Does an Ambidextrous Use of Sustainability Resources Lead to Sustainability Performance?  
A Survey on Swedish Municipal Housing Organisations  
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Title
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Abstract
An increasing pressure is found on public sector organisations both to be efficient and innovative. Recently ambidexterity has found its ground in the public sector showing significant impact on firm performance. Combined with the increasing pressure from society for conducting sustainable business, we aimed at investigating how structural ambidexterity in regard to sustainability relates to sustainability performance, and how this relationship is moderated by centralisation and connectedness. A quantitative method has been used where the Swedish municipal housing organisations were surveyed. 141 different municipal housing organisations participated in the survey. A content analysis was also done with the help of the TBL to measure the organisations sustainability performance. The results from the dissertation showed that ambidextrous sustainability leads to sustainability performance. No moderating effect from centralisation and connectedness was found on the relationship between ambidextrous sustainability and sustainability performance. This dissertation sets the ground for a new concept of ambidextrous sustainability. Furthermore, contributing to strategic public management as well as further expanding on the stakeholder approach and the moderating effect of stakeholders. The dissertation also contributes methodologically by measuring sustainability performance with the TBL through a content analysis as well as how to measure ambidextrous sustainability.

Keywords
Ambidexterity, Public Sector, Sustainability, Ambidextrous Sustainability, Sustainability Performance, Public Sector Strategy
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1. Introduction

Sustainability is about building a society in which an acceptable balance is created between economic, social and ecological aims. (Székely & Knirsch, 2005). However, Jordan (2008, p 17) stated the following;

“The very acute feeling, expressed in the Report of the World Summit on Sustainable Development (United Nations, 2002), the Millennium Ecosystem Assessment (2005), and the GEO 4 report (UNEP, 2007), that things have got worse -not better- since the publication of Brundtland's landmark report (WCED, 1987) on sustainable development, has strengthened the demand for systems of governance that are capable of putting society on a more sustainable track”.

There is a sense that in today’s world nearly everybody is committed to sustainable development, even though sustainable development is realised by everybody in a number of different ways (Seyfang & Smith, 2007). Seyfang & Smith (2007) states that the sustainable developments generate a variety of social innovations as well as innovative technologies. New organisational arrangements together with new tools develop the sustainable context in different arenas and in different scales (Seyfang & Smith, 2007). Moreover, the attention of sustainability within organisations have been fostered since the United Nations (UN) developed their 17 sustainable development goals (Witte & Dilyard, 2017). Sandow (2016) stated that in Sweden, the government even tightened the initial criteria developed from the UN to a stricter degree than rest of Europe which consequently could put more pressure on the public-sector organisations in Sweden to perform sustainably. In a report to the United Nations, the Swedish Government takes a forward-looking approach to the 2030 Agenda and the 17 sustainable development goals and commits to guiding and leading change. The Swedish Government states that “The concept of sustainable development is central and aims at a development that meets the needs of the present without jeopardising the ability of future generations to meet their needs” (The Swedish Government, 2017).

In the report to the United Nations, the Swedish Government points out that a successive transformation and furthering the development of the societal model becomes the starting
point to achieve the 2030 Agenda. Andersson (2013) argues that Sweden is widely recognised as a global leader in sustainable development. Thus, the Swedish municipalities were among the first in the world to adopt Agenda 21 principles and begin taking purposeful action towards sustainability at the local level (Anderson, 2013). A survey done by Salar (2006), showed that over 60% of municipal authorities in Sweden are conducting environmental reporting (Andersson 2013).

As part of this process, the Swedish Government has developed seven new national programmes to focus their implementation. One of the programmes is named the social housing policy and this public sector accounts for 20 percent of the Swedish housing stock which derives into half of the rental sector. Sums up into over 1.5 million people living in public housing rental or municipally owned rental housing (SABO, 2018). McManus, Gaterell and Coates (2010), states that the housing sector is an important issue of the major energy-consuming and carbon dioxide producing sectors. Whereas the public housing sector is necessary to provide secure and decent housing for the citizens. The municipal authorities are responsible for providing housing for citizens in Sweden and have become the natural tool for municipalities gaining access to good housing (SABO, 2018). Furthermore, the forecast of a growing population, as well as demand for an extensive improvement work in the existing facilities, put a big pressure on the public housing organisations (PHO). SABO (2018), the public housing industry and association organisations in Sweden, states that in Sweden there is an immediate need to invest in energy efficiency developments as well as there being a shortage of housing. Cannaerts, Segers and Henderickx (2016), argue that these environmental challenges put pressure on the public-sector organisations to both be efficient and innovative to enhance their competitiveness. However, SABO (2018), states that it is now more than ever, it is difficult to build at a cost resulting in the average person cannot afford to buy, since the construction market suffers from very high prices. Statistics from Eurostat shows that it is approximately 70 percent more expensive to build housing in Sweden than the average European country (SABO, 2018).

Caprar et al. (2012) argue that societal pressures for the adoption of sustainability initiatives are created by building an institutional infrastructure for organisational sustainability and that compliance with these standards is a confirmation of legitimacy, thus offering an insight into the uptake of sustainability responses within organisations.
Furthermore, the institutional and cultural paradigms of formal structures in organisational governance tend to become homogenised (Djelic et al., 2006 in Eiriksdottir and Engelmark, 2016). This isomorphism results in constraining effects meaning organisations’ are left with no other choice but to be more alike (DiMaggio and Powell, 1983).

Furthermore, Ashworth, Boyne and Delbridge (2007) study concentrated on three key issues of organisational change within public sector organisations, compliance with the norms promoted by the state, evidence of convergence among organisations within the field and the impact of isomorphic pressures across different organisational characteristics. They found substantial evidence of compliance, limited support for convergence and that the impact of isomorphic pressures was stronger on organisational strategies and culture than on structures and processes. From their findings, they suggest that institutional pressures may be especially strong in a centralised state and on a set of highly structured organisations (Ashworth et al., 2007).

SABO (2018) states that while, the public housing companies, in terms, compete with private actors. Swedish legislation puts pressure on the PHOs’ to combine social responsibility with a business-like approach. Meaning that the PHOs’ must be able to serve their municipalities as well as offering good housing for everyone, in other terms, being competitive. Meanwhile, the PHOs’ must be able to drive forward and develop sustainable residential areas at the same time (Choi and Chandler, 2015). Therefore, public housing organisations can be considered as either doing the base requirement to sustainability policies ‘exploitation’ or going beyond the policy requirements of sustainability ‘exploration’. Thus, what is the outcome of ambidextrous sustainability strategy, where a balance is struck between ‘exploitation’ and ‘exploration’?

1.1 Problematisation

It has long been discussed in research as to what drives sustainability performance as well as the motivations for conducting sustainable activities (Hahn & Scheermesser, 2006; Stubbs & Cocklin, 2008; Bebbington et al., 2009; Ameer & Othman, 2012). The resulting outcomes of sustainability performance have been linked to; increased brand image; risk management; overall performance; financial performance; and social performance
(Stubbs and Cocklin, 2008). However, in the public sector, organisations face challenges to be both efficient and innovative in regard to sustainability in order to be competitive (Bryson et al., 2008). According to March (1991), one aspect that drives the performance is a balance in allocating resources. Furthermore, according to Jarzabkowski (2002) resource allocation also provides an important mechanism for compliance and control in organisations. According to Enticott and Walker (2008), there is a growing number of empirical evidence which shows sustainable actions offer performance rewards while limiting the negative impact of organisations behaviour and practices. Thus, organisations are using sustainability as a strategic tool to achieve expected outcomes (Enticott and Walker, 2008).

Since March (1991), concluded the necessity to balance both exploitation and exploration some researchers have embraced ambidexterity into different contexts (e.g. Lubatkin et al., 2006; Cao et al., 2010; Umans, 2012). Ambidextrous organisations are argued by researchers to being able to exploit existing competencies and simultaneously being able to explore new opportunities (e.g. Duncan 1976; Lubatkin et al. 2006; March 1991; Tushman and O’Reilly 1996). Smith and Umans (2015, p. 814) state that exploration indicates that the behaviour of an organisation is distinguished by ‘variance-increasing activities, search, discovery and experimentation’. While exploitation is distinguished by ‘variance-decreasing activities, discipline problem-solving, refinement, implementation, efficiency, production, and selection’ (Smith and Umans, 2015, p. 814). However, no studies have been found connecting ambidexterity with sustainability. Thus, no link has been found from conceptual or empirical evidence to show that ‘ambidextrous sustainability’ leads to sustainability performance. However, a link between ambidexterity and performance has been empirically proven and is dependent on structural aspects (Smith & Umans, 2015; Choi & Chandler, 2015). Could this imply that ambidexterity could be used as a strategy in the domain of sustainability?

According to Choi & Chandler (2015), innovation in the public sector has long been criticized for its failure to fulfil expectations of higher efficiency and better service. Furthermore, Choi & Chandler (2015) state without innovation, organisations do not remain adaptive and responsive to external and environmental changes. Strategy is not a word that has, until recently, figured largely in public sector discourse, resulting in little academic research into the particular purposes strategy may serve in this sector.
(Llewellyn and Tappin, 2003). However, resource allocation models are described as being important management tools for implementing the strategy (Campbell and Goold, 1998; Hackman, 1985). Thus, Choi and Chandler (2015), state that strategy and structure should be aligned to enhance the effectiveness of adoption and implementation of government innovation. This is supported by Gibson and Birkinshaw (2004) who state that successful organisations are ambidextrous aligned.

Public sector organisational strategies are important firstly, by identifying aims, outputs and outcomes and secondly, signalling greater devolved responsibility in the public sector for both acquiring resources and achieving results (Llewellyn & Tappin, 2003). However, ambidexterity, which is a strategy to allocate resources in the public sector, has been proven to be influenced by structural variables. And in turn, linked to performance outcomes (Choi and Chandler, 2015). Furthermore, due to the non-competitive nature of the public sector, the process of exploration whereby a collaborative environment exists leads to successfully fostering public value as an outcome (Choi and Chandler, 2015). With Swedish governmental organisation being global leaders in sustainable development Andersson (2013), there might be a greater tendency within public organisations in Sweden to take an explorative approach, because there are already relatively high expectations set in legislation. Those who go beyond those established ‘norms’ established by legislation could be argued as ‘exploring’. Those that do not go beyond the legislative requirement could, therefore, be seen as adopting sustainable initiatives created by an institutional infrastructure, thereby merely exploiting existing resources in regard to sustainability. If so, compliance with these standards would be a confirmation of legitimacy seeking and thus offers an insight into the uptake of responses from business to sustainability (Caprar et al., 2012). With the widely accepted notion of either exploring or exploiting leading to performance traps (March, 1991; Levinthal & March, 1993; Duncan, 1979) it is argued in this paper that it is necessary to know whether a balance between exploiting resources and exploring resources leads to sustainability performance? Therefore, our research will empirically investigate the role which is played by organisational ambidextrous sustainability’s link to sustainability performance of an organisation in the public sector, thus hoping to answer this question.
1.2 Research purpose
The purpose of this dissertation is to discover whether an ambidextrous orientation of ‘sustainability resources’ positively effects sustainability performance of municipal housing corporations. And to learn if this relationship is being moderated by centralisation and connectedness of decision making. In doing so we hope to contribute to theory by developing a concept of ‘ambidextrous sustainability’. Furthermore, we aim at contributing methodologically with a measure for sustainability performance.

1.3 Research question
Does ambidextrous sustainability lead to sustainability performance? And how is this relationship moderated by centralisation and connectedness of decision making?

1.4 Limitations
The authors of this research paper acknowledge the following as potential limiting factors of their study. Reporting sustainability outcomes and performance tend to focus on the positives (Jones et al., 2005; O’Dwyer and Owen, 2005), partly because they are written for a readership of existing or potential customers, employees and other stakeholders (Hubbard, 2009). Other research has found that methodologies can be unclear, relativities are not explained, and even inferior performance can be reported favourably (Jones et al., 2005). The frameworks used to collect, analyse, report and audit the information is oriented to management needs, and other stakeholders are rarely involved in the process (Hubbard, 2009). Furthermore, the information is rarely audited with the same rigour as financial information (Jones et al., 2005). What is more, Fauzi, Svensson, and Rahman (2010), argues that the approach towards sustainability performance can come with certain characteristics or problems. For example, a measurement based on content analysis from annual reports is said to be a subjective measure that can be manipulated by the organisation. On the other side using a questionnaire-based survey, derived from perceptual measurements, can be manipulated by the respondents depending on the structure of the survey (Fauzi et al., 2010).
2. Literature review

This section aims to provide a basic understanding of the chosen theories used in this study: Stakeholder theory; Ambidexterity and Sustainability. Furthermore, the concepts’ of centralise and connectedness as mechanisms for decision making in organisations are presented. In combination, these theories and concepts will enable the reader to better understand the setting of this study. What is more, these theories and concepts provide the foundations on which the hypotheses will be built, and final conclusions drawn and argued for. Thus, the primary aim of this theoretical grounding is to form the platform for exploring whether an ambidextrous sustainable orientation organisation leads to sustainable performance outcomes.

2.1 Stakeholder Theory

From Friedman (1970) who argued that the only responsibility a business has is the responsibility to generate profit to its shareholders; to Freeman (1994), who argued that a business has a responsibility to the stakeholders of the company; and more recently to Dyllick and Hockerts (2002) who puts the stakeholder definition as “meeting the needs of an organisation's direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders”, there has been an increasing attention on the boundaries of responsibilities a business has.

Stakeholders of a company include other companies, individual’s, or groups who can affect or are affected by actions, decisions, policies and practices or goals of the organisation (Freeman, 1994). It is argued that stakeholder theory has been the starting point for the concept of sustainability (Hörisch, Freeman, and Schaltegger, 2014). What is more, the stakeholder theory has today become a strategy that most firms use to balance the different needs of their stakeholders. Thus, various stakeholders of the organisation might react differently to different actions taken by the organisation. According to Epstein and Widener, (2010), an identification of all stakeholders can minimize the negative impact of the organisation's actions in the long-term. However, the identification of all stakeholders as well as balancing the different needs is a hugely complex process (Ogden and Watson, 1999; Llewellyn and Tappin, 2003). What is more, Mainardes, Alves and Raposo (2011) argue that organisations often take a narrow approach to the identification
of stakeholders. This could indicate that the actions taken by an organisation result in a different outcome than expected, which can affect the organisation negatively.

Asif, Searcy, Zutshi, and Fisscher (2013), argue that stakeholder management is crucial for driving sustainability performance in the public sector. According to Gelderman et al, (2017) a key aspect of the discussion on sustainability is the inclusion of stakeholders and the integration of their respective demands. Furthermore, In the case of public sector bodies, a single political actor often represents the interests of a large group of other, relatively powerless, stakeholders. For example, some members who sit on the board of the Swedish municipal housing organisations are elected members of one of the many political parties in Sweden and are placed on the board to represent the constituents they are elected to represent. Thus, stakeholder pressures and respective reputational and legal risks are often viewed as key drivers toward the adoption of standards and codes of conducts (Gelderman et al, 2017).

Jensen (2001), argues that trade-offs must be made to balance all demands from stakeholders. Furthermore, Jensen (2001, p. 304) states that:

“Customers want low prices, high quality, expensive service, etc. Employees want high wages, high-quality working conditions, and fringe benefits including vacations, medical benefits, pension, and the rest. Suppliers of capital want low risk and high returns. Communities want high charitable contributions, social expenditures by firms to benefit the community at large, stable employment, increased investment, and so on”.

Thus, a badly made trade-off would result in a negative outcome for the organisation (Jensen, 2001), further highlighting the complexity of balancing all stakeholders. A variety of tools have been developed to identify and balance the needs and demands of different stakeholders. One of the most famous tools derived from stakeholder theory is the Triple Bottom Line (TBL) (Hansen and Schaltegger, 2016). TBL includes a focus on economic, social and environmental factors in both the short and long-term. As a tool TBL can be used in managing the business with respect to all stakeholders. The discussion above points out both the need to identify all stakeholders as well as balance the different
needs of the stakeholders. According to Epstein and Widener, (2010) finding all stakeholders and creating relevant organisational actions according to the stakeholder needs will result in sustainability performance.

2.1.1 Sustainability Performance
Crane et al. (2008), argue there is increasing expectations for corporations to adopt more responsible practices, with virtually no business type, market or industry escaping the growing demands from society at large to legitimise its practices. Such societal expectations and pressures for the adoption of sustainability initiatives are created by building an institutional infrastructure for organisational sustainability (Caprar et al, 2012). Compliance with these standards is said to be a confirmation of legitimacy and thus offers an insight into the uptake of responses from business to sustainability (Caprar et al, 2012). Sustainability is about building a society in which a proper balance is created between economic, social and ecological aims (Szekely and Knirsch, 2005). Furthermore, Beurden and Gössling (2008), states that sustainability has become an organisation’s responsibility to be held accountable for the environmental impacts the organisation has as well as balancing stakeholder needs beyond the financial aspect. Epstein and Widener (2010, p. 44), follow a similar thread when they argue “organisations must be able to evaluate the social, economic and environmental impacts (collectively referred to as ‘sustainability performance’) of their actions in order to make effective operational decisions that positively impact organisational objectives and satisfy the differing objectives of multiple stakeholders”.

When investigating a large UK-based corporation reputable as a high sustainability performing organisation (HSPO), Schaefer (2004) found that the company was strongly influenced by social factors as well as institutional factors in its thinking of sustainability practices. This is in line with the results of Hahn & Scheermesser (2006) research, who found that HSPOs integrated social issues in their business and saw sustainability practices as something beyond their core business. Schaefer (2004) Sustainable personal values and priorities in top management teams, was also found to influence the company’s policy decisions as well as how the organisational structure was developed with sustainability in mind (Schaefer 2004). What is more, Juravle & Lewis (2009) and Stoughton & Ludema (2012) are in agreement that sustainable personal traits are
influencing a company into practising more sustainability and thereby increasing sustainability performance (SP). It is further found that HSPOs often consisted of one active internal sustainably driven personnel who were passionate about sustainable investments and business ethics (Juravle & Lewis 2009). Likewise, Stoughton & Ludema (2012) found that the sustainability initiative came from value-driven middle-managers which were supported by the top management, resulting in that the company implemented strategic sustainability. Furthermore, Stoughton & Lewis (2012) elaborate that senior leadership support is crucial when implementing strategic sustainability. Thus, resulting in a sustainable corporate culture within the firm that is developed when the top-management team is pushing for changes, providing more support and integration throughout the organisation (Stoughton & Ludema, 2012).

Sustainability performance for businesses involves sustaining and amplifying “economic growth, shareholder value, prestige, corporate reputation, customer relationships, and the quality of products and services” (Szekely and Knirsch, 2005, p 628). Likewise, the goal of sustainability has been defined as being a “… capacity of human beings to continuously adapt to non-human environments by means of social organisation” (Hamm and Muttagi cited in Gough and Scott, 2003, p. 1). Furthermore, it means uptake and pursuit of ethical business practices, sustainable job creation, value creation for all the company’s stakeholders and serving the needs of the underserved (Szekely and Knirsch, 2005). Sustainability performance far from being a means to an end, is a process by which companies integrate their economic, social and environmental objectives into their business strategies and cultivate the balance among all three (Szekely and Knirsch, 2005). Thus, becoming more profitable and sustaining their activities over the long term (Szekely and Knirsch, 2005).

2.2 Organisational Ambidexterity

Organisational ambidexterity refers to an organisations’ ability to both explore new possibilities as well as exploit existing resources and certainties (March, 1991). The core element of ambidexterity is thus, the allocation and use of resources (Smith and Umans, 2015). March (1991), argues that it is essential for organisations to conduct both types of activities in a tough competition of resources. Consequently, focusing on either of these two in isolation would create a trap of either exploration or exploitation. For example, too
much exploitation is said to lead to “inertia and dynamic conservatism” (Benner and Tushman in Smith and Umans, 2015, p 814) and too much exploration leads to “building tomorrow’s business at the expense of today’s” (Gibson and Birkinshaw in Smith and Umans, 2015, p. 814).

An important implication of the concepts of exploration and exploitation is that they are logically related to two contrasting, negative consequences. Exploration and exploitation are both considered to be self-reinforcing (March, 1991). In the absence of conscious effort, possibilities exist where exploration is liable to invoke further exploration, and exploitation is liable to remain in its limited learning activity (Levinthal & March, 1993). There is a likelihood that organisations will fall into a “failure trap” when they perceive that their effort for innovation has not been successful, leading them to try another path of innovation prematurely (Levinthal & March, 1993). As Levinthal and March (1993, p. 105) argued: “failure leads to search and change which leads to failure which leads to more search, and so on”. Thus, there is a need to strike a balance between the two, and it is ambidextrous organisations that are able, at the same time, to both exploit existing competencies as well as explore new opportunities (Duncan, 1979).

The allocation and use of resources, when the frame of reference is widened, is an essential part of strategic management (Dess et al. 2005; Hörstedt 2000 in Smith and Umans, 2015). While it is argued that the public sector could benefit from a more strategic approach (Boyne and Walker 2010). According to Umans et al (2017), there are limited studies exploring the concept of ambidexterity in public sector organisations. This lack of research is said to be problematic because there is a clear difference of conditions in which public and private organisations achieve ambidexterity (Cunningham and Kempling, 2009; Lee et al., 2012). According to Rainey et al. (1976), the main distinction between public and private organisations seems to be ownership. Private firms are owned by shareholders or individuals; public agencies are owned collectively by citizens in political communities. What is more Niskanen (1971), argues that public agencies are funded largely by taxation rather than fees paid directly by customers and that public-sector organisations are controlled predominantly by political forces, not market forces (Palm and Lilja, 2016).
Bryson et al (2008), states that exploitation within public organisations is used to focus on services that mainstream users want. Thus, exploitation is about “making best use of the resources available for the provision of public services” (Gershon, 2004, p. 6). While exploration within public organisations is used to discover new products and services that fit the demands of niche customers (Bryson et al., 2008). However, according to March (1991), there is a tendency within organisations to favour exploitation because of its certainty and short-term success. Especially, when resources are limited (March, 1991).

Despite the lack of previous research on public sector ambidexterity (Smith & Umans 2015; Palm & Lilja 2016), propositions for how public agencies are more likely to succeed with organisational ambidexterity have been produced (Bryson et al 2008) thus, indicating organisational ambidexterity is empirically proven to be valid in the public sector. What is more, Smith and Umans, (2015) suggest organisational ambidexterity is recognized as a useful concept in understanding the outcomes of public-sector organisations because financial performance is frequently not their ultimate focus. Even though public-sector research has increasingly explored concepts from strategic management research, ambidexterity has rarely been examined (Umans et al, 2017). However, where organisational ambidexterity has been examined it has been applied to resource allocation in general terms (March 1991; Choi and Chandler, 2015; Cannaerts et al, 2015; Palm and Lilja, 2017). Thus, this indicates there is a relevance of further understanding organisational ambidexterity in relation to specific strategies, such as sustainability strategy.

2.2.1 Ambidextrous Sustainability

In previous sections, different traits of sustainable companies leading to sustainability performance has been highlighted (Schaefer, 2004; Hahn & Scheermesser, 2006; Stubbs & Cocklin, 2008; Juravle & Lewis, 2009; Stoughton & Ludema, 2012; Bocken et al., 2013; Ponte et al., 2017) as well as a legitimacy-driven approach to conform to the minimum requirements in regard to sustainability (Crane et al., 2008; Bebbington et al., 2009; Caprar et al., 2012). It has also been argued that allocation of resources through finding a balance between exploitation and exploration results in firm performance (Duncan 1976; Lubatkin et al. 2006; March 1991; Tushman and O’Reilly 1996; Smith and Umans, 2015). Sustainability has been argued to be used as a strategy to achieve
expected outcomes (Enticott and Walker, 2008). Furthermore, it is argued that balancing the needs of stakeholders will also lead to sustainability performance (Epstein and Wideners, 2010).

Exploration is considered by March (1991) as search and discovery, while exploitation is considered to be disciplined problem solving and refinement. In the context of sustainability strategy in public organisations, exploration or exploitation, could be identified through the following; those who perceive themselves to be operating to the minimum requirements of sustainability in line with legislation, are identifiable as exploiting; While those organisations who perceive themselves to go beyond sustainability legislation, could be identified as exploring. Similarities can be drawn to Hahn & Scheermesser (2006) who found three different categories of how companies approached sustainability, namely sustainability leaders (SLs), environmentalists, and traditionalists. Traditionalists were motivated by addressing public relations and image reasons which the authors link to institutional theory and impression management and are dominated by SMEs. Moreover, traditionalists’ strategy is to preserve public consent to gain acceptability by communicating societal pressure changes in the company’s operations (Hahn & Scheermesser, 2006). The former can be thought of as an organisation that is exploiting. March (1991) argues focusing entirely on exploitation would result in a ‘success trap’ for sustainable outcomes. Further, the findings showed that the SLs felt a strong responsibility for ecological and social issues and were motivated by ethical and moral factors. They saw their contribution to sustainable development as a task that was beyond their core business activities and used proactive management tools to implement corporate sustainability (Hahn & Scheermesser, 2006). This could be interpreted as an organisation that is exploring. March (1991) argues focusing entirely on exploration would result in a ‘failure trap’ for new and/or better sustainable outcomes. Thus, Levinthal and March (1993) argue that there is a need to strike a balance between the two. In doing so, the result can be seen as organisational ambidexterity and latterly firm performance (Levinthal and March (1993). Considering the notion of SL’s and traditionalists (Hahn & Scheermesser, 2006) and ambidexterity (Duncan 1976; Lubatkin et al. 2006; March 1991; Tushman and O’Reilly 1996; Levinthal & March 1993; Smith and Umans 2015) it is reasonable to consider that balancing the allocation of resources in order to both exploit existing resources, in line with legislation, and explore resources to
go beyond legislation, for sustainable outcomes, lends itself to be optimal in enhancing sustainability performance. This falls in line with Floyd and Lane’s (2000, p. 155) position that in order for firms to remain competitive, they must “exploit existing competencies and explore new ones”. Building on from the former and in accordance with Lubatkin et al, (2006) who assert the pursuit of ambidextrous orientation is positively associated with the relative performance outcomes of the organisation. We argue thus, organisational ambidexterity towards sustainability strategies will positively affect the sustainability performance of the firm:

\[ H1 - Public sector housing organisations that are ‘ambidextrously sustainable’ will lead to a positive association with the sustainability performance. \]

2.3 Structural aspects in Ambidexterity

Organisational structure is visible as a recurring theme in the reviewed literature thus, saying that a sustainability supporting organisational structure is driving sustainability forward in organisations (Stubbs & Cocklin, 2008; Stoughton & Ludema, 2012; Bocken et al., 2013; Jasimah et al., 2015; Ponte et al., 2017). Jasimah et al.’s (2015) found that knowledge management, as well as the business strategy, affected the sustainability performance index (SPI) positively. Ponte et al. (2017) examined management tools could improve sustainable practices in a hybrid organisation. Ponte et al. (2017) found that the use of such a tool could help the organisation to better understand the inside and outside sustainable strategy. Thus, it was clarified how the sustainability issues should and could be treated in their strategic decisions and processes. Furthermore, such a tool improved their understanding how the strategy was developed into actions which facilitated strategic decisions on how to measure the sustainability performance as well as the relevant needs and interests from all stakeholders (Ponte et al., 2017).

What is more, organisational ambidexterity has been proven to be affected by structural contingencies (Gupta et al., 2006; Lavie et al., 2010; Choi and Chandler, 2015). Further, Smith and Umans (2015), found that organisational ambidexterity is influenced by the managerial focus in different organisational forms. While Mihalache et al. (2014) also found that structural differentiation had an impact on organisational ambidexterity. Miller (1987: 7), argues that “organisational structures and strategy-making processes are
highly interdependent and must be complementary in many ways to ensure good performance” (Mihalache et al., 2014, p. 133).

Umans et al (2017), argue that management control systems are regarded as important contingencies in the relationship between the top management team and organisational ambidexterity, thus, we focus on the two elements of centralisation and connectedness of decision making. These two elements are important due to their effect on information flows within the organisation (Mihalache et al., 2014). It is previously argued by Ghoshal et al. (1994) and Tsai (2002) in Mihalache et al. (2014, p. 133), that a focus on these two aspects “that centralization and social interaction provide a parsimonious representation of the organizational structure with the former representative of formal hierarchical structure and the latter representative of informal social relations”.

2.3.1 Centralisation and Connectedness
According to Finkelstein and Hambrick, (1996) decision making regarding the strategic orientation and resource allocation of a firm are generally made in the upper echelons of an organisation. What is more, the primary control for resolving tensions between exploration and exploitation resides here (Finkelstein and Hambrick, 1996). Tensions exist due to TMT members having different functions and thus perceiving exploring and exploiting as conflicting activities (Finkelstein and Hambrick, 1996). Thus, to enable TMT to achieve organisational ambidexterity they must develop schemes to see exploring and exploiting as complementary and not conflicting activities (Carmeli and Halvi, 2009). According to Mihalache et al, (2014) TMT who achieve shared leadership stimulate organisational ambidexterity through encouraging cooperative conflict management and engagement in comprehensive decision making. However, current research indicates organisational structure to be an important contingency for the actions of leaders to be effective because it determines the location and flow of information and competencies (Mihalache, et al, 2014). Thus, centralisation and connectedness of decision making have been identified because they are said to affect information flows within the organisation (Ghoshal et al 1994).

Centralisation refers to “the extent to which power is distributed among social positions in the organisation” (Hage and Aiken, 1970; Chang et al., 2011, p. 1661). According to Mihalache et al (2014) centralisation occurs when decision-making power belongs to a
select few in the upper levels of the organisation. This is supported by Chang et al. (2011), who states that centralisation reflects the concentration of decision-making and to which authority a problem is solved in organisations. Furthermore, it is suggested that centralisation is fostering fast decision-making enabling the organisation to quickly react to current customers’ requirements thus, encouraging exploitation (Sheremata, 2000; Chang et al., 2011). However, Sheremata, (2000) argued that centralisation reduces the quantity of information due to limited communication. Moreover, Chang et al., (2011, p, 1661) state exploration “needs a large amount of rich information and knowledge as it is reliant on increasing flexibility, adaptability and creativity in problem-solving”. Thus, it is put forward, in accordance with Jansen et al. (2006) argument that centralisation of decision-making authority has an adverse effect on exploration. Thus;

\[ H2: \text{Centralisation will negatively moderate the relationship with ambidextrously sustainable organisations and sustainable performance outcomes.} \]

Connectedness refers to “the relational density of social networks within organisations” (Sheremata, 2000; Mihalache et al., 2014) and involves direct contact among organisation members regardless of hierarchy or functional positions (Mihalache et al., 2014). This is supported by Atuahene-Gima, (2003) who state connectedness looks through the hierarchical and functional positions and unfolds direct interactions among the members of the organisation. Furthermore, it is also, argued that connectedness strengthens organisational links among the employees across different projects (Clark and Fujimoto, 1991). In addition, connectedness fosters the TMT awareness of different skills and competencies from all parts of the organisation and may enhance the organisation to recombine existing knowledge and resources, which in turn can produce values for both exploration and exploitation (Mihalache et al., 2014). What is more, it stands to enhance access to strategic options and a cross-organisational network of information (Burgelman 1983). Thus, according to Chang et al., (2011) this could yield improvement as well as refinement of existing products and services through collaboration across functional departments. Thus;

\[ H3. \text{Connectedness within a municipal housing organisation would positively moderate the relationship between organisational ambidextrous sustainability and sustainability performance outcomes.} \]
2.4 Presentation of the Research Model

Presentation of the research model is shown in Figure 1. Sustainability performance is set as the outcome (dependent variable), which we conceptualise to be positively affected by organisational ambidextrous sustainability (independent variable). Ambidextrous sustainability is the balance of exploitation of sustainability resources and exploration of new and/or better sustainability resources. Furthermore, the relationship between ambidextrous sustainability and sustainability performance is moderated by an organisation's ability to be centralised and connected in decision-making.

![Figure 1. Research Model](image-url)
3. Research Method

In this chapter, arguments for chosen theoretical methodology will be presented followed by arguments for the empirical investigation and methodology.

3.1 Theoretical Methodology

The theoretical methodology consists of a presentation of our research approach. Followed by choice of methodology, theories and ends with a critique of the sources.

3.2 Research Approach

Deduction, induction and abduction are within research, three different research approaches that can be used (Bryman & Bell, 2015). Choosing one or more of these is dependent on whether the starting point is within the realms of existing theories or if the reality is to be born from empirical landscape (Alvehus, 2014; Lind, 2014; Bryman & Bell, 2015). In this dissertation, a deductive approach has been used to create hypotheses out of theoretical frameworks because it enables the discussion to be based on a strong theoretical foundation. The formation of hypotheses is necessary when taking a deductive approach so to decrease the chance of subjectivity (Crossan, 2003). The hypotheses can be considered as assumptions derived from logic, where said assumptions are found to be truthful; so too is the conclusion, this is also known as ‘theory-testing research’ (Mantere & Ketokivi, 2013; Bryman & Bell, 2015). Thus, this approach permits the researcher to make judgements on whether the assumptions made are truthful or not without the dependency on the subjective reality (Rennemo & Åsvoll, 2014). Previous research (see e.g. Lubatkin et al., 2006; Mihalache et al., 2014; Smith and Umans, 2015), have explored ambidexterity in general and in relationship to firm performance. Thus, ambidexterity is an established field and practice for research. If our hypotheses are proven, then there is an empirically proven link between ambidextrous use of resources towards sustainability and sustainability performance in municipal housing organisations.

3.3 Choice of Methodology

The purpose of this dissertation is to establish whether ambidextrous sustainability leads to sustainability performance and whether this relationship is moderated by centralisation and connectedness in decision making. Thus, hypotheses have been argued for and
developed from prior literature to empirically test whether there is a relationship between ambidextrous sustainability and sustainability performance. Denscombe (2016), states that a quantitative method fits best when the researchers want to find a relationship, therefore a quantitative approach has been taken in this research paper. Furthermore, a quantitative method ensures that the researchers can better generalise the result than if a qualitative method is used (Denscombe, 2016; Bryman and Bell, 2015). Moreover, due to the objectivity that a quantitative method creates, Saunders, Lewis and Thornhill (2012), argues that a quantitative method are able to generate the same results every time. Thus, strengthening the generalisability (Denscombe, 2016; Saunders et al., 2012). On the other side, a qualitative method is used where knowledge is created from respondent’s interpretations of certain situations and phenomenon (Alvehus, 2014). Specifically, qualitative data is based on word expressions, and non-standardised data (Saunders et al., 2009).

### 3.4 Choice of Theory

The literature review in this dissertation is based on stakeholder theory, sustainability, and organisational ambidexterity. The three theories provide understanding to how organisational ambidextrous sustainability relates to sustainability performance. Stakeholder theory as the precursor to what sustainability has become lays the base for understanding what triggers sustainability performance (Epstein and Wideners, 2010). Further, organisational ambidexterity serves as a strategy to understand how firm performance outcomes are achieved through resource allocation (March, 1999). The different triggers of sustainability performance are linked to how firms allocate resources in order to achieve desired results. What is more, connectedness and centralisation relate to how the organisational structure of the firm decision making can function as a facilitator of organisational ambidexterity (Mihalache et al., 2014), and therefore holds relevance for theoretical inclusion.

One theory which is not included in this dissertation is the resource-based view (RBV). RBV looks at an organisations’ financial, legal, human, relational and informational resources and claims that these resources are heterogeneous. Thus, the organisation's main task is to understand and organise these resources to sustain a competitive advantage (Barney, 1991). This theory was excluded since this dissertation aims at exploring the
relationship of allocation of resources through exploiting and exploring sustainable resources (ambidextrous sustainability) linked to organisation outcome (sustainability performance) and not how said resources are utilised. Thus, a focus on performance outcomes rather than competitive advantage is achieved.

3.5 Critique of the Sources

Scientific articles were gathered through Google Scholar and Summon@HKR. What is more, websites and reports from governmental organisations have also been used to discuss the relevance of this dissertation in the introduction. Furthermore, academic books, as well as government reports and websites, have also been used.

In this dissertation, a total number of 117 sources have been used where 92 of these sources were scientific articles. Of these 92 articles, 75 was published in a Scientific Journal graded by the ABS-grade system. The ABS ranking is used in this dissertation to critically review the use of certain articles. The raking system of ABS utilises a peer review process, on which the system is built, and uses its standards, track records and the processes in every journal. ABS evaluation from 2015 have been used in this dissertation and the rankings are:

- 4* - World Elite Journal
- 4 - Top Journal
- 3 - Highly Regarded Journal
- 2 - Well Regarded Journal
- 1 - Recognized Journal

Table I. ABS-Ranking of Articles

<table>
<thead>
<tr>
<th>ABS 2015</th>
<th>Number of cited articles</th>
<th>Percentage of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>4*</td>
<td>22</td>
<td>29.3%</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>12.0%</td>
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<tr>
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<tr>
<td>1</td>
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<td>12.0%</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table II

Of the 75 scientific articles, 41.3 percent fall into the two highest rankings. Thus, indicating that the scientific articles are of very high quality and published in journals of
very high standards. Moreover, a further 46.7 percent of the articles have been published in highly regarded and well-regarded journals, respectively. The remaining 12 percent have been published in a recognised journal.

3.6 Time Horizon
Time horizon can be separated into two dimensions, cross-sectional and longitudinal (Saunders et al., 2012). This dissertation is examining a certain phenomenon at a single point in time. This is known as a cross-sectional study where the researchers look at a certain phenomenon in a single period of time due to time constraints (Saunders et al., 2012). The contrary is a longitudinal study, which is suited to examine how relationships develop and change over a time (Saunders et al., 2012; Bryman and Bell, 2015). The research time for this study is limited to 10 weeks of time, between March 26th, 2018 and May 31st, 2018 thus a cross-sectional study has been deemed most suitable.

3.7 Research Strategy
There are six different research designs, namely: experimental research, survey research, comparative research, case study, observational research and action research. (Saunders et al 2009). These are connected to either an inductive or deductive research approach. Most suitable for this research paper is a survey strategy, which supports a deductive approach (Saunders et al, 2009). A survey strategy is common in business management research and tends to answer who; what; where; when, thus supporting exploratory and descriptive research, such as in this research paper (Saunders et al, 2009).

3.8 Data Collection
The empirical objects of this research were municipality housing organisations across all 290 municipalities in Sweden. There are, in some cases, more than one municipality housing organisation in one municipality, meaning that there was a total population of 313 municipality housing organisations. With regard to the purpose of this dissertation, multiple quantitative methods have been used to investigate the main research question (Denscombe, 2016). Firstly, data were collected through two online surveys sent out to all 313 municipal housing organisations in Sweden. A collection of email addresses has been assembled through visiting the municipal housing organisation’s websites. In those cases where no contact information has been provided to us through their respective
websites’, their general ‘info-email address’ has been collected. An email has then been sent out to the ‘info-email addresses’ where we asked for the email addresses to the responsible people according to our target group. If no reply was given, the ‘info-email addresses’ were saved for use in sending out the survey. Where there were contact details for the top management team, a direct email was sent. Both surveys sent out contained the same questions except for one control question to ensure that the respondent was in a top management position at their respective organisation. The reason behind sending out two separate surveys is due to restrictions in the number of participants provided by the link sent out. To the ‘info-email addresses’ no limit of participation was set, though we controlled for the relevant employment position of the respondent. To the ‘direct email addresses,’ only one participation was allowed. If no response were registered after seven days, a friendly reminder was sent out. The survey was closed after 14 days. A total of 721 surveys was sent out where 701 was sent to direct email addresses and 20 was sent to the organisations info-address. After the first email, 19 wished to unsubscribe and was later removed. 6 replied that they did not have the time to participate, thus no reminder was sent to them.

Secondly, data has been collected by way of content analysis of yearly financial reports of all responding municipality housing organisation. The data are from those of the 313 municipal housing organisations’ that responded to the survey and the latest annual report was used for the analysis, only reports between 2017 and 2015 were used. The annual reports were used for creating a content analysis which enabled the researchers to quantify and later analyse the content (Denscombe, 2016).

3.8.1 Operationalization

Operationalisation is the process whereby the research transforms concepts into measures with variables used to provide measures for the concepts chosen for the research (Bryman and Bell, 2015). The variables in this dissertation are collected by a survey conducted by the researchers of this dissertation, so too, are the data from the municipal housing organisations annual reports.

There are different types of measurements approaches to sustainability according to literature (Igalens and Gond, 2005). Igalens and Gond (2005) found five different measurement types, of which two have been selected for this dissertation. (1) of 5, a
measurement based on content analysis from annual reports, (3) of 5, perceptual measurements derived from questionnaire-based surveys.

Table III. Presentation of Variables

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Variable</th>
<th>Retrieved from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variables</td>
<td>Sustainability Performance</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Sustainability Performance</td>
<td>Annual Reports (Archival Data)</td>
</tr>
<tr>
<td>Independent Variables</td>
<td>Ambidextrous Sustainability</td>
<td>Survey (Exploitation x Exploration)</td>
</tr>
<tr>
<td>Moderating Variables</td>
<td>Centralisation</td>
<td>Survey</td>
</tr>
<tr>
<td>Control Variables</td>
<td>Gender</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Educational Level</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Corporate Position</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Tenure in Organisation</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Firm Size</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>TMT size</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Own Report</td>
<td>Annual Report (Archival Data)</td>
</tr>
<tr>
<td></td>
<td>Year of Report</td>
<td>Annual Report (Archival Data)</td>
</tr>
<tr>
<td></td>
<td>Inhabitants</td>
<td>Municipal Report (Archival Data)</td>
</tr>
<tr>
<td></td>
<td>No. of Apartments</td>
<td>Annual Reports (Archival Data)</td>
</tr>
</tbody>
</table>

3.8.1.1 Survey

3.8.1.1.1 Dependent Variables

Initially, we had three different measures for sustainability performance. Two of these measures was derived from the survey and the other one was derived from the content analysis. In the analysis, the measure from the content analysis has been used due to the objective nature of the measure itself. We only present one of the measures used in the survey since we used one of the questions in the analysis.

The reliability testing has revealed that the four question instruments have adequate reliability (0.776). In line with previous literature, (see. Hahn & Scheermesser, 2006; Stubbs & Cocklin, 2008; Juravle & Lewis, 2009; Bocken et al., 2013; Ponte et al., 2017) we asked the respondents to indicate on a 7-point Likert scale their perception of how the following statements reflected their organisation;
• Our organisational structure is constructed to ease implementation of sustainability
• Our organisational structure is constructed to ease for employees to come up with their own ideas and drive forward for sustainability activities
• We as an organisation consider ourselves be driven by ethical and/or moral reasons
• We include all stakeholders in decisions made at senior-level

3.8.1.1.2 Independent Variables

3.8.1.1.2.1 Organisational Ambidextrous Sustainability
Organisational ambidextrous sustainability was conceptualised through the two measures of exploration and exploitation of resources linked to sustainability. This variable indicates an organisations’ ability to balance resources in terms of sustainability. In line with, Gibson and Birkinshaw (2004) and Smith and Umans (2015) organisational ambidexterity variable was constructed through multiplicative interaction between exploration and exploitation.

3.8.1.1.2.2 Exploration
We adopted the original six questions of Lubatkin et al.’s (2006) measurements of exploration and augmented these questions into the concept of sustainability. We used a mean from the six statements that would indicate the organisations ability to explore their existing and new resources. The reliability testing has revealed that the four question instruments have adequate reliability (0.909). Respondents’ were asked to state, on a 7-point scale whether they agreed or disagreed with the six statements. The statements were:

- Looks for sustainable novel technological ideas by thinking “outside the box”
- Bases its success on its ability to explore new sustainable technologies
- Creates products or services that are sustainable to the firm
- Looks for sustainable ways to satisfy its customers’ needs
- Aggressively ventures into new sustainable market segments
- Actively targets new sustainable customer groups

3.8.1.1.2.3 Exploitation
In exploitation we also used the original six questions of Lubatkin et al.’s (2006) measurements of exploitation and augmented these questions into the concept of
sustainability. We used a mean from the six statements that would indicate the organisations ability to exploit their resources. The reliability testing has revealed that the four question instruments have adequate reliability (0.912). Respondents’ were asked to state, on a 7-point scale whether they agreed or disagreed with the six statements. The statements were;

- Commits to improve quality and lower costs in sustainability
- Continuously improves the reliability of its sustainable products and services
- Increases the levels of automation in its sustainable operations
- Constantly surveys existing customer sustainability satisfaction
- Fine-tunes what it offers sustainable to keep its current customers satisfied
- Penetrates more deeply into its existing sustainable customer base

3.8.1.1.3 Moderating Variables

3.8.1.1.3.1 Centralisation

The moderating variable centralisation is motivated for by the empirically established structural relevance to firm performance outcomes (Chang et al, 2011; Jansen, 2006). Six statements were presented to establish to which degree the organisation was structurally centralised. The reliability testing has revealed that the four question instruments have adequate reliability (0.858). These measures were adopted from (Mihalache et al., 2014). A 7-point Likert scale was used in the survey when asking the respondents to indicate to which degree they whether agreed or disagreed with the following statements;

- Employees can develop their own work procedures
- Employees are free to choose the methods to perform their work
- Within our organisation, employees can affect the scheduling of major activities
- Employees can adjust their goals independently
- Within our organisation, employees can affect what goals should be achieved
- Employees have influence on how our performance is evaluated.

3.8.1.1.3.2 Connectedness

The moderating variable connectedness is motivated for by the empirically established structural relevance to firm performance outcomes (Chang et al, 2011; Jansen, 2006). Four statements were presented to establish to which degree the organisation was structurally connected. The reliability testing has revealed that the four question
instruments have adequate reliability (0.868). These measures were adopted from (Mihalache et al., 2014). A 7-point Likert scale was used in the survey when asking the respondents to indicate to which degree they whether agreed or disagreed with the following statements:

- In our organisation, there is ample opportunity for informal ‘hall talk’ among employees
- Employees from different departments feel comfortable calling each other when the need arises
- People around here are accessible to each other
- In this organisation, it is easy to talk with virtually anyone you need to, regardless of rank or position.

3.8.1.1.4 Control Variables
The variables chosen to control against the dependent variable in this dissertation is presented below along with arguments for their relevance in this research.

3.8.1.1.4.1 Age
In line with previous studies within the field of ambidexterity a control for age was used by asking the respondents what year they were born (Smith and Umans, 2017).

3.8.1.1.4.2 Gender
In line with previous researcher we controlled for gender (Umans et al., 2018).

3.8.1.1.4.3 Educational Level
According to Glaser (1984) the connection between education level and improved knowledge structures and information processing is supported by developmental psychologist. Furthermore, education helps individuals improve their comprehension of what they know, better manage time and resources, and monitor results (Smith, Collins and Clarke, 2005). Thus, supporting the relevance for Education level to be included as a control variable.

3.8.1.1.4.4 Corporate Position
Organisations are using sustainability as a strategy tool to achieve expected outcomes (Enticott and Walker, 2008). Thus, identifying our respondents as top management team (TMT); Chief Executive Officer, Chief Financial Officer, Chief Marketing Officer, Director of Human Resources, and Chief Operating Officer was important
because firm strategy is set and implemented by the TMT (Mihalache et al., 2014; Smith and Umans, 2015).

3.8.1.4.5 Tenure in the Organisation
In line with previous studies a control for tenure in the organisation was used in the questionnaire (e.g., Sangle, 2010; Smith and Umans 2015).

3.8.1.4.6 Size
According to Smith, (2007) larger organisations have more resources available therefore control of size has been included in the survey. Size was measured by the number of employees. Furthermore, size is argued to be associated with inertia, difficulty in processing information related to changing resources, and failure to adapt to changing resource conditions (e.g., Hannan & Freeman, 1989; Tushman & Romanelli, 1985).

3.8.1.4.7 TMT size
Top management team size is controlled for since previous studies within the field of ambidexterity have stated the importance of TMT size (e.g., Carson et al., 2007).

3.8.1.2 Content Analysis
3.8.1.2.1 Dependent Variable
A content analysis of end of year financial reports has been conducted, with focus on those concepts - Social, Economic and Environmental - which are measured to indicate sustainable performance (Epstein and Widner, 2010). Moreover, these three concepts are underpinning, arguably, the most recognised form of sustainability performance measurement, the Triple Bottom Line (Hansen and Schaltegger, 2016; Epstein and Widner, 2010). Thus, supporting the use of the three concepts for performance measurement in this dissertation.

The content analysis was conducted by counting the number of words dedicated to the following concepts; Social; Economic; Environmental. The words used for the analysis were gathered from SABO’s website on the respective webpage for; Social Sustainability; Economic Sustainability; Environmental Sustainability (SABO, 2018). Words were chosen from the sustainability goals discusses by SABO, in each category and then further refined to ensure their appropriateness for municipal housing. Furthermore, each of these categories was measured in three different ways;
• Counting the average of how many times every word was used in the annual report
• Counting the total amount of times every word was used in the annual report
• Calculating the percentage of how many times the words were used against the total amount of words in the annual report

3.8.1.2.1.1 Social Sustainability
The words used for measuring the sustainable social performance of every organisation was gathered through SABO (SABO, 2018). The words are presented in Table III. Presentation of Words ‘Social Sustainability’.
### Table IV. Presentation of Words ‘Social Sustainability’

<table>
<thead>
<tr>
<th>Theme</th>
<th>Word</th>
<th>Sub-word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sustainability</td>
<td>Equal*</td>
<td>Equality</td>
</tr>
<tr>
<td></td>
<td>Safe*</td>
<td>Safety</td>
</tr>
<tr>
<td></td>
<td>Safe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Satisfied*</td>
<td>Satisfied Customers/Renters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer Satisfaction</td>
</tr>
<tr>
<td></td>
<td>Engage*</td>
<td>To Engage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engagement</td>
</tr>
<tr>
<td></td>
<td>Complicit*</td>
<td>Complicity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation</td>
</tr>
<tr>
<td></td>
<td>Integrat*</td>
<td>Integrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Integration</td>
</tr>
<tr>
<td></td>
<td>Segregat*</td>
<td>Segregate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Segregation</td>
</tr>
<tr>
<td>Public Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptation</td>
<td></td>
<td>Handicap-Friendly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Needs-Oriented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessible</td>
</tr>
<tr>
<td>Include</td>
<td></td>
<td>Inclusive</td>
</tr>
</tbody>
</table>

### 3.8.1.2.1.2 Economic Sustainability

The words used for measuring the sustainable economic performance of every organisation was gathered through SABO (SABO, 2018). The words are presented in Table IV. Presentation of Words ‘Economic Sustainability’.

### Table V. Presentation of Words ‘Economic Sustainability’

<table>
<thead>
<tr>
<th>Theme</th>
<th>Word</th>
<th>Sub-word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Sustainability</td>
<td>Lifecycle*</td>
<td>Circle Economy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lifecycle Perspective</td>
</tr>
<tr>
<td></td>
<td>Procure*</td>
<td>Procurement</td>
</tr>
<tr>
<td></td>
<td>Renovate*</td>
<td>Refurbishment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Renovation</td>
</tr>
<tr>
<td></td>
<td>Rent*</td>
<td>Systematic Rent Pricing</td>
</tr>
<tr>
<td></td>
<td>Balanced*</td>
<td>Balanced Finances</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Balanced Profit</td>
</tr>
<tr>
<td>Good Finances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-Term</td>
<td></td>
<td>Long-Sightedness</td>
</tr>
</tbody>
</table>
3.8.1.2.1.3 Environmental Sustainability

The words used for measuring the sustainable environmental performance of every organisation was gathered through SABO (SABO). The words are presented in Table V. Presentation of Words ‘Environmental Sustainability’.

Table VI. Presentation of Words ‘Environmental Sustainability’

<table>
<thead>
<tr>
<th>Theme</th>
<th>Word</th>
<th>Sub-word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Sustainability</td>
<td>Sustainable*</td>
<td>Sustainability</td>
</tr>
<tr>
<td></td>
<td>Emission</td>
<td>Greenhouse Gas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td></td>
<td>Energy*</td>
<td>Energy Consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decrease Energy</td>
</tr>
<tr>
<td></td>
<td>Climate*</td>
<td>Impact on Climate</td>
</tr>
<tr>
<td></td>
<td>Environment*</td>
<td>Environmental Effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Influence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Consideration</td>
</tr>
</tbody>
</table>

3.8.1.2.1.4 Sustainability Performance

The dependent variable ‘Sustainability Performance’ was measured by the three categories of “Social Sustainability, Economic Sustainability, and Environmental Sustainability”. We kept the same format as we had in the single categories, but added them together into one overall measure that indicates the total sustainability performance;

- Counting the average of how many times every word was used in the annual report
- Counting the total amount of times every word was used in the annual report
- Calculating the percentage of how many times the words were used against the total amount of words in the annual report

To calculate the ‘Sustainability Performance Mean’ we took the total sum of the words that were found to be mentioned in the annual reports and divided that by the number of words used in each search category. This indicates the frequency of each word used in each individual report. To calculate the ‘Sustainability Performance Words’ we took the total sum of the words that were found to be mentioned in the annual reports in each category. This indicates the total sum of words used in the annual report. To calculate ‘Sustainability Performance’ we took the total sum of the words that were found to be
mentioned in the annual reports in each category divided by the total amount of words in the annual report. This indicates the amount of word space of ‘sustainable’ relevance.

3.8.1.2.2 Own Report
We used a control variable for acknowledging if the organisation were reporting themselves or they reported through the municipality’s annual report. Thus, reporting through the municipality would automatically lead to less amount of words which could distort the sustainability performance.

3.8.1.2.3 Year of Report
We also controlled for the year the annual report was published. Thus, more and more organisations embrace the concept of sustainability which could have an effect on the sustainability performance derived from the annual reports.

3.8.1.2.4 Inhabitants Municipality
We used the number of inhabitants in the municipality as a control variable to show the greater number of inhabitants within the municipality the more people the municipal housing organisations can serve. Thus, highlighting the potential higher demand placed on that municipality.

3.8.1.2.5 No. of Apartments
We used the number of apartments available as a control variable to show the number of apartments available to serve the potential demand within the municipality.

3.9 Sample Selection
It is argued that it is impossible to investigate the entire population (Denscombe, 2009) however, our initial sample represents the population of municipal housing organisations in Sweden. However, Bryman and Bell (2015), states that when surveying individuals, it is likely that there will be a non-response sample. This occurs when the surveyed individual refuses to cooperate, cannot be contacted, or some other reason cannot supply the required data (Bryman and Bell, 2015, p. 188). Thus, the survey was sent out to all 313 municipal housing organisations to ensure the greatest possible number of organisations and individuals were reached. Only the municipal housing organisations that are connected to the Swedish housing program ‘Allmännyttan’ was selected. Of the total sample (313) the total number of responding and valid organisations was 141.
The selection criteria for this dissertation was Swedish municipal housing organisations. As of 2006, up to 60% of municipality organisations were conducting sustainability reports (Salar 2006), one can logically assume this has increased, since then, in the last 12 years - when this dissertation was written. A clear motivation to use public sector was due to the availability of their annual reports since they are obliged by Swedish law to publicly publish annual reports (The Swedish Government, 2017). The Swedish government have developed several national programmes, one of which is a social housing policy. This policy accounts for 20 percent of Swedish housing stock, which derives into half of the rental sector, approximately 1.5 million people (SABO, 2018). Furthermore, the housing sector is said to be an important player of the energy consuming and carbon dioxide producing sectors (Mcmanus et al., 2010). Thus, indicating the challenges for public housing authorities because it is a crucial necessity to provide secure and habitable housing for citizens (SABO, 2018). Municipality authorities are a natural tool to provide municipalities with the access to good housing for their citizens (SABO, 2018). Additionally, the forecast of a growing population, as well as demand for an extensive improvement work in the existing facilities, puts a big pressure on the public housing organisations (Cannaerts et al., 2016). What is more, environmental challenges put pressure on the public-sector organisations to both be efficient and innovative to enhance their competitiveness (Cannaerts et al., 2016).

The selection criteria of participants from the chosen organisations was that they were holding a position within the top management. However, only one response from each organisation was used. Thus, the total respondent sample used for analysis was 141. The recipient who held the highest position in the organisation was chosen due to their seniority among the top management team, which suggests they have a better overview of the wider strategic plans of the organisations’ operations.

3.10 Data Analysis
The data analysis for this dissertation have been conducted by using the statistical computer program SPSS. Many different tests have been conducted for analysing the data. The first test was a Cronbach’s Alpha to measure the internal level of reliability of all the measures ($\alpha > 0.600$) (Hair et al. 2010 in Smith and Umans, 2015). Harman’s single-factor test was conducted to check for common method bias (Podsakoff et al.,
2003), including all independent and dependent variables in one unrelated factor analysis. The result from the single-factor analysis showed that the data had a multiple factor structure and limited common method bias. We also tested for normality using the Kolmogorov-Smirnov, where we tested all the variables which were normally distributed. Pallant (2013) argues that a sample larger than 30 can be assumed to be normally distributed. Moreover, a Pearson’s correlation and a multiple linear regression was used to test the dissertations hypotheses. The hypotheses were supported if the statistical significance was p < 0.1.

3.11 Validity/Reliability

Validity refers to whether the measurement of a concept really does measure that concept (Bryman and Bell, 2015). There are a number of ways to test measurement validity Bryman and Bell (2015). One such example to achieve this is to refer to other experts who have determined the validity of the measures. Thus, using pre-existing measures borrowed from other experts to measure the concepts used in this research paper, can ensure validity. What is more, our measurement tools were scrutinised by our supervisor who is to be thought of as practised and skilled in this field of research.

Reliability refers to the consistency of a measure of a concept (Bryman and Bell, 2015). Reliability can be determined by exploring any one of three prominent factors, stability; internal reliability; inter-rater reliability (Bryman and Bell, 2015). Stability reveals that if tested again the measures would provide the same results. Internal reliability which reveals the indicators measure the same concepts and is achieved through running a Cronbach’s alpha, whereby the average of all possible split-half reliability coefficients are calculated (Bryman and Bell, 2015), was used to confirm the reliability of this study.

Generalisability is concerned with whether the research can claim that their findings can be generalised beyond the confines of the particular context in which the research has been conducted (Bryman and Bell, 2015). In order to do this, it is preferable to have a representative sample so as to claim the results are not unique to the particular group (Bryman and Bell, 2015). Thus, the generalisation of this study can be considered good since data were collected from 224 unique contacts, 193 were completed fully, of which 159 were unique organisations within municipal housing sector in Sweden.
3.12 Ethical Consideration

The data collected in this dissertation have both been publicly available emphasising the annual reports from the organisations as well as the primary data collected through an online survey conducted by the researchers of this dissertation. The publicly available data have not been misused in an unbeneficial way for any of the firms. All data retrieved from the annual reports have been considered and presented in the actual and rightful way.

The primary data collected in this dissertation was collected through an online survey sent out the respondents’ email. With the help of the online tool ‘Webbenkäter,’ the respondents could click on a link in the first email to unsubscribe from any additional emails considering the survey. Those respondents that wished to unsubscribe was deleted from the list and no additional emails were sent out. Furthermore, the respondents were informed that participation was voluntary and that the respondents could quit and leave the survey at any time. What is more, all respondents were informed that they would remain anonymous both as individuals and as which organisation they represented. At last, we informed the respondents that no information is shared with a third party.
4. Results and Analysis

In this chapter, the results of the test are presented. Descriptive statistics, correlations, and regression analysis will be presented and analysed. The analysis also includes the summary of results, supporting or non-supporting the hypotheses of the dissertation.

4.1 Descriptive Statistics

The descriptive statistics give an overview of the empirical investigation. The section starts by presenting the dependent variable followed by independents variables, moderating variable and at last the control variables.

4.1.1 Dependent Variable

The dependent variable in this dissertation is sustainability performance.

Table VII. Dependent Variable Descriptives

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sustainability Performance</td>
<td>140</td>
<td>0</td>
<td>0.0064</td>
<td>0.0016</td>
<td>0.0015</td>
</tr>
<tr>
<td>Economic Sustainability Performance</td>
<td>140</td>
<td>0</td>
<td>0.0103</td>
<td>0.0015</td>
<td>0.0015</td>
</tr>
<tr>
<td>Environmental Sustainability Performance</td>
<td>140</td>
<td>0</td>
<td>0.0146</td>
<td>0.0032</td>
<td>0.0034</td>
</tr>
<tr>
<td>Sustainability Performance</td>
<td>140</td>
<td>0</td>
<td>0.0200</td>
<td>0.0063</td>
<td>0.0053</td>
</tr>
<tr>
<td>Valid N (Listwise)</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Table VI. Dependent Variable Descriptives we see that the category which gets most ‘word space’ in the annual reports is the environmental sustainability with 0.32 percent of the total space. Where economic sustainability gets 0.15 percent and social sustainability gets 0.16 percent of the word space.

4.1.2 Independent Variables

The independent variables in this dissertation include ambidextrous sustainability. In Table VII. Independent Variables Descriptives the descriptive data is presented for the mentioned variables.

Table VIII. Independent Variables Descriptives

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambidextrous Sustainability</td>
<td>141</td>
<td>1.00</td>
<td>49.00</td>
<td>23.1923</td>
<td>10.59133</td>
</tr>
<tr>
<td>Valid N (Listwise)</td>
<td>141</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.1.2.1 Ambidextrous Sustainability

As we can see in Table VII. Independent Variables Descriptives, the minimum value of ambidextrous sustainability was 1. Which indicates that one organisation neither exploited nor explored new and/or existing sustainability resources. The maximum was 49 thus, indicating that some organisations equally exploited and explored new and/or existing resources to the maximum. The mean of all organisations is 23.19 with a standard deviation of 10.59. As the average of the 7-point Likert scale is 3.5 the equation to multiply exploitation with exploration results in \[3.5 \times 3.5 = 12.25\]. Therefore, the data indicates that the organisation are highly ambidextrous sustainable \((12.25 < 23.19)\).

4.1.3 Moderating Variables

The moderating variables in this dissertation are concerned with the extent to which the organisation is centralised and/or connected in its’ decision making and the degree in which this moderates the sustainability performance of the organisation. The descriptives for the variables are presented in Table VIII. Moderating Variables Descriptives.

**Table IX. Moderating Variables Descriptives**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralisation</td>
<td>141</td>
<td>1.50</td>
<td>6.83</td>
<td>3.3132</td>
<td>1.05475</td>
</tr>
<tr>
<td>Connectedness</td>
<td>141</td>
<td>3.00</td>
<td>7.00</td>
<td>6.1489</td>
<td>0.85669</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>141</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.1.3.1 Centralisation

In Table VIII. Moderating Variables Descriptives we see that the minimum was 1.5 and the maximum 6.83 indicating that none of the organisations are extremely centralised in their organisational decision making. This is also indicated by the mean of 3.31 that is below the average (3.5) of the 7-point Likert scale. The standard deviation of centralisation is 1.05.

4.1.3.2 Connectedness

In Table VIII. Moderating Variables Descriptives we see that the minimum is 3 and the maximum is 7 indicating that the organisations are extremely connected in their
organisational decision making. Which is confirmed by the mean of 6.15 followed by the low variance according to the standard deviation of 0.85.

4.1.4 Control Variables
We used 12 control variables. Firm size; Own report; Year; Inhabitants; Number of Apartments; The Number of Apartments per Inhabitant. We controlled for respondent demographics such as (Gender, Age, Higher Education) and respondent position (CEO, Position Tenure). The control variables have been split into two groups, firm and individual.

4.1.4.1 Organisations
The firm size is the number of employees in the organisations. The highest number of employees totalled 500, while the lowest totalled 1. The mean number of employees totalled 63. Own report indicates whether the municipal housing organisation produced their own bespoke annual report or if their performance was included in the municipalities annual report. The total number of reports analyses totalled 115. This was due to exclusion of those reports with fewer than 250 words. Where 1 = their own report and 0 = reporting through the municipality, the own report mean column indicates 91 percent of housing organisations produced their own report. Year indicates the year of the report used in the content analysis, where 1 = 2017 and 0 = 2016 or 2015. The decision behind using either 2016 or 2015 reports was taken where 2017 reports were not available or likewise 2016 were not available. 2015 was the latest year used for analysis because the survey tool used to measure performance was framed over the previous three-year period (2017; 2016; 2015). Inhabitants indicates the number of people living within the municipality. The minimum number of inhabitants was 2646 while the maximum number of inhabitants was 949,761. The mean number of inhabitants totalled 85,541. Number of apartments indicates the total number of apartments the municipality has for its inhabitants. The number of total responses analysed = 139 of 141. This was due to no data were available for two municipalities. The minimum number of apartments within the municipal totalled 23 while the maximum number of apartments within the municipal totalled 26,840. The mean number of apartments within the municipal totalled 3,353. Apartments per Inhabitant is a control variable that has been computed within SPSS and not attained through the survey. This control variable was computed in order to determine
the number of apartments in the organisation per inhabitant within the municipal. Thus, indicating the capability to serve the market.

4.1.4.2 Individuals
The control variable Gender was coded 1 = Female and 0 = Male. Thus, the percentage of female respondents was 35 percent as indicated in the mean column, meaning 65 percent were male. The control variable Age had a total number of 138 respondents. Two respondents did not state their age. The minimum age was 25 years while the maximum age was 66 years. Here the mean age is calculated to be 51.91. Higher Education indicates to which level the respondent has been educated. The standard deviation of 8.796 indicates a wide range of the respondent's age. Higher education = PhD, Masters, Magister, or Bachelor and was coded 1, while 0 = vocational diploma and below. Thus, Higher Education mean column indicates 67 percent of respondents have been educated to bachelor level or above. CEO indicates the employment position of the respondent. The top management team were surveyed, thus 1 = CEO and 0 = other members of the top management team. A total of 141 respondents stated their position. The mean column indicates that 63 percent of respondents were CEO of their respective organisations. Position Tenure indicates the length of time the respondents have held their position in the organisation. The maximum length of time of respondents’ tenure was 25 years. While the minimum amount of time of tenure was below one year and is indicated as so in the minimum column showing 0.0. The mean number of years of the respondents’ position tenure is 5.844 years with a standard deviation of 5.5530 indicates a wide variety of tenure length of respondents.

Table X. Control Variable Organisations Descriptives

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Size</td>
<td>139</td>
<td>1.00</td>
<td>500.00</td>
<td>63.0860</td>
<td>73.29870</td>
</tr>
<tr>
<td>Own Report</td>
<td>115</td>
<td>0.00</td>
<td>1.00</td>
<td>0.9130</td>
<td>0.28300</td>
</tr>
<tr>
<td>Year</td>
<td>141</td>
<td>0.00</td>
<td>1.00</td>
<td>0.4610</td>
<td>0.50025</td>
</tr>
<tr>
<td>Inhabitants</td>
<td>141</td>
<td>2646</td>
<td>949761</td>
<td>85541</td>
<td>186167</td>
</tr>
<tr>
<td>No. Of Apartments</td>
<td>139</td>
<td>23.00</td>
<td>26840</td>
<td>3353</td>
<td>4757</td>
</tr>
<tr>
<td>Apartment Per Inhabitant</td>
<td>139</td>
<td>0.00</td>
<td>0.27</td>
<td>0.0746</td>
<td>0.03741</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table XI. Control Variable Individuals Descriptives

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>141</td>
<td>0</td>
<td>1</td>
<td>0.35</td>
<td>0.480</td>
</tr>
<tr>
<td>Age</td>
<td>138</td>
<td>25</td>
<td>66</td>
<td>51.91</td>
<td>8.796</td>
</tr>
<tr>
<td>Higher Education</td>
<td>140</td>
<td>0</td>
<td>1</td>
<td>0.67</td>
<td>0.471</td>
</tr>
<tr>
<td>CEO</td>
<td>141</td>
<td>0</td>
<td>1</td>
<td>0.63</td>
<td>0.484</td>
</tr>
<tr>
<td>Position Tenure</td>
<td>141</td>
<td>0</td>
<td>25</td>
<td>5.844</td>
<td>5.5530</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td></td>
<td></td>
<td></td>
<td>137</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Pearson Correlation Matrix

The correlation matrix signals the correlation between two variables and indicates whether the relationship is either positive or negative (Bryman and Bell, 2015). The strength of the relationship is indicated by the numeric value, while the direction of the relationship is identified by the numeric value being either positive or negative (Pallant, 2013). The correlation coefficients are shown in Table XI. Pearson Correlation Matrix presented on the previous page. The level chosen for relationship significance are {*0.05; **0.01}. However, support for the hypotheses will not come from this matrix, this will be done by using a multiple linear regression.

There is a strong positive relationship between Sustainability Performance and Ambidextrous Sustainability that can be seen in Table XI. Pearson Correlation Matrix. It is also shown that firm size has a strong positive relationship to Sustainability Performance. It can also be seen that a positive relationship exists between year (2017 annual reporting) and Sustainability Performance. The matrix shows that there is a strong positive relationship between Connectedness and Ambidextrous Sustainability. While it is shown that a strong negative relationship exists between Centralisation and Ambidextrous Sustainability. Firm Size (Ln) and Year are shown to have a positive relationship with Ambidextrous Sustainability. Centralisation is shown to relate significantly negative to Connectedness.
Table XII. Pearson Correlation Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sustainability Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Ambidextrous Sustainability</td>
<td>.225**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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**. Correlation is significant at the 0.01 level (2-tailed).
*
Correlation is significant at the 0.05 level (2-tailed).
4.2.1 Post-Hoc Pearson Correlation Matrix

With regards to stakeholder theory, we explored how inclusion of all relevant stakeholders correlated with sustainability performance. We used question four from our own sustainability measure to get the perception of the respondents’ organisation’s inclusion of all stakeholder in top management team decisions ‘We include all stakeholders in decisions made at senior-level’. We only analysed the result in black text since the red text results are dependent on each other. Furthermore, Sustainability Performance and Ambidextrous Sustainability have already been analysed in the previous section.

Table XIII. Post-Hoc Pearson Correlation Matrix

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<td>3 Social Sustainability Performance</td>
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<td>5 Environmental Sustainability Performance</td>
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<td>6 Inclusion of All Stakeholders</td>
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<td>.199*</td>
<td>.175*</td>
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</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table XII. Post-Hoc Pearson Correlation Matrix shows that inclusion of all stakeholders is significantly positively correlated with sustainability performance. This is in line with previous literature that says that including all stakeholder in their decisions increases the sustainability performance (Asif et al., 2013; Gelderman et al., 2017). Furthermore, we see that organisational ambidextrous sustainability is significantly positively correlated with Social (.225**), Economic (.217**), and Environmental Sustainability Performance (.317**). What is more, being organisational ambidextrously sustainable is significantly positively correlated with inclusion of all stakeholders (.471**). Social Sustainability Performance significantly positively correlates the most with Environmental Sustainability Performance (.674**). While Economic Sustainability Performance significantly positively correlates less with Social- (.409**), and Environmental Sustainability Performance (.412**). At last, inclusion of all stakeholders has a significant positive correlation with Social- (.199*), and Economic Sustainability
Performance (.175*). However, no significant correlation was found between inclusion of all stakeholders and environmental sustainability performance (.163).
### Table XIV. Multiple Linear Regression Direct Effect

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<th>Variables</th>
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<th>Model 2 Ambidextrous Sustainability: effect on Economic Performance</th>
<th>Model 3 Ambidextrous Sustainability: effect on Environmental Performance</th>
<th>Model 4 Ambidextrous Sustainability: effect on Sustainability Performance</th>
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Note: *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10
Table XV. Multiple Linear Regression Moderating Centralisation

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<td>Moderating Effects on Ambidextrous Sustainability and Environmental Performance</td>
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Note: *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10
Table XVI. Multiple Linear Regression Moderating Connectedness

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<td>Std.B  .131</td>
<td>Std.B  .0265†</td>
</tr>
<tr>
<td></td>
<td>Std.E  .002</td>
<td>Std.E  .002</td>
<td>Std.E  .004</td>
<td>Std.E  .005</td>
</tr>
<tr>
<td></td>
<td>Std.E  4.146***</td>
<td>Std.E  3.375***</td>
<td>Std.E  4.406***</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>Std.B  .256</td>
<td>Std.B  .261†</td>
<td>Std.B  .210†</td>
<td>Std.B  .276†</td>
</tr>
<tr>
<td></td>
<td>Std.E  .003</td>
<td>Std.E  .003</td>
<td>Std.E  .004</td>
<td>Std.E  .004</td>
</tr>
<tr>
<td>VIF value, highest</td>
<td>Std.B  1.683</td>
<td>Std.B  1.683†</td>
<td>Std.B  1.683†</td>
<td>Std.B  1.683†</td>
</tr>
<tr>
<td></td>
<td>Std.E  1.683</td>
<td>Std.E  1.683†</td>
<td>Std.E  1.683†</td>
<td></td>
</tr>
<tr>
<td>n=108</td>
<td>n=108</td>
<td>n=108</td>
<td>n=108</td>
<td></td>
</tr>
</tbody>
</table>

Note: *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10
4.3 Multiple Linear Regression

In Table XVI. Hypothesis Testing Result we get an overview of the result of the multiple linear regression analysis. H1 was supported, while H2 and H3 were not supported. In this section, we will present the results from the multiple linear regression in chronological order.

Table XVII. Hypothesis Testing Result

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Supported</th>
<th>Not Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>H2</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>H3</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

4.3.1 Direct Effect

In Model 1 (n = 108), we can see a significant positive relationship between ambidextrous sustainability and social sustainability performance (.0174*). Furthermore, the control variable Age has a weak significant positive relationship with social sustainability performance (.211†). The control variable Firm Size (Ln) has a significant positive relationship with social sustainability performance. Indicating that the bigger an organisation is, the better the organisation performs in social sustainability performance. The variety of the independent variable explains 24.9 percent of the variation in the dependent variable environmental sustainability performance. In Model 1 we did not test any of our hypotheses.

In Model 2 (n = 108), we can see a significant positive relationship between ambidextrous sustainability and economic sustainability performance (.235**). Furthermore, the control variable Firm Size (Ln) has a weak significant positive relationship with economic sustainability performance (.189†). The control variable Own Report has a strong significant negative relationship with economic sustainability performance (-.472**). Indicating that those organisations that reported through the municipality’s annual report, performed better economic sustainability performance. The variety of the independent variable explains 26.5 percent of the variation in the dependent variable environmental sustainability performance. In Model 2 we did not test any of the hypotheses.

In Model 3 (n = 108), we can see a significant positive relationship between ambidextrous sustainability and environmental sustainability. Furthermore, the control variable CEO has a weak significant negative relationship with environmental sustainability
performance (-.198†). Indicating that in those organisations where a CEO answered the survey had an inferior environmental sustainability performance than those organisations where another TMT-member responded. One explanation could be that the CEO has a better view of the organisation and a more realistic view. The control variable Firm Size (Ln) has a significant positive relationship with environmental sustainability performance (.305**). Furthermore, Apartment Per Inhabitant has a significant negative relationship with environmental sustainability performance (-.189*). The variety of the independent variable explains 22.4 percent of the variation in the dependent variable environmental sustainability performance. In Model 3 we did not test any of the hypotheses.

In Model 4 (n = 108), we can see a significant positive relationship between ambidextrous sustainability and sustainability performance (.271**). Thus, our H1 is supported. Showing that an organisations ability to be ambidextrously sustainable leads to sustainability performance. Furthermore, the control variable Firm Size (Ln) has a strong significant positive relationship with sustainability performance (.396***). The control variable Own Report has a weak significant negative relationship with sustainability performance (-.160†). Indicating that the greater the number of people in the firm the higher significance of relationship to performance. And those who own report are indicated to negative relate to overall Sustainability Performance The variety of the independent variable explains 29 percent of the variation in the dependent variable environmental sustainability performance.

In Model 1-3, ambidextrous sustainability led to a respective performance in each category. Furthermore, in Model 4, our H1 was supported since ambidextrous sustainability led to sustainability performance. Contingent for all four models was that Firm Size (Ln) had either a weak significant or a strong significant positive relationship with respective category performance. Indicating that the bigger the organisation is, in terms of employees, the better the organisation perform in sustainability factors. Another interesting finding is that each category of Social, Economic, and Environmental each have a different control variable that has a relationship with the performance in the respective category.
4.3.2 Moderating Effect

In Model 5 (n = 100), We cannot see any significance from the moderator centralisation on ambidextrous sustainability relationship to Social Performance. However, it appears to indicate that both Age (.243*) and Firm Size (Ln) (.449**) have a significant positive relationship on the social performance. This means that the greater the number of people in the firm the higher significance of relationship to Social Performance. What is more, the older the respondents the higher contribution towards Social performance. We did not test any hypotheses for this model.

In Model 6 (n = 100), We cannot see any significance from the moderator centralisation on ambidextrous sustainability relationship to Economic Performance. However, it appears that Firm Size (Ln) (.311**) has a significant positive relationship on the economic performance, while own report had a significant negative relationship (-478**) to Economic Performance. This means that the greater the number of people in the firm the higher significance of relationship to Economic performance. Further, those who own report are indicated to negative relate to Economic Performance, this could be because economic factors are mostly presented numerically in annual reports and not in words, which was the focus of the content analysis. We did not test any hypotheses for this model.

In Model 7 (n = 100), We cannot see any significance from the moderator centralisation on ambidextrous sustainability relationship to Environmental Performance. However, it is shown that Firm Size (Ln) (.194*) appears to have a significant positive relationship on the environmental performance, while CEO (-.196†) and Apartment per inhabitant (-.193*) appear to have a weak negative relationship to Environmental Performance. This means that the greater the number of people in the firm the higher significance of relationship to Environmental performance. Furthermore, where CEO is the respondent is a negative relationship to environmental performance, this could be because CEO has a more accurate picture of the organisation performance than other TMT members. A negative relationship between Apartment per inhabitant and Environmental Performance could indicate that more apartments per head, or thought of another way, greater resources to serve the market, is costly. For example, unused resources, are not environmentally efficient. We did not test any hypotheses for this model.
In Model 8 (n = 100), We cannot see any significance from the moderator centralisation on ambidextrous sustainability relationship to overall sustainability Performance. Therefore, the H2 is not supported. However, it is shown that Firm Size (Ln) (.401***) appears to have a significant positive relationship on sustainable performance, while Own Report (-.152†) and Apartment per inhabitant (-.152*) appears to have a weak negative relationship to overall Sustainable Performance. This means that the greater the number of people in the firm the higher significance of relationship to overall Sustainability Performance. Furthermore, those who own report are indicated to negative relate to overall Sustainability Performance, this could be because economic factors are mostly presented numerically in annual reports and not in words, which was the focus of the content analysis. A negative relationship between Apartment per inhabitant and overall Sustainability Performance could indicate that more apartments per head, or thought of another way, greater resources to serve the market, is costly. For example, unused apartments or houses, are not environmentally efficient.

In Model 9 (n = 100), We cannot see any significance from the moderator connectedness on ambidextrous sustainability relationship to Social Performance. However, it appears to show that Age (.204†) has a weak relationship to Social performance and Firm Size (Ln) (.479***) has a significant positive relationship on the social performance. We did not test any hypotheses for this model.

In Model 10 (n = 100), We cannot see any significance from the moderator connectedness on ambidextrous sustainability relationship to Economic Performance. However, it appears that Firm Size (Ln) (.213*) has a significant positive relationship on the economic performance, while own report has a significant negative relationship (-464**) on the Economic Performance. We did not test any hypotheses for this model. This means that the greater the number of people in the firm the higher significance of relationship to Economic performance.

In Model 11 (n = 100), We cannot see any significance from the moderator centralisation on ambidextrous sustainability relationship to Environmental Performance. However, it is shown that Firm Size (Ln) (.295**) appears to have a significant positive relationship on the environmental performance, while CEO (-.195†) and Apartment per inhabitant (-.191*) appear to have a weak negative relationship to Environmental Performance. We
did not test any hypotheses for this model. This means that the greater the number of people in the firm the higher significance of relationship to Economic performance. A negative relationship between Apartment per inhabitant and environmental Sustainability Performance could indicate that more apartments per head, or thought of another way, greater resources to serve the market, is costly. For example, unused apartments or houses, are not environmentally efficient. Furthermore, where CEO is the respondent is a negative relationship to environmental performance, this could be because CEO have a more accurate picture of the organisation performance than other TMT members.

In Model 12 (n = 100), We cannot see any significance from the moderator centralisation on ambidextrous sustainability relationship to overall sustainability performance. Therefore, the H2 is not supported. However, it is shown that Firm Size (Ln) (.404***) appears to have a significant positive relationship on overall sustainable performance, while Own Report (-.146†) and Apartment per inhabitant (-.156*) appear to have a weak negative relationship to overall Sustainable Performance. This means that the greater the number of people in the firm the higher significance of relationship to overall Sustainability Performance. Furthermore, those who own report are indicated to negative relate to overall Sustainability Performance, this could be because economic factors are mostly presented numerically in annual reports and not in words, which was the focus of the content analysis. A negative relationship between Apartment per inhabitant and overall Sustainability Performance could indicates that more apartments per head, or thought of another way, greater resources to serve the market, is costly. For example, unused apartments or houses, are not environmentally efficient.

4.3.3 Post-Hoc Moderating Effect
The results from Model 5-12 showed no significant moderating effect of the variables centralisation and/or connectedness on the relationship between ambidextrous sustainability and sustainability performance, which rejected the H2 and H3. Therefore, we were motivated to explore the data further. We performed multiple linear regression analyses to explore the moderating effect of centralisation and connectedness on the relationship between ambidextrous sustainability and sustainability performance, social sustainability performance, economic sustainability performance, and environmental sustainability performance. We found significance in two multiple regression analyses
which are presented in Table XVII. Post-Hoc Multiple Linear Regression Moderating Effect and Table XVIII. Post-Hoc Multiple Linear Regression Moderating Effect Centralisation.

Table XVIII. Post-Hoc Multiple Linear Regression Moderating Effect Connectedness

<table>
<thead>
<tr>
<th>Variables</th>
<th>Std.B</th>
<th>Std.E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambidextrous Sustainability</td>
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<td>.000</td>
</tr>
<tr>
<td>Connectedness</td>
<td>.137</td>
<td>.000</td>
</tr>
<tr>
<td>Amb.Sust x Connectedness</td>
<td>.161†</td>
<td>.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>Std.B</th>
<th>Std.E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education</td>
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<td>.000</td>
</tr>
<tr>
<td>Firm Size</td>
<td>.183*</td>
<td>.000</td>
</tr>
<tr>
<td>Year</td>
<td>.209*</td>
<td>.000</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.522</td>
<td>.001</td>
</tr>
<tr>
<td>F-value</td>
<td>3.944**</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>.115</td>
<td></td>
</tr>
<tr>
<td>VIF value, highest</td>
<td>1.531</td>
<td></td>
</tr>
</tbody>
</table>

n=137

Note: *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10

Model 13 (n = 137) shows that connectedness significantly positively moderates the relationship of ambidextrous sustainability and economic sustainability performance. Furthermore, ambidextrous sustainability had no significant relationship with economic sustainability performance. The control variables Firm Size (Ln) and Year had a significant positive relationship on economic sustainability performance. Indicating that the bigger the organisation the better economic sustainability performance. Furthermore, if the organisation’s annual report was from 2017 they performed better in economic sustainability performance. The variation of the independent variables explains 11.5 percent of the variation in the dependent variable economic sustainability performance ($R^2 = 0.115$).

In Figure 2. Standardised Two-Way Interaction Effects Economic Performance we can see that a high grade of connectedness increases the economic sustainability performance in relation with ambidextrous sustainability. Furthermore, we see that a low grade of
connectedness does not moderate the relationship between ambidextrous sustainability and economic sustainability performance to the same degree as a high grade of connectedness does. A low degree of connectedness seems to have a reverse effect on the relationship ambidextrous sustainability and economic sustainability performance. Indicating that an organisation not having a relational density of social networks within the organisation (Sheremata, 2000) can decrease the economic sustainability performance whether the organisation is ambidextrously sustainable or not. The model showed a statistical significance on a level of \( p < 0.1 \), and the moderating variable had a significance value of \( 0.091 \).

![Figure 2. Standardised Two-Way Interaction Effects Economic Performance](image)

In Model 14 \( (n = 100) \), we removed outliers in the variable Firm Size (Ln) and only included organisations that reported their annual reports by themselves. When we removed the outliers the F-value increased. The F-value increased from \( 5.815^{***} \) to \( 6.747 \), indicating that the variety of the answers increased when we removed the outliers. We can see a significant positive relationship between ambidextrous sustainability and environmental sustainability performance which is significant negatively moderated by centralisation. Furthermore, the control variable CEO has a significant negative relationship with environmental sustainability performance. The control variable No. of Apartments has a strong significant positive relationship with environmental sustainability performance. Indicating that the more apartments an
In Figure 3, Standardised Two-Way Interaction Effects Environmental Performance we can see that a high grade of centralisation has a weak positive implication on Environmental Performance in relation to ambidextrous sustainability. While low centralisation appears to moderate the relationship to a greater degree. However, we can see that both a high and low degree of centralisation together with high ambidextrous sustainability increases environmental performance. Thus, where decision making belongs to a few in the upper levels of the firm (Mihalache et al., 2014), there is still a weak positive effect on environmental performance. Also, with low centralisation where decision making might be spread beyond this selected group of people there is shown to be a greater impact on performance, however, this is only significant in a highly ambidextrous organisation. The model showed a statistical significance on a level of \( p < 0.1 \), and the moderating variable had a significance value of \( 0.096 \).
Figure 3. Standardised Two-Way Interaction Effects Environmental Performance
5. Conclusion of Dissertation

In this final chapter, the dissertation will be summarised and concluded. We will present our findings along with discussion and reflections on the findings and non-findings. Furthermore, we will argue for the dissertation contributions and suggest implications for future research.

5.1 Summary of the Dissertation

The purpose of this dissertation was to discover whether an ambidextrous orientation of ‘sustainability resources’ positively affected sustainability performance of municipal housing corporations. And to learn if this relationship was being moderated by centralisation and connectedness of decision making. We aimed at contributing to theory by developing a new concept of ‘ambidextrous sustainability’. Furthermore, we aimed at contributing methodologically with a measure of sustainability performance. The investigation was based on two theories: The stakeholder theory (Friedman, 1970; Freeman, 1994; Dyllick and Hockerts, 2002), and organisational ambidexterity (Duncan, 1979; March, 1991; Lubatkin et al., 2006). Furthermore, the concepts of sustainability (Hörisch et al., 2014), as well as centralisation and connectedness (Finkelstein and Hambrick, 1996; Mihalache et al., 2014), have been used in the dissertation. A quantitative method was utilised to frame the model used in this research, comprising of primary data collected through an online-survey as well as a content analysis of annual reports. A total of 141 different organisations responded and were used in the analysis from our total population of 313 organisations. In total three hypotheses were tested, out of which one was found to be supported.

The analysis confirmed that organisational ambidextrous sustainability is positively related to sustainability performance, thus supporting H1 since ambidextrous sustainability shows positive results in all three categories measured within sustainability performance. What is more, there is a positive relationship between organisational ambidextrous sustainability and the total sustainability performance.

The analysis showed that the moderating effect of centralisation did not negatively moderate the relationship of organisational ambidextrous sustainability linked to sustainability performance. Thus, H2 was not supported. Furthermore, centralisation did not moderate the relationship between organisational ambidextrous sustainability and
sustainability performance at all, neither positive nor negative. However, in a post-hoc multiple linear regression, a significant negative moderating effect of centralisation was found on the relationship between ambidextrous sustainability and environmental sustainability performance. The analysis showed that the moderating effect of connectedness did not positively moderate the relationship between organisational ambidextrous sustainability and sustainability performance. Thus, H3 was not supported. Furthermore, connectedness had no significant moderating effect on the relationship between organisational ambidextrous sustainability and sustainability performance at all, neither positive nor negative.

### 5.2 Discussion and Reflections of the Findings and Non-Findings

Stakeholder theory has evolved significantly from its early beginnings (Friedman, 1970) and has been argued by many researchers to be the catalyst for the sustainability context within business (Freeman, 1994; Dyllick and Hockerts, 2002; Hörisch, Freeman, and Schaltegger, 2014). Furthermore, inspiration came from organisational ambidexterity (March, 1991; Duncan, 1979;) which claims being balanced between the exploitation and exploration of resources leads to performance outcomes. The concept of centralisation and connectedness of decision making has been shown to resolve tensions in TMT teams (Finkelstein and Hambrick, 1996) and fosters ambidexterity in firms (Mihalache et al., 2014), therefore we were inspired to test whether centralisation and connectedness had a moderating effect on the relationship between ambidexterity and sustainable performance.

One of the findings from our analysis is that organisational ambidexterity theory and the concept of sustainability can be successfully combined, thus creating a new concept of organisational ambidextrous sustainability. Therefore, supporting the theoretical argumentation that has been made in this dissertation, for such a concept. According to March (1991) among many others (see. Duncan, 1979; Levinthal and March, 1993), ambidexterity leads to firm performance outcomes. Ambidexterity as a concept evolved in the private sector and has since been transferred into the public sector (see. Bryson et al., 2008; Boyne and Walker, 2010; Smith and Umans, 2015) showing the same result as in the private sector, showing a link to performance outcomes. With the finding from this
dissertation testing ambidexterity towards sustainability resources it has also been empirically proven to positively affect sustainable performance outcomes of the firm in public sector, thus supporting H1. Therefore, striking the balance between exploitation and exploration of sustainability resources leads to sustainability performance. This could indicate a new strategic sustainability approach for organisations. How then could the balance of the sustainability resources be allocated? We use Hahn and Scheermesser (2006) to argue for how the balance of sustainability resource allocation could appear to be. According to Hahn and Scheermesser (2006) categorisation of organisations who perform sustainably, ‘environmentalist’, is indicated as finding the balance of sustainability resources leading to superior sustainability performance (Hahn and Scheermesser, 2006; Lubatkin et al., 2006). Environmentalists were motivated by brand image reputation or cost savings as well as benchmarking which includes both exploitation in cost savings and exploration in finding innovative ways of developing the brand image and benchmarking against other organisations (Hahn and Scheermesser, 2006). On the other side, the sustainability leaders saw their contribution to go beyond their core business activities which can be drawn to the exploration of sustainability resources only. While the traditionalist who were motivated by public relations and image reasons preserves the societal pressure in a confirmatory way that draws similarities to exploitation of resources only (Hahn and Scheermesser, 2006; Caprar et al., 2012). This new approach in the balance of sustainability resource allocation sheds more light on the debate of strategic management in public sector and provides a useful argument for further exploring this area.

This dissertation did not find any moderating effect of centralisation on the relationship between organisational ambidextrous sustainability and sustainability performance. Thus, our H2 was not supported. Choi and Chandler (2015) argued that structural aspects were a necessity to balance exploitation and exploration, which we cannot confirm. This could be because structural ambidexterity relies on top-down interventions and management to maintain consistency of organisational ambidexterity and innovations (Boukamel and Emery, 2017), when in fact, according to Borins (2002) there is evidence that shows bottom-up processes occur more frequently in the public sector than top-down, thus potentially dissipating the moderating role of centralisation. What is more, bottom-up processes are indicators of a contextual approach to ambidexterity which sets up flexible
working arrangements, involves many stakeholders and leads to cooperation with other organisations (Boukamel and Emery, 2017). Leading us to the other non-finding of this dissertation that connectedness had no moderating effect on the relationship between organisational ambidextrous sustainability and sustainability performance. Thus, our H3 was not supported. The fact that connectedness had no moderating effect on the relationship between organisational ambidextrous sustainability and sustainability performance can be drawn to the type of organisations that have been examined as well as the organisational culture. One can argue that Sweden being well known for their collaborative environment (McGuire, 2003) already has structural connectedness so deeply embedded in the culture that it shows no moderating effect. Furthermore, our findings could reveal that contextual ambidexterity is more appropriate than structural ambidexterity for moderating factors relating to firm performance in the Swedish public sector, as discussed earlier in reference to centralisation, in line with (see: Boukamel and Emery, 2017).

Judge and Blocker (2008) argues that organisational slack could have an important moderating effect on organisational ambidexterity, whereby, organisational slack provides an opportunity to minimise political behaviour. SABO, the governmental organisation, working closely with the municipal housing organisations, can have a significant moderating effect on the ambidextrous sustainability, since SABO is a key stakeholder in this context. This could imply that governmental organisations with such power, might have a moderating effect of organisational ambidextrous sustainability in the general public sector. While significant in the private sector the structural instruments we used had less significance once transferred to the public sector, therefore we can conclude these instruments have not been fully investigated in the context of ambidexterity within the public sector. Another explanation could be that we did not sample the whole population which could have given another result. Furthermore, other control variables could be one reason that would result in a different conclusion.

Exploring the data in order to further look for interesting findings led to three additional Post-Hoc tests. One interesting finding, which should be taken with careful consideration due to a perceptual measure, was that inclusion of all stakeholders in the decision-making on senior level had a significant positive correlation with sustainability performance (see. Table XII. Post-Hoc Pearson Correlation Matrix). We can, therefore, support prior
literature arguing that including all stakeholders will lead to sustainability performance (Epstein and Widener, 2010; Asif et al., 2013; Gelderman et al., 2017). What is more, in line with (Smith and Umans, 2015) we confirm that a stakeholder approach in the organisation is positively correlated with ambidexterity and also with ambidextrous sustainability. An explanation for this, could be the ability to balance both the exploitation and exploration of resources which leads to a broader perspective where the organisation can include more stakeholders in their decision-making. Moreover, we see that inclusion of all stakeholders is positively correlated with social sustainability performance, and economic sustainability performance. However, inclusion of all stakeholders had no significant correlation with environmental sustainability performance. This can be explained by the argument that the environment is not considered as a stakeholder (Philips and Reichart, 2000). However, some researchers argue that the environment should be considered as a stakeholder (see. Stead and Stead, 2008; Driscoll and Starik, 2004). Which then could indicate that by including the environment as a stakeholder, in line with (Stead and Stead, 2008; Driscoll and Starik, 2004), could possibly lead to better environmental performance.

5.3 Contributions

This dissertation had a number of contributions in terms of theoretical, methodological, and empirical. In each respective headline we will present the contributions from this dissertation.

5.3.1 Theoretical Contributions

This dissertation has contributed to the research with a link between the theory of organisational ambidexterity and the concept of sustainability resulting into a new concept of organisational ambidextrous sustainability. Furthermore, we contribute to the field within public sector research to shed more light on the concept of organisational ambidexterity as it has rarely been examined (Umans et al., 2017). With the theoretical contribution of ambidextrous sustainability, we suggest that more researchers embrace the concept of ambidexterity into different contexts in the public sector and further build on ambidextrous sustainability. The theoretical insights of ambidextrous sustainability are important for organisations to balance the allocation of their sustainability resources
and optimise performance. We further expand the ambidexterity literature in the public sector by putting ambidexterity into new contexts.

What is more, the contribution of a new strategic approach both in the private but mostly in the public sector. This dissertation provides the field of research with useful insight to the public-sector management and the recently blown-up focus on strategic management research in the public sector (Umans et al., 2017). Furthermore, we see that governmental organisations, such as SABO, are significant stakeholders and might have a moderating effect on public sector organisations, as indicated in our study. This could indicate that public sector research could put more attention in this stakeholder approach when governmental organisations, like SABO, works closely with public sector organisations.

5.3.2 Methodological Contributions
The content analysis of this dissertation provides a methodological contribution to the field of research where the three factors of the triple bottom line together created a total sustainability performance measurement. Therefore, by undertaking a content analysis of the annual reports based on key-words contained within the wider framework of TBL-Economic, Environmental and Social, and using this as the objective create the total sustainability performance for analysis we impart our contribution methodologically. Previously, researchers which used the TBL as the measure in a content analysis have only included social and environmental factors (see. Archel and Fernández, 2008) where we also regarded the economic aspect of the TBL. Thus, including the economic sustainability aspect as part of the economic aspect, we have laid the ground for a new way of analysing sustainability performance with the help of TBL. Furthermore, we took a sector-based approach derived from the governmental organisation’s recommendations of sustainability (SABO, 2018). Fauzi et al., (2010) argues that TBL as a sustainability performance measure should be an element over time and context. In accordance to Fauzi et al., (2010) and this research, it might be crucial to develop a measure in regard to time and context to get the best reliable measure.

A contribution to the field of sustainability is provided where we have been breaking down sustainability with the help of TBL to measure performance. The only other use we found of this method was used in the public sector examining suppliers, and specifically the supply chain (see. Spence and Rinaldi, 2014). To the best of our knowledge, there is
no research using TBL as the total sustainability performance, therefore, this research gives insights into utilising TBL as the total sustainability performance.

Another methodological contribution of this dissertation is the emergence of the new concept of ambidextrous sustainability and how it can be measured. We got inspiration from Lubatkin et al.,’s (2006) measure of exploitation and exploration of resources to be organisational ambidextrous, and further embraced the theory into the concept of sustainability. Therefore, this dissertation provides a methodological contribution on how to measure ambidextrous sustainability.

5.3.3 Empirical Contributions
The empirical contributions of this dissertation consist if its contribution to the field of organisational sustainable development and ambidexterity of resources. Previous research, to the best of our knowledge, has not combined these two concepts of ambidexterity of resources and sustainability together. Furthermore, the content analysis, whereby words were counted in line with social, economic or environmental reporting, developed an entirely new approach to measuring sustainable performance, to the best of our knowledge.

5.4 Suggestions for Future Research
We hope this inspires other researchers to continue to explore the relationship between ambidexterity of sustainability resources and positive sustainable performance of a firm. One suggestion, now that we know that ambidextrous sustainability leads to sustainability performance, is to look into the private sector and in other industries. Furthermore, a suggestion could be to examine whether there’s a difference in organisational ambidexterity and organisational ambidextrous sustainability. As we found out, that neither centralisation nor connectedness moderated the relationship between ambidextrous sustainability and sustainability performance. Choi and Chandler (2015), stated that strategy and structure should be aligned to enhance effectiveness of adoption and implementation of government innovation. Thus, by investigating what type of organisational structures, that moderates the relationship, organisations can implement ambidextrous sustainability to perform even better in sustainability. One suggestion for a moderating variable could be to examine how the coalition of different political parties is
represented in the board. Choi and Chandler (2015) argued that public sector has an advantage by the non-competitive environment which could lead to public sector organisations easily forming strategic alliances. Leading to another suggestion to investigate how networking through the governmental organisation in the respective industry, in this case SABO, could possibly relate to ambidextrous sustainability and sustainability performance. Furthermore, how the institutional pressure from such a governmental organisation affects the organisations ambidextrous sustainability.

Another suggestion for future research is to see how balance of stakeholders relates to balance of sustainability resources in an organisation. Since we found that inclusion of all stakeholders positively correlated with ambidextrous sustainability, and used the triple bottom line (Social, Economic, and Environmental) as the sustainability performance. We used the added amount of words in all three categories, one could instead look for a balance between Social, Economic, and Environmental. Whether a balance gives the same result as inclusion or even better.

5.5 Limitations

One limitation of this dissertation is that it is hard to get multiple responses from organisations. We surveyed top management team members in municipal housing organisations and in some cases only got one member in the TMT participating from the organisations. However, it was a deliberate choice to use only one - the most senior respondent - from the TMT in the analysis because the focus of this paper is to determine the strategic actions of the organisation, therefore only needing the senior respondent. Furthermore, it is argued that when surveying individuals there might be a respondent bias. This was overcome, by using both perceptual and objective data in the way of survey of TMT and a content analysis on annual reports. Another limitation is that the constructs used came from literature within the private sector and not public sector. This limitation applies to the measurement of ambidexterity where exploitative and explorative innovation sub-constructs were used. This was overcome by adjusting the terminology to better fit the context of public sector. Despite its limitations, this dissertation acts as a point of departure for further exploration of organisational ambidextrous sustainability as an emerging concept.
5.6 Concluding Comments
The research tries to shed light on whether a strategic balance of sustainability resources of an organisation would have a direct positive effect on sustainability performance of the organisation. The use of the ambidexterity and sustainability resources in combination was new but put together in this study to see what the impact and potential relationship would turn out to be. As we found out that organisational ambidextrous sustainability had a positive relationship with sustainability performance but with no moderating effect of centralisation and connectedness we changed our research model into a concluded one (see. Appendix 3. Figures – Figure 3. Concluded Research Model). By putting the concluded model into a visualisation, we hope to provide a better understanding of the result of this dissertation. The moderating effect of centralisation and connectedness showed to have a correlation with organisational ambidextrous sustainability, in line with previous literature (see. Sheremata, 2000; Chang et al., 2011; Mihalache et al., 2014). However, organisational slack has been discussed as a possible moderator in public sector due to its effect on minimising political influence. By investigating further possible moderators between ambidextrous sustainability and sustainability performance, more knowledge may be generated towards this field of research as well as providing organisations with better strategic alternatives to increase sustainability performance.
References


Hej!


Tack för er medverkan.

Med vänliga hälsningar, Joshua Maine, Oskar Svensson & Handledare: Timurs Umans

1. **Var vänlig ange hur mycket du anser att följande variabler appliceras i er organisation på en 7-punktsskala där 1 = Inte alls till 7 = Väldigt mycket.** *
   - Vår organisation integrerar hållbarhet med vår huvudsakliga strategi
   - Ledningsgruppen i vår organisation stödjer hållbarhetsarbete
   - Vår organisation besitter förmågan att kunna utvärdera förmåner/förluster relaterade till hållbarhet
   - Vår organisation besitter förmågan att kunna bedriva hållbarhet

2. **Vilket år är du född?**

3. **Din högsta avslutade utbildningsnivå?**
   - Gymnasieexamen
   - Högskolepoäng, ingen avklarad examen
   - Yrkesutbildningsexamen
   - Kandidatexamen
   - Magisterexamen
   - Masterexamen
   - Filosofie Kandidat

4. **Vilken är din position i organisationen?**

5. **Hur många år har du varit i din nuvarande position?**

6. **Hur många anställda har företaget?**

7. **Hur många medlemmar sitter i ledningsgruppen?**

8. **Var vänlig ange hur följande påståenden reflekterar ert företag de senaste 3 åren på en 7-punktsskala där 1 =**
   - Inte alls till 7 = Väldigt mycket. *
   - Vår organisationsstruktur tillåter utrymme för implementering av hållbarhet
Vår organisation gör det lätt för anställda att komma med egna idéer och driva på hållbarhetsarbete
Vi anser oss att vara drivna av etiska och moraliska skäl
Vi inkluderar alla intressenter i de beslut vi tar på seniornivå

9. Var vänlig ange hur följande påståenden reflekterar din organisations orientering de senaste 3 åren. 1 = Inte alls till 7 = Väldigt mycket *
Söker efter hållbara teknologiska idéer genom att ”tänka utanför boxen”
Baserar sina framgångar på förmågan att undersöka nya hållbara teknologier
Skapar produkter och tjänster som är hållbara för företaget
Söker efter hållbara lösningar för att tillfredsställa era kunders behov
Aktivt satsar på nya hållbara marknader
Aktivt marknadsföra hållbarhet för nya kundgrupper

10. Var vänlig ange hur följande påståenden stämmer överens med ert företag på en 7-punktsskala där 1 = Inte alls till 7 = Stämmer precis. *
Våra anställda kan utforma sina egna arbetsrutiner
Våra anställda är fria till att använda vilka metoder de vill för att utföra sitt arbete
Våra anställda kan påverka schemaläggningen av stora aktiviteter
Våra anställda kan justera sina målsättningar självständigt/individuellt
Våra anställda kan påverka vilka mål som ska uppnås
Våra anställda har inflytande på hur vår prestation utvärderas/mäts

11. Var vänlig ange hur följande påståenden reflekterar din organisations orientering de senaste 3 åren. 1 = Inte alls till 7 = Väldigt mycket *
Engagerar sig i att förbättra kvalitén i hållbarhet och att sänka kostnader
Kontinuerligt utvecklar pålitligheten i hållbara produkter och tjänster
Ökar nivån av automation i den hållbara affärsverksamheten
Kontinuerligt undersöker kunders nöjdhet med våra hållbara produkter och tjänster
Finjusterer existerande hållbara erbjudanden för att bibehålla befintliga kunders nöjdhet
Dyka djupare ner i den existerande kundbasen vad gäller våra hållbara produkter och tjänster

12. Var vänlig ange hur följande påståenden stämmer överens med ert företag på en 7-punktsskala där 1 = Inte alls till 7 = Stämmer precis. *
I vår organisation finns det gott om möjligheter för de anställda att ha informella samtal vid ”kaffemaskinen”
Anställda från olika avdelningar känner sig bekväma med att kontakta varandra när behov uppstår
Personer i företaget är tillgängliga för varandra
Det är lätt att prata med, i praktiskt taget vem som helst oavsett rank eller position
Appendix 2. Questionnaire – English Translation

Governmental Housing Strategy Survey

Hello!
Thank you for contributing to our survey. We treat all responses confidentially where you as respondents remain anonymous. The survey takes about 8-10 minutes. You can cancel whenever you want if you no longer want to participate. You can also resume participation on another occasion. However, we will close the survey on 9 May, 8:00 PM.
Thank you for your participation.
Best regards, Joshua Maine, Oskar Svensson & Supervisor: Timurs Umans

1. Please assess how the following statements reflect your firms’ orientation during the past 3 years using a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree.
   - My organisation integrates sustainability with overall strategies
   - Top management in our organisation supports sustainability
   - My organisation possesses an ability to evaluate sustainability-related benefits/losses
   - My organisation possesses an ability to manage sustainability

2. What year were you born?

3. What’s your highest completed education level?
   - High-School Diploma
   - College Credits, No complete degree
   - Vocational Diploma
   - Bachelor’s Degree
   - Master’s Degree (1 Year)
   - Master’s Degree (2 Years)
   - PhD Degree

4. What is your position in the organisation?

5. How many years have you been in your current position?

6. How many employees does your organisation have?

7. How many members does your TMT-group consists of?

8. Please assess how the following statements reflect your firms’ orientation during the past 3 years using a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree.
   - Our organisational structure is constructed to ease implementation of sustainability
   - Our organisational structure is constructed to ease for employees to come up with their own ideas and drive forward for sustainability activities
   - We as an organisation consider ourselves be driven by ethical and/or moral reasons
   - We include all stakeholders in decisions made at senior-level
9. Please assess how the following statements reflect your firms’ orientation during the past 3 years using a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree.

Looks for novel technological sustainability ideas by thinking “outside the box”
Bases its success on its ability to explore new sustainability technologies
Creates products or services that are innovative in sustainability to the firm
Looks for creative ways in sustainability to satisfy its customers’ needs
Aggressively ventures into new sustainability market segments
Actively targets new sustainability customer groups

10. Please assess how the following statements reflect your firms’ orientation during the past 3 years using a 5-point scale ranging from 1 = strongly disagree to 7 = strongly agree. (Centralisation of decision making (Breaugh, 1985))

(1) Employees can develop their own work procedures
(2) Employees are free to choose the methods to perform their work
(3) Within our organization, employees can affect the scheduling of major activities
(4) Employees can adjust their goals independently
(5) Within our organization, employees can affect what goals should be achieved
(6) Employees have influence on how our performance is evaluated

11. Please assess how the following statements reflect your firms’ orientation during the past 3 years using a 5-point scale ranging from 1 = strongly disagree to 7 = strongly agree.

Commits to improve quality and lower costs in sustainability
Continuously improves the reliability of its sustainability products and services
Increases the levels of automation in its sustainability operations
Constantly surveys existing customers’ satisfaction of our sustainability products and services
Fine-tunes what it sustainability offers to keep its current customers satisfied
Penetrates more deeply into its existing sustainability customer base

12. Please assess how the following statements reflect your firms’ orientation during the past 3 years using a 5-point scale ranging from 1 = strongly disagree to 7 = strongly agree. (Connectedness (Jaworski and Kohli, 1993))

(1) In our organization, there is ample opportunity for informal ‘hall talk’ among employees
(2) Employees from different departments feel comfortable calling each other when the need arises
(3) People around here are accessible to each other
(4) In this organization, it is easy to talk with virtually anyone you need to, regardless of rank or position
Appendix 3. Covering Letter

Appendix 3.1 Swedish

Hej,


Enkätlänk: [ENKATLINK]

Med vänliga hälsningar
Joshua Maine
Oskar Svensson

Handledare: Timurs Umans

Remainder:

Hej,

Detta är en påminnelse om deltagande i vår enkät. Vi skulle uppskatta väldigt mycket om ni tar er tid och svarar på vår enkät.


Enkätlänk: [ENKATLINK]

Med vänliga hälsningar
Joshua Maine
Oskar Svensson

Handledare: Timurs Umans

Appendix 3.2 English

Hello,

This is a reminder of participation in our survey. We would appreciate a lot if you take your time and answer our survey.

We are two master students from the University of Kristianstad who are currently writing the master thesis. We investigate how different management strategies affect the organization's performance. We would be very grateful if you respond to this questionnaire so that we get the best results possible. Both you as individuals as well as organisation will be made anonymous in the essay. We treat all responses with high privacy. Thanks in advance!

Survey Link: [ENKATLINK]

Sincerely
Joshua Maine
Hello,

This is a reminder of participation in our survey. We would appreciate a lot if you take your time and answer our survey.

We are two master students from the University of Kristianstad who are currently writing the master thesis. We investigate how different management strategies affect the organization's performance. We would be very grateful if you respond to this questionnaire so that we get the best results possible. Both you as individuals as well as organisation will be made anonymous in the essay. We treat all responses with high privacy. Thanks in advance!

Survey Link: [ENKATLINK]

Sincerely

Joshua Maine
Oskar Svensson

Supervisor: Timur Umans
Appendix 4. Figures

Figure 4. Concluded Research Model