



Degree project in The Built Environment

Second cycle 30 credits

# **Sustainability in Property Asset Management**

An overview of perceptions, important aspects and implementation of sustainability in Swedish commercial real estate companies

**WILLIAM BROBERG PILLER**

**VIOLETH EDGAR NYONI**

## Master of Science thesis

---

|            |   |
|------------|---|
| Title      | Sustainability in Property Asset Management             |
| Author(s)  | William Broberg Piller, Violeth Edgar Nyoni             |
| Department | Real Estate and Construction Management                 |
| TRITA      | TRITA–ABE–MBT–22326                                     |
| Supervisor | Henry Muyingo   |
| Keywords   | Property, Asset management, Real Estate, Sustainability |

---

### Abstract

Due to the challenges posed by climate change, the notion of sustainability is gaining traction in the real estate industry. This study highlights property asset managers' conceptual understanding of sustainability, and explores whether the level of implementation of sustainability is actually achieving sustainability objectives through the management of commercial real estate. A qualitative approach was used in order to gain an understanding of property asset managers' perceptions of sustainability, the most important aspect of sustainability and the implementation of sustainability in real estate portfolios.

Data was collected through surveys and semi-structured interviews. The surveys had a response rate of 44%, accentuating the robustness of the study. The data was analysed using categorical analysis, rankings in order of importance and comparison between sizes of organisations. The survey was complemented with 4 interviews to further understand how and why property asset managers implement sustainability in their portfolios and the data collected from the interviews were analysed using thematic analysis to determine the reason for implementing sustainability.

The findings reveal that property asset managers found sustainability to be a critical issue for the real estate industry, and most respondents agreed on sustainability not being a fad. The property asset managers' perception on sustainability seemed to differ between company sizes and findings identified reduction of energy consumption followed by production of renewable energy as the two most important sustainability aspects. The reasons for property asset managers to implement sustainability were varied, with increasing costs, brand image, competitive external and internal normative pressure being identified as strong reasons. Our recommendation to property asset managers is to encourage sharing knowledge and investing in pushing the status quo on sustainability in the industry since the frontrunners are proving it to be economically beneficial, not to mention the benefits for greater society. The study indicates that the industry wants to change, but craves more initiative takers to lead by example to catalyse the change enough for mimetic pressure from the industry to drive the sustainable development further.

## **Acknowledgement**

With this thesis we conclude our two years on the master's programme Real Estate and Construction Management at the Royal Institute of Technology in Stockholm, Sweden.

First and foremost, we would like to thank all the actors who took the time participate in the study. Your insights have been invaluable and made this study possible.

Secondly, we would like to thank our supervisor Henry Muyingo, and give an extra thank you to Olli Vigren for bringing a different perspective and support in our continuous work.

William Broberg Piller and Violeth Edgar Nyoni  
Stockholm, 7 June 2021

## Examensarbete

---

|             |   |
|-------------|---|
| Titel       | Hållbarhet inom fastighetsförvaltning       |
| Författare  | William Broberg Piller, Violeth Edgar Nyoni |
| Institution | Institutionen för Fastigheter och Byggande  |
| TRITA       | TRITA–ABE–MBT–22326                         |
| Handledare  | Henry Muyingo                               |
| Nyckelord   | Fastigheter, Hållbarhet, Förvaltning        |

---

## Sammanfattning

På grund av de utmaningar som klimatförändringarna medför har konceptet om hållbarhet fått allt större genomslag i fastighetsbranschen. Denna studie belyser fastighetsförvaltares konceptuella förståelse av hållbarhet och undersöker om nivån på implementation av hållbarhet faktiskt uppnår alla aspekter av hållbarhet genom förvaltningen av kommersiella fastigheter. Ett kvalitativt tillvägagångssätt användes för att få en förståelse för fastighetsförvaltares uppfattning om hållbarhet, de viktigaste hållbarhetsaspekterna och implementeringen av hållbarhet i fastighetsportföljer.

Data samlades in genom enkäter och semistrukturerade intervjuer. Enkäterna hade en svarsfrekvens på 44 %, vilket påvisade studiens robusthet. Den insamlade datan analyserades med hjälp av kategorisk analys, rangordningar i signifikans och jämförelse mellan organisationers storlek. Studien kompletterades med 4 intervjuer för att ytterligare förstå hur och varför fastighetsförvaltare implementerar hållbarhet i sina portföljer och datan som samlats in från intervjuerna analyserades med hjälp av tematisk analys för att fastställa anledningarna till att implementera hållbarhet.

Resultaten visade att fastighetsförvaltare fann hållbarhet att vara en kritisk fråga för fastighetsbranschen, och de flesta respondenterna var överens om att hållbarhet inte är en modefluga. Fastighetsförvaltarnas uppfattning om hållbarhet verkade skilja sig åt mellan företagsstorlekar och resultaten identifierade minskning av energiförbrukning följt av produktion av förnybar energi som de två viktigaste hållbarhetsaspekterna. Skälen för fastighetsförvaltare att implementera hållbarhet var varierande, med ökande kostnader, varumärkesimage, extern konkurrens och internt normativt tryck som identifierade starka skäl. Vår rekommendation till fastighetsförvaltare är att uppmuntra till att dela kunskap och investera i att driva på status quo för hållbarhet i branschen. Detta då de ledande företagen inom hållbarhetsfrågor visar att det är ekonomiskt fördelaktigt, för att inte tala om fördelarna för samhället i helhet. Studien indikerar att branschen vill förändras, men behöver fler initiativtagare att föregå med praktiska exempel för att katalysera utvecklingen.

## **Förord**

Med detta examensarbete avslutar vi våra två år på masterprogrammet Fastigheter och byggande vid Kungliga Tekniska Högskolan i Stockholm.

Först och främst vill vi tacka alla aktörer som tagit sig tiden att delta i den här studien. Era insikter har varit ovärderliga och gjort denna studie möjlig.

Vidare så vill vi tacka vår handledare Henry Muyingo, och rikta ett extra tack till Olli Vigren för att ha tillfört ett andra perspektiv och stöd i vårt kontinuerliga arbete.

William Broberg Piller och Violeth Edgar Nyoni  
Stockholm den 7 juni 2021

# Table of contents

|  |           |
|--|-----------|
| <b>1. Introduction</b>   | <b>1</b>  |
| 1.1 Research gap and purpose                                     | 2         |
| 1.2 Aim and Research questions                                   | 3         |
| <b>2. Literature review</b>                                      | <b>4</b>  |
| 2.1 Definitions  | 4         |
| 2.2 Sustainability in commercial real estate                     | 5         |
| 2.3 Aspects of sustainability                                    | 7         |
| 2.3.1 Summary of sustainability aspects                          | 9         |
| <b>3. Theoretical framework</b>                                  | <b>10</b> |
| 3.1 Agency theory  | 10        |
| 3.2 Institutional theory   | 12        |
| <b>4. Methodology</b>  | <b>15</b> |
| 4.1 Data collection  | 15        |
| 4.2 Data analysis and presentation                               | 16        |
| 4.3 Ethical considerations                                       | 17        |
| <b>5. Results</b>  | <b>18</b> |
| 5.1 Survey   | 18        |
| 5.1.1 Survey data  | 18        |
| 5.1.2 Categorical analysis                                       | 24        |
| 5.2 Interviews   | 28        |
| 5.2.1 Implementation of sustainability in real estate portfolios | 28        |
| <i>Low level of implementation</i>                               | 28        |
| <i>Medium level of implementation</i>                            | 29        |
| <i>High level of implementation</i>                              | 32        |
| 5.2.2 Reasons for implementing sustainability                    | 33        |
| <b>6. Discussion</b>   | <b>35</b> |
| 6.1 Perception on sustainability                                 | 35        |
| 6.2 Important sustainability aspects and implementation          | 37        |
| <b>7. Conclusion</b>   | <b>41</b> |
| <b>References</b>  | <b>43</b> |
| Appendix 1   | 48        |
| Appendix 2   | 52        |

# 1. Introduction

In a globalised and industrialised world, sustainability issues have risen to the forefront of important topics to be solved for this generation, with the environment and climate change being issues leading the way (United Nations, 2021). The increasing concern over environmental, social and economic sustainability, also known as the three pillars of sustainability or the triple bottom line, has raised awareness of many commercial real estate companies, who increasingly incorporate sustainability issues in their management operations (Fatimah et al., 2020).

Real estate companies employ property asset managers (PAM) to perform the management functions on behalf of the property owner (Marona, 2013). The manager acts as an intermediary between the owner and tenants dealing with aspects affecting the parties arising from ownership and occupation of buildings (Oladokun, 2012). The main concern in managing a property is the maximisation and optimisation of the owner's investment for an optimum return (Węgrzyn, 2015). In order to make sure PAM implements owners needs, most companies set rules for their organisations. They have various rules and regulations that mark the limits of their business freedom surrounding them.

According to Christensen et al. (2018) a worrying perception in real estate markets is that sustainability many times becomes synonymous with energy efficiency, despite the fact that everything that can be included in the definition of sustainability is much more extensive. Additionally, Darko et al. (2017) explains that in commercial real estate, a growing motif has been commercial advantage, which has developed into an increasing focus on economic considerations. Cost is still what drives sustainability management today and there is still a long way to go to a more holistic perspective on sustainability and the three pillars of sustainability (Cagno et al., 2015).

There are multiple aspects of sustainability that should be considered, and the aspects that appear most prominent in the scientific literature have been identified by the authors primarily as: (1) water management (Cajias et al., 2014; Goh et al., 2020); (2) reduction of energy consumption (Chel and Kaushik, 2018; Catrini et al., 2020); (3) reduced waste production and recycling (Akhanova et al., 2019); (4) indoor environmental quality (Bahaudin et al., 2014; Çiner and Dogan-Saglamtimur, 2019); (5) occupant health, comfort and safety (Smith and Pitt, 2011;

Ogunba, et al., 2021); and (6) production of renewable resources (Hayter and Kandt, 2011; Bandejas et al., 2020).

Sustainability is an important focus point for commercial real estate companies, but there is limited evidence of how their concept of sustainability actually achieves sustainability in reality (Warren-Myers, 2012). As mentioned by Brooks and McArthur (2019), there are a wide range of drivers for sustainability in commercial real estate. Brand image and tenant attraction has been identified by them as strong drivers for embracing sustainability, but it also creates a disparity between actual sustainability and good branding. Altruism, which can be described as a true intention to fulfill the triple bottom line of sustainability, is still way behind economic drivers such as payback period and anticipated financial returns as leading drivers for sustainability in commercial real estate companies (Brooks and McArthur, 2019).

## **1.1 Research gap and purpose**

There has been research on what sustainability is and its importance (e.g. Vogt and Weber, 2019; Warren-Myers, 2012). Researchers have mentioned sustainability aspects in the built environment, and there are a lot of strong drivers for commercial real estate companies to implement sustainability (e.g. Brooks and McArthur, 2019). A potential concern of the current development, however, is the link between sustainability and commercial advantage, with economic drivers skewing the concept of sustainability in the built environment. For sustainability to be achieved, all aspects need to be satisfied, and even though sustainability needs to be economically justified, there is need for research to explain how real estate companies achieve all three pillars of sustainability. There is currently limited research on this topic based on the Swedish real estate market and therefore the purpose of this study is to investigate if the sustainability being implemented by property asset managers today actually achieve all aspects of sustainability.



## **1.2 Aim and Research questions**

The study aims at exploring three sections: property asset managers' perception of sustainability, important aspects of sustainability and reasons for implementing sustainability in real estate portfolios. It highlights property asset managers' conceptual understanding of sustainability, and explores whether the level of implementation of sustainability is actually achieving sustainability objectives through the management of commercial real estate. This aim is achieved by answering the following research questions:

1. What are property asset managers' perceptions of sustainability in the commercial real estate industry?
2. What do property asset managers' perceive as the most important aspect of sustainability in commercial real estate?
3. Why do property asset managers implement sustainability in their portfolios?

## 2. Literature review

### 2.1 Definitions

Sustainability can be defined in a large number of ways, which in return can lead to a lot of confusion, and repeated redefinitions of the term (Dobrovolskienė et al., 2021). Two recent studies discuss the ever developing field of sustainability and branch out into different definitions with their own features and idiosyncrasies, whilst continuing to stress the importance of a raised awareness of the subject in general (Vogt and Weber, 2019; Fatimah et al., 2020). Moreover, the literature is to a large extent based on the three pillars of sustainability, social, economic and environmental, which is usually depicted as three intersecting circles with overall sustainability found in the overlapping centre. There is no single point of emergence for this concept, but rather knowledge that has developed over many decades and that is regarded as the baseline of sustainability in the research community (Purvis et al., 2019).

The concept of sustainability is defined differently by several authors. Goh et al. (2020) define it as the principle of resource efficiency that aims to strike a balance in developing the environment, society, and the economy. Balaban and Puppim de Oliveira (2017) explain that sustainability addresses environmental and health issues that result from buildings, and reduces the effects of the building sector on the natural environment and people. In addition, Akadiri et al. (2012) add that sustainability in the built environment includes application of sustainability aspects from design to management of properties so as to reduce environmental hazards and promote users' well being.

Warren-Myers (2012) highlights the importance of focusing on the three pillars of sustainability, namely social, economic and environmental factors when assessing sustainability in commercial real estate. Furthermore, Warren-Myers (2012, p.178) has developed the following definition for sustainability in regard to commercial real estate, which will be used as the working definition by the authors; *“Throughout the lifecycle of a property, being its design, construction, operation and disposal, the property consumes as few natural resources as possible, reduces the production of greenhouse gas emissions and waste, minimises the impact on the earth while providing an enhanced environment for occupants and the greater community, and achieves life-long economic satisfaction.”*

## **2.2 Sustainability in commercial real estate**

Christensen et al. (2018) explain that an ominous perception in the real estate markets is that sustainability is often considered synonymous with energy efficiency, despite the fact that what can be included in the definition of sustainability is much more comprehensive. In the same way, focus can be placed on things that can be understood as sustainable even though they do not really have a direct impact on the property's actual sustainability. Properties can also be built exactly the same, but due to location and geography, two similar properties can constitute different amounts of sustainability and at the same time affect the surrounding development and community inversely. Furthermore, according to Darko et al. (2017) a growing element in real estate has been commercial advantage, which has caused an increasing focus on economic considerations such as streamlining resource consumption and creating building advantages. Subsequently, sustainability has been used as a tool to compete and maximise economic factors. This was initially limited to new construction but has increasingly begun to be incorporated into existing buildings in real estate portfolios.

The term sustainability is both broad and comprehensive, but despite this, it has proved challenging to measure sustainability in real estate, even though there are more than 500 tools for measuring sustainability according to previous studies and that new approaches are constantly being developed (Hilmi and Hamid, 2021).

Sustainability management within existing stock has a great emphasis on efficiency of resources like energy and water. The economic link between sustainability and real estate is central to many scientific articles on the subject and investors are encouraged to invest sustainably based on the value proposition. As a result, tangible factors have been identified in the built environment, largely within operating costs, where sustainability can be justified economically (Brooks and McArthur, 2019). Cost drives sustainability management today and from what can be judged, there is still a long way to go to get sustainability management in commercial properties to take a more holistic perspective on the three pillars of sustainability (Cagno et al., 2015).

Sustainability is an important focus point for commercial real estate companies, but there is limited evidence of how their concept of sustainability actually achieves sustainability in reality.

The inability of asset managers to achieve financial goals appears to be a leading barrier to achieving the sustainability goals that may be considered necessary for large-scale investments in sustainability (Warren-Myers, 2012). On the other hand, Brooks and McArthur (2019) explain that there is a wide range of drivers for sustainability in commercial real estate. These drivers can be grouped into four larger categories, namely economic, reputational, organisational and finally legal, technical, and risk-mitigation. In reputational drivers the authors discuss how brand image and tenant attraction can be strong drivers for embracing sustainability, but it also opens big gaps between actual sustainability and good branding. Altruism, which can be described as a true intention to fulfil the triple bottom line of sustainability, is only one of many drivers and currently it could be concluded that economic drivers such as payback period and anticipated financial returns were conclusively leading drivers for commercial real estate companies.

Cajias et al. (2014) finds that sustainability together with commercial real estate brings higher financial performance at a lower risk. The study found that there exists a positive financial performance in terms of risk and return. Similarly, Bauer et al. (2014) captured effects such as decreasing idiosyncratic risk and a positive relationship between financial performance and sustainability for real estate companies. Cajias and Piazzolo (2013) provides evidence that energy efficiency led to a notable positive price differentiation in terms of total returns, and rent, hence amplifying the market value of buildings. The authors further state that tenants are willing to pay a higher base rent to energy efficient buildings since it saves energy costs and they benefit from being occupiers of a company that holds fast to its image.

In addition, Leskinen et al. (2020) indicated that green buildings had a positive impact on property cash flows and values in commercial properties. The study found that green buildings may increase rental income while decreasing operating expenses, vacancy, and risks. While the study focused on energy as an important role in the sustainability of properties, other factors such as environmental aspects of sustainability were considered and it was reported that green buildings offer several benefits for tenants and justifiable reasons exist to expect that the occupancy rates of green buildings should be higher than those of regular buildings.

Sundfors and Bonde (2018) investigated how frontrunners in the Swedish green building market monitor their new buildings. It was pointed out that technology is used to monitor and assess building performance indicators so as to evaluate the building's sustainable features. To measure

the sustainability and energy efficiency of commercial buildings, a number of building rating schemes have recently been developed, such as LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method).

### **2.3 Aspects of sustainability**

The sustainability aspects in the built environment are concentrated on improving the health of occupants, reducing the environmental footprint and making a building last for an increased amount of time (Balaban and Puppim de Oliveira, 2017; Goh et al., 2020). There are various mentioned aspects of sustainability by authors, for instance Díaz López et al. (2019) mentions water management to be one of the aspects. The author explains there should be a water cycle and monitoring of the various water sources. Atkin and Brooks (2015) explain that water is a scarce resource and needs to be regarded as such. The authors explain that companies should take steps to minimise water consumption wherever possible. Moreover, water conservation measures should be applied. Such measures include: dual-flush toilets using grey water, appliances with low water use; and education of occupants and other end-users. Goh et al. (2020) added that water efficiency is an important factor in assessing sustainable building performance. Property asset managers should undertake water review to know efficiently the building is running. Moreover they should identify new opportunities to improve efficiencies across the property portfolio. (Chanan *et al.*, 2003; Atkin and Brooks, 2015) explain sustainable water management options for commercial building includes best practice water efficiency, rainfall capture and effluent reuse compared to a conventional commercial office building.

Catrini et al. (2020) pointed out that commercial buildings play a key-role in the energy consumption of the building sectors. This is because they are characterised by high energy demand resulting from lighting and HVAC requirements. Chel and Kaushik (2018) explain ways to reduce energy consumption and they result in mitigating emissions of carbon dioxide. Two of energy conservation methods are the use of energy efficient domestic appliances to conserve the building operational energy and building integrating renewable energy technologies. PAMs should establish baseline consumption and identify opportunities to improve the efficiency of the managed property with recommendations reported back to the property owner so as to attract tenants. Amaral et al. (2020) explain that buildings that have high operational energy consumption are less attractive to tenants and this will persist as there have been more carbon

reduction policies. Therefore, PAM should implement an energy reduction strategy that achieves the combined aspirations of the building owner and occupiers.

Akhanova et al. (2019) address that waste and pollution have been assessed in all sustainability assessment tools because of the adverse effects to the ecosystem from construction activities. Atkin and Brooks (2015) explain that waste and inefficiency cannot be reduced much during the operation stage since the design should have taken account of the need to minimise waste. Fortunately, most waste is recyclable, but first it has to be sorted and compacted for removal. Amaral et al. (2020) points out that reusing and recycling are practical and cost effective approaches that adopt and foster the principles of sustainable development in a manner that is accessible to all communities and economies. Thus, most organisations should have clear policies for waste management so as to ease the process of waste collection, transportation and disposal in the best possible way of limiting or eliminating the harmful effect of wastes.

Bahaudin et al. (2014) mentions indoor environmental quality as an aspect to be considered when addressing sustainability. It aims at achieving the increased acoustic quality, visual comfort, health, and safety of building occupants and other users. Akhanova et al. (2019) adds that this aspect is common and essential in assessing sustainability using BREEAM, LEED, and SBTool. Indoor environmental quality has considerable effect on productivity and wellbeing of occupants, hence vital in commercial properties. It includes reduction and elimination of pollutants, hygrothermal and acoustic comfort, and light quality. Better indoor environmental quality can enhance the lives of building occupants and increase the resale value of the building (Çiner and Dogan-Saglamtimur, 2019). On the other hand, poor quality of the indoor environment can cause the sick building syndrome which can be caused by poor ventilation, allowing the accumulation of indoor pollutants (Amaral et al., 2020).

According to Smith and Pitt (2011) health, comfort and safety is another aspect to be taken into consideration because it reduces complaints and absenteeism and increases productivity. While the focus was on environmental considerations in the built environment, currently, there is increasing awareness that attaining sustainable development in the built environment goes beyond sustainable construction and more focus is on sustainable workplaces so as to reduce sick building syndrome and influence productivity (Amaral et al., 2020). For health and safety to be achieved, authors such as have mentioned that there should be better indoor air quality, more

natural lighting indoors and better ambient air quality and improved thermal comfort (Balaban and Puppim de Oliveira, 2017; Akhanova et al., 2019).

The increased demand for indoor comfort has turned the building sector into a major contributor to the global energy consumption and carbon emission (Chel and Kaushik, 2018). Thus, the real estate sector should think of several renewable energy sources that can be taken into consideration for on-site generation in buildings to reduce the amount of imported energy from conventional energy sources. Renewable energy resources commonly used for building applications include wind, biomass solar and geothermal. Minimising the energy consumption and carbon footprint of commercial properties have become essential to meet environmental goals and reduce the use of fossil fuels for power generation. Bandejas et al. (2020) explains that the energy efficiency of buildings can be improved through architectural techniques, construction practices and energy-efficiency measures which can be implemented to reduce costs and energy consumption. Thus, organisations should take into account the selection of an appropriate renewable energy technology to apply to an existing building or new building (Hayter and Kandt, 2011).

### **2.3.1 Summary of sustainability aspects**

This study acknowledges that there are sustainability aspects such as building accessibility, building adaptability, building quality aspects and environmentally-friendly building materials mentioned by different authors (Sayce, et al., 2007; Addae-Dapaah et al., 2009). However, there are multiple aspects of sustainability that are mentioned extensively and therefore have been chosen to be considered in this study. These aspects have been identified by the authors primarily as: (1) water management (Cajias et al., 2014; Goh et al., 2020); (2) reduction of energy consumption (Chel and Kaushik, 2018; Catrini et al., 2020); (3) reduced waste production and recycling (Akhanova et al., 2019); (4) indoor environmental quality (Bahaudin et al., 2014; Çiner and Dogan-Saglamtimur, 2019); (5) occupant health, comfort and safety (Smith and Pitt, 2011; Ogunba, et al., 2021); and (6) production of renewable resources (Hayter and Kandt, 2011; Bandejas et al., 2020).

### **3. Theoretical framework**

#### **3.1 Agency theory**

A goal in managing a property is the maximisation and optimisation of the owner's investment for an optimum return. Property owners employ property asset managers to ensure positive returns. Property asset managers provide skills in caring for a property, its surroundings and amenities together with developing sound relationships between the landlord and tenants and among tenants themselves in order for the property to give the fullest value to both the landlord and the tenants (Oladokun, 2012).

The concept of property asset managers acting on behalf of the owners brings the understanding of agency theory. Agency theory is based on the relationship between a principal or client and an agent who is delegated to act on behalf of the principal (Gibler and Black, 2004). In this study, the principal is the property owner and the agent is the property asset manager. The property asset manager acts on behalf of the owner and the specificity of management results primarily from its specific function that is to inhabit the real estate and giving the opportunity to perform a variety of vital functions without harm to health and life (Węgrzyn, 2015). Acting on behalf of the owner, the property manager is expected to implement the owner's demands. While ensuring profit maximisation, PAM have a critical role to play in improving the sustainability performance of the buildings they manage. They are an integral part of commercial property management and are frequently at the forefront of addressing sustainability in the built environment. They are at the forefront of sustaining property management in order to build a company's reputation and generate revenue.

The study explored how PAMs deliver their services while addressing sustainability issues in their portfolio. It showed that PAMs have the capacity to develop a major sustainability strategy to meet the needs of both owner and occupiers. For instance, the study showed that PAM implements an energy and water reduction strategy that achieves the combined aspirations of the property owner and tenants. While PAM has little control over water use in a building it is expected that s/he helps to help manage and maintain its supply. In addition, the study has addressed how PAMs deal with the large amounts of waste generated from the properties and how they help come up with strategies to reduce waste production and associated costs.



Conclusively, the study covered how the implementation of the six sustainability aspects identified in the study are implemented in the portfolio and address which is the most important aspect that PAMs adhere to.

In most cases however, PAM and owners have different expectations. When the property owner hires the property asset manager to perform a task, the owner observes the outcome of the agent's work, but can (often) not observe the action, or effort, of the agent (Perloff, 2017). Most of the time a principal and an agent engage in cooperative behaviour, but have different goals and attitudes toward risk and how to implement things in the organisation. Lindh and Lindmark, (2016) mention that major concerns that arise in agency theory is first, the effort aversion by the agent. Second, the agent maximises self-interest at the expense of the principal and third, the agent is less concerned about the future effects of his current actions because s/he does not expect to be with the firm. Thus, it is likely that the agent sets targets based on their preferences and opportunities and acts based on their opinion to achieve the most desired outcome identified by the client. Therefore, considering the behavioural aspects of this relationship, the agent may not necessarily perform his work in the way that is most desirable by the client (Węgrzyn, 2015).

In order to solve the problems between PAM and property owners, the contract design should address issues of information asymmetry, stimulate the agent's incentives to act in the best interests of the principal, and to determine procedures for monitoring agents (Perloff, 2017). If the property owner and the property asset managers have full information, there will be no uncertainty and no asymmetric information hence efficiency can be achieved.

Furthermore, compensation must be linked to the performance of the agent because the measurement of agents' effort is difficult, and would result in high monitoring costs. The level of output will determine if the agent has implemented what the principal wants. Thus, the principal comes to agreement with the agent to perform a task for a specified reward and observes whether the agent completes the task before paying, hence no moral hazard problem arises (Holmström, 2016). According to Perloff (2017) moral hazard refers to opportunism characterised by an informed person taking advantage of the less informed person because there is a positive cost of monitoring agent's actions and the actions cannot be observed.

Since property owners and PAM acknowledge the contribution that sustainability can make to their investment objectives, there is a need for property managers to pay greater attention to sustainability in the management of their portfolios. As facilitators for change in the building, it is important for PAM to familiarise with the strategy of operations, organisational culture and internal procedures of the service principal. Also, it is essential to exercise control over PAM by implementing institutional control and periodic monitoring of the transactions carried out on the basis of the management contract. This will help in assessing whether PAMs are running the property sustainably to get the most out of both the property management service and their property investment.

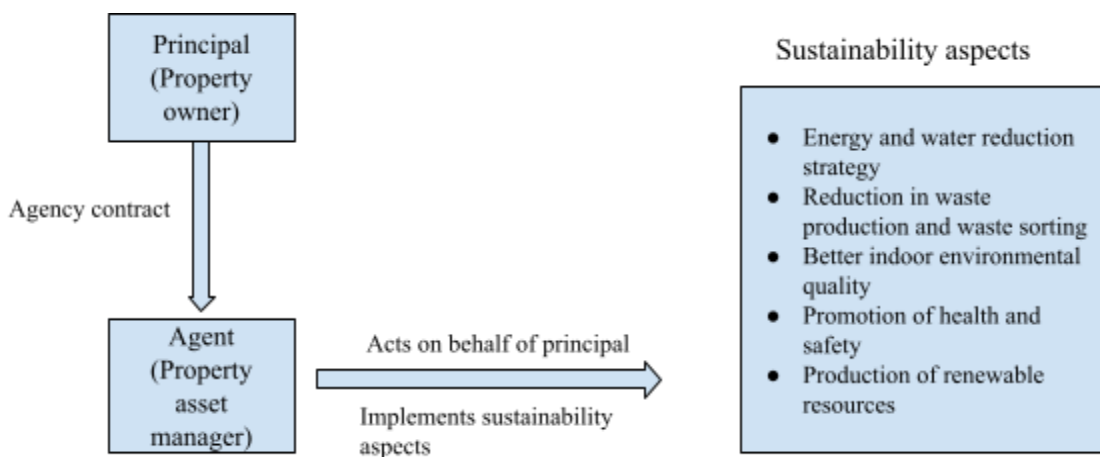


Figure 1: Principal-agent relationship (Source: Węgrzyn, 2015)

### 3.2 Institutional theory

Institutional theory has been used to explore the ways in which organisations can constrain and shape individual and organisational behaviour. It provides beliefs, rules, and norms, shape the creation and spreading of organisational forms, design features, and practices (Berthod, 2018). It is an appropriate vehicle when investigating how institutional forces lead a firm to be responsive to the needs of stakeholders (Latif et al. 2020). Thus, institutional theory provides a regulatory framework that defines how actors including property asset managers and action routines work in an organisation. Property asset managers adhere to organisational rules and norms in order to increase chances of firms' survival. In addition, there are more reasons why managers conform

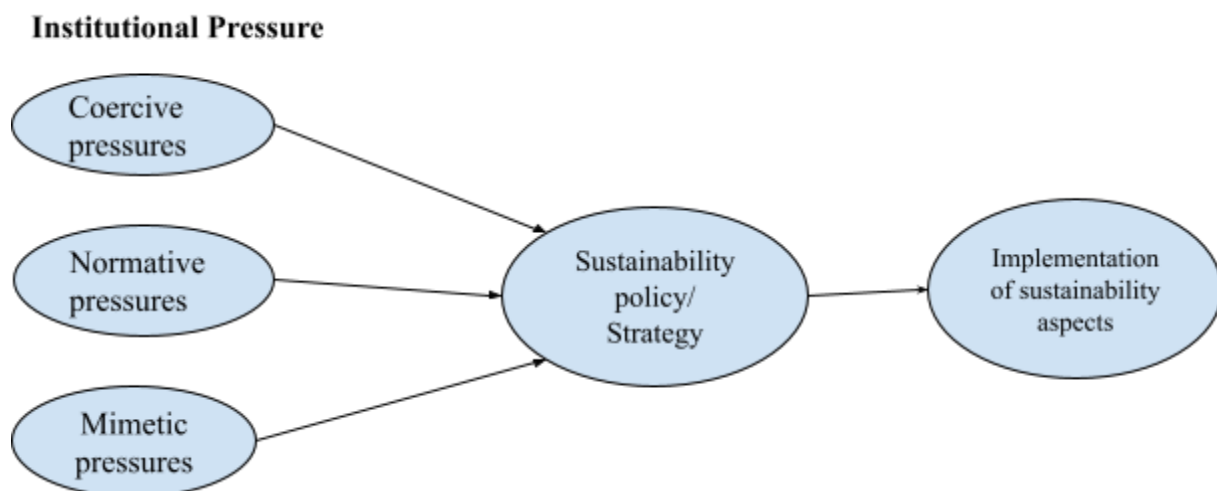
to institutional rules. Brooks & McArthur (2019) grouped these reasons into four categories, namely economic, reputational, organisational and finally legal, technical, and risk-mitigation. Meanwhile both Colwell and Joshi (2013) and Latif et al. (2020) group these reasons into three categories namely; coercive, mimetic, and normative isomorphism.

First, coercive pressure is created by strong stakeholders like government organisations. The role of legislation and government strategies in the built environment has been greatly acknowledged in literature. Numerous studies (Reeder, 2010; Berrone et al., 2013; Goh, 2014; Chang et al., 2016; Martek et al., 2019) have identified government policies and legislation as the key driving force for sustainability in the built environment. According to Chang et al. (2016) government policies and regulatory frameworks significantly influence the uptake of sustainability in the built environment and introduce regulatory pressures on stakeholders to adopt sustainable construction practices. They impose intense rules and regulation, sanctions and punishments. This means that property managers have to implement sustainability issues because the law requires them to. Hence, it will be shown in this study whether PAM adheres to such rules or not. In addition, Berrone et al. (2013) explains that the government, for instance, can mount pressures on environmental innovation so as to reduce environmental harm by using new methods for treating emissions, recycling or reusing waste, using alternative energy sources, and so forth. Thus, this study will explore PAM's role in making sure that they implement such activities in their sites as required by law and avoid penalties from the government.

Second, normative pressure arises from expectations, values and norms and standards within the company culture (Abdulaziz et al., 2017). This pressure comes from professional organisations and other focal social actors, which define appropriate behaviour and standards for its members (Ionaşcu et al., 2020). It forces companies to adopt new actions and behaviours in order to increase chances of organisations' survival. If companies resist, the companies' image and reputation can be affected as organisations compare themselves with their peers and try to behave in accordance with standards or norms prevalent among members that share the same institutional field (Colwell and Joshi, 2013). Therefore, this study explores whether PAM implements sustainability at the same level with competitors so as to protect their company's reputation.

Third, mimetic pressure arises through organisational imitation of norms or practice in the organisation's institutional field. It arises as a result of high uncertainty of what is going on in the external environment and the organisation is forced to copy what others do (Abdulaziz et al., 2017). According to Colwell and Joshi (2013), when organisations do not have a clear interpretation of what is happening around them they copy successful peers because they believe that the peers must have greater knowledge. Also, in case of failure then it disadvantages them both equally and not give these successful peers an enduring competitive advantage. (Eichholtz, Kok and Quigley, 2016) point out that it is important for companies to respond to their competitors' actions and behaviours. If their competitors are addressing sustainability issues in their activities, companies should follow suit. Latif et al. (2020) explains that some practices that companies copy may include their energy consumption behaviour since it saves operational cost.

Appreciating the drivers for sustainability, this study assumes that property asset managers address sustainability issues as a result of one or more of the drivers mentioned. Regardless of the reason(s), the study will ascertain the level of implementation and what type of initiatives and strategies are implemented in their portfolios. We will explore if there is a framework that governs PAM in the implementation of sustainability or, is it the coercive, normative or mimetic pressure that makes them implement it?



*Figure 2: Institutional pressure on the implementation of sustainability aspects (Source: Alziady and Enayah, 2019)*

## **4. Methodology**

### **4.1 Data collection**

Saunders et al. (2019) explain that surveys are used as a sample of members to measure population characteristics. It is a systematic method for gathering information from (a sample of) entities for the purpose of describing the population's characteristics. In this study, a survey was developed for investigating the important aspects of sustainability in the commercial real estate industry. Survey was sent to 95 commercial real estate companies in Sweden where the contacts' emails were obtained from their company websites and linkedin. The survey aimed to investigate property asset managers' perceptions of sustainability and rank the aspects of sustainability in the commercial real estate industry. The first batch of emails was sent on 27 March and then one reminder was sent out on 3 April. From the total list of 95 emails, 42 responses were obtained and the response rate was 44%. The survey was performed using the google forms tool and it consisted of four sections, company information, sustainability perception, sustainability aspects and implementation. Most of the questions were on a five-point scale, not important to very important, and strongly disagree to strongly agree. According to Jansen (2010) a qualitative type of survey aims at establishing the diversity of some topic of interest within a given population. It also provides meaningful variation (relevant dimensions and values) within that population. Therefore, the research questions were investigated using qualitative data collection as this helped in achieving an understanding of the knowledge levels, perception, and implementation of sustainability in the commercial real estate market.

The survey was complemented with interviews to understand how property asset managers implement sustainability in their portfolio. 42 emails were sent to different commercial real estate companies where the contacts' emails were obtained from their website and through LinkedIn. From the total list of 42 emails, 4 interviews were held, 5 contacts were on leave, 3 did not have time for an interview and 30 did not respond. The four interviews involved three respondents from the big group, one from the medium group and none from the small group. Three of the respondents from company 1,2 and 3 had an experience of at least 2 years in their role and more than 2 years working for the same companies. However, the respondent in company 4 joined the company in a period of less than a year and had little to say about their

sustainability policy. The interviews were held to get an overview of how and why sustainability is implemented. Gibbs (2007) explains that interviews help in collecting in depth information and are less intrusive to those being interviewed as it encourages two-way communication. In addition, the interview method has proven to be successful in enhancing reciprocity between the interviewer and participant thus enabling the interviewer to come up with follow-up questions based on participant's responses. Therefore, interviews helped in understanding the implementation of sustainability and getting more information that cannot be obtained through surveys.

## **4.2 Data analysis and presentation**

The data has been analysed using categorical and thematic analysis. The companies were first grouped into three categories namely small, medium and large. Small represented companies with a value below 20 billion SEK, medium group was between 21 billion and 100 billion SEK and the large group had a value of more than 100 billion SEK. The categorisation helped in making comparisons between size of organisations in relation to how they implement sustainability and what is an important aspect for different company sizes. It also helped in analysing interlinkages between the sustainability aspects in companies. The study has also analysed the data using the frequency of response to know which sustainability factors are important and which aspects have lower emphasis.

In ascertaining respondents' levels of sustainability implementation, questions on the level of implementation, type of initiatives and strategies implemented in their portfolios were asked. The responses were analysed using thematic analysis which helped in identifying common themes such as topics, ideas and patterns of meaning that came up repeatedly. Castleberry and Nolen (2018) explained that thematic analysis is vital in understanding respondents' opinions and perceptions mentioned frequently or in depth, and the ways in which those aspects of a phenomenon may be connected. They further explained that thematic analysis can be divided into five steps, compiling, disassembling, reassembling, interpreting, and concluding. Thus, in this study thematic analysis was vital in understanding respondents' opinions and perceptions mentioned frequently, and the ways in which those aspects of a phenomenon may be connected. It identified repeated patterns that helped in grouping the level of implementation in three

categories: (1) low levels of implementation; (2) medium levels of implementation; and (3) high levels of implementation.

Conclusively, the study involved grouping, categorising and conceptualization to summarise what has been collected from the research and provided link between phenomena. It used tables, graphs, charts and figures in a well-presented manner to condense data , bring order and make sense of it.

### **4.3 Ethical considerations**

According to Hasan (2021) it is stated that where possible ethical considerations should apply to the whole research process i.e., from conceptual stage to data storage. This study adhered to the importance of ethical considerations before, during and after research. Access to all data used in this study was by consent from the relevant parties. Formal requests were made for all data and information which are not public. Moreover, the obtained data were used for academic purposes and no real names of persons were disclosed without prior consent of the concerned persons or authorised officers. Additionally, this study did not falsely report on the research procedure nor use the ideas or writings of another person or use them without citing the sources.

## 5. Results

### 5.1 Survey

The results from the survey are presented initially in its entirety with figures illustrating the results. In the last section (5.1.2), the data is analysed using categorical analysis and presented using figures and tables to illustrate differences and similarities.

#### 5.1.1 Survey data

In this section the results of the survey are presented for each question. The sample amounts to 42 real estate companies of various sizes. The distribution of the responding real estate companies' underlying assets under management is shown in Figure 3 below. The sample consists of real estate companies of varying sizes in terms of assets under management in their real estate portfolios. All but one interval, predetermined by the survey with respect to assets under management, is represented and amounts to at least one data point. Real estate companies in the interval 51-100 billion SEK are not represented and real estate companies in the interval 21-30 billion SEK are slightly under-represented.

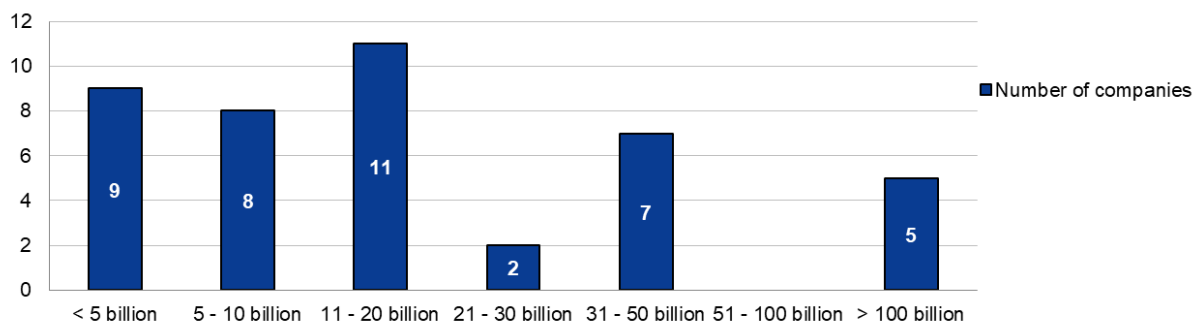


Figure 3. Question 1 - Assets under management for respondent's real estate company (SEK).

Presented in Figure 4 below is the distribution of real estate companies with and without a strategic sustainability plan. A large majority of the real estate companies indicated that they have a strategic sustainability plan with 86% of respondents answering yes. The remaining 14% of the respondents did not indicate that their real estate company have a strategic sustainability plan.



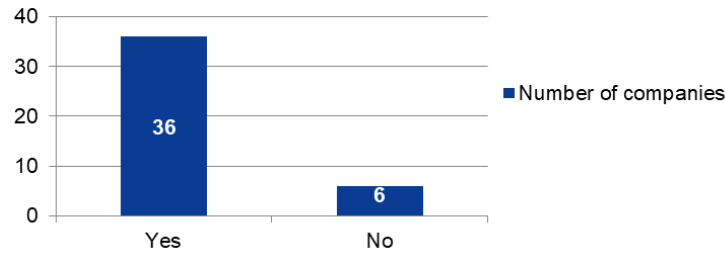


Figure 4. Question 2 - If the company has a strategic sustainability plan.

The responding real estate companies' perception on statements regarding sustainability in commercial real estate is illustrated in Figure 5 below. Out of the responding real estate companies, 95% (55% + 40%) answered that they *Agree* or *Strongly Agree* to sustainability being a critical issue for commercial real estate, proving a strong consensus among respondents in this question. When it came to their perception on the need to have a return on investment for sustainability initiatives to be initiated, 38% were indicating that they were neutral to this statement. 50% (43% + 7%) of respondents were above Neutral (corresponding to the answer options *Agree* and *Strongly Agree*) and 12% of respondents were below Neutral (corresponding to the answer options *Disagree* and *Strongly Disagree*).

On the statement of whether or not sustainability initiatives lead to an increase in net income, 64% (50% + 14%) were above neutral whilst 31% were neutral and 5% disagreed, showing that a majority of real estate companies perceived sustainability initiatives to have an economic upside. The responding real estate companies showed a very distinct consensus on whether an anticipation of increasing energy and other resource costs motivate sustainability initiatives, with 90% (45% + 45%) of respondents indicating that they *Agree* or *Strongly Agree*, and the remaining 10% being *Neutral*.

The perception of social sustainability initiatives being a big part of the responding real estate companies' sustainability work had a strong positive indication with 76% (43% + 33%) answering above Neutral. 17% of respondents indicated *Neutral* and 7% indicated *Disagree*. On the question of whether sustainability initiatives can be implemented without economic motivation, a slight majority of 57% (36% + 21%) answered above neutral. 31% of respondents were *Neutral* and 12% of respondents *Disagree*. Finally, when being asked to indicate their perception on the statement *sustainability initiatives need to be implemented immediately and cannot wait*, there was quite a wide range of answers with a strong favour for *Agree*. 29% of the

respondents were *Neutral*. 57% (45% + 12%) of the respondents answered either *Agree* or *Strongly Agree* whilst 12% (10% + 2%) answered either *Disagree* or *Strongly disagree*.

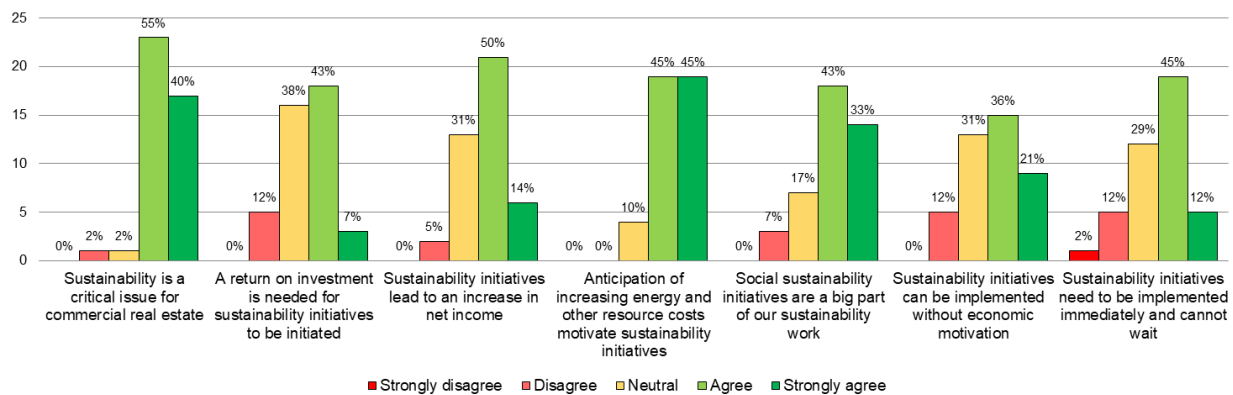


Figure 5. Question 3 - Real estate companies' perception on sustainability.

How real estate companies rate the importance of sustainability aspects in the commercial real estate industry is illustrated in Figure 6 below. The response to the importance of the sustainability aspect water management was relatively mild with 67% (52% + 14%) rating it as having *Some importance* or *High importance*. The remaining responses were split evenly between *Neutral* and *Low importance* with 17% each. Reduction of energy consumption was according to the responding real estate companies the clearly most important aspect with 95% rating it as having *High importance* and not a single company rating it as *Neutral* or lower.

Close to all real estate companies found recycling and reduced waste production to have at least some importance with 38% answering *Some importance* and 60% *High importance*. When it came to indoor environmental quality, 88% (50% + 38%) rated it above *Neutral*, 10% rated it *Neutral* and 2% claimed it had *Low importance*. Occupant health, comfort and safety had very similar results to recycling and reduced waste production with 40% answering *Some importance* and 55% *High importance*. Lastly, production of renewable energy had the second highest percentage of real estate companies rating it as having *High importance* with a total of 67%. The remaining 31% of respondents found the aspect to have *Some importance* and 2% were *Neutral*.

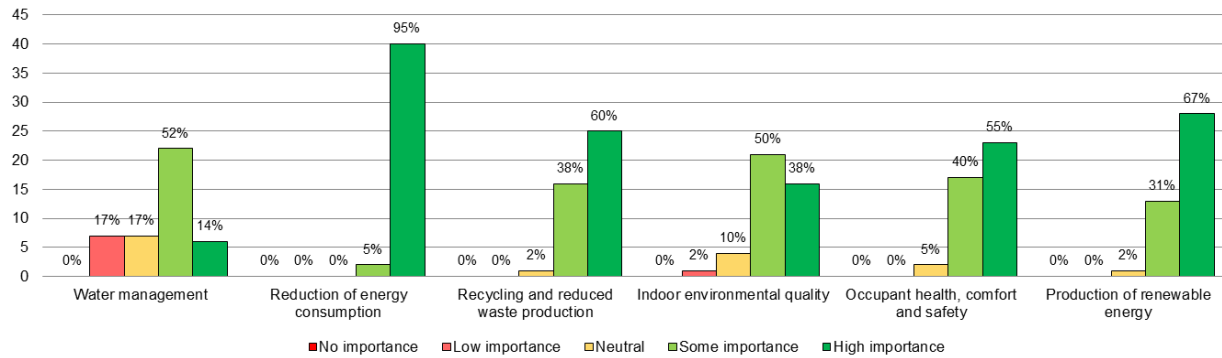


Figure 6. Question 4 - Importance of sustainability aspects in the commercial real estate industry.

How real estate companies rate the importance of sustainability aspects in their own property portfolio is illustrated in Figure 7. The sustainability aspect water management had a very similar number of respondents above *Neutral* and less respondents answering *Low importance* to instead answer either *No importance* (5%) or *Neutral* (26%). It can be stated that reduction of energy consumption was the most important sustainability aspect even in the real estate companies' own portfolios, giving it the same result as for the importance in the industry with 95% giving it *High importance*.

In the real estate companies own portfolio, recycling and reduced waste production had more responses on *Some importance* (55%) than *High importance* (40%) and indoor environmental quality had more responses on *High importance* (45%) than *Some importance* (43%), which was different compared to the perceived importance of these aspects in the industry. For the sustainability aspect occupant health, comfort and safety, there were less responses for *Some importance* and instead an increased amount of responses for *Neutral* and *High importance*, indicating a split in companies perceived importance in their own portfolio.

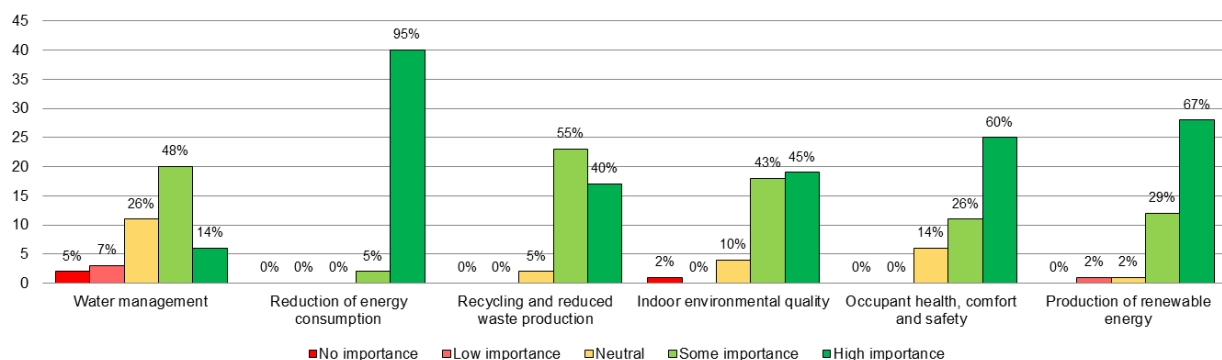


Figure 7. Question 5 - Importance of sustainability aspects in their own property portfolio.

The sixth question of the survey was an open ended question which aimed at finding other sustainability aspects which real estate companies found important. Out of the 42 respondents, 24 real estate companies did not have any other sustainability aspects that they thought were missing. 8 real estate companies mentioned different parts of the construction phase as an important aspect, which was an aspect outside the scope of this study, since this study is demarcated to the perspective of property asset managers.

When summarising and analysing the remaining responses, some sustainability themes were discovered. The first theme we could identify was broadly mentioned as social sustainability where the explanations would focus on not only the tenants but on social inclusion, societal responsibility, safe environments, education, jobs, care and leisure. When it came to responses regarding environmental sustainability, energy storage and green district heating were two aspects being mentioned. Furthermore, the importance of refurbishments was stressed, especially in regard to lower emissions, reusing materials and avoiding damage from climate change. Economic sustainability was also mentioned with the point that implementing many sustainability initiatives which do not generate profitability over time was not sustainable. Lastly, a sustainability aspect mentioned by real estate companies was helping tenants minimise vacant space for more effective use, which in turn would lead to less unnecessary tenant improvements and refurbishments.

As can be seen in Figure 8 below, real estate companies perceive that they prioritise sustainability very similarly in their daily operations and at top level management. Only a small difference was indicated in favour of prioritisation of sustainability on top management level with 52% answering *Very High* and only 5% answering *Medium*, compared to 43% and 12% for daily activities.

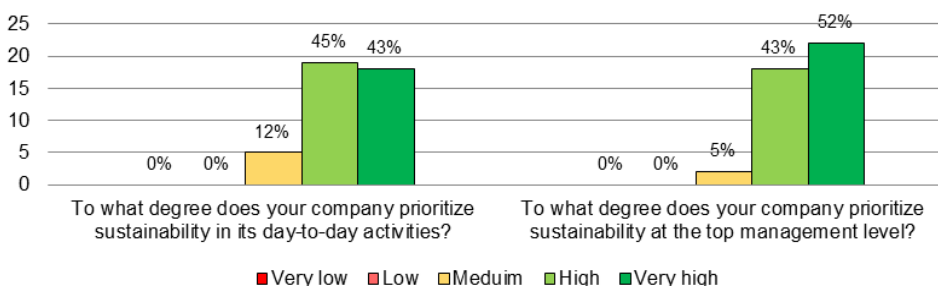


Figure 8. Question 7 & 8 - Prioritisation of sustainability in the real estate company.

The number of real estate companies that incorporate different sustainability initiatives in their property management is illustrated in Figure 9 below. Out of the responding real estate companies, 93% indicated that they consider energy efficiency in their management plans. Approximately three quarters of the responding real estate companies claimed that they encourage tenants to use eco-friendly materials. A program for water saving efforts was the least implemented with only 36% of respondents answering yes. Both consideration of sustainability when choosing service providers and monitoring of energy consumption had high incorporation with 86% and 90% respectively answering yes. Lastly, 57% of the real estate companies include energy efficiency measures in the lease agreement.

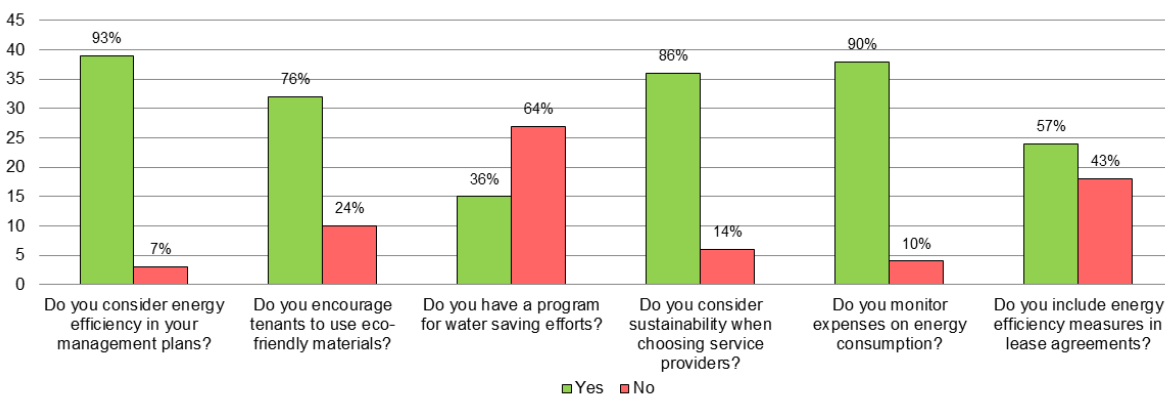


Figure 9. Question 9 - Incorporation of sustainability in asset management.

The last question in the survey aimed at how real estate companies actually view sustainability in the commercial real estate industry with a broad final statement. With this question, the responding real estate companies got a chance to indicate if they think sustainability is mostly a fad or if it is something that is seriously taken into consideration in daily operations. Figure 10 below illustrates the response, with 96% (60% + 36%) of respondents either *Strongly disagree* or *Disagree*. There was a small number of companies (4%) who indicated differently.

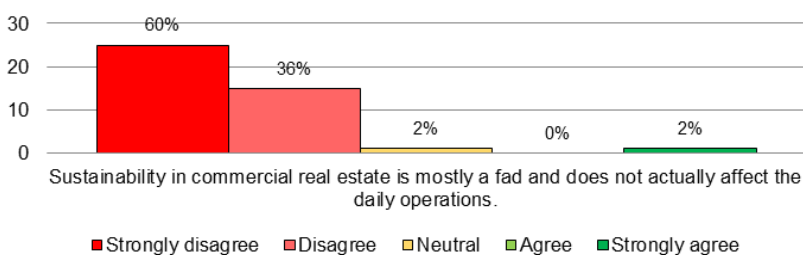


Figure 10. Question 10 - Real estate companies overall perception on sustainability being mostly a fad and not affecting the daily operations.

### 5.1.2 Categorical analysis

To create a better and deeper understanding of sustainability in property asset management, the corresponding real estate companies have been grouped into three different categories with regard to assets under management. The real estate companies are divided into small, medium and large real estate companies. The small companies amount to 28, the medium-sized real estate companies amount to 9 and the large real estate companies amount to 5. It may be of interest to see how the different groups compare to each other to highlight potential discrepancies between the different sizes of real estate companies.

Figure 11 below shows that all medium-sized and large real estate companies have a strategic sustainability plan. It is only within the group of small real estate companies that 6 companies (21%) do not have a strategic sustainability plan, while the remaining 22 (79%) companies have one.

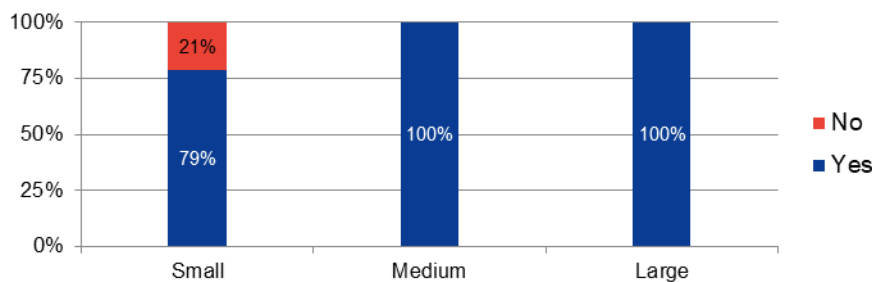


Figure 11. If the company has a strategic sustainability plan, grouped by size.

How the responding real estate companies perceive sustainability is presented in the form of an average for every statement in question 3, see Figure 5 in the previous section. The companies have been grouped by size to see the difference in perception by averages for every statement, illustrated in Table 1 below. An average value of 3,0 means a *Neutral* view on a particular sustainability statement. An average value above 3,0 indicates that the real estate companies agree to some extent and 5,0 would mean that all companies *Strongly agree*. An average value below 3,0 indicates the opposite, i.e. that the real estate companies to some extent *Disagree* on the aforementioned sustainability statement.

When it comes to sustainability being a critical issue in the industry, all company sizes indicated that they agreed to the statement, with large companies agreeing the most (4,6) and small

companies agreeing the least (4,3). Small sized real estate companies think to a larger extent that a return on investment is needed to initiate sustainability initiatives, with an average of 3,6 compared to 3,2 for medium and large sized companies, but all company sizes were quite neutral in the question overall. Large companies agree the most out of the different company sizes that sustainability initiatives lead to an increase in net income and medium sized companies agree the least, although no company size indicates being *Neutral* or disagreeing.

All company sizes almost equally strongly agree that anticipation of increasing energy costs motivate sustainability initiatives with 4,4, 4,3 and 4,4 respectively. Small and medium sized companies *Agree* that social sustainability is a large part of their sustainability work whilst large companies *Strongly agree* (4,6). If sustainability can be implemented without economic motivation was equally slightly agreed on by small and medium sized companies with 3,6 and 3,7 respectively. Large companies on the other hand indicated more clearly that they agree with an average of 4,2. Finally, when it came to the urgency of implementing sustainability initiatives, medium sized companies answered right below neutral (2,8), having a less than *Neutral* stance in the question. Small and large companies on the other hand were very similar in agreeing with 3,7 and 3,8 respectively.

| Statement  | Small | Medium | Large |
|--|-------|--------|-------|
| Sustainability is a critical issue for commercial real estate                                  | 4,3   | 4,4    | 4,6   |
| A return on investment is needed for sustainability initiatives to be initiated                | 3,6   | 3,2    | 3,2   |
| Sustainability initiatives lead to an increase in net income                                   | 3,8   | 3,6    | 4,0   |
| Anticipation of increasing energy and other resource costs motivate sustainability initiatives | 4,4   | 4,3    | 4,4   |
| Social sustainability initiatives are a big part of our sustainability work                    | 4,0   | 3,9    | 4,6   |
| Sustainability initiatives can be implemented without economic motivation                      | 3,6   | 3,7    | 4,2   |
| Sustainability initiatives need to be implemented immediately and cannot wait                  | 3,7   | 2,8    | 3,8   |

*Table 1. Average of real estate companies' perception on sustainability issues, distributed by company size.*

The importance of sustainability aspects for both the commercial real estate industry as a whole and for the responding real estate companies' own property portfolio is presented in the form of an average for every aspect in question 4 and 5, see Figure 6 and 7 in the previous section. These averages can be seen in Table 2 below where the aspects are both presented separately and as a combined average. An average value of 3,0 means a *Neutral* view of the various sustainability aspects. An average value above 3,0 indicates that the real estate companies find the aspect important to some extent, and an average of 5,0 means that all companies find the aspect to have *High importance*.

The responding real estate companies show a strong consensus in *reduction of energy consumption* being of *High importance* (5,0). Second highest importance is given to *production of renewable energy* (4,6). Both the sustainability aspects of *occupant health, comfort and safety* and *recycling and reduced waste production* are given an average importance score of 4,5, indicating a somewhat *High importance*. The sustainability aspect *indoor environmental quality* indicated a result just above *Some importance* (4,3) and *water management* was placed last with an almost *Neutral* average (3,6). When looking at the difference between what the responding real estate companies thought was important to the industry and their own portfolio, many aspects indicated no difference. For the aspect *Recycling and reduced waste production*, there was a slight favour in importance to the industry (4,6 vs 4,4) and for the sustainability aspect *Indoor environmental quality* there was a slight favour in importance to their own portfolios (4,2 vs 4,3).

| Aspect                                 | Industry | Portfolio | Combined   |
|--|----------|-----------|------------|
| Reduction of energy consumption        | 5,0      | 5,0       | <b>5,0</b> |
| Production of renewable energy         | 4,6      | 4,6       | <b>4,6</b> |
| Occupant health, comfort and safety    | 4,5      | 4,5       | <b>4,5</b> |
| Recycling and reduced waste production | 4,6      | 4,4       | <b>4,5</b> |
| Indoor environmental quality           | 4,2      | 4,3       | <b>4,3</b> |
| Water management                       | 3,6      | 3,6       | <b>3,6</b> |

Table 2. Average of importance of sustainability aspects for both the industry and own property portfolio, combined average and sorted ranking.



How the real estate companies prioritise sustainability in the organisation is presented in Table 3 below, where 5,0 indicates *Very high* and 3,0 indicates *Medium*. In general, you can see that there was no difference for medium-sized and large real estate companies (4,6). For small real estate companies, the average was lower than for medium-sized and large companies. Furthermore, it can be seen that small companies indicate that a higher priority of sustainability is placed at the top management level (4,4) than on a day-to-day basis (4,2).

| Question   | Small | Medium | Large |
|--|-------|--------|-------|
| To what degree does your company prioritise sustainability in its day-to-day activities? | 4,2   | 4,6    | 4,6   |
| To what degree does your company prioritise sustainability at the top management level?  | 4,4   | 4,6    | 4,6   |

*Table 3. Average prioritisation of sustainability in the real estate company, distributed by company size.*

How the real estate companies incorporate sustainability plans while managing the properties is presented in Table 4 below, where 6,0 indicates incorporation of all plans from question 9 in Figure 9 above, and 0,0 indicates no incorporation. Here small companies without a strategic sustainability plan indicate the lowest incorporation average (4,0) followed by small companies with a strategic sustainability plan (4,4).

|                                  | Small | Medium | Large |
|----------------------------------|-------|--------|-------|
| Strategic sustainability plan    | 4,4   | 4,6    | 4,6   |
| No strategic sustainability plan | 4,0   | -      | -     |

*Table 4. Average incorporation of sustainability plans while managing the properties, distributed by company size and if the company has a strategic sustainability plan.*

On sustainability being a fad and not affecting the daily operations, it can be seen in Table 5 below, where an average of 1,0 is *Strongly disagree* and 2,0 *Disagree*, that small companies without an strategic sustainability plan disagree the least to the statement with an average of 1,8.

|                                  | Small | Medium | Large |
|----------------------------------|-------|--------|-------|
| Strategic sustainability plan    | 1,5   | 1,4    | 1,4   |
| No strategic sustainability plan | 1,8   | -      | -     |

*Table 5. Average of real estate companies' perception on sustainability being mostly a fad and not affecting the daily operations, distributed by company size and strategic sustainability plan.*

## 5.2 Interviews

### 5.2.1 Implementation of sustainability in real estate portfolios

To ascertain respondents' levels of sustainability implementation, questions were asked about strategic sustainability plans, prioritisation of sustainability in a company's day-to-day activities, initiatives and strategies they were implementing in their portfolios. Four companies were interviewed and they were named company 1,2,3 and 4 for ethical considerations. The data were analysed using content analysis and then using relational analysis. The data has been grouped into three categories showing levels of implementation: (1) low levels of implementation; (2) medium levels of implementation; and (3) high levels of implementation. The level of implementation differed from one company to the other depending on factors such as; the existence of the policy, how it was implemented and reviewed. Some companies had a general sustainability policy for the company and said a little about the real estate sustainability. Some had a general policy with real estate sustainability highly explained. Thus, this categorization helps in understanding the level of implementation in different real estate commercial companies.

#### ***Low level of implementation: Existence of Sustainability policy***

This category represents companies that had a sustainability policy, but had no indication on how the policy is implemented. From the interviews conducted, all respondents agreed that they either had a sustainability policy or strategy. However, the extent of implementation differed. For instance, company 2 had a sustainability policy that aimed to define companies' position and guidelines for participation in building a sustainable society. Their concept of sustainability included the economic, ecological and social dimensions. However, there was no indication of how they were going to implement sustainability in their property portfolios. Further, the company had a sustainability report which stated the UN sustainability goal but it said a little about real estate. The respondent indicated that *“we have all these kinds of policies that are more on a basic level I'd say, so there is a framework and then we need to develop targets and strategies on top of that. Strategies that are more ambitious”* the respondent added that *“there was a sustainability strategy plan even before I joined and it is evolving all the time, however, sustainability is not implemented across a portfolio because each real estate asset has its own*

*implementation due to the age factor.”* Much as the policy existed, there was no indication of how or when the company was going to examine the sustainability levels of the property. This company has over ten sustainability policies including:

- Work to minimise environmental impact and energy use in new-builds and property management.
- Strive towards never using materials that are classified as environmentally hazardous.
- Minimise waste, utilise waste and resources in a responsible manner.

The sustainability policy in this company however, remains silent on how these policies are implemented, assessed or reviewed. In addition, the respondent in company 4 also mentioned that the company has recently started to address sustainability, but it is at the initial stage and nothing was said on the way it is going to be implemented. The respondent explained that *“we are starting up many projects where we're looking at sustainability and stuff like that. Sustainability hasn't been focused in the previous years so we're starting to go there but we're not there quite yet”*. Apart from that, this company has a general sustainability policy that focuses on the entire company and not real estate alone. The respondent pointed out that *“we have a general sustainability policy but it's not implemented on all our facilities .....we have it on a company level and we're starting to apply it on the facilities but we're not quite there yet.”* From the company's sustainability report, there were only two sustainability aspects mentioned i.e. sustainable working life and decreasing carbon emission which also explained energy consumption reduction.

### ***Medium level of implementation: Sustainability policy and plans to improve sustainability***

This category represents companies that had a sustainability policy and developed plans on how to improve sustainability. Company 1 and 3 had a sustainable policy and they stated their strategy and ways to implement their strategies in their policy or sustainability report. The policies in company 1 includes: energy efficiency, renewable energy, self-produced energy, reduce carbon footprint, water consumption, reuse, reduce and recycle, building certifications and materials. Whereas, policies in company 3 includes climate neutral, circularity and safe & healthy.

### ***Sustainability is an ongoing process***

The two companies noted that sustainability is an ongoing process and they are committed to incorporate changes as they go along. Moreover, they were open to develop and implement initiatives to improve their policy. The focus of this category was operational sustainability so as to attract tenants, lower costs and achieve high property valuation which can be obtained through active monitoring of the properties. Company 1 has a sustainability strategy which is built on their corporate vision and overall business objectives. The company has a goal of turning brown to green and follows the environmental, social and governance rule (ESG). Environmentally, the company aims at turning brown to green, Socially, to care for people and on the governance level they deliver sustainable results. Thus, this is always an ongoing process to make sure that they achieve it. Two companies agreed that sustainability is still a work in progress and they learn how to incorporate it in their daily activities. Respondent in company 2 indicated that “...*there was a sustainability plan strategy even before I joined ,but then we have developed it further and I have been involved in that, so I’d say it is evolving all the time...*” Respondent in company 3, explained that “*I will say our implementation process is going on all the time and we have a reporting system so we can track the results of the goals.*” From the two responses, sustainability is an ongoing activity and a human driven process that aims at rectifying previous mistakes, eliminating or reducing current problems and building legacies for future generations. Thus, these changes should be tracked and reviewed to make sure that the sustainability policy is implemented.

### ***Sustainability reduces energy costs and attracts tenants***

Also, in this level respondents indicated boundlessness actions relating to monitoring their actions such as the metering of energy, and water. Both of them have advanced systems in place to accurately measure these resources. Three of the interviewed companies have outsourced a company that monitors these aspects. All respondents stated that their justification for focusing on resources, especially energy efficiency, was to reduce costs, involving tenants in sustainability initiatives to achieve cost savings across the portfolio and attract more tenants. Respondent in company 1 indicated that “... *sustainability is important from an investment perspective as well because the property will get a higher value but not only on the net operating income like to reduce your cost* ”

Respondent in company 2 explained that *“sustainability is of course a very important part of the business now and it has always been. In fact, if you lower energy fuels lower cost and that has always been the case.”* Respondent in company 3 explained that *“...I mean if we have buildings with high consumption and things like that nobody will like it . I mean the value also will reduce so it's really in the long term to safeguard the development of the value of the building I'd say”*. Therefore, Respondents from company 1, 2 and 3 focused on cost minimization and customer attraction strategies, which they believe sustainability can provide.

### ***Sustainability involves green lease agreements***

This group also mentioned the use of green lease and green certification for their buildings. Respondents explained the use of green lease agreement when there is a new tenant or incase of contract renewal. The respondents noted that they required sustainability action plans for all assets, however this cannot be done at once, therefore they do it whenever there is a new tenant or where one renews the contract. This strategy works as a long-term initiative as the shorter-term initiatives are still put in place. Respondents did not see sustainability as an option only at lease expiry. They considered adopting or implementing other available sustainability strategies to ensure that sustainability is implemented in their portfolio. Respondent in company 1 explained that *“every lease we sign we do have a green lease attachment our contract between the property owner and the tenant where it's yeah legally a stuff that we have to do for the tenant and the property owner and it could be that I guarantee that their premises is going to be certified within a certain year and what certification it will be.”* The respondent also indicated that they have a green business plan that acts as an initiative for them to execute the goals they communicated to their investors. The respondent noted that green leases have benefits to both the tenant and landlord as it improves the working relationship between the tenant and the landlord. Both parties in the agreement work together to find solutions to issues which may affect meeting their targets. In addition, green lease provides a substantial contribution towards implementing CSR strategies.

***High level of implementation: Sustainability policy, plans to improve sustainability, and implementing sustainability initiatives across property portfolios and reviewing***

***Long term sustainability goals***

In this level, respondents were implementing sustainability at a broader level, with active monitoring and long-term sustainability improvement plans. Respondents demonstrated a broad-mindedness on sustainability and were focused on asset certification through tools like *Miljöbyggnad* which is a Swedish environmental assessment scheme that assesses energy, indoor environment and construction materials of a building (Sundfors and Bonde, 2018). Additionally this group uses international standards such as ISO 50001 which provides a practical way to improve energy use through the development of an energy management system. It provides a framework for businesses to develop a policy for more economical use of energy, set targets, use data to understand and build choices concerning energy use. It also measures the results, assesses how well the policy is working, and continuously improves energy management (*ISO 50001*). Therefore this group has preceded other groups in energy management as they follow this guideline. Furthermore, the ISO, according to the respondent, has established various standards and guidelines to aid in the transition to sustainable development.

Respondents in this group also had long term sustainability goals in their company. From their sustainability report, companies indicated strong sustainability strategies implemented portfolio-wide, with objectives like “*being a carbon net zero business by 2030 and reducing energy consumption from directly owned properties to an average of 100 kWh/m<sup>2</sup> at the time of divestment.*” Another company stated we “*aim at reducing energy use 1% annually and measurement of CO<sub>2</sub> emissions during tenant adaptations.*” Respondents agreed that sustainable building certification systems are a well-known mechanism and a driving force behind real estate sustainability. In the absence of regulatory frameworks for sustainability, the certification system plays a pivotal role in shaping the building sustainability movement.

***Tracking sustainability goals***

This group also tracked, reported and reviewed their goals after a certain period of time. One of the companies has outsourced a company that checks and reviews their sustainability. A respondent from company 3 explained that “*we have a reporting system so we can track the results of the goals.... we report every six months and make sustainability reports.....we have*

*this reporting system from a company xxx that manages our reporting system, but we have set it up with some value*". They further reported that the certification tools, particularly *Miljöbyggnad*, provide basic assessment criteria for the portfolios. This category has further established engagement targets to improve and obtain higher certifications across the portfolio in the future. This provided an active focus and the implementation of many strategies that could be used in the existing properties and new properties.

### ***Other sustainability aspects***

Apart from the sustainability aspects identified from the literature by the authors, this group mentioned that while indoor quality is important, the outside environment of their properties is also vital. Respondent in company 3 said *"...but I would say our third part of the observation is perhaps the sensation of a safe and secure environment is also very important actually .....I mean that you're that you feel safe in the building and also outside the building I would say."* This helps to ensure that the company is providing a superior level of quality to the occupiers of the property.

## **5.2.2 Reasons for implementing sustainability**

### ***Sustainability is an important aspect in business***

When participants were asked about the implementation of sustainability most of them came up with reasons why they implement sustainability. A respondent in company 3 indicated that *"...well I think that today in Sweden you as a big company have to take responsibility you can't miss that. We are part of something a lot bigger than ourselves and I mean the climate crisis you just can't miss."* Sustainability is becoming increasingly necessary for societies because of the changing outlook in the world, thus companies have to address it. It is becoming even more essential for companies to bridge the gap between knowledge and practice by adopting sustainable business practices. From the respondents' response it can be said that companies are aware of the challenges posed by climate change as a result, they are addressing sustainability in their portfolios in order to improve their operations through the three bottom-line strands of environmental, social, and economic sustainability.

Respondent in company 2 further explained that *sustainability is of course a very important part of the business now and it has always been.* This can be explained by the importance of

sustainability in businesses. Respondents indicated customer attraction, cost reduction and improved reputation to be some of the reasons associated with sustainability. This means apart from getting involved in something bigger than their companies, they gain out of it. Besides, even when companies won't address it, stakeholders will demand them to. Respondents indicated that they have to write a sustainability report explaining their company's business impact to stakeholders. Sustainability is therefore an approach aiming at creating long-term value by taking into account the functioning of a given organisation hence companies have to take note of it.



## **6. Discussion**

### **6.1 Perception on sustainability**

It is confirmed by the responding real estate companies through the survey that sustainability is a critical issue for the commercial real estate industry. What exactly that means for the respondents, on the other hand, is a question that is increasingly open and whose answers seem to vary between the different real estate company sizes. Illustrated in Table 1 (see p. 25), small companies to a greater extent consider that a return on investment is needed for sustainability initiatives to be initiated. Furthermore, small companies consider to a lesser extent that sustainability initiatives can be implemented without economic motivation. However, medium sized companies agreed to a lesser extent that sustainability initiatives lead to an increase in net income than small companies, and large companies agreed to the same statement to the largest extent. This indicates that there is a discrepancy in what sustainability is perceived to be, and to what extent it is connected to economic factors.

There was a clear consensus between all sizes that anticipation of increasing energy and other resource costs motivate sustainability initiatives. In the literature it has been mentioned by Christensen et al. (2018) that sustainability is at risk of becoming synonymous with energy efficiency even though sustainability is a way broader term. This is affirmed by the definition of sustainability by Warren-Myers (2012) which is the working definition for this study. On the other hand, it can be considered fully rational that increasing cost justifies sustainability initiatives according to agency theory.

As previously mentioned, the main concern in managing a property is the maximisation and optimization of the owner's investment for an optimum return. Property owners therefore employ property asset managers to ensure positive returns, which therefore naturally motivates certain initiatives more than others (Oladokun, 2012).

Large real estate companies strongly agreed that social sustainability initiatives are a big part of their sustainability work while small and medium-sized companies agreed to the same statement. This can be an indication that large real estate companies have a more extensive sustainability regiment. The large real estate companies report that they need less economic motivation for

sustainability, but then on the other hand agree to a larger extent that sustainability initiatives lead to an increase in net income, which can show that they have found strategies to create indirect value in sustainability. This is in line with previous studies from the scientific literature, where for example Brooks and McArthur (2019) explain that there is a wide range of drivers for sustainability in commercial real estate. Reputational drivers describe how brand image and tenant attraction can be strong drivers for embracing sustainability. These might be strategies that in the long-term can increase net income but also might increase availability of sustainable financing or simply strengthen the company brand. These long-term strategies might not be economically sustainable for most small real estate companies, or might even require more expertise in the organisation which is easier for large real estate companies to attain.

When observing the sense of urgency of implementing sustainability among the real estate companies, it was somewhat surprising that small and large companies agreed that sustainability initiatives need to be implemented immediately and cannot wait, whilst medium-sized companies were less than neutral in the question. As Table 3 (see p. 27) indicates, medium-sized companies prioritise sustainability to the same extent as large companies, and show a similar level of implementation according to Table 4 (see p. 27). Finally medium-sized companies have a similar viewpoint on sustainability being an important and long-lived issue as large companies and small companies with a strategic sustainability plan. Small companies with no strategic sustainability plan stand out in Table 4 and 5 (see p. 27) as lagging behind in both implementation and perceived importance of sustainability. As previously mentioned, energy efficiency and cost mitigation have been well established in the industry's sustainability work and there is consensus here across all company sizes. When expanding the concept of sustainability further, it has seemingly created a gap where the small companies are stuck behind, medium-sized companies are not seeing tangible economic benefit of sustainability more than resource efficiency and large companies are finding some positive affirmation in their extended sustainability work.

The results from this analysis can be explained by institutional theory. Normative pressure, which according to Abdulaziz et al. (2017) arises from expectations, values, norms and standards within the company culture, can be what is pushing large real estate companies to extend their scope of sustainability with the belief that it will be beneficial in the long term. In medium-sized companies, we rather see a mimetic pressure where there does not seem to be a clear motivation

or belief in that there will be a realised benefit from the sustainability work, but rather, the company implements the work because it is what is expected of them in the industry. According to Colwell and Joshi (2013), when organisations do not have a clear interpretation of what is happening around them, they copy successful peers because they believe that the peers must have greater knowledge. This might be why medium-sized companies indicate low economic motivation and urgency, but high implementation and importance. It could also be that medium-sized companies have more altruistic motivations for sustainability, but that would not prompt the strong lack of urgency indicated.

## **6.2 Important sustainability aspects and implementation**

There was a clear consensus among the responding real estate companies in regard to the most important sustainability aspect. As could be seen in Table 2 (see p. 26), reduction of energy consumption was clearly the most important sustainability aspect followed by production of renewable energy, and these two together can be denominated as reaching zero carbon emissions. In the interview part of the study, all respondents addressed the importance of energy consumption in their portfolio and also zero carbon emissions. Sustainability initiatives and strategies implemented by all respondents were focused primarily on energy efficiency and, in particular, initiatives that focused on consumption. The high importance of these aspects can be explained by the benefits that PAMs get when implementing them. Respondents had a clear focus on reducing costs and increasing tenant demand, and therefore pursuing energy sustainable initiatives that are attractive to tenants. In addition, Amaral et al. (2020) show that energy is one of the aspects that attract tenants, and that was confirmed during the interviews.

The initiatives on energy consumption were focused on the operational expenditure and customer attraction. This also goes in line with what Brooks and McArthur (2019) claim is a driver for implementing sustainability can be for reputational and economic gain.

The aspects of reduction of energy consumption and production of renewable energy, which together achieves zero carbon emission were stated as most important. When one company addresses zero carbon emission, it is expected that other companies will follow due to stakeholders pressure, reputational reasons and mimetic pressure. This aligns with the institutional theory which is an appropriate vehicle when investigating how institutional

pressures such as coercive, mimetic and normative can lead a firm to be responsive to the needs of stakeholders (Colwell and Joshi, 2013; Latif et al., 2020). From the interviews, all companies have a sustainability policy that they conform to. The sustainability strategy and policy is built on their corporate vision and overall business objectives. These policies provide beliefs, rules, and norms that PAMs should follow in addressing sustainability issues within the company. Thus, the existence of policy explains the importance of institutional theory in companies.

Occupant health, comfort and safety was ranked as the third most important sustainability aspect equal with the aspect recycling and reduced waste production. Occupant health, comfort and safety was the highest ranked social sustainability aspect, and has a coercive pressure tied to it due to the health and safety components, which means it can be important due to policy and governmental regulations. The real estate companies did not put a large emphasis on this in the interviews, which was somewhat surprising when compared to the high importance it was given in the survey results. It is possible that this is a sustainability aspect that is because of its coercive pressure, a hygiene factor rather than something of commercial value, and therefore left behind when discussing implementation of sustainability.

Recycling and reduced waste production on the other hand was a substantial part of the interviewees implementation of sustainability. It was also the sustainability aspect where respondents thought that it held a higher importance in the industry than in their own portfolios. In waste management, companies addressed circularity that is reduce, reuse and recycle to be one of the good ways to ensure sustainability practices. Reuse and recycling is an essential strategy that helps to reduce the environmental impact of buildings as they prevent the emissions of many greenhouse gases and water pollutants. Moreover, in reducing, it is necessary to utilise proper materials that improve the building's longevity and performance; this can be accomplished by acquiring durable materials. Strong arguments from a PAMs perspective to prioritise, since it not only is great from an environmental standpoint, but it also fulfils the agents goal of improving the building's longevity and performance, in line with agency theory (Oladokun, 2012).

It was acknowledged by the respondents of the interviews that building certification systems for sustainable buildings are a well-known mechanism and driving force behind real estate sustainability. Green certification addresses sustainability aspects such as energy efficiency,

keeping away from hazardous materials and creating a good sense of indoor comfort which are also explained in this study. This gives some relation to the sustainability aspect indoor environmental quality, which was ranked as the second least important aspect, but with an average score indicating that it still was considered important according to Table 2 (see p. 26). Certifications are obvious ways of commercialising a sustainability aspect, and it could even be the case that indoor environmental quality was given some importance due to the fact that it is included in green certifications. This also goes in line with the different drivers for implementing sustainability that Brooks and McArthur (2019) mentions, namely reputational and economic gain. Furthermore, we can see a mimetic pressure arising through organisational imitation of norms or practice. Eichholtz et al. (2016) point out that it is important for companies to respond if their competitors are addressing sustainability through certain measures. Green certifications can be more sought after than particular sustainability aspects because it is more valuable to have a competitive advantage in a green certification, which in turn can be leveraged commercially. This would explain why the sustainability aspects indoor environmental quality and water management, which were ranked the lowest in importance, were also not mentioned in the interviews but implemented in line with certifications.

When it comes to the social dimension of sustainability, a lot of the answers we received were contradicting, fragmented or incomplete. We know from the working definition of sustainability in commercial real estate by Warren-Meyers (2012) that for a property to be considered sustainable it is providing an enhanced environment for occupants and the greater community. Table 1 (see p. 25) showed that small and medium-sized companies agree and large companies strongly agree that social sustainability initiatives are a big part of their sustainability work.

On the other hand, the two social aspects in Table 2 (see p. 26) were not as important as many environmental aspects, and these aspects did not even mention the greater community. When asked in question 6 in the survey if the responding real estate companies found any sustainability aspect to be missing, a clear majority said no. Furthermore, out of the additional aspects mentioned, very few real estate companies mentioned social aspects. It was when conducting the interviews that one company mentioned the value of a safe outdoor environment, falling under our categorisation of high implementation.

This shows how social sustainability work in the industry is more scattered compared to the environmental sustainability work. The company who indicated that they consider the outdoor environment, motivated it by how it helps to ensure that the company is providing a superior level of quality to the occupiers of the property. With this it is clear that it all comes back to the same issue. The property asset manager has an obligation to manage the property in such a way that commercial needs are being sufficiently met, in line with the agency theory (Holmström, 2016). Social sustainability deals with a lot more soft values, and are therefore harder to govern and regulate. This could in return mean less of a coercive pressure through regulation and governmental policy, even though some sustainability certifications are partially filling this gap. Mimetic pressure has made the industry follow similar paths in terms of both environmental and social sustainability, which is to be expected since the commercial need to stay in line with competition has forced real estate companies to develop in line with the industry when it comes to sustainability (Eichholtz, Kok and Quigley, 2016). For the property asset manager to further extend the scope of the social dimension of sustainability in commercial real estate, normative pressure, meaning values and norms from within the company (see Abdulaziz et al., 2017), will have to drive the change to find a way to achieve sustainability in line with the principal's goals and the agent's obligations.

## 7. Conclusion

The purpose of this study was to investigate if the sustainability being implemented by property asset managers today actually achieve all aspects of sustainability. This was achieved by exploring three sections: property asset managers' perceptions of sustainability, important aspects of sustainability and reasons for implementing sustainability in real estate portfolios.

To explore these sections of sustainability in commercial real estate, the study primarily utilised surveys that were distributed to property asset managers in the Swedish real estate market and which obtained a strong response rate of 44%. The survey responses have been analysed using categorical analysis, ranking orders of importance, comparison between size of organisations and analysis of perceptions. The survey was complemented with interviews to further understand how and why property asset managers implement sustainability in their portfolios and the data collected from the interviews were analysed to determine the levels of sustainability implementation.

The study found that there was a consensus in sustainability being a critical issue for the real estate industry, and most respondents agreed on sustainability not being a fad. The property asset managers' perception on sustainability seemed to differ between company sizes, with the small companies to a larger extent focusing on environmental sustainability with clear ways of decreasing costs. Large companies proved to have a more extensive perception of sustainability, with the social dimension being implemented to a larger extent, and they indicated that the social implementation was to their economic benefit. This could not be said for medium-sized companies, who indicated low urgency and low economic benefit in implementing the wider range of sustainability initiatives.

Findings identified reduction of energy consumption followed by production of renewable energy as the two most important sustainability aspects. These two aspects were sometimes mentioned together as zero carbon emissions, and were highly prioritised and implemented by most real estate companies. They were not the only two environmental sustainability aspects, but they are both connected to climate change, and also have great cost reduction benefits. On shared third place in importance were the sustainability aspects Occupant health, comfort and safety and Recycling and reduced waste production. These two aspects received a relatively high importance score of 4,5, with seemingly different reasons for their importance judging from the

interviews. When it came to sustainability aspects other than the ones identified in the literature, very few companies raised more attention to other social aspects of sustainability. How social sustainability was implemented differed vastly in between companies, indicating a lack of consensus on how social aspects are best dealt with, which in turn makes it harder to prioritise.

The reasons for property asset managers to implement sustainability were varied. A strong reason for implementing sustainability was the anticipation of increasing energy and other resource costs. Property asset managers have an obligation and a financial incentive to manage the properties to maximise profits and the owner's return on investment, which then means they will implement sustainability when it is in line with those goals. Another reason for implementing sustainability was maintaining a commercial edge both by branding and tenant retention. There seemed to be a mimetic pressure, where not implementing sustainability like the competitors would cause the real estate company to fall behind, and therefore similar sized companies had comparable sustainability strategies. Finally, the study could not exclude the potential normative pressure within companies, with implementation of sustainability being motivated by the values of the employees. If anything, the difference between sizes indicated that there is a will to broaden the scope of sustainability, but there is still a lack of knowledge in how that can be achieved whilst still fulfilling the main obligations of a property asset manager. Our recommendation to property asset managers is to encourage sharing knowledge and investing in pushing the status quo on sustainability in the industry since the frontrunners are proving it to be economically beneficial, not to mention the benefits for greater society. The study indicates that the industry wants to change, but craves more initiative takers to lead by example to catalyse the change enough for mimetic pressure from the industry to drive the sustainable development further. This will in return better the industry, maintain profitability whilst doing more good for less for the environment, the occupiers and the general public.

With reference to what has been addressed in this report, it would be interesting to conduct further research and practical application around the subject of social sustainability in commercial real estate. Today there is no consensus as to how social sustainability can be motivated by economic factors, or how social sustainability can be benchmarked in the same way as environmental sustainability. Furthermore, different sub-sectors in the commercial real estate industry face divergent challenges, and therefore residential property asset managers will need other sustainability solutions than for example property asset managers with retail or logistics portfolios.



## References

- Abdulaziz, N.A. *et al.* (2017) 'Influence of Institutional Pressures on the Adoption of Green Initiatives', pp. 939–967.
- Addae-Dapaah, K., Hiang, L.K. and Sharon, N.Y.S. (2009) 'Sustainability of Sustainable Real Property Development', *Journal of Sustainable Real Estate*, 1(1), pp. 203–225. doi:10.1080/10835547.2009.12091781.
- Akadiri, P.O., Chinyio, E.A. and Olomolaiye, P.O. (2012) 'Design of A Sustainable Building: A Conceptual Framework for Implementing Sustainability in the Building Sector', *Buildings*, 2(2), pp. 126–152. doi:10.3390/buildings2020126.
- Akhanova, G. *et al.* (2019) 'A Framework of Building Sustainability Assessment System for the Commercial Buildings in Kazakhstan', *Sustainability*, 11(17), p. 4754. doi:10.3390/su11174754.
- Alziady, A.A.D.J. and Enayah, S.H. (2019) 'Studying the effect of institutional pressures on the intentions to continue green information technology usage', *Asian Journal of Sustainability and Social Responsibility*, 4(1), p. 4. doi:10.1186/s41180-018-0023-1.
- Amaral, R.E.C. *et al.* (2020) 'Waste Management and Operational Energy for Sustainable Buildings: A Review', *Sustainability*, 12(13), p. 5337. doi:10.3390/su12135337.
- Atkin, B. and Brooks, A. (2015) *Total Facility Management*. Hoboken, UNITED KINGDOM: John Wiley & Sons, Incorporated. Available at: <http://ebookcentral.proquest.com/lib/kth/detail.action?docID=1895527> (Accessed: 7 December 2021).
- Bahaudin, A.Y., Elias, E.M. and Saifudin, A.M. (2014) 'A Comparison of the Green Building's Criteria', *E3S Web of Conferences*. Edited by M.A. Othuman Mydin and A.I. Che Ani, 3, p. 01015. doi:10.1051/e3sconf/20140301015.
- Balaban, O. and Puppim de Oliveira, J.A. (2017) 'Sustainable buildings for healthier cities: assessing the co-benefits of green buildings in Japan', *Journal of Cleaner Production*, 163, pp. S68–S78. doi:10.1016/j.jclepro.2016.01.086.
- Bandeiras, F. *et al.* (2020) 'Towards net zero energy in industrial and commercial buildings in Portugal', *Renewable and Sustainable Energy Reviews*, 119, p. 109580. doi:10.1016/j.rser.2019.109580.
- Berrone, P. *et al.* (2013) 'Necessity as the mother of “green” inventions: Institutional pressures and environmental innovations', *Strategic Management Journal*, 34(8), pp. 891–909. doi:10.1002/smj.2041.

- Berthod, O. (2018) 'Institutional theory of organizations', in, pp. 1–5.  
doi:10.1007/978-3-319-20928-9\_63.
- Brooks, M. and McArthur, J.J. (2019) 'Drivers of Investment in Commercial Real Estate Sustainability: 2006–2018', *Journal of Sustainable Real Estate*, 11(1), pp. 130–155.  
doi:10.22300/1949-8276.11.1.130.
- Cagno, E. *et al.* (2015) 'Barriers and drivers for energy efficiency: Different perspectives from an exploratory study in the Netherlands', *Energy Conversion and Management*, 102, pp. 26–38.  
doi:10.1016/j.enconman.2015.04.018.
- Cajias, M. *et al.* (2014) 'Do responsible real estate companies outperform their peers?', *International Journal of Strategic Property Management*, 18(1), pp. 11–27.  
doi:10.3846/1648715X.2013.866601.
- Cajias, M. and Piazzolo, D. (2013) 'Green performs better: energy efficiency and financial return on buildings', *Journal of Corporate Real Estate*, 15(1), pp. 53–72.  
doi:10.1108/JCRE-12-2012-0031.
- Castleberry, A. and Nolen, A. (2018) 'Thematic analysis of qualitative research data: Is it as easy as it sounds?', *Currents in Pharmacy Teaching and Learning*, 10(6), pp. 807–815.  
doi:10.1016/j.cptl.2018.03.019.
- Catrini, P. *et al.* (2020) 'Improving energy efficiency of commercial buildings by Combined Heat Cooling and Power plants', *Sustainable Cities and Society*, 60, p. 102157.  
doi:10.1016/j.scs.2020.102157.
- Chanan, V. *et al.* (2003) 'Sustainable Water Management in Commercial Office Buildings'.
- Chang, R. *et al.* (2016) 'Facilitating the transition to sustainable construction: China's policies', *Journal of Cleaner Production*, 131, pp. 534–544. doi:10.1016/j.jclepro.2016.04.147.
- Chel, A. and Kaushik, G. (2018) 'Renewable energy technologies for sustainable development of energy efficient building', *Alexandria Engineering Journal*, 57(2), pp. 655–669.  
doi:10.1016/j.aej.2017.02.027.
- Christensen, P.H., Robinson, S.J. and Simons, R.A. (2018) 'The influence of energy considerations on decision making by institutional real estate owners in the U.S', *Renewable and Sustainable Energy Reviews*, 94, pp. 275–284. doi:10.1016/j.rser.2018.05.061.
- Çiner, F. and Dogan-Saglamtimur, N. (2019) 'Environmental and sustainable aspects of green building: A review', *IOP Conference Series: Materials Science and Engineering*, 706, p. 012001. doi:10.1088/1757-899X/706/1/012001.

- Colwell, S.R. and Joshi, A.W. (2013) 'Corporate Ecological Responsiveness: Antecedent Effects of Institutional Pressure and Top Management Commitment and Their Impact on Organizational Performance', *Business Strategy and the Environment*, 22(2), pp. 73–91. doi:10.1002/bse.732.
- Darko, A., Zhang, C. and Chan, A. (2017) 'Drivers for Green Building: A Review of Empirical Studies', *Habitat International*, 60. doi:10.1016/j.habitatint.2016.12.007.
- Díaz López, C. *et al.* (2019) 'A comparative analysis of sustainable building assessment methods', *Sustainable Cities and Society*, 49, p. 101611. doi:10.1016/j.scs.2019.101611.
- Dobrovolskienė, N., Pozniak, A. and Tvaronavičienė, M. (2021) 'Assessment of the Sustainability of a Real Estate Project Using Multi-Criteria Decision Making', *Sustainability*, 13(8), p. 4352. doi:10.3390/su13084352.
- Eichholtz, P.M.A., Kok, N. and Quigley, J.M. (2016) 'Ecological Responsiveness and Corporate Real Estate', *Business & Society*, 55(3), pp. 330–360. doi:10.1177/0007650315575118.
- Fatimah, Y.A. *et al.* (2020) 'Industry 4.0 based sustainable circular economy approach for smart waste management system to achieve sustainable development goals: A case study of Indonesia', *Journal of Cleaner Production*, 269, p. 122263. doi:10.1016/j.jclepro.2020.122263.
- Gibbs, G. (2007) *Analyzing Qualitative Data*. London: SAGE Publication.
- Gibler, K. and Black, R. (2004) 'Agency Risks in Outsourcing Corporate Real Estate Functions', *Journal of Real Estate Research*, 26, pp. 137–160. doi:10.1080/10835547.2004.12091133.
- Goh, C.S., Jack, L. and Bajracharya, A. (2020) 'Qualitative Study of Sustainability Policies and Guidelines in the Built Environment', *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 12(2), p. 04520016. doi:10.1061/(ASCE)LA.1943-4170.0000395.
- Goh, C.S. (2014) 'Development of a capability maturity model for sustainable construction'. doi:10.5353/th\_b5435644.
- Hasan, A. (2021) 'Ethical considerations in the use of secondary data for built environment research', in *Secondary Research Methods in the Built Environment*. Routledge.
- Hayter, S.J. and Kandt, A. (2011) 'Renewable Energy Applications for Existing Buildings: Preprint', p. 17.
- Hilmi, A.H. and Hamid, A.R.A. (2021) 'Tools to measure environmental sustainability', *AIP Conference Proceedings*, 2347(1), p. 020237. doi:10.1063/5.0051914.
- Holmström, B. (2016) 'Pay For Performance and Beyond', p. 30.

Ionaşcu, E. *et al.* (2020) ‘The Involvement of Real Estate Companies in Sustainable Development—An Analysis from the SDGs Reporting Perspective’, *Sustainability*, 12(3), p. 798. doi:10.3390/su12030798.

ISO - ISO 50001 — Energy management (no date) ISO. Available at: <https://www.iso.org/iso-50001-energy-management.html> (Accessed: 10 May 2022).

Jansen, H. (2010) ‘The Logic of Qualitative Survey Research and its Position in the Field of Social Research Methods’, *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 11.

Latif, B. *et al.* (2020) ‘Coercive, Normative and Mimetic Pressures as Drivers of Environmental Management Accounting Adoption’, *Sustainability*, 12(11), p. 4506. doi:10.3390/su12114506.

Leskinen, N., Vimpari, J. and Junnila, S. (2020) ‘A Review of the Impact of Green Building Certification on the Cash Flows and Values of Commercial Properties’, *Sustainability*, 12(7), p. 2729. doi:10.3390/su12072729.

Lindh, M. and Lindmark, F. (2016) ‘In-House VS Outsourcing – Organizing Real Estate Management.’, p. 80.

Marona, B. (2013) ‘Use of the Agency Theory to Analyze the Commissioning System of Commune Real Estate Management’, *Real Estate Management and Valuation*, 21. doi:10.2478/remav-2013-0025.

Martek, I. *et al.* (2019) ‘End-user engagement: The missing link of sustainability transition for Australian residential buildings’, *Journal of Cleaner Production*, 224, pp. 697–708. doi:10.1016/j.jclepro.2019.03.277.

Ogunba, O.A., Dabara, D.I. and Gbadegesin, J.T. (2021) ‘Sustainable real estate management practice: Exploring the priority of operational stage for actualizing sustainable built environment goal in sub-Saharan Africa’, *International Journal of Construction Management*, pp. 1–10. doi:10.1080/15623599.2021.2006570.

Oladokun, T. (2012) ‘An Evaluation of the Problems of Commercial Property Management Practice in Lagos State, Nigeria’, *Estate Surveyor and Valuer* [Preprint].

Perloff, J. (2017) *Microeconomics: Theory and Applications with Calculus, EBook, Global Edition*. Harlow, UNITED KINGDOM: Pearson Education, Limited. Available at: <http://ebookcentral.proquest.com/lib/kth/detail.action?docID=5186180> (Accessed: 22 February 2022).

Purvis, B., Mao, Y. and Robinson, D. (2019) ‘Three pillars of sustainability: in search of conceptual origins’, *Sustainability Science*, 14(3), pp. 681–695. doi:10.1007/s11625-018-0627-5.

Reeder, L. (2010) *Guide to Green Building Rating Systems: Understanding LEED, Green Globes, Energy Star, the National Green Building Standard, and More*. Hoboken, NJ, USA: John Wiley & Sons, Inc. doi:10.1002/9781118259894.

Saunders, M., Lewis, P. and Thornhill, A. (2019) *Research Methods for Business Students*. New York: Pearson. Available at: <https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1419381&site=ehost-live> (Accessed: 12 February 2022).

Sayce, S., Ellison, L. and Parnell, P. (2007) 'Understanding investment drivers for UK sustainable property', *Building Research & Information*, 35(6), pp. 629–643. doi:10.1080/09613210701559515.

Smith, A. and Pitt, M. (2011) 'Sustainable workplaces and building user comfort and satisfaction', *Journal of Corporate Real Estate*, 13, pp. 144–156. doi:10.1108/14630011111170436.

Sundfors, D. and Bonde, M. (2018) 'Sustainability metrics for commercial buildings in Sweden', *Property Management*, 36. doi:10.1108/PM-02-2017-0010.

Vogt, M. and Weber, C. (2019) 'Current challenges to the concept of sustainability', *Global Sustainability*, 2, p. e4. doi:10.1017/sus.2019.1.

Warren-Myers, G. (2012) 'Sustainable Management of Real Estate: Is It Really Sustainability?', *Journal of Sustainable Real Estate*, 4(1), pp. 177–197. doi:10.1080/10835547.2012.12091833.

Węgrzyn, J. (2015) 'An insight into behaviour of real estate manager in the context of agency theory', *Świat Nieruchomości (World of Real Estate Journal)*, (94), pp. 11–16. doi:10.14659/worej.2015.94.02.

United Nations (2021) Glasgow climate change conference October-November 2021. Available at: <https://unfccc.int/conference/glasgowclimate-change-conference-october-november-2021>

# Appendix 1

## Questionnaire

Your name \*

Ditt svar

Company you represent \*

Ditt svar

Question 1. Please provide the total value of assets under management for your real estate company (SEK) \*

- ☐ < 5 billion
- ☐ 5 - 10 billion
- ☐ 11 - 20 billion
- ☐ 21 - 30 billion
- ☐ 31 - 50 billion
- ☐ 51 - 100 billion
- ☐ > 100 billion

Question 2. Does your company have a strategic sustainability plan? \*

- ☐ Yes
- ☐ No

Question 3. For each statement below, mark the alternative which best indicates your perception. \*

|   | Strongly disagree     | Disagree              | Neutral               | Agree                 | Strongly agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Sustainability is a critical issue for commercial real estate.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A return on investment is needed for sustainability initiatives to be initiated.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sustainability initiatives lead to an increase in net income.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anticipation of increasing energy and other resource costs motivate sustainability initiatives. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Social sustainability initiatives are a big part of our sustainability work.                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sustainability initiatives can be implemented without economic motivation.                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sustainability initiatives need to be implemented immediately and cannot wait                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Question 4. Please rate the importance of the following sustainability aspects in the commercial real estate industry: \*

|  | No importance         | Low importance        | Neutral               | Some importance       | High importance       |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Water management                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reduction of energy consumption        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Recycling and reduced waste production | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Indoor environmental quality           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Occupant health, comfort and safety    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Production of renewable energy         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Question 5. Please rate the importance of the following sustainability aspects in your property portfolio: \*

|  | No importance         | Low importance        | Neutral               | Some importance       | High importance       |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Water management                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reduction of energy consumption        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Recycling and reduced waste production | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Indoor environmental quality           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Occupant health, comfort and safety    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Production of renewable energy         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Question 6. After seeing the six sustainability aspects above, are there any other sustainability aspects that you associate with sustainability in commercial real estate? \*

Ditt svar \_\_\_\_\_



Question 7. To what degree does your company prioritize sustainability in its day-to-day activities? \*

|          | 1                     | 2                     | 3                     | 4                     | 5                     |           |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|
| Very low | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very high |

Question 8. To what degree does your company prioritize sustainability at the top management level? \*

|          | 1                     | 2                     | 3                     | 4                     | 5                     |           |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|
| Very low | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very high |

Question 9. Please state if you incorporate these plans while managing the properties \*

|   | Yes                   | No                    |
|---|-----------------------|-----------------------|
| Do you consider energy efficiency in your management plans?     | <input type="radio"/> | <input type="radio"/> |
| Do you encourage tenants to use eco-friendly materials?         | <input type="radio"/> | <input type="radio"/> |
| Do you have a program for water saving efforts?                 | <input type="radio"/> | <input type="radio"/> |
| Do you consider sustainability when choosing service providers? | <input type="radio"/> | <input type="radio"/> |
| Do you monitor expenses on energy consumption?                  | <input type="radio"/> | <input type="radio"/> |
| Do you include energy efficiency measures in lease agreements?  | <input type="radio"/> | <input type="radio"/> |

Question 10. To what extent do you agree with the following statement? \*

|   | Strongly disagree     | Disagree              | Neutral               | Agree                 | Strongly agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Sustainability in commercial real estate is mostly a fad and does not actually affect the daily operations. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## **Appendix 2**

### **Interview questions**

#### **Job description:**

#### **How long have you been working in this position:**

1. Do you have a strategic sustainability plan at the company? (a) If yes: how was the sustainability plan developed and were you involved in that? (b) Could you share this plan with us?
2. Do the strategic plans state how each asset will incorporate sustainability focus?
3. What specific policy or intervention is put into place in order to address sustainability?
4. To what extent is the policy or intervention implemented as intended? How far in the sustainability integration do you think the current stage is? (i) in the beginning (ii) half way (iii) almost complete.
5. How do you prioritise sustainability in your day-to-day activities?
6. What challenges do you face at the company when making a decision regarding sustainability issues related to company services? What sustainability challenges does your organisation face?
7. Do you conduct sustainability assessments at the company today? a. If yes—what tools are used in that case? b. If not, why not?



