pyramid'. The model has various similarities with the management triad originating from the field of business administration. Housing associations need to design each policy level in such manner to enable

the control of the framework and guidelines at a lower policy level. In general, the strategic level creates guidelines for the lower levels. The tactical level acts as a node between the strategic and operational level. This level has the function to translate the strategy into practical and feasible plans for individual housing complexes. Individual housing complexes are a group of similar houses/buildings in terms of number of square meters, year of construction and the structural condition. The pyramid shape indicates that the strategic level of an organisation is smaller than the tactical and operational levels. However, the strategic level is in terms of decision-making the highest in the hierarchy (Os, 2007). Interaction takes place among the three policy levels. In traditional organisations the three levers are treated and looking at separately. Asset-management, located in the centre of the model, benefits from a constructive cooperation between the different policy levels. The position of asset-management will be explained in more detail further on. The figure of an organisational real estate 'pyramid' is depicted below.

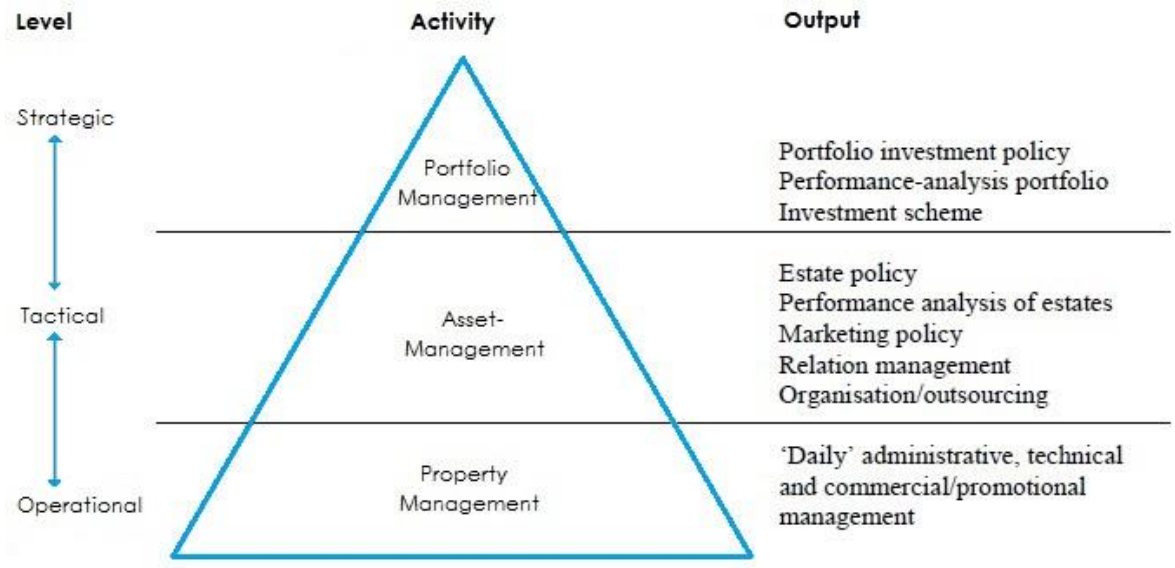

Figure 2: Organisational 'pyramid' real estate management

1. The strategic level (portfolio management) focuses on establishing the strategy and plans for the entire portfolio for the next few years. The content of a real estate portfolio differs depending on the firm's strategy and objectives. A commercial real estate investor focuses more on the financial performance of a portfolio while a social housing association intends to pursue social targets more. One of the recurring terms at this level is the periodic portfolio plan (Janssen, 2008). A portfolio plan describes the basic principles for desired changes in the composition of the portfolio (acquisition and disposition).

2. The tactical level (asset-management) can be regarded as the level where the translation between the strategic portfolio planning and the object policy takes place. The performance figures of the assets act as basis for decision-making about the portfolio. Housing associations need to consider financial as well as social performances. The results from these performances are, in alignment with the strategic plan, a starting point for the following possibilities in relation to the assets; to proceed

with exploitation, to renovate or to dispose (Janssen, 2008). A fourth possibility is to acquire new objects.

3. The operational level (property management) deals with the implementation of the object policy. This policy level can be divided into four disciplines; administrative, financial, technical, and commercial management. A characteristic of this level is the contact with the tenant.

The policy of a housing association should be altered on a periodic basis due to changes in the sector, market demand, quality of the existing portfolio, financial possibilities and other ways of thinking. Thence, the policy process has a cyclical character. In each level, from strategic to operational, the following model is applicable. The Deming cycle is a continuous quality improvement model and consists out of four repetitive steps. The four steps are depicted below.

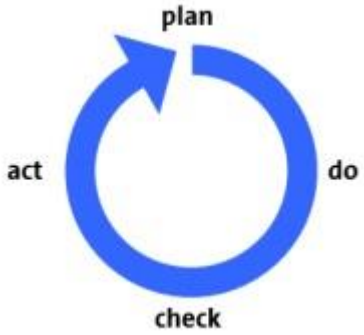

Figure 3: Deming cycle for continuous improvement

Housing associations can use the Deming cycle to find out if their policies are still feasible. The cycle starts with the 'Plan' step. This step consists of the identification of a goal, the formulation of a theory and the planning process. The activities from the previous step are followed by the 'Do' step. The 'Check' step monitors whether the outcomes are successful and if not, show areas where improvements are needed. The final step is the 'Act' step where valuable information is gained to improve the process and perhaps adjust the goal. The four steps are repeated and are part of a never-ending cycle of improvement (RIGO , 2015).

In short, the real estate 'pyramid' model was developed to support housing associations linking their long-term strategic goals with daily operation activities (Nieboer, 2005). In Dutch, this is described as 'Portefeuillesturing'. 'Portefeuillesturing' is mentioned as a tool to bring more transparency in long-term strategic goals of Dutch housing associations (Ortec Finance, 2013; Wezel, Nederstigt, Nouse, & Vis, 2014). The increased financial pressure on housing associations along with various scandals contributed to the demand for greater professionalism and integrity throughout the sector. Asset-management, as pivot between the strategic and operational level, could improve the professionality of a housing associations which in turn could lead to a better insight in the financial as well as the social performance of an organization (Ortec Finance, 2013).

3.3.2 DrieKamerModel

The DrieKamerModel, hereinafter referred to as DKM, is policy model designed for housings associations. The model can be seen and used as a steering concept to support

housing associations with diverse contemporary issues. The concept of the DKM distinguishes three goals and aims to improve these within Dutch housing associations. These goals intend to enhance the effectivity, efficiency and financial continuity of housing associations (Conijn & Claessens, 2013). To improve the aforementioned topics, the concept of the DKM separates individual so called 'rooms'. These are the 'Maatschappelijke kamer'(Social), the 'Vastgoedkamer'(Real Estate) and the 'Vermogenskamer'(Capital).

In short, the concept functions as follow; The 'Maatschappelijke kamer' is responsible for the allocation of available resources towards social desired activities as effectively as possible. The 'Vastgoedkamer' needs to make sure that the real estate assets of a housing associations are exploited efficiently and the 'Vermogenskamer' duty is to guarantee the financial continuity. The figure depicted below gives a schematic representation of the DKM (Triest & Schreuders, 2014)

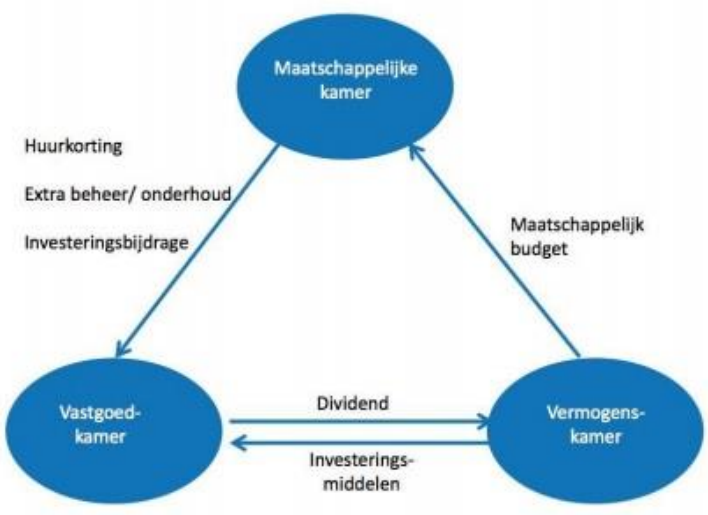

Figure 4: DrieKamerModel (Ortec Finance, 2013)

The DKM model is a new concept in the social housing sector. Up to now, solely pilot studies examined the initial results. The value of the DKM model lies in the fact that there is a constant separation of responsibilities within the management of housing associations. The distinction between the social and financial objectives could make a significant contribution to increase the transparency and legitimacy of Dutch housing associations (Triest & Schreuders, 2014).

3.3.3 RIGO Beleids8baan

RIGO, a Dutch research firm, developed a policy model called the 'Beleids8baan'. The 'Beleids8baan' combines two principles from the real estate 'pyramid' (strategic and operational level) with the Deming cycle. The output from the strategic level, as depicted in figure 2, is the portfolio plan. The operational level is concerned with daily activities of a housing association and recognizes the so called plan for each object or 'complex plan'. In these plans, an emphasis is placed on the Deming circle with the four elements (plan, do, check, and act).

Housing associations making use the model are better able to provide insight into areas of improvement. The tactical level is left out of the 'Beleids8baan' because its only purpose is to link the strategic and operational levels with each other (Os, 2014).

Moreover, in addition to the principles from the real estate 'pyramid' and the Deming cycle the 'Beleids8baan' also uses the top down-bottom up approach. The policy objectives, or portfolio plan, from the strategic level form the framework for the operational activities. The outcome of these activities provide guidance for the policy objectives at the strategic level of a housing association (Os, 2007). The 'Beleids8baan' primarily focuses on four levels which are considered crucial for the integration of the model within housing associations. The four levels are described below;

1. Steering on the rate of return: This level focuses on more than just the financial side of a housing association as there is also a social target. In essence this means that the costs for social activities, since these activities hardly make a return, should originate from the assets housing associations possess.
2. Organizational embedment: The 'Beleidsmodel' needs an organization with a robust structure. The various systems and processes as well as the culture, style of leadership should be elaborated in detail. The 'Beleids8baan' provides the ability to enhance the knowledge within housing associations. The cyclical character strengthens the learning effect while the vertical and horizontal links stimulate the shared vision (Os, 2007).
3. Automation: Housing associations are information intensive organisations given the different roles they fulfil (service provider, real estate developer and investor). These three roles impose specific requirements on internal information services. The ten steps of the 'Beleids8baan' (see figure 1) are impossible to implement without sufficient information.
4. Social embedment: The social responsibility of a housing association is paramount. Throughout the development of policies and strategic plans it is necessary for policy makers to keep this in mind.

The objective of the 'Beleids8baan' is to support housing associations with developing the 'Portefeuilleplan' at the strategic level. This is not a simple assignment and can take years depending on the present situation of a housing association. However, the model is particularly useful since it is able to apply variations for specific situations. According to the Vries (2013), the concept is the most developed and recognizable model for Dutch housing associations. The 'Beleids8baan' is depicted in figure 5 below.

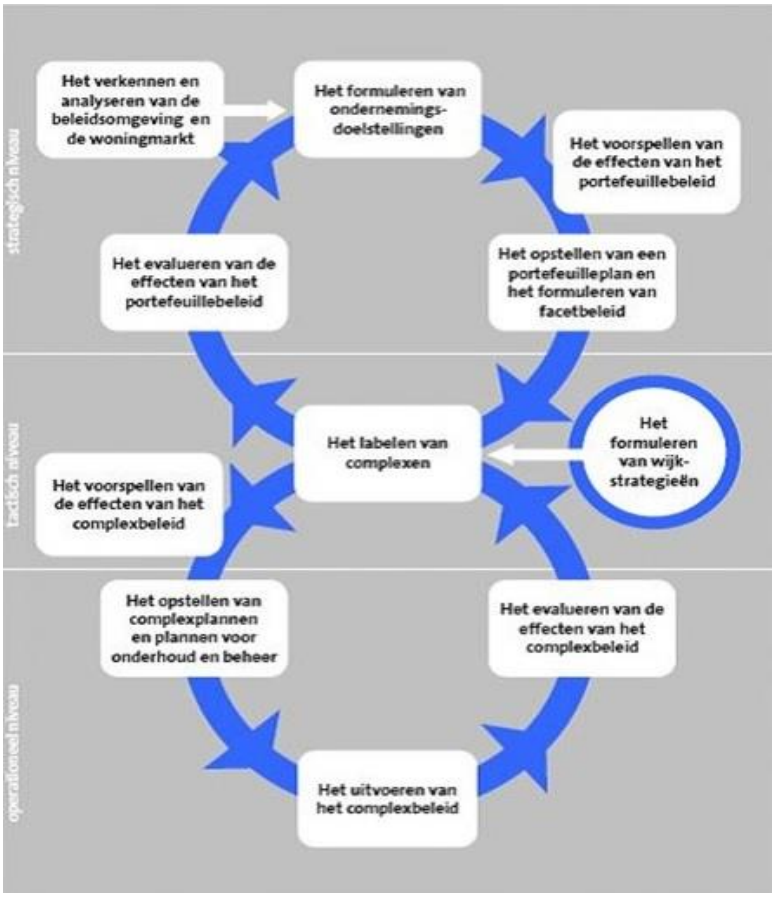

Figure 5: Beleids8baan of RIGO (RIGO , 2015)

3.4 Asset-management as a profession

Asset-management as a profession is currently a topic of conversation in the Dutch social housing sector. In more and more housing associations the profession of an asset-manager is introduced. A study by Ortec Finance (2013) finds that more than three quarters of Dutch housing associations are in the process of implementing the concept within existing business practices. Moreover, educational institutes introduced asset-management courses and masterclasses specifically aimed at positions within housing associations.

Asset-managers attending these courses will learn more about how to achieve higher returns, reduce operational costs, risk management and how to align the current vision with the long-term vision of a housing association. The Dutch housing association Stadgenoot indicated that, after using one of the policy models and attending one of the courses, it was better able to judge whether a decision is financially justified or not (Gilden, 2014).

3.5 Conclusion and answering sub-question 1

This chapter served as an introduction to the concept. In the second chapter the following sub-question was formulated "*What are the features of asset-management in regard to the social housing sector and how can it be of added value for housing associations?*" The sub-question will be answered in the following section.

Asset-management is a concept that stems from the world of business administration and is specifically used to monitor and maintain things of value to a certain group. In other

words, in this research the things of value are interpreted as social dwellings and a certain group can be understood as a housing association. To recapitulate, the following definition is used throughout this thesis;

> "Asset-*management concerns the process of creating value within the owner's (housing associations) objective through the acquisition, use and disposal of real property assets (social dwellings)* " (Gordon, 2010)

In essence, the concept has been copied from commercial real estate firms and is becoming a well-known term in the social housing sector as well. Assets have a life cycle and recognizing this is a first step towards enhancing them. Around three quarters of Dutch social housing associations are in the process of implementing the concept (Ortec Finance, 2013). Asset-management focuses on the tactical level of a housing association and can be regarded as the link between the strategic and operational level of an organization. These levels operate as follows; the strategic level develops a multi-annual strategy for the entire real estate portfolio, also knowns as a 'Portefeuilleplan'. Asset-management, located on the tactical level, is responsible for transforming the strategic plans towards feasible plans per object, or an individual social dwelling. The operational level of a housing association is in charge of implementing the so called complex plan towards a strategy aimed at individual properties.

To support Dutch housing associations with the implementation of the concept a few research institutes developed policy models. The most common throughout the sector are the "DrieKamerModel" and the "Beleids8baan". These models have been developed to provide housing associations guidance and advice when introducing the concept of asset-management. Housing association are, in addition to the implementation of the various models, also in the process of hiring people for the position of asset-manager.

To conclude, housing associations are introducing the concept of asset-management to enhance the exploitation of their assets, in specific social dwellings. The above mentioned policy models are developed to support organisations in the process of distinguishing their financial and social performance and to realise a housing portfolio that matches their strategy. Asset-management is located at the tactical level of a housing association and focuses on improving the operating performance, to reduce the total and capital costs and to minimize the environmental impact of individual complexes. In contrast to the past, when only the performance of the entire portfolio of a housing associations was evident, it has become gradually more important to measure to performance of individual complexes as well. Therefore, housing associations are hiring asset managers/portefeuillemanagers which are responsible for optimizing the returns, diversifying the risks and to reduce the costs of these individual complexes.

Chapter 4: Performance measurement methods

This chapter serves as an introduction into various performance measurement methods organizations use. To eventually provide a justified assessment about the financial as well as the social performance of social dwellings, housing associations need to learn more about which key indicators and ratios are used throughout the social housing sector. The following sub-question: *"What is performance measurement and how is the performance measured within the social housing sector?" is addressed here.*

4.1 Performance measurement in general

In order to gain insight into a certain performance, measurement is required. Each organisation in every industry and branch, whether non-profit or profit, needs to know at a given moment in time how it has performed. The performance of an organization is affected by their strategy and operations in market and non-market environments and has been one of the main focus points for decades (Otley, 1999; Orlitzky, Schmidt, & Rynes, 2003). Performance measures are a tool to help organizations understand, manage and improve the products, services and processes that produces them (Artley, 1995). Throughout this thesis the following definition of Kennerley & Neely (2003) concerning the term performance measurement will be used. Performance measurement is the process of quantifying the efficiency and effectiveness of action. Whereas the actual measurement is the process of quantification and action leads to performance. Efficiency and effectiveness could be interpreted as follows; Effectiveness is a process characteristic that indicates the degree to which the process output conforms to requirements (Are we doing the right things?). Efficiency also is a process characteristic and specifies the degree to which a process produces the required output at minimum resources costs (Are we doing things right?). The following well-known quote sums up the significance of measuring performance within an organization: *"Measurement is the first step that leads to control and eventually to improvement. If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it"* Harrington (1999).

4.2 Performance management process

To ensure that the performance of an organization is in line with its corporate goals and strategies a performance management process can be created. The purpose of this process is to provide a so called proactive loop, depicted in figure 6 below, where the vision of an organization is deployed thought objectives, processes, activities and personnel. On the other side, feedback is obtained through the performance measures to support decisions from management. The loop creates a closed control system where an organization can benefit from. The feedback that results from the performance measures serve as foundation for a renewed vision and subsequently strategy. The model is designed to help organisation improve themselves constantly (Bititci, Carrie, & McDevitt, 1997). The model has lot in common with the Deming cycle.

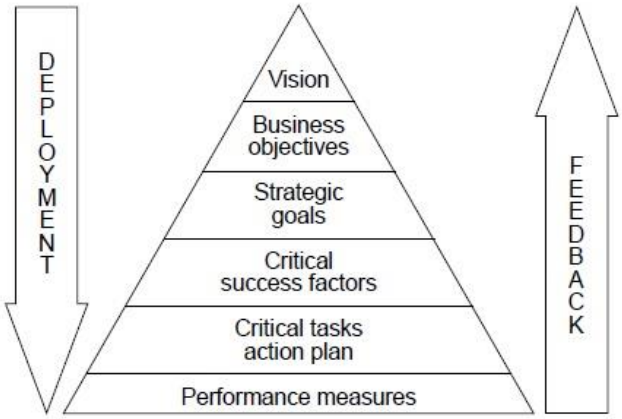

Figure 6: Proactive loop for the performance management process

4.3 Performance measurement methods

To recapitulate, performance measurement exists to monitor and maintain control to ensure an organization achieves their goals and objectives (Salem, 2003). The earliest performance measurement methods were created in the 1960s. These traditional performance measurement methods were mainly internally focused, financially based and backwards looking and instead of concerned with the overall performance of the business more with local departmental performance. Therefore, during the 1980s, more modern performance measurement methods were developed (Bourne & Neely, 2003). The next paragraphs will elaborate on these methods.

4.3.1 Balanced Score Card (BSC)

Kaplan & Norton (1996) developed the Balanced Score Card (BSC) to look at the performance of an organization through four perspectives. The method is extensively used in business, industry, governments and non-profit organizations. Worldwide, between 30 and 60 percent of large organisations are using balanced scorecard approaches to align business activities with their vision and strategy. (Neely, 2008). The demand for a 'balanced' tool to measure the performance of an organization arose during the 1980s. Managers and other senior personnel no longer wanted to choose between, for instance, financial and operational measures. The Balanced Score Card method combines four perspectives and creates a holistic view of an organisation. The four perspectives can be distinguished as follows and are depicted in figure 7;

1. Financial;
   In general, the financial perspective focuses on revenues and expenses within an organization. Key financial indicators such as the ROE, sales growth, cash flow and several others are analysed and compared alongside the current vision and strategy.

2. Customer;
   The customer perspective is designed to focus on creating value and differentiation when servicing the customer. To achieve more customers and to enhance market share is often one of the objectives.

3. Internal Business processes;
   The internal business process of an organization should contribute to the level of customer satisfaction. These processes should be designed in such matter that effectiveness is maximized.

4. Learning and Growth;
   The fourth and last perspective is related to the people within an organization. The perspective focuses on the ability of an organization to create an environment that fosters innovation and learning.

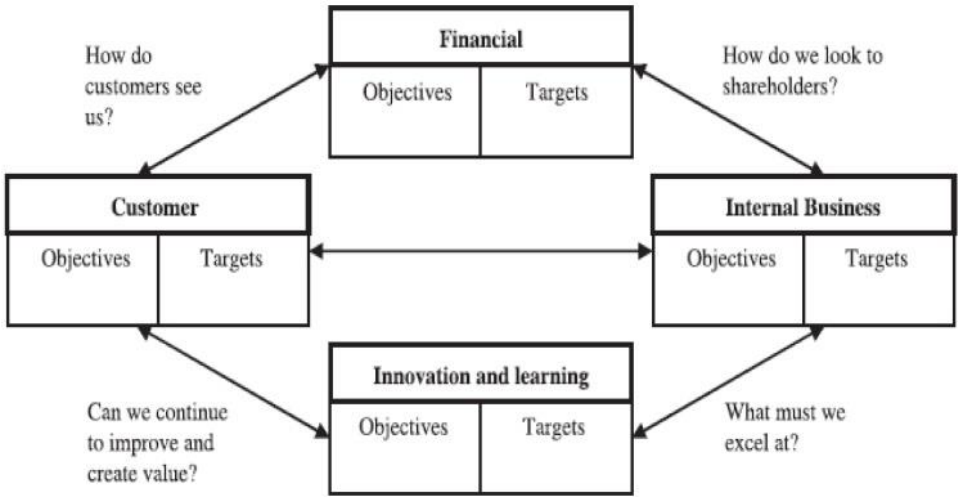

Figure 7: The Balanced Score Card Framework

4.3.2 Strategy mapping

The use of a strategy map is crucial in the development of a valuable Balanced Score Card. In a strategy map, the relationship between the strategic objectives and the performance indicators, are made specific. This enables organisations to establish cause-and-effect links which eventually lead to strategic pathways throughout an organisation (Wu, 2011). A benefit of this is that managers are better able to understand how objectives and measures in a particular area can influence other performance areas (Chenhall & Langfield-Smith, 2007). Strategy maps provide management with a simple visual representation of the strategic objective and force them to adhere to a certain structure that places the focus on their strategy even more. In addition, managers have the task to develop SMART (specific, measurable, achievable, relevant, time-bound) specific objectives and performance indicators (Lundberg, Balfors, & Folkeson, 2009).

4.4 Performance measurement in the social housing sector

In the preceding paragraphs, the significance of measuring performance in general has been made obvious. Organizations are able to adopt goal-oriented approaches if the performance of their operations are measured. Housing associations should look at past performances to identify problems with already in progress activities, based on these problems

existing policies can be altered (Koopman, Mossel, & Straub, 2008). Nowadays, information about the current performance is becoming vital for decision makers in organisations. Performance measurement is, apart from providing information for the management of a housing association, also crucial for external stakeholders of the organization.

The urge for performance measurement within the sector began around 1995, after housing associations were privatized. This changed caused that housing associations adopted private sector approaches more and more. On the other hand, the public obligations of housing associations had to be safeguarded. As a result, the necessity to measure the financial and social performance of housing associations increased. (Gruis, 2005). In recent years, through the deteriorated financial position, the support to measure the performance has only grown larger. The following section focuses on the two main performance areas of housing associations, namely the financial and social performance.

4.4.1 Financial and Social performance

Housing association measure their performance by looking at both financial and social indicators. This section discusses the balance between them while the following two chapters will elucidate on them separately.

Housing associations are known for their unique position in the real estate sector. This is because their objectives are twofold. The financial and social performance should be taken into account. This means that organizations are constantly seeking for a balance in their housing portfolio. In the social housing sector this balance is also called 'Waardesturing'. The figure below depicts the search for the optimum balance between the financial and social performance.

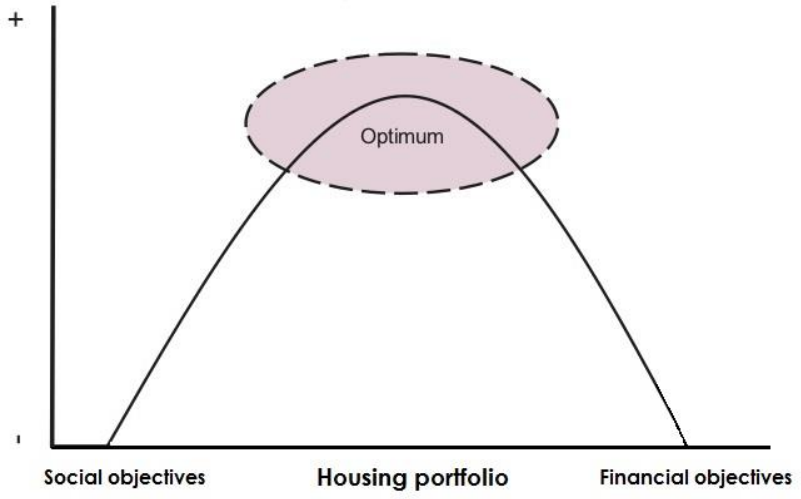

Figure 8: Twofold objective of housing associations

The oval-shaped figure represents the balance between the social and financial objectives housing associations need to pursue. The concept of 'Waardesturing' focuses on the balance between these objectives. In the Dutch Housing Act is stated that organisations are not allowed to pursue financial objectives only. Therefore, housing associations should develop a housing portfolio which contributes to this balance (Wolleswinkel, 2012). However, achieving the financial objectives are essential because without sufficient financial resources

the social objectives cannot be attained. In the next section the financial return will be further elucidated.

4.5 Conclusion and answering sub-question 2

This chapter discussed the concept of performance measurement in general and specifically within the social housing sector. The sub-question of this chapter is; "*What is performance measurement and how is the performance measured within the social housing sector?*"

Nowadays, measuring the performance of an organization, whether profit or non-profit, is essential. The famous quote of James Harrington indicates the importance of measuring. "*Measurement is the first step that leads to control and eventually to improvement "–H. James Harrington.* The Balanced Score Card is a widely used method to assess the performance of an organization. Housing associations also introduced Balanced Scorecards to measure and control organizational performance.

The unique position of housing associations ensured that, through pursuing financial as well as social objectives, there is no uniform method to measure the performance. Nevertheless, since the objectives of housing associations are either financial or social it is essential to discuss this in more detail in the next chapters. The following chapter will provide insight into the financial indicators developed to measure the performance while the subsequent chapter discusses social indicators.

Chapter 5: Financial performance measurement

Asset-management within housing associations is to a large extent concerned with an examination of the performance, both financial and socially (Gruis, Nieboer, & Thomas, 2003). The information derived from this analysis is then used to support decisions about the acquisition, exploitation and disposition of assets. Nowadays, detailed information on the financial performance of housing associations is essential (van Os, 2009). However, financial performance is a broad concept and in each sector and organization there are different key indicators and ratios. The following section describes the regulations from the Dutch government in regard to disclosure of the performance. The main financial indicators are, for every organisational real estate level, explained from section 5.2 onwards. The third sub question: *"How are the financial performances of social dwellings measured?"* will be answered in this chapter.

5.1 Monitoring the financial performance of housing associations

Housing associations have the obligation to inform certain governmental agencies about their financial results. The Dutch social housing sector is working on a number of measures to increase the transparency and legitimacy. The WSW (Waarborgfonds Sociale Woningbouw) is one of the organizations which develops measures. The core task of the WSW is to give housing associations access to, on favourable terms, the capital market (WSW, 2015). Furthermore, the WSW acts as a guarantor ('hoeder van de borg') for interest and repayment obligations of loans from housing associations. However, the WSW wants to monitor certain financial ratios and norms before a housing association is eligible for such an arrangement.

The AW (Autoriteit Woningcorporaties) is a public authority and has the task to monitor whether housing associations concentrate on their core task of providing affordable housing for people with insufficient financial capabilities. In the Housing Act are these tasks defined as Diensten van Algemeen Belang (DAEB). The DAEB consists of activities such as the construction of social dwellings, managing and investing in liveability. Moreover, the AW is in charge of distinguishing commercial (niet-DEAB) and social activities (DEAB) from each other. This separation of activities is devised to make sure that risks from commercial activities (niet-DEAB) do not jeopardize social activities (DEAB). Housing associations are only allowed to engage in commercial activities (niet-DEAB) when commercial organizations are not interested (Rijksoverheid, 2015). The Dutch government is, through the supervision of organisations like WSW and AW, better able to judge housing associations regarding the allocation of financial resources.

Corpodata, a collaboration of the Ministry of Internal Affairs, AW and the WSW, is developed to support housing associations with the bundling, retrieval and distribution of financial data. Housing associations are required to provide information about their financial performance twice a year (Vereniging van Nederlandse Gemeenten, 2015). This obligation can be divided into two kinds, namely the prospective (dPi) and accountability information (dVi). The dPi shows a prognosis of the financial consequences of the proposed activities in the next five years. In contrast to the outlook, the dVi displays the financial performance of the past three years.

In short, the WSW applies the following ratios and standards to minimize the risks and to prevent financial distress, see figure 9. Housing associations not capable of meeting these requirements are confronted with increased supervision. This implies that it will be more difficult, or impossible, for housing association to obtain loans since the WSW is no longer willing to act as a guarantor for interest and repayment obligations of loans.

Financiële Ratio	Norm
ICR	1.4
DSCR	1.0
Loan-to-Value	75%
Solvabiliteit	20%

Figure 9: Ratios and standards WSW (WSW, 2014)

5.2 Financial performance indicators at the strategic level of a HA

To create a logical structure of all the various financial indicators, the real estate 'pyramid', depicted in paragraph 3.3, is appropriate to use. To recall, the 'pyramid' exists of three organisational levels where asset-management is located between the strategic and the operational level. The three levels have their own financial indicators and ratios which individually contribute to a realistic picture of the financial performance of a housing association. In the figure below are the financial indicators for the strategic level listed.

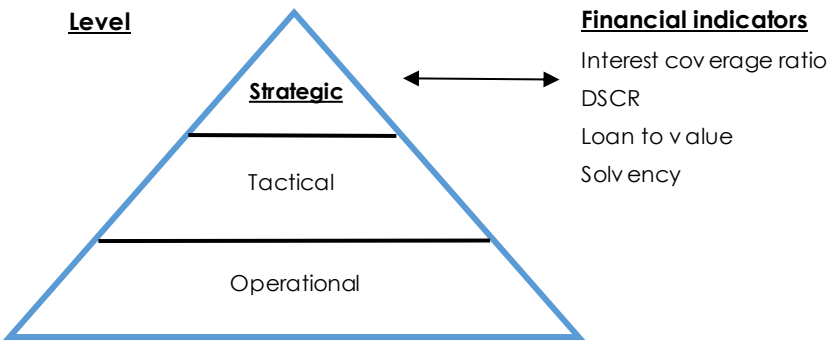

Figure 10: Financial performance indicators at the strategic level

The strategic level of a housing associations is responsible for developing and pursuing of the policy and the strategy for the next years. Stakeholders, from governmental institutions to banks, are interested in the following financial indicators at this level. The Interest Coverage Ratio (ICR), Debt Service Coverage Ratio (DSCR), Loan to Value (LTV) and the solvency (Otten, 2012). The WSW has developed financial standards to which housing associations must abide. In these financial standards minimum levels are determined. The following section elucidates on various indicators as well as their minimum required level.

Interest Coverage Ratio (ICR)

The ICR is calculated by dividing the cash flow exploitation through the cost of financing. The method is used to determine if an organization is able to pay interest on their outstanding debts. Housing associations strive for a high ICR (PWC, 2011). However, a disproportionately high ICR can suggest that an organization misses valuable opportunities to magnify earnings through leverage. The WSW stated in its assessment framework that housing associations should have an ICR of at least 1,4 (WSW, 2014).

Debt Service Coverage Ratio (DSCR)

This financial indicator measures the extent to which a housing association is capable of generating sufficient cash flows. These cash flows are then analysed to, if necessary, repay debt capital. The minimum standard for the DSCR, according the assessment framework of the WSW, is set at 1,0 (WSW, 2014).

Loan to Value (LTV)

The financial concept of Loan to Value or LTV shows what part of the total assets are financed through the use of debt capital. The WSW has set the LTV to a maximum percentage of 75%. This means that if for instance the value of the total assets are one thousand euros, only 750 euros may be debt capital (WSW, 2014). This standard requires housing associations to not only rely on external financing but use equity capital instead. Hence, reducing the possibility of possible default.

Solvency

The solvency of a housing association indicates to what extent an organisation is able to guarantee sufficient earnings from social housing revenues in contrast with financial obligations from the balance (ILT, 2015). In general, solvency is a financial indicator which represents the relationship between equity and debt capital. The WSW has set a minimum norm of 20 percent for Dutch housing associations. This guideline encourages housing associations to not only depend on debt capital entirely, but use equity instead.

5.3 Financial performance indicators at the tactical level of a HA

The strategic level is concerned with financial performance indicators that relate to the financial continuity and solvency. These indicators provide an impression about the financial performance of a housing association as a whole. At the tactical level other indicators are necessary (Gruis, 2005). To recapitulate, the concept of asset-management is located at the tactical level of a housing association. Asset-management aims to enhance the financial and social performance of individual complexes of housing associations (van der Broeke & Kronbichler, 2009).

Asset-managers are, due to their position as a node in the real estate 'pyramid', well capable of making decisions about social dwellings. In contrast with financial indicators at the strategic level, which focus on the financial performance of the housing associations as a whole, the emphasis at this level is placed on the financial performance of individual complexes within housing associations (Gruis, 2005). Therefore there are, compared to the strategic level performance indicators, different performance measurements required. Asset-managers within housing associations are interested in the performance of individual

complexes since these can be compared and managed. An overview of the financial performance of individual complexes helps asset-managers to make more sophisticated decisions. In case a complex is underperforming, i.e. the financial performance is not as good compared to similar complexes, then there is a challenge. Asset-managers are responsible to monitor the financial performance of individual complexes and if necessary, to implement changes concerning them (Brown, Nieboer, & Gruis, 2003). At the tactical level choices are made which will directly affect an individual complex and perhaps the composition of the entire portfolio of a housing association. Asset-managers are able to, based on financial and social indicators, decide to acquire, continue to exploit, to enhance or to dispose a particular complex (Gordon, 2010). The financial indicators at the tactical level can be distinguished into three phases, which largely correspond to the asset life cycle, described in section 3.2.1. These are the acquisition, exploitation and disposition phase (Driel, 2001). The associated financial indicators for each phase are depicted below, see figure 11.

Tactical Level

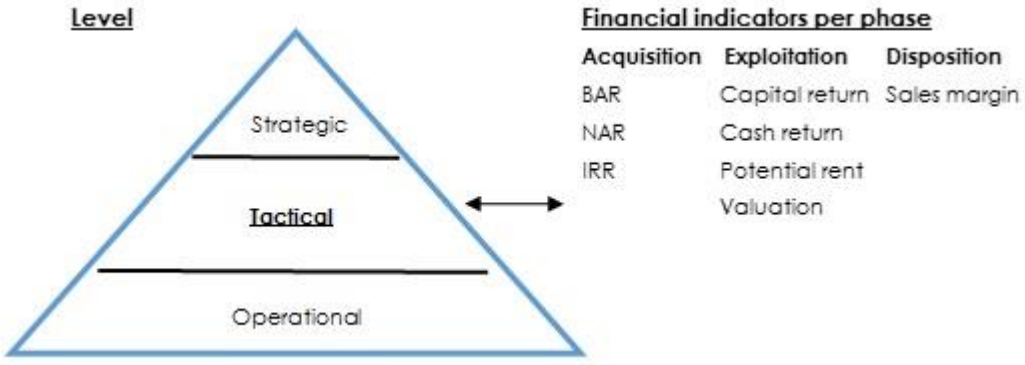

Figure 11: Financial performance indicators at the tactical level

Asset-managers are interested in the financial performance at individual complex level (Segers, 2015). In order to enhance the performance, information is required. Asset-managers need to monitor individual objects to compare them and to gain insight in potential enhancements. In addition, the acquisition and disposition phase are distinguished by specific financial indicators. The indicators are used throughout the social rented sector to support acquisition and/or disposition decisions (Otten, 2012).

In the next section are the financial indicators for the tactical level of a housing association explained.

5.3.1 Acquisition phase

In the acquisition phase is assessed whether an object fits within the portfolio plan developed at the strategic level. Market research and feasibility assessments will determine if a particular object is achievable (Corporatiestrateeg, 2015). Asset-managers use the following financial indicators to assess the risks and to justify acquisition decisions. The following financial indicators are used throughout the sector;

BAR

The BAR or Bruto Aanvangsrendement is a method to express the market value and the quality of an object. The BAR is calculated by dividing the annual market rent of an object through the total investment. The benefit of this method is its simplicity due to the limited number of variables. However, a shortcoming is that the method provides no insight into cash flows. The figure below depicts the BAR formula (ROZ/IPD Vastgoedindex, 2007). Suppose two complexes with a similar investment, if the rental income of one object is higher compared the other, it will mean that the BAR will be lower for that object. The reason is that a potential investor has less risk since the rental income is higher. A low BAR rate therefore equals an object with a low risk profile and therefore has great potential.

$$\text{BAR} = \frac{\text{rental income}}{\text{investment}}$$

Figure 12: Bruto Aanvangsrendement formula

NAR

The NAR or Netto Aanvangsrendement is derived from the BAR method. The only difference is that the operating expenses are deducted from the annual market rent.

IRR & NPV

The IRR or Internal Rate of Return is a method to measure and compare the profitability of investments. The IRR is a widely used investment performance measure throughout the world of business administration and is applied in the real estate sector as well. The IRR can be found by setting the NPV or Net Present Value, which is the sum of the net cash flows for each period in the holding period, discounted at the required rate of return (i), to zero (Blas, 2006). The NPV is a method to, similar to the IRR, identify the potential profitability. If the NPV of an investment is higher than zero, it means that it is profitable. The NPV formula is presented below.

$$NPV = -initial\ investment + \frac{Net\ Cash\ Flow}{(1+i)^1} + \frac{Net\ Cash\ Flow}{(1+i)^2} + \frac{Net\ Cash\ Flow}{(1+i)^3} + \cdots + \frac{Net\ Cash\ Flow}{(1+i)^t}$$

Figure 13: Net Present Value formula

The IRR is also known as the discounted cash flow rate of return. In simple terms, the IRR is calculated by making the discounted cash flows (negative and positive) obtained from an investment and equal them to zero (Damodaran, 2015). In other words, the IRR is the rate at which an investment NPV equals zero. Organisations should only proceed with an investment when the IRR percentage is higher than the cost of capital. The formula of the IRR is depicted below.

$$\sum_{t=0}^{T} \frac{CF_t}{(1+IRR)^t} = 0$$

Figure 14: Internal Rate of Return formula

5.3.2 Exploitation phase

The exploitation phase of a real estate object, such as a social dwelling, is in regard to time the longest phase. This period will determine whether the sum of all costs and revenues of the investment will be earned back. Therefore, this phase requires a thorough forecast. Housing association develop financial frameworks to monitor the performance of each object individually. These financial frameworks can be translated into the following financial indicators which are crucial to manage the performance during the exploitation phase.

Cash return (direct rendement)

The financial performance of a housing association is largely measured in the same manner as commercial organizations do. The overall financial return of a housing associations consists of cash return (direct rendement) and capital return (indirect rendement). The cash return, also called the exploitation efficiency, is composed of the net cash flow, for a given period, set against the average invested capital (PWC, 2011). Housing association use this financial indicator to make investment decisions and to monitor the rent- and maintenance policy of individual objects. Furthermore, this financial indicator provides in simple manner insight into the profitability of individual objects. In case the cash return of a certain object is lower than comparable objects, an asset-manager will have to determine the cause. The cash return is calculated by using the following formula; (Os v. P., 2012).

$$DR_{t=1} = \frac{Netto\ kasstroom_{t=0\rightarrow1}}{Waarde_{t=0}}$$

Figure 15: Cash Return formula (DR, Direct rendement)

Capital return (indirect rendement)

The capital return of an object is the change in value of a given period. The property sector, including the social housing sector, was affected by credit crisis of 2008. As a result, the capital returns throughout the sector plummeted. The capital return is calculated by using the following formula; (Os v. P., 2012).

$$IR_{t=1} = \frac{Waarde_{t=1} - Waarde_{t=0}}{Waarde_{t=0}}$$

Figure 16: Capital Return (IR, Indirect rendement)

Potential rent

Housing associations are not able to, through their social obligation, determine the rent for a social dwelling themselves. In the 'Woonakkoord' (measures to e.g. improve employment, promote energy saving and guidelines concerning the social housing sector) from the Ministry of Internal Affairs it is specified that housing associations have the possibility to increase the rent to a certain maximum depending upon object and region (Wildt & Berkhout, 2014). The 'Verhuurdersheffing' has been introduced since 2013. This measure generates more revenue for the government because landlords are required to pay a specific charge over the value of their social dwellings. However, a downside is that this additional charge will be reflected in

higher levels of rent. Furthermore, the latest Housing Act introduced a measure which is called 'Passend toewijzen' in Dutch. This means that housing associations are only allowed to rent out social dwellings to people that matches their income. In other words, this measure restricts the possibility of housing associations to rent out a social dwelling to everyone. As a result, it will probably become more difficult to find the right tenant for a social dwelling.

5.3.3 Disposition

Housing associations are able to, besides focusing on the financial performance during the acquisition and exploitation phase, enhance the overall efficiency by analysing the existing disposition strategy (NEVAP, 2014). The multi-annual 'Portefeuilleplan' from the strategic level determines the amount and types of social dwellings needed to match the objectives of a housing association. There are several reasons imaginable to be actively involved with the disposition of social dwellings. For instance, high (maintenance) costs, low occupancy rate or a mismatch with requirements from tenants (Brink, 2015). The decision whether to renovate, dispose, continue the exploit or demolish a social dwelling is difficult without adequate information. The condition of a social dwelling can be assessed through the use of the life cycle approach, described in chapter three. In addition, the hold/sell method evaluates the financial and social targets on a periodic basis and designates an individual complex in one of the four areas depicted in figure 17. Housing association should evaluate whether their housing portfolio, both financially and socially contributes to the strategic objectives. Housing associations should assign a score to every individual dwelling and if, after evaluation, an individual complex is placed in category 1, 2 or 4 changes should be made to move it to category 3. The objective is to get individual dwellings towards the circled square on the top right.

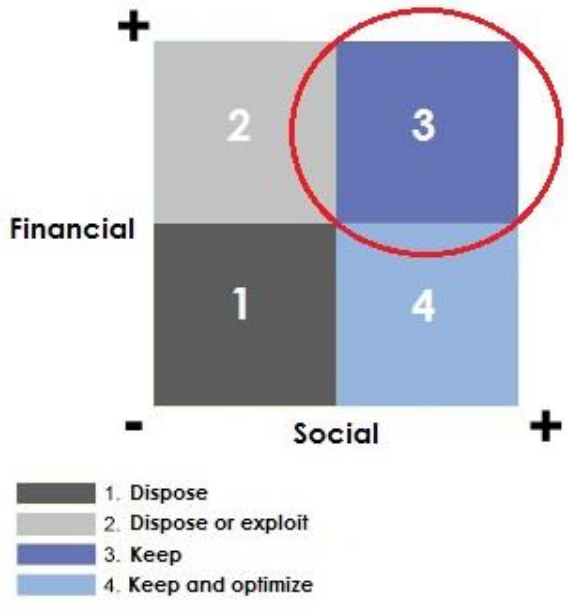

Figure 17: Hold/Sell or Disposition matrix

An understanding of the disposition opportunities will lead to a better insight in the current value of social dwellings. Hence, the possibility to demand a higher sales margin, based on information from the disposition strategy, could be justified (NEVAP, 2014).

In short, housing association should take the disposition phase, as well as the acquisition and exploitation phase, into consideration when the objective is to enhance the performance of individual complexes. Commercial real estate methods such as the IRR and BAR are increasingly being used in the social housing sector as well. Housing associations should decide for themselves which indicators and methods can help to make more justified decisions. The outcome of these indicators can be compared with each other. In addition, by applying the life cycle approach on individual complexes, it will become evident which complexes are in what phase and subsequently which complexes need attention. An example of a justified decision concerning the disposition strategy of a housing association is as follows. In former times, before methods such as the IRR and BAR were used, a housing association considered the building year and the quality of an individual complex as a guide to decide to dispose or continue to exploit that particular complex. Nowadays, the IRR can give detailed financial information about a complex making more transparent to decide what to do with that complex. The IRR of several similar individual complexes can be compared which makes it easier to defend a decision concerning individual complexes.

5.4 Financial performance at the operational level of a HA

Each level of the real estate 'pyramid' has its own (financial) key indicators. Obviously, since the operational level is characterized by the management of social dwellings at object level, there is a difference between the tactical and strategic level. Therefore, the specific indicators for the operational level will be explained in this section. The figure depicted below lists the indicators for this level.

Operational Level

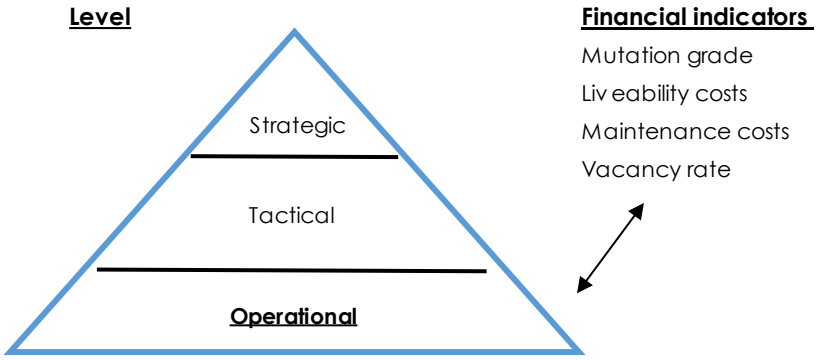

Figure 18: Financial performance indicators at the operational level

The operational level of a housing association is the level where, among other things, contact with the tenant takes place (Waals-Vos, 2011). The information that comes from contact with the tenant is valuable. After all, the tenants are the customers of housing associations. Therefore, an understanding of their requirements and demands could result in improved decision making at, for instance, the strategic level. The strategic and tactical level are only able to function properly if the operational level is well organized. (Kohnstamm & Uittenbogaard, 1996).

The activities at the operational level can be divided into three divisions. These are the administrative, technical and commercial management (Ortec Finance, 2013). The

administrative management focuses on tasks like controlling all incoming and outgoing transactions, the registration of annual reports, contract management and the accounts payable department (Welsenes, 2012). The technical management is responsible for the maintenance and its purpose is to keep the social dwellings and installation in the best possible condition. This includes multiple forms of maintenance such as; corrective, mutation and planned maintenance. Furthermore, this division is also engaged in renovations, upgrading and damage repair of social dwellings (Welsenes, 2012). The activities of the commercial division consist of internal contact with the tactical level of a housing association, contact with tenants and external organisation. The interaction between the tactical and operational level is crucial regarding the analysis and advice for the object policy. The promotion and marketing of social dwellings are covered within the commercial management. If done right, it will affect (financial) indicators such as the mutation grade and vacancy rate. After all, the aim is the keep these rates as low as possible.

In brief, the three components of the operational level need to collaborate with the tactical level to enhance the efficiency of a housing association. In addition, although a growing number of organisations outsource parts of the operational level, one should bear in mind that this is the only level where contact with the tenant takes place. (Goesten, 2007).

5.5 Valuation methods

How housing associations valuate their social dwellings is essential for the outcome of financial indicators at the strategic level. This can determine whether housing associations are eligible for favourable interest rates and if they act in accordance with requirements from organisations such as the WSW and AW. Hence, valuation of social dwelling within the social housing sector has given rise to a great deal of debate. In recent years, mainly due to the call for more transparency and efficiency, there have been changes in the manner in which housing association value their assets (Beltman, 2012). The social housing sector distinguishes three widely used valuation methods (Deloitte, 2014). These are the historical costs method, business value method and the market value method. The different methods are explained below.

Historical costs method

The historical cost price method was originally used as starting point for valuation purposes in financial statements. Until the 'Bruteringsoperatie' of 1995 (where Dutch housing associations became privatized) the historical cost price method was the generally used method (Beltman, 2012). The method consists of construction and other costs that must be incurred to get the property in a condition for its intended use. In the case if investments during the lifetime of the asset are made, then these are counted on top of the historical costs. The depreciation is in equal linear parts during the economic lifetime of an asset until the residual value is reached (AEDES, 2014). The complexity is low due to the absence of cash flow and therefore comprehensible for organisations. However, a disadvantage of this method is that there is no insight in the development of the fair value of an asset after the moment of acquisition. As a result, this method is not recommended as a management tool for external as well as internal stakeholders (AEDES, 2014).

Business value/ Fair value method

The exploitation risks of social dwellings shifted from the Dutch government towards privatized housing associations from the mid-90s. This transition required a valuation method more suitable for that period. Housing associations wanted insight into the current value of their assets instead of the historical costs price method. The business value or 'bedrijfswaarde' in Dutch calculates the present value of the assets housing associations possess. The business value of an asset, or social dwelling, is the discounted value of all cash inflows and outflows (Beltman, 2012). This implies that this valuation method is based on expectations. Therefore, housing associations must be able to assess future cash flows thoroughly. The discount rate, percentage by which future cash flows are discounted, has a major impact on the business value (Verweij, 2013). Each housing association uses different parameters which affects the valuation. Consequently, it is often perceived difficult to declare and fathom mutations. Nevertheless, this valuation method is more applicable as a management tool for decision makers within housing associations in comparison with the historical costs method (AEDES, 2014). The business value is based on expected cash flows and therefore represents a proper approximation of the actual value today and in the future. Housing associations have the ability to determine the parameters and discount rates themselves, thus creating differences in the valuation outcome (Beltman, 2012). To prevent differences and to enhance the transparency of the valuation outcomes, as from 2016 it is compulsory for housing associations to value with the market value method. This method is explained next.

Market value method

The Housing Act of 2015 has determined that all housing associations are required to provide a valuation of their assets through the use of the market value method. The method is a variant of the discounted cash flow calculation used to determine the business value. The introduction of this method is an essential element of the Housing Act, including the separation of 'DEAB' and 'niet-DEAB' (Hoof, Verhagen, & Grunewald, 2015). The valuation of the market value has been used by commercial real estate organisations and capital providers for years. The method values real estate on the basis of expected revenues, in case of a housing association, a social dwelling can generate (Hoof, Verhagen, & Grunewald, 2015). The Dutch government has put pressure on housing associations to value their possessions with this method. From 2017 on, this method is mandatory. Housing associations are able to, through the market value method, determine the actual value of the social dwellings. In addition, the method contributes to the transparency of the performance. Asset-managers are, through insight into the actual value, better able to make decisions whether to acquire, renovate or dispose a social dwelling.

5.6 Conclusion and answering sub-question 3

In this chapter, several financial performance measured methods of housing associations were examined. The financial performance is, besides the social performance, both for internal and external stakeholders of interest. The sub-question of this chapter; "*How are the financial performances of social dwellings measured?"* is addressed here. The financial performance of housing associations is evaluated through the use of indicators. These indicators are divided among the three levels of the real estate 'pyramid'. The strategic level covers financial indicators such as the ICR, LTV and Solvency. These indicators determine

whether a housing association is capable of fulfilling payment obligations, the ratio between equity and debt and so on.

The financial indicators at the tactical level, where asset-management is positioned, are distinguished by three phases, namely the acquisition, exploitation and disposition phase. An example of a financial indicator during the acquisition phase is the BAR. The BAR expresses the market value and the quality of an object via a simple calculation method. In addition, the IRR is also used in this phase. The IRR measures and compares the profitability of investments and is widely used throughout the world. The financial indicators at the exploitation phase mainly concern the return of a housing association. The cash return (exploitation efficiency) and the capital return (the change of value for a given period). In the disposition phase, one strives for a sophisticated figure of the actual value of social dwellings. This value is necessary in order to obtain a sales margin as high as possible.

The operational level indicators are related with the administrative, technical and commercial management of a housing association. The contact with the tenant, or the customers, which takes place at this level, is as input valuable for the tactical and strategic level. This input is essential for decision-making purposes. The financial indicators at this level influence the financial performance. For instance, a low mutation grade ensures an improved financial performance at this level. Housing associations have the obligation to inform certain governmental agencies about their financial performance. The WSW and AW monitor the performance and, if necessary, enforce housing associations to make changes to enhance the financial position.

To conclude, the financial performance of a housing association is essential in several respects. First, the financial information is used for internal purposes to learn more about the performance of a housing association. The performance can be divided into the three levels, namely the strategic, tactical and operational levels. The strategic level focuses on the performance of the entire housing portfolio to ensure that the financial position remains sound. The WSW and AW monitor the ratios and indicators of the strategic level. The tactical level focuses on improving the performance of individual complexes only. The operational level concerns administrative, technical and commercial activities. Second, the information derived from these levels is also used for external purposes. Local municipalities, banks and other capital providers want financial security while governmental agencies monitor this. In closing, an understanding of the financial performance of housing associations is a first step towards improving the performance. Housing associations with a weak financial position are unable to invest in new dwellings and renovations let alone being able to meet social obligations.

Chapter 6: Social performance measurement

This chapter is dedicated to the social performance of housing associations. The new Dutch Housing Act clarified that housing associations should focus on their core task solely, namely the construction and maintenance of affordable housing for people with a small budget. However, to realise this objective, financial resources are required. A part of these financial resources need to be allocated towards social objectives housing associations pursue. This chapter discusses social objectives and indicators used throughout the social housing sector. The fourth sub question: "*How are the social performances of social dwellings measured?*" will be answered in this chapter.

6.1 Definition

Measuring the social performance of Dutch housing associations is challenging. Even though it is currently subject of discussion in the social housing sector, only a limited number of housing associations succeed in providing insight into their social performance (Deuten & Kam, 2005). In contrast with the measurement of the financial performance, which is relatively straightforward through the use of common and widely used formulas and definitions, the social performance is more difficult to determine.

In simple terms, the social performance can defined as to what extent the social goals of a housing association are achieved (Koopman, Mossel, & Straub, 2008). These social goals are often closely related to the core task of housing associations such as providing people with a low income access to decent housing, or more loosely related like improving the liveability and safety in a particular neighbourhood. This indicates that the concept of social performance is broad and therefore hard to define. Hence, to make the concept comprehensible and useful for management purposes, the performance of a housing association should relate to the input. In other words, using social return as a measure (which is the ratio between the outcome and input) identifies the social performance at best (Gruis, Kam, & Deuten, 2008).

The social return is the added value of a project or investment for an entire society. It indicates how the cost of an investment or project relate to the social objectives of a housing association (Larsen & Boer, 2011). The definition of social return is therefore the ratio between the invested money, people and/or resources required (input) versus the social effect achieved (effecten). The following figure illustrates this definition.

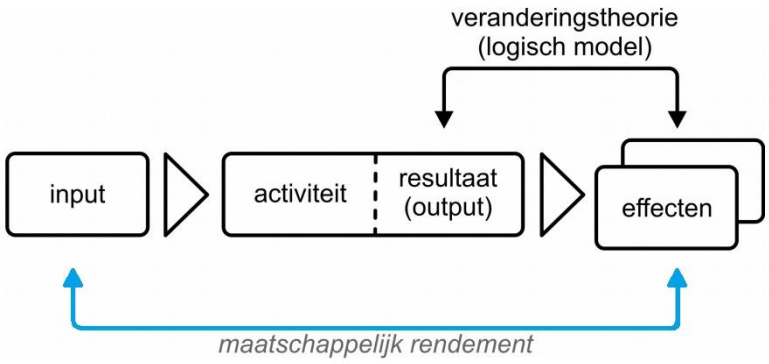

Figure 19: Schematic representation of the Social Return

The first part of the illustration can be properly identified. This concerns the costs and resources (input) against a certain result (output). The second part is more complex and can be

explained by the following example. Suppose a neighbourhood is suffering from crime, CCTV cameras are bought (input) and installed at problematic sites (output). This represents the first part of figure 19. The second part focuses on the 'impact' the CCTV cameras have on the crime rate. To assume that the crime rate decreases when cameras are nearby is not reasonable. Perhaps, the police patrols the area better or people avoid the problematic site which ensures there are less people. In order to obtain insight in the social return, two actions are required (Larsen & Boer, 2011). First, the expected effects should be identified and subsequently need to be weighted. This is possible through the use of a Multi Criteria Analysis (MCA) or a Cost Effectiveness Analysis (CEA).

6.2 Social performance in general

Housing associations have, through their legal status, the obligation to pursue social objectives. The previous section indicated that the existing definitions of the term 'social return' are broad and therefore may be interpreted differently within housing associations. The measurement of social performance attracted attention when the Dutch government began to interfere less with housing associations (Gruis, Kam, & Deuten, 2008). To ensure that housing associations somewhat share the same objectives in the field of social performance, specific rules have been created. The Social Rented Sector Management Order (SRSMO), in Dutch known as the BBSH, specifies certain rules in regard to the public mission of housing associations. Nevertheless, the board and members of the management have a large administrative leeway to decide and pursue self-chosen goals and standards of social performance.

The measurement of social performance in the social housing sector is currently in its early stages, and hence only partly standardised. In contrast with the financial performances, which are inspected annually by bodies such as the WSW and AW. To measure the social performance of housing associations, several performance fields have been formulated to facilitate the comparability between housing associations. As a result, the transparency and legitimacy increases which answers to the current issues in the social housing sector. Platform 31, a knowledge and network organization for urban and regional development, collaborated with housing association to determine performance fields for measuring the social performance. The performance areas are listed below (Schreuders, Stamsnijder, & Visser, 2015 ; Os P. v., 2014);

1. <u>The quality of the housing stock;</u>
   The quality refers to the technical, functional and energetic quality of a house. In addition, the accessibility for people with mobility problems, also falls within this category.

2. <u>The affordability of social dwellings;</u>
   The affordability refers to the basic rent and service costs as well as the energy costs.

3. <u>The availability of vacant social dwellings;</u>
   The availability covers the supply of adequate housing for a target group that is experiencing difficulties, through their earnings or other circumstance, in finding suitable housing.

4. The quality of the living environment in neighbourhoods;
   Housing associations need to align their activities with other bodies responsible for the living environment. Moreover, the quality of the living environment refers to the physical environment, the social environment and the level of facilities.

5. The well-being of the tenants of housing associations;
   Housing associations should contribute to the well-being of their tenants. Through partnerships with neighbourhoods and authorities. In practise, this means that a housing association has a certain responsibility over their tenants have.

6. Other social needs such as sustainability, energy savings projects and the preservation of social heritage;
   Housing associations contribute to generally recognized social needs such as reducing co2 emissions, reducing the environmental impact and the preservation of cultural heritage.

The six performance areas summarize the social objectives Dutch housing associations should pursue (Os P. v., 2014). A detailed insight into these areas will ensure that housing associations are better able to judge if a project/investment should be conducted or not. Also, by analysing the social return, one can underpin a certain type of policy to get a subject on the agenda or to obtain resources. Furthermore, insight into the social return is valuable to evaluate and justify an investment (Larsen & Boer, 2011).

6.3 Social performance measurement methods (SEV)

Housing associations are able to identify the social return in various ways. Platform31, formerly known as the SEV, introduced a practical book focused on housing associations to support them with identifying the social return. To be more precise, the book mentions five methods to measure the social return. The methods have their own advantages and disadvantages and can be used in combination with each other or on its own. This depends on which stage of measuring the social performance a housing association is in. These methods are listed and explained below.

- Effectenkaart

The effectenkaart or effect map is designed to get a grip on the social impact of investments. This method is particularly useful when preparing a social investment. The method makes it obvious who is involved with the investment and it makes investments easier to compare (Deuten, 2007). The strength of this method is not only the analysis itself, but also the process of formulating the effect map. The method works as follows: three main questions are asked and answered schematically. The questions are: Who obtains the effects of an investment? What are these effects? How do these effects arise? The benefit of this method is that a thorough and detailed understanding of the intervention arises.

- Slim Meten

In general, the results (output) of an investment (input) are conveniently to measure. Also, the input of an investment are obvious, which are in most cases the costs. However, it is uncertain if the desired effects of an investment will occur. To examine if the desired effects will be

realized, indicators are required. The method of 'Slim Meten' focuses on finding and using indicators able to reflect the social effects (Deuten, 2007). This method consist of the following five steps;

1. Identifying indicators
   In order to find proper indicators to measure the social effects of a certain investment, these indicators must comply with four demands. The right indicators need to be reliable, comprehensive, easy to measure and appealing. In addition, a distinction is made between objective and subjective indicators.

2. Determining objectives
   Once the appropriate indicators to measure the social effect are determined, it is crucial to translate the investment goals to a target for the indicators. These targets should be formulated by using the SMART principle.

3. Measuring indicators
   There are different ways to gather information for an indicator. Common used methods are surveys, information from both external as internal sources, inspections in the neighbourhood and the own records of housing associations employees. To identify the social effect of an investment, at least two measuring points are necessary. These measuring points are to be compared over time, similar objects and/or stated objectives.

4. Building a monitor
   In the event the same indicators are measured at various times, and the results can be linked to each other, then there is a so called 'monitor'. This monitor can be used to gain insight into the social effects.

5. Report
   The final step is to collect and analyse all measurement data. The central question of this method: What is the social impact of the investment? Can now be answered.

The 'Slim Meten' method has several strengths and weaknesses related to the indicators. Finding the right indicators takes time because the social effects are not sufficiently described in the current literature. On the contrary, with the right indicators it is possible to repeat the measurement of an objective quickly.

- Social Return on Investment (SROI)

The method of Social Return on Investment, hereafter referred to as SROI, provides insight into the work of an organization by placing monetary value on social outputs (Wilkes & Mullins, 2012). SROI is derived from the worldwide commonly used 'ROI' method. The method describes the social effects accruing to the most important stakeholders of a housing association. These social effects are then value and expressed as a fictional price one is prepared to pay or as a cost-saving measure for a stakeholder. To put it differently, the investment cost of a renovation of, for example, € 100,000 with merely social intentions can ensure that tenants are willing to

pay extra rent through improved living conditions. Furthermore, housing associations can benefit from this 'social' investment because the costs, for example, maintenance are reduced. The value of this 'social' investment can rise up to € 200,000 because it has more worth for the various stakeholders when compared to an investment with merely financial intention. The SROI ratio is in this example 2;1 – every euro invested generates € 2 of societal value (Gruis, Kam, & Deuten, 2008).

- Waardezeef

The 'Waarde(n)zeef' is developed to, in a transparent manner, compare several (social) investment possibilities with each other. The 'Waardezeef' method uses the expertise and experience of experienced professionals. These professionals analyze the investment options based on the expected social return. Hence, by placing these investments next to each other, the investment with the highest return stands out. In assessing the investment options, the personal and professional judgement are essential (Deuten, 2007).

- Maatschappelijke audit

The most comprehensive method to assess the social return is the 'Maatschappelijke audit'. In the 1980s the need to monitor the social and ethical performance arose within organizations. Several multinationals developed a method to report structured and periodic non-financial performances. The Dutch housing association 'De Key' used this method for the first time. The objective of this method is firstly to make the results and effectiveness organization-wide negotiable and secondly providing insight in the performance to external stakeholders. The opinion of external stakeholders is considerably. This method has a cyclical character and can be fit into other planning, evaluation and reporting cycles. As mentioned earlier, is this method to most comprehensive. On the other hand this means that this is also the most profound and time-consuming one to measure the social performance.

The method is suitable for housing associations who want to establish, for the coming years, social objectives. Moreover, the decision/policy makers base their strategy and planning more on the opinion of external stakeholders. This ensures a better reflection on decisions. The dialogue with the external stakeholders is repeated regularly which makes it a standard business process after a period of time. The disadvantage of this method is the time it takes of those involved. In brief, this method is the most detailed. This will lead to informed decisions which are communicated and discussed broadly. The reliability of the audit-report is verified by independent persons (Ham & Os, 2010).

6.4 Maatschappelijke Kosten Baten Analyses (MKBA)

The Maatschappelijke Kosten Baten Analyse or MKBA specifies the return of an investment for a society as a whole. The strength of this method is that it gives insight into all advantages and disadvantages, which means that also the effects affecting the welfare and well-being are included. MKBA's are repeatedly used for investments where public money is involved. As described in chapter one, the Dutch social housing sector is having trouble with providing insight into the effectiveness, and hence the legitimacy, of investments. The MKBA puts the emphasis on the social effects, thus increasing the legitimacy, even if an investment is financially unjustifiable (Kopgroep MKBA, 2015).

6.5 Performance agreements

Since the revised Housing Act, housing associations are obliged to contribute to the communal housing policy. This contribution is determined in performance agreements (prestatieafspraken) between the municipality, residents and housing associations. The renewed law changed the responsibility for the supervision of the public housing towards local authorities. This means that one must consider the demands and requirements of the other stakeholders. Housing associations need to inform local authorities and residents annually about the performance to be delivered. The performance agreements cover topics such as the construction of new dwellings, the affordability, the housing of specific target groups and the quality as well as the sustainability of dwellings (Rijksoverheid, 2016).

Performance agreements originate from a so called 'Woonvisie' formulated by local authorities in collaboration with residents. The 'Woonvisie' sets the framework which includes information such as financial statements, annual reports, a public housing report and an overview of future plans. Hence, housing associations must consider the demands of other stakeholders. In case the three stakeholders not come to an agreement about the suggested performances, the Minister for Housing can help to resolve any disagreements. The Minister monitors the implementation of all performance agreements in broad terms.

In addition to the performance agreements, there are so-called social visitations or maatschappelijke visitatie in Dutch. These visitations provide insight into the social performance of a housing association.

6.6 Conclusion and answering sub-question 2

This chapter was dedicated to obtain knowledge about the social performance of housing associations. In contrast with measuring the financial performance, which is through commonly used indicators fairly straightforward to evaluate, it is more complex to determine the social performance. This is because the outcome of an (social) investment is often difficult to relate to that investment. In other words, to reduce the criminality in a particular area, cameras are installed. This (social) investment is easy to calculate by looking at the initial cost for one camera. However, it cannot be said with certainty that over time this investment leads to a lower crime rate in that area. Perhaps other measures, for instance more surveillance or upgraded streetlights led to crime rate reduction. This example indicates that assessing the social performance of housing associations is challenging. Nevertheless, several research institutes developed methods to determine the social return of housing associations.

Platform 31, formerly known as the SEV, devised five methods focused on mapping out the social return. To alter the mind-set of employees within housing associations towards a more social notion, the method 'effectenkaart' is a first step in the right direction. The 'Slim Meten' method focuses on finding and using indicators able to reflect the social effects of a certain investment. The described methods have their own advantages and disadvantages in terms of depth and required time. It is worth mentioning that almost every method considers it important that the formulated objectives are SMART. In addition, since providing insight into the social return is not a science, it is recommended that discussions with stakeholders are being held. The 'Maatschappelijke Kosten Baten Analyse' (MKBA) is another method to determine the social return of housing associations. The method specifies the return of an investment for a society as a whole. Housing associations are in the process of integrating the significance of

social return within business management. There are a variety of methods to determine the social return. However, at this time it is not possible to give a well-founded and uniform view about a 'best' method. In practice this will be, though interviews, further clarified.

To conclude, this chapter was dedicated to the following sub-question: "*How are the social performances of social dwellings measured?*" Measuring the social performance within housing associations is still in its infancy. A small number of knowledge institutes developed methods which may contribute to determine the social performance. However, whether these methods are actually used in practise is not yet known and hence the usefulness is still uncertain. On the contrary, the following six performance areas provide insight into the social performance. These areas are the quality, affordability, availability, liveability, durability and the well –being of the tenants. To formulate an answer on the sub-question of this chapter it is essential that these performance areas are quantified. This is a challenge for all housing associations in the Netherlands at the moment. In practise this will be discussed in more detail.

Chapter 7: Analysis and results of the interviews

In the analysis and results the findings from the semi-structured interviews are described. The previous chapters clarified various definitions, policy models and indicators. In this chapter interview questions (see appendix I) are formulated based on the theoretical framework from the preceding chapters. Housing association personnel with the position of asset-manager/portefeuille manager will be interviewed. The respondents are selected from several housing associations, of various housing stock sizes, throughout the Netherlands. The aim of this chapter is to describe and summarize the results from practise. In addition, the following sub-questions are discussed as well: "*To what extent of detail are asset-managers interested in the financial and social performance of the social housing they manage"?* and "*What are the requirements of asset-managers, concerning the financial and social performance of social dwellings, in regard to displaying this within the renewed software of Aareon?"* The interview questions as well as the paragraphs below are divided into four categories that closely relate to the structure of this research.

7.1 Asset-management in practice

Asset-management is a well-known concept in the Dutch social housing sector. The concept originates from commercial real estate organization and focuses on improving the financial returns. Housing associations are obliged to, besides the financial returns, pursue social returns as well. This is the main difference between commercial real estate organizations and 'social' housing associations. "*Asset management is deliberately making the right decisions with an eye on the financial and social performance*"(respondent 5)

Asset-managers are responsible for translating the portfolio strategy, devised at the strategic level, towards individual complexes. In practise this means the following: at the highest level of a housing association plans are made for the desired portfolio composition for the next years. This may involve decisions about the target group of tenants, desire of the local authorities, and market research into possible investments and so on. To support these decision, financial and social indicators, can help to make justified and uniform choices towards the desired portfolio.

The concept of asset-management is well-known among the respondents. However, there are major differences between housing associations as to whether the concept has been implemented in the organization structure. Two of the six housing associations have the profession of asset manager while the other four are in doubt whether their organisation can benefit from this position. Housing associations need to have a certain size, number of social dwellings, before a significant change in the organizational structure is worth it. Asset-management makes no sense if a housing association only possesses five individual complexes. In addition, the interviewees emphasize that asset-management can only be effective if the entire organization has a structure that fits the concept. In other words, there has to be a distinct separation of functions between the strategical - tactical (asset-management) and operational level. Practise shows that larger housing associations, in terms of number of social dwellings, have an organisation model similar to the real estate pyramid. Notably, the six respondents indicated that the separation between the organisational levels will only become more evident when their number of social dwellings grows. "*Asset-management only makes sense when an organization owns a certain amount of individual complexes. Housing*

associations throughout the social sector are trying to determine what the right amount is. We also find this challenging" (respondent 3).

The Beleids8baan, a tool for employees of housing associations for the development and evaluation of developed policies and plans, is used within most housing associations at least once. The opinions about this tool are divided. While two respondents use the Beleids8baan to evaluate their plans and to make sure they are doing their tasks in the right order, another respondent tried to work with the Beleids8baan but experienced that the connection between the strategic and operational level was too far apart in practise.

The DrieKamerModel is a well-known model amongst housing associations. The model is used to clarify on the flow of funds towards social objectives. As explained, the DrieKamerModel consist of three separate 'rooms' including one social. Housing associations rent out their dwellings at a lower rent compared to commercial real estate organisations. The difference between the actual rent and the market rent (the rent commercial real estate organisations ask) is considered as the social investment of housing associations. *"I think the DrieKamerModel is very interesting. In the future we do want to do work more with the DrieKamerModel and especially during conversations between local municipalities and residents"* (respondent 5). The DrieKamerModel helps housing associations to identify the social investment. Nevertheless, of the interviewed housing associations not one uses the DrieKamerModel as an organisations model but only as a mind-set and to justify their social investment.

To conclude, the manner in which and if housing associations use the DrieKamerModel and Beleids8baan varies. Housing associations are in the process of discovering if these models are of added value for them.

7.2 Financial performance indicators in practice

In the theoretical framework of this thesis a distinction is made between three organisational levels. The strategic, tactical and operational level. These levels each have their own financial indicators. In practise, through interviews, the financial indicators from the theory are discussed with the respondents. This revealed the following noteworthy findings.

7.2.1 Strategic financial indicators

The strategic financial indicators are of great importance for decision makers within housing associations. These financial indicators form the preconditions for the strategy and policy makers and thus the portfolio plan. The preconditions include the following financial indicators; ICR, DSCR, LTV and Solvability.

In case the portfolio plan does not comply with the requirements of the WSW, a housing associations will be under supervision by the Dutch government. *"The preconditions of the WSW can be seen as the leeway a housing association has"* (respondent 6). If this occurs it means that construction plans and renovation measures have to be postponed since the WSW has made it hard or impossible to obtain the necessary financial resources for investments. In practice, the majority of the respondents use the software product SBI of Ortec to check the viability of the portfolio plan. In additions, a few respondents have stricter internal requirements compared to the WSW requirements. However, the standards of the WSW are paramount and regarded as the margin in which housing associations should operate.

"We have our own preconditions that are stricter than those of the WSW. At the moment we have a loan size of €700 million which we want to reduce to € 550 million. This means that we are unable to invest in new housing projects at the amount we want to. The requirements of the WSW are more likely under pressure, through this reduction, we also have our own preconditions" (respondent 5).

To conclude, the strategic financial indicators have been used and controlled for years. Nonetheless, partly due to several scandals and the deteriorated financial position of housing associations the supervision has been tightened. The requirements of the WSW are the norm, besides several housing associations have their own stricter preconditions in order the guarantee the continuity and the ability to invest.

7.2.2 Tactical financial indicators

As mentioned previously, the concept of asset-management is located at the tactical level of a housing association. The following financial indicators need to be evaluated in order to assess the individual performance per complex; the IRR, BAR and NAR are interesting during the acquisition phase while the cash and capital return are useful when a complex is in the exploitation phase. The different financial indicators are summarized in the figure below.

Level	Discipline	Financial indicator
strategic	portfolio/portefeuille management	ICR, DSCR, LTV, Solvency
tactical	asset-management	BAR, NAR, IRR, Cash & Capital return
operational	property management	Mutation/Vacancy rate & Maintenance costs

Table 3: Financial indicators per level from practise

In practise, housing associations require an insight into the financial indicators depicted above. The strategic indicators form the framework conditions for the tactical level. The tactical level, where asset-management is located, aims to improve the performance of individual complexes. The BAR and NAR are used to provide a first assessment about the value of a complex. *"We use the BAR method because it is easy to calculate. In short term we will switch to the IRR method since it provides us with more detailed figures"* (respondent 6). The IRR gives a more detailed understanding of the value. Hence, more than half of the respondents prefers the IRR method. *"The IRR is used for investment decisions and is calculated over the period of operation"* (respondent 5).

Throughout the exploitation phase of a complex, respondents want an understanding of the cash return for a particular complex. The capital return (change in value of a given period) is of less importance, since it is more difficult to manage.

Asset-managers are responsible to monitor these financial indicators and, if required, to devise a plan to improve these. Through a Hold/Sell analysis complexes where changes are required are identified. These changes could mean a simple renovation project to improve the cash return due to increased rent earnings or it can occur that a complex no longer fits the portfolio plan and therefore needs to be sold.

7.2.3 Operational financial indicators

The operational level indicators from the theoretical framework are in practise relatively similar to those at the tactical level. This level focuses on administrative, technical and commercial tasks which supports the other levels. Asset-managers make their decisions based on multiple financial as well as social indicators. These indicators also include the mutation grade, liveability costs and vacancy rate numbers explained in the theoretical framework about this level.

The respondents indicated that the operational level intends to provide the tactical level with valuable information about several things. This can range from handling complaints to maintenance contracts. The operational level is important in the development of the strategy because this level has interaction with the tenants and therefore is able to know if a housing project or strategy is successful or not.

7.3 Social performance indicators in practise

In general, most housing associations are facing difficulties when the social performance needs to be identified. In the theoretical framework of this thesis an attempt was made to provide more clarity on the subject. The social performance measurement methods (SEV) and the MKBA method were explained as well as the performance agreements with local authorities and residents. In practise, the social performance is discussed extensively with the respondents.

In literature, social performance was explained as follows; the investment (input) to solve a particular social problem is observable and above all, can often be expressed in monetary terms. However, the difficulty lies in measuring the output of this investment. Several factors could change the output and therefore the result is not always straightforward and simple to retrieve. Hence the disparities between housing associations on how to define the social performance. "*Social return to us is everything a commercial real estate organisation does differently compared to housing associations*" (respondent 2).

The respondents indicate that their organisations are also struggling with this topic. Housing associations are, required by law, obliged to inform local authorities and residents' associations about their social objectives. Despite this, housing associations are free to decide on how to interpret the social performance. This is also the reason the practise shows that while one organisation is keen on reducing the energy consumption another wants to accommodate a specific target group in terms of social performance. The differences are considerable which makes it hard to generalize the social performance of housing associations

In contrast to the differences there are also similarities when the social contribution or return is discussed. The following question was asked during the interviews: What do you understand by the social return? The majority of the respondents answered with "*the rent discount compared with commercial real estate organisation*" (respondents 1,3,4,5,6). As mentioned before, the maximum rent is limited in the social housing sector causing housing associations to miss out on revenue. Hence, the argument to call every difference between

social and commercial real estate organisation the social contribution or return. In fact, the rent 'offer' is the only measurable difference between these organisations. Furthermore, topics such as durability, liveability and housing costs also affect the social return as there are performance agreements with local authorities and residents' associations about these topics. The respondents generally find these topics important.

Understandably, there are also discrepancies about how the social performance is measured within housing associations. While one organisation is in the process of developing a social investment score another only describes, based on text, their social activities for the next year. Each organisation has a different approach when it comes to measuring the social performance. The question whether it is a challenge to determine the social return within the organisation was answered as follows: All respondents indicated that this indeed is a challenge and hard to quantify. The financial return is pretty straightforward to determine through the use of widely acknowledged indicators. These indicators do not exist for the social performance yet. "*Measuring the social performance is a major challenge for us. We are already satisfied if we identify and evaluate financial indicators. At the moment we are not in the process of identifying the social return. However, we would like to do so in the future*" (respondent 1)

To conclude, the interviews revealed that the described methods to measure the social return are not used in practise (SEV) & (MKBA). Housing associations find it challenging to measure the social return. In fact, the greater part of the interviewed organisations use various definitions of the term social return. The rent 'offer' of housing associations compared with commercial real estate organisations is the only obvious measurable indicator. In addition, the durability, affordability, availability and liveability of social dwellings must be made transparent to give a judgement on the entire social performance.

7.4 Design Asset-management software module

The final two sub-questions are about the design and structure of an asset-management software module. These questions are about the level of detail and which indicators, financial and social, an asset-manager wants to see in the renewed software of Aareon. The theoretical framework is the foundation for relevant questions to learn more about the structure and design of the software module.

Financial	Social
ICR, DSCR, LTV	Rent potential
Solvency	Energy index
BAR, NAR, IRR	Quality
Cash return	Affordability
Capital return	Availability
Market value	Mutation rate
WOZ value	Vacancy rate
Business value	Liveability
Maintenance costs	Durability
	Square meters

Table 4: Recommended indicators Asset-management software module

Asset-managers are interested in the financial and social indicators depicted in table 4 above. These listed indicators have turned out to be crucial for both the daily activities as well as for future decisions. In the first place, all plans and decisions concerning the social dwellings need to be within the requirements of the WSW. The ICR, DSCR, LTV and Solvency are essential indicators to find out if the entire housing portfolio meet the set requirements. In the second place are the other financial indicators such as the BAR, NAR, IRR and the cash return of added value to make sure if the current social dwellings performs adequately. In the third place reproduce the social indicators an even more level of detail. For example; suppose the cash return, the IRR and the strategic indicators of a certain complex fall within the prescribed criteria. Nevertheless, an asset-manager decides that the complex no longer fits in the entire portfolio. It is possible that the technical quality is below level or that the energy consumption level is excessive. Hence, a combination of more indicators is required to determine if a particular complex falls within the current requirements and demands. Housing associations should decide themselves which indicators are relevant for them, as they all pursue their own strategy and policy.

To conclude, more than half of the interviewed housing associations are in the process of finding out if an asset-management module is of added value. In this process the questions remains if the organisation is large enough in terms of number of complexes. Eventually, of course, the concept of asset-management is to improve the financial as well as the social return of individual complexes. Housing associations need to make the transition from the strategic indicators towards tactical indicators that explain the performance per complex. However, with the recent introduction of the new Housing Act and the related restrictions to assign a social dwelling to whoever is interested, also called the 'Passend Toewijzen' concept, it is possible that housing associations find it harder to see that added value of implementing the concept of asset-management. The 'Passend Toewijzen' concept has made it almost impossible to change the rent of a social dwelling after mutation or renovation since social dwellings are only rented out for a rent appropriate for their income. This means that housing associations have become less able to manage the revenue part of their organisation. In addition, the target group has become much smaller as a result of this measure. The future will tell whether housing association dare to introduce the concept of asset-management. One thing is for sure, the Dutch government has thrown the spanner in the works with the new Housing Act.

Conclusion, limitations & further research

The final section of this thesis is devoted to the conclusion, limitations and most of all to provide an answer on the main research question. To reiterate, the main research question of this thesis is:

"What are the functional information requirements concerning asset-management in order to provide a better understanding of the performance, both financially and socially, of housing associations regarding their social dwellings"?

First, by analysing the theoretical framework and the results from practise a solid answer on this question can be given. Subsequently, the limitations and potential possibilities for further research are discussed.

Conclusion

Asset-management within the social housing sector aims to improve the financial and social return of social dwellings. To improve these returns, information about the performance of social dwellings is required, and a suitable way to process information is through the use of common indicators. Therefore, the emphasis of this thesis was to learn more about which indicators matter for individuals with the task to improve these returns, in other words the asset-managers/portefeuille managers of housing associations.

Asset-managers are interested in both financial and social indicators. However, the financial indicators are far more important for both internal as external purposes. The strategic indicators: ICR, DSCR, LTV and the Solvency can be considered the financial leeway a housing association has. These indicators must fall be within the standards of the WSW or an organization comes under surveillance which makes it difficult to attract new funding opportunities. The strategic indicators should always be taken into account because it can affect the continuity of a housing association. The strategic level develops a portfolio plan which consists of a desired portfolio for the entire dwelling stock of a housing association. Subsequently, it is the responsibility of the asset-manager to convert the portfolio plan towards a plan for individual complexes. This could mean that complexes don't fit in the adopted strategy anymore or there is a shortage of a particular social dwelling type to house a certain target group. Asset-managers need to be able to decide which housing complexes fit the desired portfolio through methods such as hold/sell analyses. These analyses indicate whether the financial and social returns per complex are conform the portfolio plan.

In addition, the financial indicators at the tactical level of a housing association provide the necessary insight into the performance per complex. The following indicators are essential for a better understanding of the performance: BAR, NAR, IRR, Cash Return, Capital Return, Market value, Business value and the Maintenance costs if it concerns the financial aspect. The following fields should be described to evaluate the social performance: Rent Potential, Availability, Affordability, Quality, Energy-Index, Liveability, Durability and the Vacancy Rate.

The financial performance is fairly straightforward to determine through universal methods and indicators. In contrast to the social performance which is more challenging due to the lack of methods and common used indicators. This is due to the fact that in the past only the financial performance mattered. The social housing sector is slowly but steady shifting from a sector where the social performance receives a more significant role. However, practise revealed that housing associations are in doubt whether to introduce the concept of asset-management within their organisation. These doubts arise from two aspects. First, the costs of

implementing asset-management. In case a housing association only has a limited number of individual housing complexes, the costs of implementing the concept will be higher than the increased revenue. This means that housing association need to decide and evaluate when their housing portfolio is large enough. Secondly, the new Housing Act introduced restrictions for assigning social dwellings to tenants. In the past, a social dwelling could be rented out to whoever is interested. The 'Passend Toewijzen' concept restricted this. Hence, housing associations find it more difficult to comprehend the added value of implementing the concept of asset-management because it is almost impossible to change the rent of a social dwelling after mutation or renovation since social dwellings are only rented out for a rent appropriate for the tenant's income. This means that housing associations have become less capable to manage the revenue part of their organisation. In addition, the target group has become much smaller as a result of this measure. The future will tell whether housing association dare to introduce the concept of asset-management.

Limitations & further research

As any research this research has its limitations. The aim was to learn more about the concept of asset-management and the associated financial and social performance measures. Aareon wanted to find out more about the concept to respond to a possible demand for software aimed at asset-managers/portefeuille managers of the Dutch social housing sector. This research has ensured that, by approaching the subject from a theoretical as well as practical viewpoint, the concept is thoroughly described to develop a software product. The chapter that concerns the financial performance describes widely acknowledged financial indicators which are originally from commercial real estate organisations. These indicators have been used for years and have demonstrated their value to provide insight into the financial performance of housing associations. However, research into measuring the social performance is in its early stages and therefore housing associations find it hard to determine. In existing literature sources about how to assess the social performance, no uniform definition are method on how to determine this was found. As a result, practise revealed that nearly every housing association has a different opinion about the social performance. In this respect, further research into the social performance of housing associations could enhance the credibility of the social sector as a whole. In addition, additional research is needed to provide more clarify about the existing methods of the SEV. The SEV developed six methods to determine the social performance. However, not one of the respondents had knowledge of these methods. Moreover, housing associations want to know when their organisation is large enough, in terms of number of social dwellings, to introduce the concept of asset-management. Further research, that focuses exclusively on a 'break-even' point (number of dwellings versus cost effectiveness) of when it makes sense, to implement the concept could encourage housing association to decide to introduce the concept sooner. To conclude, the introduction of the new Housing Act has made it hard for housing associations to change the rent and subsequently the revenue.

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Appendix I

Algemeen

- Bent u bekend met het begrip Assetmanagement?
  - Zo ja, wat verstaat u hieronder en hoe belangrijk is het binnen uw organisatie?

- In de vastgoedsector is een bekend model de vastgoed piramide (driehoek van Driel met de drie niveaus - strategische, tactisch, operationeel) kent u dit model?
  - Zo ja, wordt binnen uw organisatie ook een dergelijke (functie) scheiding gemaakt, en waarom? (van portefeuilleplan naar objectplannen)

- Is er een relatie tussen het strategische en operationele niveau (uit de driehoek van van Driel) en Assetmanagement?
  - Zo ja, wat is de relatie? Toelichting?

- Bent u bekend met de Asset-life Cycle? (levenscyclus denken van vastgoed) (aankoop, operationeel, sloop)
  - Zo ja, wat doen jullie hiermee? (ter voorkomen van kapitaalvernietiging en verbetering van de duurzaamheid)

In de literatuur omtrent het begrip Assetmanagement en Vastgoedsturing kom ik regelmatig de beleidsmodellen 'Beleids8baan' en DrieKamerModel tegen.

- Heeft u wel eens van deze modellen gehoord?
  - Zo ja, worden deze modellen ook binnen uw organisatie toegepast?
  - Zo ja, kunt u deze toepassing toelichten?
  - Zo nee, waarom worden deze modellen niet gebruikt?

Vanuit de theorie komt naar voren dat Asset management een woningcorporatie kan helpen om haar kosten omlaag te brengen, hogere opbrengsten te realiseren en de vastgoedrisico's beter te beheersen. Om dit te voor elkaar te krijgen is het allereerst van belang dat de prestatie, zowel financieel als maatschappelijk, van sociale huurwoningen in kaart wordt gebracht. De volgende vragen hebben hier betrekking op.

- Welke woningwaarderingen gebruiken jullie? (Welke woningwaarderingen zijn mogelijk?)(historische kosten, bedrijfswaarde, marktwaarde, fiscale boekwaarde)
  - Zijn deze puur ter verantwoording of ook voor de beleidsvorming? (externe partijen)

- Waar ligt deze informatie vast? (Welk systeem?) (Tobias AX, SAP, DSA navision,NCCW)
- De basis zal in ERP vast liggen en de waardering in andere modules zoals Aareon, Reasult, Flux, Kabana, Ortec

  - Op welk niveau is deze informatie beschikbaar? Complex (welke indeling) of woningniveau? Hoe zijn complexen gedefinieerd?

- Welke rol spelen prestatie-indicatoren in het genereren en het bijstellen van deze strategieën en plannen?

- Meten jullie de prestatie van de woning portefeuille (op welk niveau)?
  - Zo ja, hoe wordt dit gedaan en waar ligt de nadruk op?

- Is het belangrijk om de prestatie te meten?
    - Zo ja, kunt u mij dit toelichten?

- Welk systeem gebruiken jullie hiervoor? Is er een dashboard beschikbaar? Wellicht Excel? Direct uit het primair systeem of expert systeem?
- Op welke niveaus (strategische, tactische, operationeel) wordt de prestatie gemeten (ondernemings, complex, woning)?

Financiële prestatie

Uit het theoretisch kader van mijn onderzoek komen per niveau (strategische, tactische, operationeel) verschillende kengetallen naar voren die de financiële prestatie van woningcorporaties meten. Ik wil, door middel van de volgende vragen, erachter komen of deze kengetallen ook in de praktijk worden gebruikt.

Het strategische niveau (het niveau waar portefeuilleplannen worden gemaakt) kenmerkt zich door het gebruik van de volgende kengetallen. Het WSW toetst woningcorporaties hierop:

- **Interest Coverage Ratio** (hoeveel maal een onderneming haar interestlasten verdient)

- **Loan to Value** (maximumverhouding tussen de hoogte van de nog niet afgeloste banklening en de actuele waarde (taxatiewaarde) van het vastgoed)

- **Solvabiliteit** (verhouding tussen vreemd en eigen vermogen)

- Zijn deze kengetallen bekend binnen uw organisatie?
    - Zo ja, waar worden ze voor gebruikt? (komen ze bijvoorbeeld als targets uit portefeuilleplannen of zijn ze puur ter verantwoording naar externe stakeholders, zoals het WSW)
- Zijn de eisen die het WSW aan deze kengetallen binnen uw organisatie stelt gehaald? (ICR 1.4, LTV 75% (o.b.v. bedrijfswaarde) Solvency 20%)
    - Verschillen deze eisen met de interne eisen?
    - Zo nee, waarom niet? Toelichting?

Het tactische niveau, het niveau waar Assetmanagement zich bevindt, onderscheid zich van het strategische niveau doordat er nu niet naar de woningcorporatie als geheel wordt gekeken maar naar afzonderlijke complexen (groep van individuele woningen). Dit betekent dat andere kengetallen belangrijk zijn.

Uit het theoretische kader komt naar voren dat de volgende financiële indicatoren/kengetallen per fase gebruikt worden.

- Welke financiële indicatoren zijn van belang bij Assetmanagement?
- Komen de financiële indicatoren uit de figuur overeen met gebruikte indicatoren uit de praktijk?
    - Toelichten?
- Hoe meten jullie het financiële rendement (gerealiseerde/verwacht)?
- Hoe ver kijken jullie vooruit (jaren, maanden, weken) bij het maken van prognoses?

- Zijn daarin verschillende varianten/scenario's van toepassing?

- Bent u bekend met Hold/Sell analyses?
    - Zo ja, wat is de input van een dergelijke analyse?
    - Weegt een Hold/Sell analyse mee bij de vorming van beleid/ strategie?

- Welke financiële indicatoren zijn van belang, om de prestatie van sociale woningen (complexen) te begrijpen/verbeteren, voor een Assetmanager?

Het meten van de prestatie is vaak niet alleen voor interne doeleinden van belang. Externe partijen (gemeentes, bewoners, geldverstrekkers) willen ook inzicht in de prestatie.

- Worden er prestatieafspraken gemaakt externe stakeholders?
    - Zo ja, welke afspraken?
    - Ervaart u het behalen van deze afspraken als uitdagend?

Maatschappelijke prestatie

Het meten van de maatschappelijke prestatie is en blijft onderwerp van gesprek binnen woningcorporaties. In tegenstelling tot de financiële prestatie, waarbij de indicatoren goed te meten zijn, is dit een ander verhaal bij de maatschappelijke prestatie.

Uit het theoretisch kader van mijn onderzoek komen een aantal methodes naar voren die kunnen worden gebruikt om de maatschappelijke prestatie in kaart te brengen.

- Wat verstaan jullie, binnen de organisatie, onder maatschappelijk rendement?

- Hoe wordt het maatschappelijke rendement gemeten? (Welke aspecten nemen jullie mee?) (bouwtechnisch, energie, leefbaarheid enz.) Hoe belangrijk is elk aspect?

- Waarom wordt het maatschappelijke rendement gemeten?

- Is het vaststellen van het maatschappelijk rendement een opgave binnen uw organisatie of is dit te doen?
    - Toelichting?

In de literatuur kom ik de begrippen maatschappelijk rendement en maatschappelijke investeringen vaak tegen.

- Wat verstaan jullie onder een maatschappelijke investering?
    - Kunt u een voorbeeld geven van een maatschappelijke investering?

- Zijn er prestatieafspraken opgesteld met externe stakeholders (gemeentes, bewonersorganisaties) met betrekking tot de maatschappelijke prestatie binnen uw organisatie?
    - Zo ja, ervaart u het behalen van deze afspraken als uitdagend?

Zoals vermeld, komen uit de theorie een aantal methodes naar voren die kunnen worden gebruikt om het maatschappelijk rendement van woningcorporaties in kaart te brengen.

- Wat is uw mening over het DrieKamerModel? (draagt het bij aan het inzichtelijk maken van het maatschappelijke rendement/prestatie)
    - Toelichting

Aareon wil weten of er behoefte is aan een software module gericht op Assetmanagers c.q. Portefeuille managers binnen woningcorporaties. Het doel is van deze module is het inzichtelijk maken van, voor Assetmanagers, cruciale indicatoren waardoor de prestatie van sociale woningen op complex-niveau inzichtelijk wordt en waar mogelijk kan worden verbeterd.

- Mist u informatie in de huidige informatievoorziening die zou kunnen helpen bij het beter uitvoeren van uw taak (taak = rendement verhogen)?

- Is er binnen uw organisatie behoefte aan een dergelijke module?
    - Toelichting?

- Hoe zou een dergelijke module eruit moeten komen te zien? (Wat zijn de mogelijkheden: Koppeling met geografische kaart, grafieken, tabellen? Webapplicatie die overal beschikbaar is? Tablet, mobiel? Tijdigheid van de data, 1 keer per maand verversen of dagelijks?

- Is er behoefte aan een dashboard met kengetallen? (figuur dashboard mee)
    - Zo ja, welke informatie (kengetallen) wilt u daarop zien?
    - Zo nee, toelichting?

- Wat kan er, naar uw mening, met betrekking tot uw huidige software module verbeterd kunnen worden?
    - Hoe zouden deze tekorten naar uw mening opgelost/verbeterd kunnen worden?

Dit is het einde van het interview. Bedankt voor uw tijd.

Einde interview