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The influences of China's circular economy on Swedish companies

- a multiple case study of Swedish companies' work towards
circular economy in China and Hong Kong

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The Influences of China's circular economy on Swedish companies - a multiple case study of Swedish companies' work towards circular economy in China and Hong Kong

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Abstract

As the human ecological footprint is increasing and human consumption is disrupting the natural ecosystem, the need for change towards sustainable development has never been more pressing. Due to globalisation, the impacts of consumption are not limited to a country's border but rather an issue that influences the whole world. Historically have companies moved much of their production to countries with more financially beneficial conditions where China has been one of the main destinations. This has led to China becoming a major global player, where much of the world's unsustainable manufacturing is happening. The companies that are contributing to this unsustainable development are now demanded by their stakeholders to take more responsibility for their impacts. A way to do this is to leave the traditional linear economy and work towards a circular economy instead. Circular economy has developed differently, depending on geographic location. It can be seen that within Europe, the concept has developed through a bottom-up approach where the market has been the main impeller for change. In China, circular economy has developed from a governmental direction, a top-down approach, where policies and regulations are the main drivers. Within this context, there are Swedish companies active in both the Chinese and European circular economy context and this could influence their work towards circular economy.

Research on circular economy in China has mainly focused on macro and meso level, leaving the micro level less explored. Therefore, this study is conducted through a micro perspective and with the aim to gain a better understanding of how China's approach towards circular economy is influencing Swedish companies in China and Hong Kong. This aim is met by conducting a qualitative, multiple case study on Swedish companies that are active in China and Hong Kong. The data is collected through semi-structured interviews and is analysed with the guidance of the theoretical framework based on operational drivers and barriers for companies to work with sustainability and circular economy. The study's key findings are that sustainability and circular economy is complex and that the external factors; government, customer demand and public awareness seem to be more influential than the internal factors. The government is seen to be both a driver and a barrier, which can indicate that the government has an important role in the context of circular economy in China. The government has, through regulations, increased access to information and improved industries environmental performance. However, the government is not viewing circular economy through a holistic perspective which is seen to become a barrier for the companies' sustainability work. The customer demand & public awareness are also external factors, identified by all companies to be influencing both their work but also the internal drivers and barriers to work with circular economy. The customer demand is mainly coming from the European market, whereas it is the low public awareness in China that still poses as a barrier for the companies. This further emphasizes that these external factors importance when analysing the influences of China's circular economy approach on these companies.

Furthermore, the study confirms the view that the concept circular economy is adaptive and changes depending on what context it is applied to. This is because it is seen that the companies are influenced by both the European and the Chinese context within their business practices and that the work towards circular economy differs between each company. Based on this, it can be seen that circular economy is a complex issue influenced by its context and in order for it to be further implemented, complex solutions are needed.

Sammanfattning

I och med att det mänskliga ekologiska fotavtrycket ökar och att dagens konsumtionsmönster stör de naturliga ekosystemen, har behovet av förändring för en hållbar utveckling aldrig varit mer brådskande. Den globalisering som skett har lett till att effekterna av överkonsumtionen inte bara har nationella effekter utan även globala. Historiskt sett har företag valt att flytta sin produktion utomlands, till länder med mer fördelaktiga villkor, där Kina har varit en utav huvuddestinationerna. Denna utveckling har gjort Kina till en betydande global marknadsaktör, som påverkar internationella företag och deras arbete på den kinesiska marknaden. Dessa företag har allt eftersom medvetenheten ökar, fått högre krav på sitt hållbarhetsarbete från sina intressenter och är därmed en viktig aktör för att driva en hållbar utveckling framåt. Ett sätt för företag att arbeta med detta i praktiken är att ställa om till cirkulär ekonomi från den traditionella linjära ekonomin. Cirkulär ekonomi som koncept har utvecklats på olika håll i världen men med grundtanken att förändra resursflödet till cirkulära processer som minimerar uppkomsten av avfall. I Europa har utveckling främst skett utifrån marknads- och företagsinitiativ, samtidigt som i Kina har utvecklingen skett genom statliga initiativ och lagkrav. Internationella företag som är aktiva både i Europa och Kina kan därmed bli påverkade av båda dessa kontexter och även influera hur de väljer att ta sig an cirkulär ekonomi.

Studier på cirkulär ekonomi i Kina har huvudsakligen fokuserat på makro- och meso-nivå, vilket har lett till att mikro-nivån är ett relativt utforskat område. Denna studie ämnar till att ur ett företagsperspektiv analysera hur svenska företag aktiva på den kinesiska marknaden påverkas av att arbeta i en multinationell kontext i deras arbete med cirkulär ekonomi. Syftet med studien är att skapa en ökad förståelse av hur den kinesiska cirkulär ekonomi-kontexten påverkar arbetet för cirkulär ekonomi för svenska företag aktiva i Kina och Hong Kong.

Syftet uppfylls genom en kvalitativ, flerfallstudie av fem svenska företag i Kina och Hong Kong. Informationen samlas in genom semi-strukturerade intervjuer och analyseras med hjälp utav ett teoretiskt ramverk baserat på operativa faktorer - drivkrafter och barriärer – för företag att arbeta med hållbarhet och cirkulär ekonomi. Det påvisas i studien att de externa faktorerna; staten, kundefterfrågan och allmänna medvetenheten är de faktorer med störst inflytande på företagets arbete med cirkulär ekonomi. Detta baseras på att flest företag identifierade dem som drivkrafter eller barriärer samt att de externa faktorerna även påverkade de interna drivkrafterna och barriärerna. Staten är identifierad som både en drivkraft och en barriär, vilket antyder att den kan ha en stor påverkan på hur företag arbetar med cirkulär ekonomi. Kundefterfrågan och den allmänna medvetenheten visade sig enligt studien inte bara påverka företagets hållbarhetsarbete i sig, men även hur de interna faktorerna influerade företagets arbete. Resultatet av denna studie indikerar även att cirkulär ekonomi och hållbarhet är komplexa koncept som både är adaptiva och dynamiska beroende på vart och vem som använder dem. Detta är på grund av att företagets arbete med cirkulär ekonomi varierar beroende på vilket företag och att företagen influeras av både den europeiska och den kinesiska kontexten. Därmed går det inte att dra slutsatsen att företag är influerade enbart av den ena eller den andra kontexten, utan formas och anpassas utefter företagets unika situation. Slutligen visar studien på att företag aktiva i multinationella kontexter påverkas av sin omgivning men även att för att arbeta med cirkulär ekonomi krävs komplexa tillvägagångssätt.

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1 Introduction

In this chapter the background of this study is described together with the empirical and theoretical problematization and the relevance of this study for the field of business administration. Furthermore, are the aim and research questions stated along with the disposition of the study.

1.1 Background

The global population is leaving an ecological footprint which is leading to scarcities of natural resources, declining biodiversity and increasing climate change (WWF, 2018). The ecological footprint is a measure of the global consumption of natural resources and its impacts and this measure has increased by 190% during the past 50 years (ibid.). All of this is due to overconsumption of natural resources in order to satisfy the human need for energy, agricultural land and virgin resources (ibid.). If the current consumption and production patterns continue, it is estimated that by 2030, the human population will use over two times more natural resources than the planet can produce, and the ecological footprint will continue to have devastating effects. Because of this overuse of resources, a change of trajectory for global development is needed in order to move towards a more sustainable future. Sustainable development is defined in the Brundtland report as “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” (WCED, 1987). For the world to move towards sustainable development and not risk an ecological collapse, businesses must take responsibility for their environmental impact and move towards more circular resources flows and sustainable practices (Joyce & Paquin, 2016). Since the industrial revolution, mass production has made cheap products available to more people (Lieder & Rashid, 2016). These products are produced to be used in linear resource flows where little focus is on the products afterlife or how it can be recycled which leads in a constant increase in the use of virgin natural resources (Murray, Skene & Haynes, 2017).

Mass production increased even more through globalization, where cross-border flows of resources increased and trade between countries made products accessible all around the globe (Baldwin & Lopez-Gonzalez, 2015). Due to this, many international companies chose to move their production to more economically beneficial markets, such as China, where labour costs and environmental regulations are lower than on the domestic market (ibid.). This has led to China becoming the largest exporter in the world in 2017 (Desjardins, 2018a) and the second largest importer (Desjardins, 2018b). Globalization does not only lead to restructuring of supply chains but it also changes business practices, as companies have to comply with both domestic and foreign contexts (Li & Zhang, 2008). As China’s influence on the world economy is increasing, other nations and internationally active companies are developing strategies for how to adapt this change. Sweden, among other countries, has started to develop such plans where strategies for cooperation and trade is included (Wallström, 2019). This development could also affect multinational companies with both demand and production in China. The complexity of the situation might lead to firms being forced to assess themselves as global players and see that they are acting within multiple contexts (Li & Zhang, 2008). It can, therefore, be seen that China will influence how companies active in multinational contexts conduct business.

As globalisation is continuing to shape the world, the demands on companies are changing and the demand for better environmental performance and resource efficient products is increasing (Porter & van der Linde, 1995a). Due to this, companies have to adapt to these demands and respond to the pressure from their stakeholders to adopt more sustainable business practices (ibid.). Therefore, since companies are a large part of globalisation and societal development, they also have a crucial role to play in order to combat the issues of unsustainable development

(Joyce & Paquin, 2016). In order to meet the demand for sustainable business practices, companies should develop a deeper knowledge and strategies for how to mitigate their environmental and social impact (ibid.). This knowledge should be incorporated throughout the organisation, including their core business practices and affect how business is conducted in the future (Porter & Kramer, 2006).

One approach identified by businesses and governments to tackle sustainability challenges associated with transitioning to a more sustainable development is through leaving the linear resource flows and adopting a circular economy (CE) (Merli, Preziosi & Acampora, 2018). CE aims to decouple economic development from resource depletion and environmental degradation (Murray, et al., 2017). While there is no unified definition of CE, Merli et al. (2018) define it as a closed-loop system aiming to maintain the value of the resources, materials and products for within the economy for as long as possible. The Ellen MacArthur Foundation (2013, p. 7) defines CE as “*an industrial system that is restorative or regenerative by intention and design*”. The definition of CE changes depending on its application (Merli, et al., 2018). However, what is consistent is the view of closing the loop of resources and the reconnection between the natural ecosystem and the economic system (ibid.).

The development of CE happens worldwide – e.g. Europe and China - and the application of CE vary from country to country (Murray, et al., 2017; Ghisellini, Cialani & Ulgiati 2016). In Europe, the focus has been on recycling, recovery and prolonging the lifecycle of materials and products (Elia, Gnoni & Tornese, 2017). Europe’s development of CE has mainly been driven by a bottom-up approach, where the main impeller has been the market demand and companies own initiatives to drive the change for CE (Ghisellini, et al., 2016; European Commission, 2015). In China, the focus has been on national regulations in which eco-parks and industrial symbiosis are created as an effort from the government to create closed-loop systems (Elia, et al., 2017). The Chinese government’s aim is to change the whole socioeconomic system towards CE, where change is intended to be implemented on macro, meso and micro level (Su, et al., 2013). This development can be seen as more of a top-down approach, where the government is the main impeller for the implementation of CE (Mathews & Tan, 2011). The way the Chinese government has chosen to address CE does not only affect the Chinese market but also the rest of the world due to China’s large presence on the global market (Baldwin & Lopez-Gonzalez, 2015). Companies operating within both the European and the Chinese context stand before the challenge of understanding the Chinese CE context and how this can affect their own business practices towards CE.

1.2 Problem statement

Due to the Chinese legislation of CE and the goal to change the whole socioeconomic system, companies’ way of operating and conduct business in China, is affected (Su, et al., 2013). On a micro-level, companies are encouraged, but not required, to incorporate ways for products to better fit into a circular system, based on the principals of reduce, reuse and recycle (Yong, 2007). This could affect the drive of Chinese firms to adopt more sustainable business practices and it could also be influenced by other factors for companies to work with CE (Su, et al., 2013; Engert, et al., 2016; Geng & Doberstein, 2008a). The Chinese CE context could also affect foreign companies in multinational contexts and how they choose to incorporate CE within their business practices when working in China (ibid.). In what way this is done is relevant since China is a hub for international manufacturing and could influence how international companies on the global market work towards CE as well. Therefore, this study aims to provide a better understanding of these companies’ work towards CE and how it is influenced by the Chinese CE context. Based on the empirical background, the approach to this study is rooted in

business studies and draw upon organisational theory perspective by using the theoretical framework of operational drivers and barriers that influences companies' business practices when working with CE and sustainability. This analytical approach is mainly based on business studies done by Engert et al., (2016), Su et al., (2013) and Gouldson (2008). The reason of using this analytical lens is to provide a better understanding of CE on firm-level with focus on companies' drivers and barriers regarding CE in a multinational context.

CE and its implementation are often in the literature discussed through the levels; macro, meso and micro (Su, et al., 2013). The macro perspective focuses on national strategies and legal regulations, the meso perspective focuses on improving environmental performance through industrial parks, waste management and agricultural systems, and the micro perspective focuses on the firm performance regarding eco-design and cleaner production processes (ibid.). CE is still regarded as a young research field within business administration and most studies focus on what is being done on macro and meso level in China (Liu, et al., 2009; Yong, 2007; Geng, Fu, Sarkis & Xue, 2012). A meso study that has been done focuses on pilot cities where CE has been implemented and it reviews what effects this has had on industrial collaborations and waste management (Liu, et al., 2009; Su, et al., 2013). Few studies have looked at how companies that are active in multinational contexts are influenced by the Chinese CE policy and what other factors could influence their business practices regarding CE in China and Hong Kong. In addition, few studies focus on firm-level and the interplay between firms' business practices and the policy context they are active in (Liu, et al., 2009; Su, et al, 2013; Urbinati, Chiaroni & Chiesa, 2017). Therefore, studying CE on a micro level is motivated using an organisational theory lens since this can increase the understanding of CE from a firm's perspective. Furthermore, little research has been done on an organizational level of how European companies are working with CE in China and what factors influence their sustainability practices within this context (Ghisellini, et al., 2016). It is also relevant to look at the interplay of how Swedish companies, active in China, are influenced by the Chinese CE context since Sweden is a country with both production and manufacturing businesses in China. Therefore, in order to enrich the CE research field and to provide a better understanding of how firms work towards CE in China, more studies from a firm-perspective are needed.

1.3 Aim and research questions

This study aims to investigate how the Chinese approach towards circular economy is influencing Swedish companies that are operating in China and Hong Kong. This research builds on organizational theory perspectives within business administration and aims to provide a deeper understanding of what factors influence businesses operating in multinational contexts, such as Hong Kong and China, to work with circular economy.

1. What drivers influence Swedish companies to work towards circular economy in their business practices in China and Hong Kong?
2. What barriers influence Swedish companies to work towards circular economy in their business practices in China and Hong Kong?

1.4 Disposition

The disposition of this research is illustrated in Figure 1, which is designed to give the reader an overview of the whole study and the different chapters. The *Introduction* chapter describes the background of this research, as well as its aim and research questions. Relevant literature and the theoretical framework for this study is presented in Chapter 2 *Conceptual framework*. Chapter 3, *Methodology*, presents the chosen research design and the structure of data collection and analysis. The results from primary data collection are presented in chapter 4, *Empirical study*, and chapter 5, *Analysis*, relates all empirical data and results from data collection to the theoretical framework. The analysis is then followed by chapter 6, *Discussion*, where the analysis is related to existing literature and the stated research questions in order to be able to answer them. Finally, in chapter 7, *Conclusions*, the findings of this study are concluded, and it emphasizes the cumulative contributions that the study has compiled.

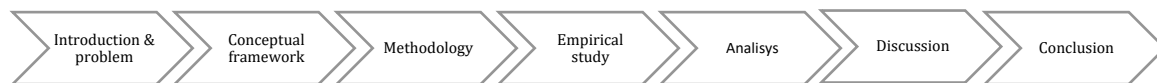


Figure 1: Illustration of the disposition of this thesis

2 Conceptual framework

This chapter contributes with a theoretical foundation for this. It provides a description of the concept CE as well as how this concept is studied in a Chinese context. Furthermore, it also describes the drivers and barriers identified for working with CE and sustainability within business operations on a firm level.

2.1 Theoretical context

The theoretical context within this study is illustrated in Figure 2, where it can be seen that companies active in multiple contexts can be influenced by both the European and the Chinese CE context. CE is a ductile concept, which means it is an approach that differs depending on which context it is referred to. CE is also seen as a concept which has developed globally in different directions and therefore, depending on what contexts, the application may also differ (Merli, et al., 2018).

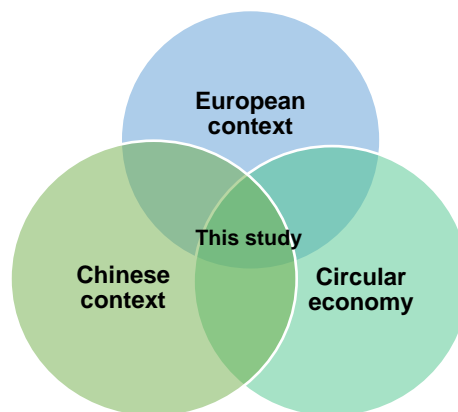


Figure 2: Illustration of the analytical framework that will be used in this study

Most previous research has been developed based on the Chinese or the European CE policies. Within this study, the focus is on companies which can be influenced by both contexts and how it affects their work towards CE.

2.2 Circular economy

CE and sustainability management has become a more pressing concern on all levels of society, from governmental level to industries to individuals (Ghisellini, et al., 2016). The way in which CE and sustainability should be implemented is yet a much-disputed subject (ibid.). CE can be seen as a way to integrate sustainability values within the core business of companies (Geissdoerfer, Savaget, Bocken & Hultink, 2017). This is because it is a way for companies to review their resource management and environmental impact throughout the product life cycle, but also to generate social and environmental values. It is important to point out that there are differences between sustainability and CE, where sustainability is considered to be a holistic perspective of society and addresses social values on a broader scope than CE (ibid.). Despite this, there are similarities where CE can be viewed to be a part of sustainable development and a way for businesses to incorporate environmental and social values in their business operations (ibid.).

The concept CE originate from many different disciplines such as industrial economics, environmental economics, and ecological economics (Geissdoerfer, et al., 2017). Later research on CE, builds on Boulding's (1966) ideas of closed-loop systems and how the connection between nature and economy is necessary for mankind to live sustainably on the earth. What the different studies share is the fundamental criticism towards the traditional linear economic

system that does not recognize that natural resources, which are used as input in production and consumption, influence the economic system (Geissdoerfer, et al., 2017). This separation of the economic and natural system has led to negative effects on natural ecosystems and causes instability in the economic system on which the human society is built on (Ghisellini, et al., 2016).

There is no unified definition used for CE within the existing literature but rather several ones that assemble to a broader concept (Merli, et al., 2018; Su, et al., 2013). There are various definitions used which are different depending on what place and in what context it is applied to (Merli, et al., 2018). One definition that is in line with the eco-industrial thinking states that CE “*mean the realization of a closed loop of material flow in the whole economic system*” (Geng & Doberstein, 2008b, p. 231). The earlier adoptions of CE in policy work has included the principal of the 3R’s – reuse, reduce and recycle – and is mostly concerned with waste management (Sakai, et al., 2011). Within this principle, the heart of CE is “*to minimize the primary input of primary energy and raw materials*” (Su, et al., 2013, p. 216). CE can also be defined as:

“a regenerative system in which resource input and waste, emissions, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved by long lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling”
- (Geissdoerfer, et al., 2017, p. 759).

Based on these different definitions, this study views CE as a system that strives to close the loop of resources and where the natural ecosystem and the economic system is connected to each other.

As a result of these various different but closely related definitions of CE, its applications around the world have developed in different directions (Merli, et al., 2018). The CE research has mainly been focused on China and Europe where CE, in different ways, have been included in policy regulations and developed in different directions depending on the geographical context (ibid.). There are both positive and negative aspects of not having a commonly agreed upon definition. On the positive note, having blurry lines to what is and what is not CE, might make it easier to accomplish the societal change that CE strives for (Ghisellini, et al., 2016). However, not agreeing internationally on a common definition might also make it hard to cooperate as parties might be working in different directions (Merli, et al., 2018). Due to this context-dependent definition, CE is seen as a global concept which closely relates to sustainability (ibid.). It is discussed that CE is an approach to take when working with sustainability related to the environmental and economic aspects (ibid.). Previous research has seen that most focus within CE has been on environmental and economic aspects but as the CE concept has developed it has come to include social aspects as well (ibid.) This can be seen where the UN defined cleaner production to be harmless for both the environment and for human beings (Luken & Navratil, 2004). It can also be seen that, previously, CE has mostly been applied within the industrial sector where resource use is in focus (Merli, et al., 2018). As the concept has developed globally, both in European and Chinese settings, CE is expanding to include broader concepts, such as collaborative consumption, sharing and performance economies (ibid.). This also influences businesses, the way they operate and how CE can be incorporated within their business model and operational actions (ibid.).

2.3 Circular economy in China

In China, CE has been part of the official national strategy since 2002 (Geng, et al., 2012). In 2003 the first regulatory action, “*Cleaner Production Promotion Law*”, was implemented to improve resource utilization efficiency, protecting the natural environment and moving towards a more sustainable development (ibid.). For the global economy, a change in the Chinese attitude towards environmentally friendly practices and CE could have a large impact due to China being one of the largest economies in the world (Liu, et al., 2009). The Chinese government aim not only to change the economy but the socioeconomic status in society – how individuals consume and use resources - and doing this through a top-down approach with “*command and control*”-instruments (Ghisellini, et al., 2016; Mathews & Tan, 2011). This implies that most actions are taken from a government perspective and little initiatives arise from a firm-level perspective (Ghisellini, et al., 2016; Liu, et al., 2009).

As part of the national strategy to change the whole socioeconomic system, the Chinese government has developed five-year plans that include regulations and actions for how CE should be achieved (Su, et al., 2013). The five-year plan that was put into action 2011-2015 aimed to create an even deeper and wider implementation of CE in order to further address the challenges of rapid industrialization, urbanization and population growth (ibid.). The plan included elements such as environmental regulations, resource efficiency and eco-industrial parks (ibid.). In a macro perspective, the plan focused on promoting sustainable production and product renting systems on a national level and phasing out heavy polluting enterprises to make room for more high-tech industries instead (ibid.). The plan also encouraged urban symbiosis which aimed to link waste management systems with local industries to efficiently make use of the waste and physical resources to generate both environmental and economic benefits (Geng, Tsuyoshi & Chen, 2010). This emphasis the 3R-principle (reuse reduce recycle), with the purpose of redesigning and rearranging the cities infrastructure and characteristics (Su, et al., 2013).

On a meso-level, the plan addressed the creation of eco-industrial parks where companies which previously have been different entities now are promoted to share and exchange resources (Ghisellini, et al., 2016). These parks are based on the concept industrial symbiosis, where the objective is that companies manage their resources flows and waste together and through this lower both their environmental impact and their overall production costs (Su, et al., 2013). This means that firms share infrastructure and services which also helps domestic companies to lower their external resource dependency and utilize the local resources efficiently (ibid.).

On a micro-level, the focus was to encourage cleaner production which is a way to address efficient use of resources, internal resource management and implementation of new, more environmentally friendly technologies (Park, Sakis & Wu, 2010; Su, et al., 2013). In industries such as textile and printing, cleaner production audits have become compulsory and it has played a dominant role in the goal of lowering the environmental impacts (Hicks & Dietmar, 2007; Su, et al., 2013). In addition, eco-design of products has been encouraged for companies to adopt where they incorporate environmental aspects during the production process but also the final product (Su, et al., 2013). Companies are not forced but encouraged to adapt this design, which has resulted in low implementation rate for companies and many companies have chosen not to adopt to this design (ibid). This is, according to Su et al. (2013), due to the lack of financial and managerial incentives to invest in greener practices and these investments are viewed to be both time and money consuming with little financial benefits.

2.4 Drivers and barriers within sustainable business practices

Companies' operations and practices are influenced by different factors when working with sustainability initiatives, and specifically CE. Gouldson (2008) discusses these factors, stating that they can be external and internal and that they can be viewed as both drivers and barriers that companies have to cope with in order to be successful. The interaction between these factors and the company's operations are viewed to be influenced by the business context and the policy context that the companies exist within (ibid.). Research that looks at influences, regarding command and control regulations, economic instruments such as taxes and subsidies and through an information-based approach, has been done where governments have a central role to provide this information (ibid.). Engert et al. (2016) also discusses these influencing factors in terms of drivers and barriers and why they are important for businesses to understand in order to successfully integrate sustainability within their management and business practices. Therefore, within this study, the focus is on the influencing internal and external drivers and barriers that companies are exposed to when working with CE and sustainability.

2.4.1 Drivers for CE and sustainable business practices

Companies' desire to implement sustainability and adopt CE into their businesses' operations and practices may occur due to several different reasons (Gouldson, 2008). Their decision making is influenced by both external and internal drivers (ibid.).

Government

One external driver is the pressure from the government when establishing new policies and regulations which can take form as eco-taxes, emission trading programs and regulations which are designed to promote green innovation (Porter & van der Linde, 1995b; Gagelmann & Frondel, 2005). These regulations can influence what investments companies choose to make, some through subsidies others through governmentally funded programs (ibid.). The goal, according to Ashford (2002), is for these regulations to address market failures and to create win-win situations for pollution prevention and cleaner technology. The government can also be a driver for sustainable business in the sense of providing and generating access to information to stakeholders (Gouldson, 2008). This can be done through mandatory environmental assessments, demand on businesses to provide environmental impact data or through yearly audits (ibid.). It can also be in terms of demand for sustainability reporting, where the company is asked to disclose their environmental, social and governance information (Ioannou & Serafeim, 2017).

Innovation

Innovation is seen to be an internal driver for companies to work with sustainability since it influences the possible operations in the organization and what technological enhancements that are available (Engert, et al., 2016). Innovation and strategic management are therefore needed in order to foster sustainable practices and supports the integration of corporate sustainability (ibid.). This because innovation in technology can lead to cleaner productions and cleaner technologies, which can improve the environmental and social performance of a company (ibid.). It can be innovations in terms of more resource efficient production, more renewable energy usage or innovations regarding how products are owned or used (ibid.). Studies show that it is through innovation, that companies can develop new competitive advantages, grow revenues and gain access to new markets where the demand for sustainability is high (Hart & Milstein, 2003). Companies need to invest in innovations to be able to stay on the market in the long term and to take into account the new challenges arising due to resource scarcity as well as increasing demand for sustainability (ibid.). According to Valentine (2010), even companies which are not exposed to tough environmental pressure would benefit from

investing in strategic and progressive sustainability innovation. This is also supported by Porter (1998), who states that firms should meet the customers' desire but also go beyond environmental regulations and towards environmental governance to establish a competitive advantage.

Financial performance

Another internal driver to incorporate sustainability in business practices is the potential cost reduction and positive financial performance (Schaltegger, 2011). This is proven to be true in areas such as resource efficiency, technological development and companies can also leverage their sustainable development as competitive advantages as well (Porter & van der Linde, 1995b; Graedel & Allenby, 2001). The cost reduction can be seen within the area of what materials are used where the materials can be substituted for more durable options and the packaging made more efficient (Epstein & Roy, 2001). It can also be due to more energy efficient production, reduced material usage and reduced waste disposal costs (ibid.). When integrating sustainability within core strategies it is not only due to the improved efficiency that costs are lowered but it could also lower future compliance costs regarding environmental regulations (ibid.). This could be in terms of future regulations regarding the amount of recycled materials used or other environmental regulations which lie ahead in the near future (ibid.). In addition, cost reduction can occur on an operational level when companies choose to integrate waste management systems and environmental management systems since that could lead to more efficient management (Epstein & Roy, 2001; Kolk, Walhain & van der Wateringen, 2001). It can also lead to improved financial performance since it can add value to the products for customers and generate positive results for the stakeholders (ibid.).

Corporate structure

An internal driver that has been identified to influence the sustainability work of firms is the governance structure including governance culture and operational capacities within firms (Gouldson, 2008). The governance structure can have an impact related to what type of ownership the firm has (ibid.). It can be seen that firms with many external investors are more reluctant to make environmental supportive investments since the returns are associated with long-term benefits and less short-term returns (ibid.). Firms that are owner-managed can take more value-driven decisions to invest in environmental improvements and be driven to further work with sustainability throughout the whole organization. Therefore, Gouldson (2008) points out, that corporate policies are crucial in order to set an environment where these types of investments can be made without losing competitiveness. Regarding the corporate culture, it is pointed out in literature that if top-management views sustainability as an opportunity or a threat, the decisions will either result in strategies to reactively avert risk or proactively manage it (ibid.). Depending on the approach within the company, their organizational capacity can affect how these strategies and business practices are designed and expedited (Gouldson, 2005). It can take form as environmental management systems for larger firms, sustainability strategies and internal systems for smaller firms (Gouldson, 2008). The capacities determine how the company responds to external pressure and it is influenced by how the internal governance and culture of the company is shaped (ibid.).

Environmental and social responsibility

Another internal driver for companies to integrate sustainability within their business practices and strategies is the internal motivation to “do good” and to take environmental and social responsibility as a company (Engert, et al., 2016). Environmental and social responsibility is further referred to as ESR in this study. Companies can do economically well and also “do good”, both generating profit and taking responsibility for the surrounding environment (Falck & Heblich, 2007). Within this work, it should be considered what demands the stakeholders - such as shareholders, owners, employers and customers - have and if they demand social and

environmental actions from the businesses. If they do, these actions should be directly or indirectly integrated into the core business (ibid.). To what extent, according to Falck & Hebllich (2007), depends on how much influence the stakeholders that demand these actions have and in what way they can affect the performance of the overall business. Porter and Kramer (2002) also states that taking a strategic view of ESR, where companies invest in the local community through education and innovations, it can also generate long-term value for the company. Thereby, it can be a driver for companies to take actions regarding these issues and, through this, create a win-win situation (Porter & Kramer, 2002).

Competitive advantages

Competitive advantage is also an internal driver that companies can gain by incorporating sustainability within the strategic management and their business practices (Engert, et al., 2016). Traditionally, businesses have regarded measures for sustainability to be in opposition to the creation of economic growth, claiming some economic loss will follow if a company chooses to focus on environmental issues (Park, et al., 2010). It is however discussed by Porter and Kramer (2006) that integration of environmental and social values in the business's practices will not only mitigate risk but can also generate competitive advantages. It should not only be viewed as an ad hoc action, occurring occasionally, but rather as long-term investments and implementation of values in the corporate culture and governance (White, 2009; Steyn & Niemann, 2014). This means that the actions need to be more than randomly selected donations, advertisement and weak sustainability reporting to generate competitive advantages (Engert, et al., 2016). Another aspect to a firm's competitive advantages is the corporate reputation and the increased brand value that could be created through working with sustainability initiatives and business practices (Peloza, Loock, Cerruti & Muyot, 2012). The corporate reputation has become a valuable asset and in order to improve this, companies should listen to their stakeholders and their increasing demand for sustainable business practices (ibid.). The reputation of a company is what stakeholders associate with the company (Lankoski, 2008). It is however pointed out that sustainability initiatives need to be well integrated into the strategic management and the operative business practices of the company in order to improve the company's reputation and to generate competitive advantages (Engert, et al., 2016).

Customer demand

An external driver that is discussed in the literature is the customers' demand on companies' sustainability work (Porter & Kramer, 2006). The customer demand can affect how businesses design and choose to work with sustainability as well as affect what type of information that is published (Gouldson, 2008; Peattie, 2001). It is customer demand for sustainability that also can generate increased sales, competitive advantages and other financially beneficial results from the sustainable business practices (ibid.). For customers, this work focuses on the safety issues related to product use, safe working environment but also environmental issues such as pollution, chemical use and philanthropy (ibid.). By working and integrating these issues within the business practices, companies can generate brand value and added value to their products which in turn can result in long-term revenue and increase value to intangible assets (ibid.). According to Porter & Kramer (2006), corporate environmental and social engagement should be designed in a way which creates shared value – for customers and the business – in order to fully commit to customers demand. Companies can use this engagement to develop an improved image and market their engagements to customers that value sustainability and through this hopefully also generate revenue (ibid.).

2.4.2 Barriers for CE and sustainable business practices

While there are various drivers that encourage and advocate companies to take measures for sustainability, there are also external and internal barriers that hinder companies from engaging in more sustainable business practices. Various authors have reviewed what challenges that

appear in the integration of sustainability practices and operations (Engert, et al., 2016; Schaltegger & Lüdeke-Freund, 2012; Winans, Kendell & Deng, 2017; Giunipero, et al., 2012).

Legitimacy

Companies' attempts for transparency and how they communicate their efforts, both externally and internally, can be seen as an internal barrier when implementing more sustainable business practices (Engert, et al., 2016). By being transparent about environmental impacts and efforts it can help to reduce the complexity of sustainability initiatives, create legitimacy and it can make them more manageable for the organization as well (ibid.). Externally, companies need to show their stakeholders how their sustainability initiatives are managed, what environmental and social impacts the company has and how they are improving as well as how it is integrated into the organization (ibid.). For internal communication, the creation of a common setting and organizational culture that supports the strive for more sustainable practices is important together with the support of managers (ibid.). By not engaging in transparency and communication with stakeholders, it could lead to decreased legitimacy for the company and disbelief from the stakeholders in how companies manage their environmental impact (ibid.).

Management control systems

The use of effective and accurate management control systems that incorporate suitable sustainability indicators and structure is one mentioned internal barrier (Engert, et al., 2016). The lack of appropriate ways to incorporate sustainability indicators and performance measures is something that hinders their part-taking in what decisions are made (Giunipero, et al., 2012; Schaltegger & Lüdeke-Freund, 2012). There are various management systems available that support quality management, environmental management and, to some extent, social responsibility (Engert, et al., 2016). However, the focus is more often on the financial performance of today's sustainability indicators and there is a need for development and incorporation of more non-financial measures (Giunipero, et al., 2012).

Access to information

The difficulty in accessing needed information to work with sustainability can be seen to be both an external and internal barrier for companies to work with sustainability within their business practices (Su, et al., 2013). This implies both access to internal information from the company itself and external information on how to implement CE in order for companies to make adjustments which are customized for their individual needs (ibid.). It is also in terms of getting access to the needed information related to environmental performance and how this is measured. This can be difficult in China specifically since the governmental system is fragmented and the information belongs to different agencies, which makes it both time consuming and costly for the firms to get all information that is needed (ibid.).

Government

Lack of suitable economic, financial incentives and inadequate enforcement of regulation can pose as another external barrier for working towards CE (Su, et al., 2013). The difficulty of getting the financial support from banks and inadequate public taxes, which lowers the incentives for firms to invest in more environmentally friendly practices, has led to few developments occurring on firm level (ibid.). The legislations that are formed by the government is also poorly enforced, with punishment being superficial and not carried out with an excessive time between violation and execution (ibid.). Giunipero, et al. (2012) also discusses the difficulty for companies to comply with the various regulations present where the companies have business and suppliers. Companies need to assess how they should proceed throughout their supply chain and be aware of how they affect and is affected (ibid.). Engert et al. (2016) discuss how sustainability and CE pose challenges due to its complexity and need for managing numerous different actions at the same time in order to handle the issues and not

just the symptoms. Sustainability needs to be handled as the complex issue it is with socio-, environmental and economic issues that are interconnected (ibid.).

Investments in technology

Being able to make sustainability investments and gain technology enhancement can be an internal barrier for companies since it can lead to high short-term costs (Su, et al., 2013). Advanced technology is needed for companies when adjusting to CE and especially on firm-level can this be costly to make these investments (ibid.). Many companies do not have the incentives to make these investments since they believe it often results in few financial or non-financial benefits and demands time and money (ibid.). Within the Chinese context, the overall technological development in the country is lagging behind and many smaller firms have little incentives to make green investments due to high costs (ibid.). There is a pressing need for investments in sustainable technology in China to support the transition towards CE (Engert, et al., 2016).

Public awareness

The low public awareness of sustainability and CE in the Chinese population is also an external barrier for companies to work with these issues (Su, et al., 2013). This is because without the market demanding or valuing these types of initiatives, there can be little incentives for companies to invest in for example environmental performance and social responsibility (ibid.). The human and institutional capabilities in China are in need of improvements in order to educate their population about CE and sustainable consumption (ibid.). Stakeholder engagement is an important factor when it comes to sustainability and CE, which is where companies find the motivation to further engage and develop strategies to support this (Engert, et al., 2016). This is due to the fact that market demand can result in increased financial performance, creation of added value and competitive advantages due to the sustainable business practices. Since the demand for sustainability, in general, is still low in China, it is challenging for companies to adopt a CE approach because the benefits are few and economic incentives are low (Su, et al., 2013).

2.5 Analytical framework

In this study, it is investigated how the Chinese approach towards CE is influencing Swedish companies operating in China and Hong Kong. In order to be able to analyse the phenomenon through organisational theory, the drivers and barriers which are presented in chapter 2.4 are used as an analytical framework. This framework is further used to categorise and guide the analysis towards answering the research questions. This framework is also used in order for the study to reach relevant conclusions for the field of business administration.

Table 1: Summation and explanation of drivers and barriers identified within chapter 2.4

Drivers	Description	Barriers	Description
Government	Legal requirements and compliance.	Legitimacy	Being open and clear about what sustainability means and how it is included in the company – both to external stakeholder but also internally in the company.
Innovation	Cleaner technologies drive improved environmental and social performance.	Management control systems & performance indicators	Management systems and lack of performance indicators that measures process in sustainability aspects.
Financial performance	Cost reduction due to resource and management efficiency, increased revenue.	Access to information	Difficulty in accessing information in how to implement CE.
Corporate structure	Corporate culture, organizational and strategic capacities and ownership structure.	Government	Lack of governmental legislation and incentives as well as poorly enforced punishment for violations.
ESR - Environmental and social responsibility	Creating internal and external value for the company by incorporating environmental and social aspects within the core business.	Investments in technology	Need for tech development, which is often expensive and might not be available for all type of firms.
Competitive advantages	Increasing brand value, enhancing the corporate reputation by incorporating stakeholder's demands for sustainability.	Public awareness	Low demand for CE solutions as there is a lack of knowledge regarding CE and sustainability generally in China.
Customer demand	Demand from customers that value sustainability and transparency of what and how business is done.		

The drivers and barriers that are chosen are based on the studies of Engert et al. (2016), Gouldson (2008) and Su et al. (2013). These are based on business studies where the focus is on what influences business to work with sustainability, how business should work with CE within business practices and what challenges might arise within this work. This framework is chosen in order to be able to answer the study's research questions and to fulfil the aim of the study. Within the literature, other factors are identified to influence companies' sustainability work as well. If different factors were chosen to analyse the case companies, it could result in other findings and conclusions. However, the above-mentioned factors are chosen because they are seen to be relevant for the context of this study and can guide the study towards the goal of enriching the research field of sustainability within business administration.

3 Methodology

This chapter presents the foundation of this study and provides an understanding of methodological choices as well as conditions for how this study was conducted. First, the choice of research design is motivated based on the ontological and epistemological standpoint, followed by a description of the case study and the chosen cases. Furthermore, the gathering of data and how the data is handled is explained and this chapter is concluded by a discussion of how the quality was maintained.

3.1 Research design

When conducting business research, there are certain assumptions that need to be considered and explained. As business research is part of social science, it raises the question of how it should be studied and if social reality can, in fact, be studied on the same foundation as natural science (Bryman & Bell, 2015). The epistemological standpoint of this research is interpretive, as it attempts to investigate how companies themselves view their work towards CE and it is their truth that is important in this study (Bryman & Bell, 2015). Furthermore, the ontological standpoint in this study is of constructionist nature where phenomena are social constructions and there is more than one reality (ibid.). This implies that social phenomena are not constant but continuously changing depending on the social context (ibid.). This standpoint is chosen since in this study, it is of interest to understand how the case companies perceive their work towards CE and sustainable development. It would, therefore, be challenging to have a positivistic standpoint since it is not the absolute truth that is of value here.

This study has a qualitative approach where the aim is to gain a deeper understanding of a phenomenon. A qualitative approach enables the researcher to pay attention to details and the surrounding context where the unit of analysis exist in (Bryman & Bell, 2015). As the aim of this study is to gain a better understanding of how Swedish companies are influenced by the CE context in China and Hong Kong, the interpretive qualitative approach is suitable in order to answer the stated research questions. Gephart (2018, p. 34) define interpretive qualitative research as:

“...research that systematically constructs scientific theory and concepts (knowledge) as ‘second order’ interpretations based on inductive and abductive analysis of members’ actual common sense or ‘first order’ concepts and actions and meanings”.

The data used in the study emphasizes words rather than numbers, which makes a qualitative approach suitable and enables an analysis of the data that fits the aim of this study (Bryman & Bell, 2015). This study is based on an inductive approach, which means that it has its starting point in empirical observations and through these observations, an analysis is done, and conclusions drawn which could result in new theory (ibid.). When using this approach, it is expected that theory emerges through the collection of data where patterns and relationships are identified to form new contributions to the research field (Mills, Durepos & Wiebe, 2010). It is motivated to use the inductive approach in this study since CE is still viewed as a young research field and it is in need of further research (Mills, et al., 2010; Ghisellini, et al., 2016). The challenge with having an inductive approach is that the researchers can become too involved and immersed in details and risk not being able to rise above the case to create more general contributions (Mills, et al., 2010). This is an aspect that has been taken into consideration during the study and in order to stay on the right track, and the research questions are used as guidance.

3.2 Multiple case study

Conducting a case study implies that what is studied has clear boundaries and a clearly defined unit of analysis (Yin, 1994; 2013). It is motivated in this research to conduct a case study since it is a design fit to answer questions such as “how”, “what”, and “why” and it gives the possibility to go deeper into a phenomenon (ibid.). To answer the aim of this study, a multiple case study of five companies is conducted. Multiple case companies are chosen since having more than one company enables replication and extension because the same process is used for all case companies and could reveal complementary aspects of the phenomenon (Lewis-Beck, Bryman & Futing Liao, 2004). The boundaries of this study are the five companies which are all within the context of this study and the unit of analysis for is the companies’ business practices towards CE and sustainability.

This multiple case study has an instrumental approach because the cases are purposely chosen and with the purpose of being able to find themes and compare the findings to similar cases. The instrumental approach cannot be used to statistically generalise but rather generate a transferability to other studies and gain an in-depth understanding of a specific phenomenon (Mills, et al., 2010). An instrumental approach is, according to Eisenhardt (1989), when a case is chosen to be studied in order to be able to find patterns that can be applicable to other contexts as well. Santos and Eisenhardt (2011) also discuss the matter of how the use of multiple cases could help understand the common phenomenon by looking at complimentary aspects from multiple cases. The chosen companies in this study are all part of a larger phenomenon and population where the context is being a Swedish company working with sustainability practices in China and Hong Kong and the population is all of these companies. The goal is to generate a well-developed picture from a small part of this context and to improve the knowledge of how other companies can tackle similar situations in other contexts. It is a common misunderstanding that case studies cannot be generalized since it only looks at a few cases (Bryman & Bell, 2015). However, according to Flyvbjerg (2006), this is incorrect since because there is a possibility of proving existing theories wrong with one single case and it is also possible to generate more abstract theoretical results. By conducting multiple case studies of companies in different industrial sectors, the study could be able to generate results that are applicable in various industries. Within this study, this is one of the reasons why a multiple case study is chosen.

3.2.1 Sampling

All of the chosen companies provide different aspects of how the work towards CE can be adopted within business practices in China and Hong Kong. This is because they are active in different areas of business, ranging from manufacturing and production to strategic consulting. The process of choosing these companies can be referred to as purposeful sampling. This type of strategic sampling is used when aiming for in-depth understanding and insight in the specific contexts and is therefore motivated to use in this study (Mathison, 2005). This means that the case companies were not chosen at random but rather because of their profile regarding how they work with sustainability and CE within their business practices in China and Hong Kong.

3.2.2 Case subjects

The participating companies are selected based on their origin, their sustainability work and presence in China and Hong Kong. The chosen companies are of Swedish origin and operate in different industries, which aims to give the study a broader perspective on the work towards CE in China and Hong Kong. The companies that are chosen are all part of the Swedish Chamber of Commerce’s Sustainability Committee in Hong Kong and are actively working towards sustainable development (Swedish Chamber of Commerce in Hong Kong, 2018). The name and a short description of the five chosen companies can be seen in table 2.

Table 2: Description of the study subjects for the case study

Name of company	Description
<i>Nilorn</i>	Develops, produces and sells textile and paper labels, packaging and accessories to business customers
<i>Envac Far East</i>	Develops, produces and sells waste collector solutions for sustainable cities, hospitals and airports.
<i>Current Consulting Group</i>	Consult business customers on supply chain and risk management.
<i>Bluewater Group</i>	Develops, produces and sells water purifiers for private and business customers
<i>H&M Group</i>	Manufactures and designs fashion clothing and home furnishing for private consumption. Owner of the brands: H&M, Cos, Monki, Weekday, & Other stories, H&M Home, ARKET and Afound.

These companies are able to give the study the value and information needed in order to meet the aim of getting a deeper understanding of companies' sustainability practices in a multinational context in China.

3.3 Literature search

In order to obtain an overview of the research field of CE, a literature search was made where the focus was to gain an understanding of how CE is approached today, specifically in China. Literature is defined as what is already known and written down within the area of the research field previously to the study being conducted (Robson, 2011). To ensure high quality and standard of the literature and sources used, some criteria's where set up to restrict the search. (1) Only sources that could be accessed through SLU library search databases Primo, ScienceDirect and Google Scholar were included. (2) Only peer-reviewed articles and books were used. (3) The key-words used when searching for relevant articles were: "circular economy", "circular economy" + China, "implementation of circular economy", "sustainability practices" + "drivers and barriers", "sustainability strategies" and sustainability + China.

3.4 Data collection

A research project starts with the planning and designing of the project, which is later followed by the collection of data. This section further explains the method of data collection applied in this study as well as actions for guaranteeing high quality and inclusion of ethical aspects.

3.4.1 Primary data

Primary data refers to data collected first hand with a particular purpose (Salkind, 2010). Methods for collection of primary data consists of observed, experienced or recorded and can be described as closest to the truth (Walliman, 2006). As the unit of analysis in this study is the companies' business practices towards CE, the collection of primary data was conducted through interviews with individuals at managing positions in the selected companies. Answering the aim, to understand how companies are working with CE and sustainability in a multinational context, requires data that consists of how the chosen case subjects view themselves and their work. In this study, this is described with words rather than numbers in order to provide the needed amount of details for the study. When answering this type of aim, this is the better suited approach, according to Walliman (2006).

Semi-structured interviews

Primary data collection for this research was conducted through in-depth semi-structured interviews with representatives from the selected companies who are involved in the business practices for sustainability and with the specific knowledge of China and Hong Kong. Choosing this type of interview meant that the respondent could be encouraged and asked to reflect on the specific subject on a deeper level without being pressured into compartmental answers pre-defined by the researchers (Given, 2008). As the research was focused on a specific area, an

interview guide with a semi-structured approach was used in order to not stray from the subject. A semi-structured interview guide offers a more controlled interview than what might be reached in an unstructured guide but gives the respondent much freedom to shape their own answers (Given, 2008). This interview guide can be seen in [Appendix 1](#).

Interview process

The interviews were held in English or Swedish - depending on what was convenient for the respondent, they lasted for 25-75 minutes and were recorded in order to ease the transcription. The recording was also to ensure that the researcher interprets the respondents correctly and to improve the legitimacy of this study. The recordings were transcribed and translated into English when needed. A copy of the summarized empirical results was also sent to the respondent in order to verify accuracy and for them to assure that the information could be used in the report. This process is referred to as respondent validation and aims to improve the quality and legitimacy of the study (Bryman & Bell, 2015). Details about the selected respondents and the interviews is presented in table 3.

Table 3: Detailed information on conducted interviews and respondents

Company	Name	Position	Time & place	Length
<i>Nilorn</i>	Anna-Karin Wårfors	Sustainability Manager	Per phone, February 20 th , 10.00, Uppsala	25 min
<i>Nilorn</i>	Cheryl Hall	Supply, Sourcing & CSR Manager	In person, March 26 th , 14.00, Hong Kong	60 min
<i>Envac Far East</i>	Jeffery Siu	Managing Director	In person, March 25 th , 14.00, Hong Kong	75 min
<i>Current Consulting Group</i>	Björn Wahlström	Partner & Managing Director	In person, March 27 th , 16.00, Hong Kong	40 min
<i>Bluewater Group</i>	Viggo Ljungqvist	Business Development Manager - APEC	In person, March 28 th , 14.00, Hong Kong	50 min
<i>H&M Group</i>	Hanna Hallin	Sustainability Manager	In person, March 29 th , 15.30, Hong Kong	30 min

The interviews were conducted both in-personal and per phone, depending of the convenience for the respondent. There are advantages and disadvantages associated with both methods, such as in-person being better to get answers to more sensitive questions but being too time-consuming (Shuy, 2001). A telephone interview, on the other hand, is more time and cost efficient but might miss out on indirect communication, such as body language (ibid.). Mixing both ways of interviewing might lead to different answers. However, as the company that was interviewed per telephone also was interviewed in-person the potential differences could be evened out as the telephone interview is viewed as a supplement to the in-person interview. Deciding to primarily have the interviews in person and not by phone also has the advantage of allowing the researchers to observe and witness non-verbal responses by the respondents, which might otherwise have gone by unnotedly (Morris, 2015).

3.4.2 Secondary data

Complementary to the interviews and primary data collection, secondary data sources were also used in this study, in order to form the basis for the theoretical framework, background information, methodology and support for primary data collection. The secondary data collection consists of a literature search of company websites, yearly reports but also peer-reviewed articles and scientific reports. This data was collected through the companies' websites, their own published reports but also from other sites where the different companies are mentioned. This was done to get a broader understanding of the companies and to get other perspectives in addition to the interviews that are conducted. The use of secondary data is a way to use information which has been previously approved, and it plays an important role in

the legitimacy of a case study (Yin, 2009). This is due to the fact that the information has been around for a longer period of time and has not been written for the sole purpose of this study (ibid.). However, despite these benefits, there are also weaknesses to this data. This could be in terms of biases from the publisher and that information can be published in a way which is desired by the publisher (Smith, 2009). This bias can be addressed by using triangulation which implies to use data from multiple sources for the evidence to validate the facts and findings (Rowley, 2002). Secondary data should also be viewed as a powerful complementary source to the primary data collected with methodologies such as interviews and ethnographies (Smith, 2009).

3.4.3 Analysis of data

When analysing qualitative data, the process starts during the data collection since that is when the interpretations begin and the researcher creates meaning to the patterns, themes and concepts that are discovered (Allen, 2017). When the data is collected, it is conceptually categorized and connections or differences between the categories are identified (ibid.). In this study, this is the approach that is used alongside with template approach which means that the data is thematised according to chosen keywords and put into tables (Crabtree & Miller, 1992). According to King and Brooks (2017), an analysis of data in a qualitative study goes through various stages before ending in its final interpretation, especially in a template analysis approach. Getting acquainted with the data starts already in the interview stage and is one of the main purposes when transcribing recordings from data collection (ibid.). In this stage, the researcher also starts a preliminary coding of the data, recognizes themes and clusters in the respondent's answers. When themes and clusters are identified, the researcher formulates an initial template with keywords (ibid.). The chosen keywords are related to the research questions in order for the researchers to easier categorize the answers according to these questions (Crabtree & Miller, 1992). The key words in this study are "drivers" and "barriers". Within the template approach, the research questions are used to guide the analysis and the conceptual framework is used to provide a theoretical contribution to the research field (ibid.). As the processing of the gathered data continues, the template is not seen as static but rather developed and revised, if needed, before ending up in the final interpretation and analysis of data (King & Brooks, 2017).

3.5 Quality of the study

As the data collection and analysis in this study is completed by people, the occurrence of bias is important to assess (Bryman & Bell, 2015). It is important, as a researcher, to know on what grounds decisions are made and why interpretations are made in a certain direction in order to know how the researchers' own values affect the results (ibid.). Below, the measures taken to assess the quality of this research is presented as well as the ethical considerations and the study's delimitations.

3.5.1 Trustworthiness and authenticity of the study

In qualitative research, in order to assert the quality of the research, the trustworthiness and authenticity must be considered (Bryman & Bell, 2015). The former of these two can be divided into credibility, transferability, dependability, and confirmability. The credibility of the research concerns how the researcher creates trust in themselves by following existing regulations and that she or he communicates the results back to the participants (Guba & Lincoln, 1994). Transferability concerns how applicable the research results are in other contexts than to the specific case that is studied (ibid.). Dependability concerns the process of the research and that the researcher presents her or his method and procedure in a way that it can be reviewed and repeated by colleagues, in order to assert the trustworthiness (ibid.). Lastly,

the confirmability concerns the researcher must reflect and assert for her or his objectivity and that personal values have not affected the execution or conclusions of their research (ibid.).

Table 4: Summation, description and adoption of quality is asserted in this study

Criteria	Description	How the criteria have been addressed in this study
Credibility	Concerns how trust is created to the participants and whether the results of the research are believable or not.	All of the participants are given the choice of an anonymity and to review all the information before publishing the study. This is to ensure that the right interpretations are made during the whole process. This is done since it is, according to Guba and Lincoln (1994), only the participants that can judge the credibility of the study.
Transferability	The criteria define to what extent the results can be generalized or transferred to other contexts.	In order to enhance the transferability in this study, the research context and assumptions are described with detail. Moreover, the analysis is done based on well-cited articles and accepted theories.
Dependability	Concerns the process of the study and if it is described in a way in which it can be reviewed, and the study can be repeated.	Qualitative researcher should according to Guba and Lincoln (1994) consider the every-changing context in research and describe the used theories and empirical background with great detail. This is done in this study to meet the criteria of dependability.
Confirmability	Establishing that personal values and theoretical inclinations are not affecting the results and that the research remains objective.	This criterion is met by a critical reflection of the used theories, data and empirical results. In addition, for the researcher to remain objective, considerations are made regarding personal values and beliefs.

How this is applied in the study is illustrated in table 4 and explained with more details.

3.5.2 Ethical reflection

In research, it is important to consider ethical research principles, for example, the demand of information, the demand of consent, the demand of confidentiality and anonymity, and the demand of utilization (Bryman & Bell, 2015). These are all principles for the sake of the respondents and their involvement in the research. The respondent should be informed about the research aim, that their involvement is voluntary, that they have the right to remain anonymous, and that the information disclosed in the research may only be used for the sake of the specific research aim (ibid.). All of these demands are applied when conducting the interviews for this research. This is what Bryman & Bell (2015) refers to as respondent validation, which also includes that the transcripts are made available for the respondents and that they are able to confirm their answers and edit any misinterpretations. Carrying out research internationally requires the researcher to take, additional, care for ethical consideration and especially the added level of cultural awareness (Allen, 2017). It is important for the researcher to be aware of how culture affects all research processes, from attitudes towards choice of data collection method to the interpretation of concept (ibid.). This has been taken into account when collecting the data of this study. This research includes elements that require more cultural awareness, however, as the respondents are employed in companies of Swedish origin, the cultural aspect can be assumed to be less influencing.

3.5.3 Delimitations

Several decisions have been made within this study in order to be able to answer the research questions in depth and with detail. These delimitations are done based on the aim of this study and to make the results relevant for the research field of CE in business administration, in the intended context.

Methodical delimitations

The focus of this study is to gain an in-depth and detailed understanding of the chosen phenomenon and to further develop the field of CE within organisational theory. It is therefore motivated to use a qualitative approach which is, according to Edmondson & McManus (2007), also a motivated approach when researching a young field with little formalized theory. The study does not have the aim to create generalizable results for a whole population which also implies that a quantitative approach is not motivated. A quantitative approach is better suited when using numbers and larger samples with the goal to be able to quantify the results (Bryman & Bell, 2015). Within this study, the aim is rather to create results which can be generalized and applicable for other similar settings and contexts. This could be other Swedish companies working in China but also companies from other national contexts that differ from how the Chinese approach towards CE looks like. The study is also limited to using the companies' websites, semi-structured interviews and the answers that the participants provide regarding their work with CE in their company. This means that the answers are based on the participants' perceptions whereas other's perspectives are not integrated into the study.

Theoretical delimitations

The theories and concepts that are used in this study are CE in a global context, how CE is applied in a Chinese context and business theory regarding operational drivers and barriers of working with sustainability and CE. Since there is no universal definition of CE, a few different definitions are discussed based on the literature from The Ellen MacArthur Foundation, Merli et al., (2018), Ghisellini, et al., (2016), Geissdoerfer, et al., (2017) and Su, et al., (2013). There are several other authors discussing the concept but in order to limit the study and to be able to give a comprehensive understanding of the concept to the reader, these are the ones that are chosen. Another theoretical limitation is that the study does not review how behavioural factors influence how Swedish companies in China and Hong Kong are working with CE. It has been taken into consideration that these factors might have an effect on the results. However, the scope of this study is to review how Swedish companies working with CE within a Chinese setting in a broader context and not exclusively on how the Chinese culture can affect this work. The theoretical framework is mainly based on business studies which focus on what internal and external factors influence companies work towards CE and with sustainability. The framework does not include challenges regarding the implementation or cultural challenges that the companies in multinational contexts could face. This is in order to limit the study and to be able to answer the aim of the study.

Empirical delimitations

The study is limited to meetings with five case companies which all are members of the Sustainability Committee of the Swedish Chamber of Commerce in Hong Kong (Swedish Chamber of Commerce in Hong Kong, 2018). All of these companies have already established sustainable business practices which can be seen to be part of CE and that is the reasons why these five companies have been chosen. Choosing companies through this requirement was also motivated since it made it more efficient during the interviews because the concepts were already known by the participants. That is why companies that did not have sustainable business practices that could fit into a CE were not chosen to be a part of this study. All of the chosen companies are part of different types of industries, which is desired since it could generate a more complex picture of the work regarding CE in China and Hong Kong. The chosen companies are both in the production industry and the service industry - more specifically in the textile industry, waste management, water purification, and the consultancy within supply chain and risk management. All these industries are connected to environmental and social values, either through their production and use of materials, during the use of the products or through the information that they provide to their customers.

4 Empirical study

In this section, the chosen case companies are presented in order to give a better understanding of their individual relevance for this study and what context they are active in. These companies are all Swedish companies active in China and Hong Kong and can, therefore, be influenced by both the Chinese top-down and the European bottom-up approach towards CE.

4.1 Empirical background

The Chinese government has developed a top-down policy approach for working with CE, which is one reason why China has become one of the largest nations working towards CE (Yong, 2007; Geng, Sarkis & Ulgiata, 2013). It is also due to their comprehensive governmental approach with the aim to implement CE on all levels of society; from private citizens to national level affecting both producers and consumers (Su, et al., 2013). The reasons for the Chinese government to take such comprised actions are partly due to the harmful levels of pollution in Chinese cities, increasing population and the need to meet the rapidly growing energy demand without further environmental destruction (Park, et al., 2010). The comprehensive five-year plans developed by the Chinese government has the goal to change the whole Chinese socioeconomic system, to improve the national environmental performance, and address the issues regarding the increasing energy demand (Su, et al., 2013). It creates a unique context of how to work with CE in China and can also influence how companies from other national contexts choose to work with CE. Since European companies have seen a more bottom-up development of CE, their way of operating might differ from the Chinese approach where the main impeller is the government (Ghisellini, et al., 2016).

The companies chosen to be a part of this study are all Swedish companies operating on the Chinese and the Hong Kong market. All of them have influences from the approach towards CE from the European market and since they are active in multiple markets, they have both Chinese and European customers to consider when making their business decisions. The following section describes all five case companies and how they have chosen to work with CE and sustainability.

4.2 Nilorn

Nilorn's is a global company, originating from Sweden, that is designing, manufacturing and selling labels, packages, and accessories with the aim to add brand value for their customers' products (Nilorn, 2019a). They offer complete concepts regarding their customers brand, product design, product development and logistics solution for the whole supply chain (ibid). The company was founded in Sweden and has developed to become a global company with their own manufacturing sites in both Europe and Asia (Nilorn, 2019b). Most of the production is in Asia and Nilorn has its own production in Bangladesh and Hong Kong. The majority of the sourcing is done through external suppliers (pers. comm., Hall, 2019).

Nilorn has taken a holistic perspective on sustainability and they aim to provide long-term solutions for the many people and to meet their needs without compromising the needs of the future for the needs of today (Nilorn, 2019c). They have chosen to work with sustainability certifications such as the OEKO-TEX Standard 100 and bluesign which all aim to ensure that the production and supply chain supports an ethical, harmless and sustainable development (Nilorn, 2019d). The Hong Kong site is the most recent site to be bluesign certified which means that the whole production chain is in focus and covers; resource productivity, consumer safety, water emission and occupational health (Nilorn, 2017). In order for Nilorn to provide information about their sustainability work to their stakeholders, they have published sustainability reports for the past three years. Their aim is also to support their clients to

minimize their negative impact on people and the environment within their supply chain and production (Nilorn, 2017). That is why they have developed the concept of “*What can you do*”- where Nilorn illustrates for their customers how they can reduce their environmental impact by using fewer resources without compromising the design. At the Hong Kong site, there are initiatives regarding the recycling of both office waste and waste from the production (pers. comm. Hall, 2019). The recycling that is installed at the office is managed by a social enterprise locally in Hong Kong that works with disabled and socially challenged people. This is not an initiative required by the government or a requirement of their bluesign certification, but an activity driven by their own want for improved office waste management.

4.3 Envac Far East

Envac is a company active in the global waste collector industry and producer of automated waste collector systems for sustainable cities, airports and hospitals (Envac, 2019a). The company was founded in Sweden and has operative offices in Europe, America and Asia. Envac is a part of Stena Adactum AB which is an investment company in Sweden. Envac develops its own technology within waste sorting, and they are the creator of the optical waste sorting system. This system is an automated optical sorting system which enables cities and municipalities to develop a resource efficient CE (Envac, 2019b).

The waste collector system that Envac sells and produces is designed as an underground system where the waste is transported in pipes with the help of powerful fans to a waste collection station (pers. comm., Siu, 2019). It is designed in a way which means that less manual labour is needed in the waste collection process since all the pick-ups are centralized to only one location instead of outside every building. The system uses different fractions where the waste is sorted according to the demands of the customer. Since the system lowers the demand for labour, less work-related injuries are occurring and, according to Siu (2019), their system lowers the risk of diseases spreading through waste. The system also reduces truck traffic within the cities since the waste collecting trucks do not have to go to several different locations but rather collect it all at one collection station instead. This means that the air quality can be improved due to the lowered emissions and the noise levels can be lowered due to the reduced traffic. However, there is an energy consumption factor to be considered for this system to power the fans and as of now, Envac is not using renewables to provide this energy for the system (pers. comm., Siu, 2019). In Envac’s work with their suppliers, they require all of them to follow the ISO9001 standards which are a globally established quality management standards (pers. comm., Siu, 2019). It is a requirement of the government, that all companies within the sector have this certification and fulfil the ISO standards. Envac has collaborations with suppliers mainly based in Europe due to the tough quality requirements on the materials but they also have local collaboration in both China and Hong Kong.

4.4 Current Consulting Group

Current Consulting Group (CCG) is a Hong Kong based management consulting firm that was founded in 2007 specializing in risk management and supply chain optimization in Asia (Current Consulting Group, 2018a). Many of the consultants have a background in the Swedish industry (Current Consulting Group, 2018b). With great knowledge and experience of manufacturing in China, CCG offers both individual and tailored services as well as full-service representation for clients manufacturing in Asia (ibid.). Their services in the Supply Chain segment, CCG offers services such as audits and certification or improving processes for procurement and sourcing (Current Consulting Group, 2018c).

CCG offers services in CSR management, mainly in its supply chain segment (Current Consulting Group, 2018a). These services include sustainability audits, environmental, health and safety improvements as well as development and improvement of social accountability strategy (Current Consulting Group, 2018d). CCG's customers, when it comes to sustainability services, are mainly Swedish companies with suppliers in China but no manufacturing owned by themselves (pers. comm., Wahlström, 2019). The services regarding sustainability that CCG provides, can be found within their supply chain management segment and originate from demands from their customers' customers. It is through these services that CCG then helps their customers to audit the environmental and social issues that their customers' suppliers in China may be subject to. There is often a knowledge gap between the set demands of sustainability and how it is implemented in China and CCG services that help their clients in these areas (pers. comm., Wahlström, 2019).

4.5 Bluewater Group

Bluewater is a Swedish based company that develops, produces and sells water purifiers to both businesses and private customers around the world (Bluewater, 2019a). They are part of the investment corporation Blue AB which also is based in Sweden (ibid.). Their aim is to reduce the need for bottled water and water transportation by installing purifiers in both private homes, and the workplace (Bluewater, 2019b). In addition, they also sell water purifying solutions to hotels and events, such as sports events or festivals (Bluewater, 2019c; Bluewater, 2019d). Bluewater was launched in 2013 in Sweden with the vision that everyone in the world is entitled to pure water without the use of plastic bottles (ibid.). The presence in the Asian market was established in 2014. During 2017, they launched the Global Clean Water Movement which aimed to raise awareness about the negative environmental impact of a plastic bottle (Bluewater, 2019e).

Bluewater states as their brand promise to be: “*Good for you, Good for humanity and Good for the planet*” (Bluewater, 2019f). Being good for you, Bluewater says includes the health aspects of water purification as their technology clears the water from microplastics, chemicals and other impurities. Being good for humanity refers to how Bluewater's technology can contribute to the necessity of safe water to everyone everywhere. Finally, being good for the planet Bluewater refer to how their solution decreases the need for single-use bottled water as drinking water can be accessed through the tap instead and thereby also contributes to decreasing plastic waste in the environment (ibid.). In Bluewater's production, they strive to use environmentally sound and non-toxic materials that can easily be recycled (BlueWater, 2019g).

4.6 H&M Group

H&M Group is a global retailer, that includes eight separate brands in 72 markets – H&M, COS, Monki, Weekday, & Other Stories, H&M Home, ARKET and Afound – originating from Sweden (H&M Group, n.d.a). The items created for the H&M brands are produced through suppliers in various location globally, not by factories owned by themselves (H&M Group, n.d.b). H&M has chosen not to own their own factories but to work with business partners, keeping the relationship with these partners close in order to foster long term partnerships (pers. comm., Hallin, 2019). To assert for quality and close partnerships, H&M has their own personal in offices in each region where their business partners have production, with both commercial and sustainability competence that support and audit operations (ibid.).

H&M describe themselves as a “*value-driven, customer-focused, creative and responsible fashion company*” that wants to make sustainable fashion available to everyone (H&M Group, 2019). Leading the change towards a circular and renewable fashion industry while being a fair

and equal company is one of H&M's visions that guide their work (ibid.). In order to define this work, H&M has developed three key ambitions that guides their business practices and strategies (ibid.). These ambitions are: 1. To lead the change towards a sustainable fashion future, 2. To be 100% circular and renewable, and 3. To be 100% fair and equal (ibid.). H&M's ambition to lead the change in the fashion industry is centred on supporting and encouraging innovation, being transparent with what they do, as well as rewarding sustainable actions. Working towards 100% circularity and renewable means for H&M that they aim to have a circular approach for the whole lifespan of their products, that the resources they use are from recycled or sustainably sourced materials and are produced in a sustainable way. For H&M this includes their whole value chain for their garments and fashion, aiming for a climate positive circle (pers. comm., Hallin, 2019). Being 100% fair and equal means that H&M aims at providing fair jobs to everyone within the H&M Group as well as within their supply chain, and to drive for inclusion and diversity (H&M Group, 2019). In their work for sustainability and towards CE, H&M is looking at the whole process of how their garments are designed, sourced, produced, transported, and used (pers. comm., Hallin, 2019).

5 Analysis

In this chapter, the answers given by the respondents are presented and analysed. The respondents' answers have gone through a template analysis where their answers have been thematised through the analytical framework of this study (Table 1). This is in order to answer the aim and research questions. The answers are divided into two sections; Drivers for CE and sustainability practices and Barriers for CE and sustainability practices, under which the company's answers are presented separately.

5.1 Drivers for CE and sustainable business practices

In this section, drivers for the five case companies that were identified from each of the respondents are presented with a foundation in the analytical framework of this research. Only drivers that were mentioned by the respondents are addressed in the analysis.

5.1.1 Nilorn

In the interviews with Nilorn's Sustainability Manager in Sweden Anna-Karin Wårfors and Supply, Sourcing and CSR Manager, Cheryl Hall, in Hong Kong the following drivers were identified.

Government

The Chinese government is putting heavy pressure on the manufacturing business in China to adopt more sustainable practices and this has been occurring for the past 5-10 years (pers. comm., Hall, 2019). This can be seen in terms of their five-year plans where CE and environmental regulations have been in focus (Su, et al., 2013). The governmental regulations can be seen to be a driver for companies to further invest in sustainability, but also enable companies to make improvements within their own operations (Porter & van der Linde, 1995b). From Nilorn's perspective, the Chinese government has implemented these regulations due to pressure from the outside world but also that the government themselves realized that they had to deal with these types of issues. This is according to Hall been a driver for Nilorn to improve their environmental performance and to work with CE. Due to these regulations, Nilorn's factories have now started to evolve and for example; waste management has seen large improvements in both how wastewater and solid waste is handled. This is in line with what literature sees as potential results of environmental regulations (Ashford, 2002).

Another aspect where Nilorn can see how the government has been a driver for CE is the increased access to information about environmental performance from manufacturers. Governments are seen to be a driver since they can set regulations and demands of assessments which in turn can enable companies to get access to information. For Nilorn, gaining access to information has previously been challenging but as the Chinese government started to do an environmental assessment as a part of the five-year plan for CE, this has changed. Now, Hall explains, most of the information that Nilorn is requiring can be accessed through these assessments.

Corporate structure

The governance structure can influence how companies choose to work with sustainability and can be a driver for them to do so depending on the values of the owner, if sustainability is highly valued or not (Gouldson, 2008). Nilorn is a listed company, which means that they have external shareholders that can according to Hall, affect how they make strategic decisions regarding their sustainability practice. According to literature, when external shareholders are the main owner, it could lead to demand of short-term, high yields rather than long term investments in sustainability (Gouldson, 2008). This is not the case for Nilorn, where Hall can see how Nilorn's shareholders are demanding more transparency and information regarding

Nilorn's environmental performance and value the long-term investments. Some of their shareholders are, according to Hall, heavily involved in sustainability and their value being able to see how companies are working with these issues. Through this governance structure, their shareholders become a driver for Nilorn to continue to work with CE through; recycled materials, resource efficiency and different certifications. Regarding the culture at Nilorn, Hall states that within Nilorn, they always make their decisions because they want to contribute to a more sustainable future. These are values that Hall can see are incorporated within the whole companies' culture and something that is affecting their business practices.

Depending on how the management chooses to view sustainability, as a risk or opportunity, the work can either take a proactive or reactive strategic approach (Gouldson, 2008). According to Hall, Nilorn is choosing to see sustainability and China's CE regulations as an opportunity for them to improve their business practices. Furthermore, the capacities of a company are viewed as a driver to work with sustainability since it can result in more efficient, proactive management (Gouldson, 2008). Capacities can take form as management systems or certification programs (ibid.). Nilorn is working with the certification bluesign, which drives the company's sustainability work forward since it enables Nilorn to efficiently manage resource use, harmful chemicals, improve working conditions and to lower the environmental impact. The certification is a way to see how materials can fit into a circular resource flow and how Nilorn can use recycled materials as well as reduce environmental impact from their production according to Hall. All in line with the 3R-principal which the Chinese CE policy is promoting (Sakai, et al., 2011).

Environmental and social responsibility

The sustainability practices that Nilorn are engaged in are not only done because the market is demanding it, but also because Nilorn as a company wants to decrease their environmental impact and influence the labelling industry to move towards CE (pers. comm., Hall, 2019). The company has always made the decisions regarding, for example, the certifications because they value the environment and social aspects and sees these changes coming further down the line. This can be seen as a driver for sustainable business practices, where it is the internal values and the desire to take responsibility that drive the work forward (Engert, et al., 2016). Nilorn wanted to make a difference and saw that their way of doing that is to focus on eco-design and incorporate their products in a closed-loop system. It can create win-win situations for society and the company, where they satisfy their internal values and stakeholders demand but also take societal responsibility for their actions (Porter & Kramer, 2002). Nilorn also educates their customers in how they can reduce their environmental impacts, which is a way for Nilorn to spread their knowledge regarding sustainability. Another reason for Nilorn to adjust their business towards more sustainable production is because it can improve their long-term collaborations with their suppliers. This is valuable since the communication process will be more efficient, and they can develop new, improved products together with the same suppliers.

Competitive advantages

When Nilorn is working with their customer, they can see that their customers value the work with CE that they do; use of materials, design and more environmentally efficient manufacturing processes. This can create a competitive advantage according to Porter and Kramer (2006) since their work can result in increased sales. Nilorn can also see that their brand value increases through communicating that they are using recycled materials and also that their products are part of a more closed-loop system. By doing this, it aims to increase its competitive advantage and improve their reputation within the industry. This is according to Hall important since they have long-term collaborations with many of their customers but also in order for them to stay competitive. It is important that these actions are not just ad-hoc short-term actions

but rather viewed as long-term strategies in order to stay competitive and legitimate (White, 2009). Hall explains that the labelling industry is viewed to be very fickle, and therefore it is demanded of Nilorn to have unique selling points which make their customers return to them. Therefore, by making these concepts and continuously developing their products, Nilorn can stay ahead of their game, improve their reputation and not risk lagging behind.

Customer demand

The customer demand can be a driver for companies to work with sustainability, depending on what values and beliefs that the customers have (Porter & Kramer, 2006). Nilorn's customers have demands on what materials are used, how the products are produced and that the material is or could be recycled. All of these aspects can be seen to create a closed-loop system and therefore it can be seen that customers demand a more circular resource flow (Sakai, et al., 2011). It can be seen how this is a driver for Nilorn to work with CE since the customers' values are highly connected to sustainability according to Hall. Wårfors, as the Sustainability Manager at Nilorn, can see that the global customer demand for better products is increasing and this means that Nilorn has to adapt and find ways to produce these products. There are, according to Hall, smaller niche initiatives also on the Chinese market, where customers are starting to demand that sustainability should be incorporated in the business. However, the Chinese consumers are at a very early phase in their sustainability movement and are yet to demand sustainability as their main priority. This confirms Su et al.'s (2016) research stating that the awareness of the Chinese market is increasing but at a slow rate. What Nilorn has seen is that it is the European customers that have production in China that are mainly the driver for CE in China and Hong Kong. The European customer's demand is also one of the reasons why Nilorn chose to develop the concept "*What can you do*". This concept focuses on what changes the customer can make to their products in order to lower their environmental impact. This concept can be seen to be a way to create added value to their customers which is in line with what Porter and Kramer's (2006) states about shared value. Value can be created both for the company but also for the customers' in terms of environmental and social improvements (Porter & Kramer, 2006).

5.1.2 Envac Far East

In the interview with Envac's Managing Director, Jeffrey Siu, in Hong Kong, the following drivers were identified.

Government

The Hong Kong government have developed projects to improve the recycling systems in the city and this is an initiative which Siu see as a possible opportunity for Envac to further develop their automated waste collection system. This shows how governmental initiatives can be a driver for companies to further investment in cleaner technologies, as Porter and van der Linde (1995) states in their research. The initiative by the government can lead to increasing demand for Envac's system and that further investments in the technology are made. According to Gouldson (2008), the government can be a driver for sustainability practices by generating information and demanding environmental assessments of companies' environmental performance. Siu sees that the government's increasingly stricter regulations are affecting how the industry is incorporating CE and working with sustainability. Siu points out that he can see CE being incorporated within the industry and in order to keep up, Envac has to continue to develop within these areas as well. Siu states that as a minimum, companies are now reporting about the environmental and social impacts and this is a trend that he believes will continue to grow.

Innovation

Envac is continuously developing their systems' technology, making it more resource and energy efficient but also through finding new areas where it can be applied to. This is in order to create a more sustainable product for smart cities, but also a clear business decision for them as a company, according to Siu. Innovations within environmental performance can be a driver according to Engert et al. (2016) because it can result in access to a new market, generate revenue and competitive advantages. Siu can see how these innovations open up new markets for Envac within for example the food waste sector. Research also shows that innovations are needed also for companies to stay competitive on the market, specifically on markets where environmental performance is highly valued (Hart & Milstein, 2003). Envac has a collaboration with the local university in Hong Kong to develop a product which can handle food waste more efficiently. Siu means that this will hopefully lead to innovative solutions for waste collection and further decrease the environmental impact regarding food waste.

Corporate structure

Envac is a subsidiary of Stena Adactum AB, which is a Swedish corporation and they have several other subsidiaries all around the world in, for example, America and Europe. The requirement from Stena Adactum AB is that all of their subsidiaries are actively working with the three values; the environment, the employees and the community. In what way Envac is supposed to work with these three is communicated through their intranet, it reaches all of the employees at Envac and influences how sustainability is incorporated in their business practices. This shows how the corporate structure can be a driver for sustainable business practices and confirms literature stating that depending on the values of the owners, the implementation of sustainability will differ (Gouldson, 2008). This structure affects the culture within the company and does according to Siu, create awareness regarding sustainability amongst the employees. According to Gouldson (2005), depending on which organizational capabilities a company have, such as management systems and sustainability strategies, these can be drivers for companies to incorporate sustainability in their operations. Envac is working with environmental and quality management systems, which Siu means improve their internal capabilities to integrate sustainability within their business practices. Working with environmental managements system is also a response to the external pressure that Envac is experiencing from the market and the government. This confirms the literature regarding how the capabilities are used in order to handle external pressure from stakeholders (Gouldson, 2005).

Customer demand

According to Porter and Kramer (2006), the customer demand can be a driver for sustainable business practices since it can generate value to the customer and in turn, result increased revenue. Envac has a wide geographic customer base – ranging from Asia to Europe – and Siu can see how their customers are demanding more resource efficient products also within the waste collection industry. The demand is mainly coming from Europe, but Siu can also see that the demand in Hong Kong and China is slowly emerging as well. This can according to Siu be seen as a driver for Envac to further develop their product and to make it easier for their customers to recycle their waste. However, Siu means that it will take time for the Chinese population to adjust to a more sustainable lifestyle and therefore, he thinks that the demand and awareness of sustainability will emerge slowly. When developing a new system, Envac is always collaborating with their customers to meet their demands of sustainability and efficient waste collection systems. Depending on customer's values, a company can be seen to create shared value, in terms of satisfying the customer's need but also improving the company's brand value (Gouldson, 2008; Peattie, 2001). Envac tailor their system to the customers' needs, for example at Hong Kong Science Park, it can be seen that they have divided the waste

collection into two fractions; general waste and paper. Here, the customers value that fewer trucks circulate in the Science Park, reducing the local pollution levels and increasing the convenience of an automated waste collection system.

5.1.3 Current Consulting Group

In the interview with CCG's Partner and Managing director, Björn Wahlström, in Hong Kong, the following drivers were identified.

Government

What Wahlström can see is that the increased focus on sustainability in China has led to stricter punishments for owners of manufacturing sites that do not follow the government's environmental policies. This has changed the way that the manufacturers are operating, and they are now more strictly following the environmental regulations from the government. These types of regulations can be seen as a driver for companies to work with CE and to include it within their business practices (Porter & Kramer, 2006). CCG can see this happening with suppliers that they audit for their customers, since more are working with their environmental performance, already before the customer's demands are set (pers. comm., Wahlström, 2019). Wahlström can see that the Chinese government understands the severity of their environmental situation and is taking measures to improve national sustainability, without the pressure from European companies. Wahlström means that this can be seen as a driver for their customers and in turn their customer's suppliers to further improve their business practices and to adjust to the CE policies that China is implementing. Wahlström can also see how the regulations from the government have had an effect on the environmental performance of the companies that CCG is conducting audits on. This is in terms of stricter controls where yearly environmental assessments are conducted by the government and are available for CCG to use in their audits. Having required environmental assessments on companies can according to Gouldson (2008), influence companies to further work with sustainability and towards CE. The assessments increase access to environmental information which in turn can ease the sustainability work and further be a driver for companies to improve their environmental performance (ibid.).

Customer demand

According to Wahlström, customers are one of the main impellers for sustainability in the manufacturers' production sites in China. Few proactive actions are taken by the suppliers that CCG is auditing before the directions come from the customers to improve sustainability in the production. This confirms what Porter and Kramer (2006) states in their research, that customer's demand is a driver for companies to work with sustainable business practices. As CCG does not work directly with the company that sets the demands on sustainability, their knowledge of the demand for sustainability can only be analysed from what areas they are asked to look into. The trend is a decrease in the social sustainability areas and an increase in the environmental sustainability area as well as demands connected to CE. Wahlström sees that their customers are demanding environmental audits when evaluating which suppliers to work with and that this is an aspect that usually is incorporated in the overall audit. The environmental audits are therefore according to Wahlström added to their regular audit in order to add value for their customers. This demand can, therefore, be seen as a driver for CCG to incorporate sustainability aspects in their auditing service. By doing this, it confirms the research where Porter and Kramer (2006) means that these types of business practices can generate added value to their customers.

5.1.4 Bluewater Group

In the interview with Bluewater's Business Developer, Viggo Ljungqvist, in Hong Kong, the following drivers were identified.

Innovation

Bluewater has production in both Sweden and China. Both manufacturing locations are owned by the company, which is beneficial as it gives Bluewater direct control over their production and they can continuously develop and improve their products (pers. comm., Ljungqvist, 2019). The public view on water purifiers is that it is expensive and a premium product. Ljungqvist explains that this perception is something they have to face a lot and are trying to find innovative solutions to help change. Bluewater is looking into different ways to make their technology available to more people, and one thing is having leasing solutions. Having the possibility of leasing Bluewater's technology could help support that investing in a water purifier is not a short tie luxury but a long-time benefit, Ljungqvist says. This is a new way of operating and could open up to new markets for Bluewater, markets where customers who today cannot afford Bluewater's product could then be able to lease the product instead. This is in line with what research states of sustainability innovations, that it can be seen as a driver since it opens up new market opportunities and to other customer segments (Engert, et al., 2016).

Corporate structure

The ownership structure of Bluewater is that they are part of the investment corporation Blue AB and is owner-managed with the view that sustainability is an opportunity for them to create value. The CEO of Bluewater is a key driver of the company with great vision and energy forward for sustainability and clean water to everyone, according to Ljungqvist. This confirms the literature where it is stated that if the company is owner-managed and the management views sustainability as an opportunity – it can be a driver for companies to work with these aspects. Bluewater is working towards CE in the sense that they are reducing the use of plastic resources and lowering the use of virgin resources. All this in line with the 3R-principles (Sakai, et al., 2011).

The CEO is also influencing the culture of the company and the culture is also shaped by the values of improving the social and environmental aspects within the society. The communication of this throughout the company it well, according to Ljungqvist, and all of their employees are incorporating these values in their work. This is seen clearly also since their image is to be ingenious doers in society. Confirming Gouldson's (2008) statement that culture influences how companies implement sustainability in their business practices, this can imply that the culture is a driver to work with sustainability.

Environmental and social responsibility

According to Ljungqvist, values regarding sustainability, safe drinking water and decreasing the negative impact from single-use plastics are key drivers for Bluewater. The company's values regarding social and environmental issues can be a driver for them to incorporating sustainability within their business practices (Engert, et al., 2016). If these issues are highly valued and seen to be important, the business practices will be influenced by these values and further implemented in the core business on a long-term perspective (ibid.). Bluewater aims to take their environmental responsibility by reduce the use of single-use plastic bottles in the world and make clean water accessible directly through the tap. The employees of Bluewater share the company's values to "do good" for the customer, the planet and humanity. It is the internal commitment to these values that are driving their work forward according to Ljungqvist. This is not seen as ad hoc actions or in terms of donations to charities but rather their long-term commitment to their stakeholders. By having long-term commitments, companies can also better satisfy their stakeholders demand for sustainability and create legitimacy in these actions (Falck & Heblich, 2007). Bluewater's social responsibility can be seen in their goal to make safe drinking water accessible for more people around the world, no matter what financial status they have. These values are deeply incorporated within the core

business and it is through this commitment that they become part of a CE and reduces the resource-use related to both energy and plastics.

Customer demand

In Hong Kong, Ljungqvist can see that the awareness of sustainability and the impact of production on the environment is increasing. Ljungqvist says that it is a growing movement that is unsatisfied about how the government does little to improve the environmental situation in Hong Kong. Ljungqvist establishes that Bluewater's customers are positive to their sustainability vision and say that this is something that makes Bluewater stand out from their competitors. The customers' demand for improved environmental performance can be seen as a driver for companies to incorporate this in business practices (Porter and Kramer, 2006). For Bluewater, this can be seen as a driver for them to continue to develop their systems by lowering the environmental impacts within production and enable access to clean water for more people. However, the reason for the demand of Bluewater's product is not only for environmental reasons but often also from a social and health perspective. Ljungqvist explains that many developing countries have not yet come to a point where they have demands on environmental grounds but has a great need for safe water. He further explains that this is part of their social sustainability work and in order to meet this demand, they have to make their products more accessible for all types of customers. It is a driver for them to find solutions of how their product can be affordable for all their customers that are in need for safe drinking water, which can be seen to be a way of improving their social performance.

5.1.5 H&M Group

In the interview with H&M Greater China's Sustainability manager, Hanna Hallin, in Hong Kong, the following drivers were identified.

Government

According to Porter and van der Linde (1995), governmental regulations and initiatives can be a driver for companies to work with sustainability and towards CE. However, in H&M's case, it is perceived to at times be the other way around where H&M is able to influence the government's regulations instead. Hallin explains that the Chinese government is interested in what H&M is doing for the textile industry when it comes to recycling and CE (pers. comm., Hallin, 2019). H&M are often invited to participate in dialogues about these issues and have hosted visits for them in Sweden where they experience how many issues are managed and how recycling is regulated there. Hallin thinks that H&M can contribute to the governmental discussion with the more specific industry knowledge that might be lacking in today's regulation and to help connect the different sectors within the textile industry. Initiatives and attitudes regarding CE from the government can be a driver for companies, since it can ease the work with these aspects but also foster a positive environment regarding environmental investments (Porter and van der Linde, 1995). For H&M this positive attitude regarding CE from the Chinese government can be seen as a driver for them to further develop their own business practices towards CE and that their investments are positively received.

Innovation

Innovations can be seen as a driver for companies to work with sustainability since it can lead to cleaner production and decreasing companies' environmental impact but also a way to stay competitive (Engert, et al., 2016). To Hallin, innovation within CE in the fashion industry is of great importance and a driver for them to further work with CE in their business practices. H&M has decided to invest all earnings they receive from the recycling of textiles from the stores in the H&M foundation. This foundation supports global research projects with the objectives to solve issues in large scale recycling of textiles and to not lose the quality of materials during this process. HKRITA is a research facility in Hong Kong dedicated to the

textile industry that has now, with funding from the H&M foundation, opened the first textile factory that can recycle textiles with mixed fabrics. This innovation has enabled H&M to recycle more of their textiles and also not risk losing the quality of the materials, all in line with their goal of becoming 100% circular by 2030. China has some of the leading factories in the industry when it comes to yarns made from recycled PET-bottles, according to Hallin. Having HKRITA's factory close to where many other leading modern manufacturers are situated eases how H&M can introduce this new innovation and help spread the potential benefits. It also opens up new markets for H&M to better handle recycled materials and to use it within their production of new clothes and textiles. This confirms what literature states, that innovations in sustainability can lead to new market opportunities (Hart & Milstein, 2003).

Financial performance

The financial aspects can also be seen to be a driver for companies to work with sustainable business practices since it can result in cost reduction and increased financial performance (Schaltegger & Lüdeke-Freund, 2012). For H&M, it has been a business decision to invest in research, new strategies regarding CE and to work with this throughout their whole company. There strategic donations made through H&M Foundation, such as to the HKRITA-project, regarding the recycling of textile which in the short term can be viewed as costs according to Hallin. However, she points out that this is a strategic business decision based on the background of that they need to change their business in order to be successful in the future since the planet's resources are limited. This confirms what literature addresses regarding reduced costs when taking future risks into account and to make investments that will be profitable in the long-term due to future regulations or conditions on the market (Epstein & Roy, 2001). H&M has also made investments in companies that contribute to CE in the textile industry such as Sellpy, Renewcell and WornAgain. All of these companies help to create a convenient second-hand market and gives fabrics new value through recycling. Hallin says that H&M sees this as a financially profitable investment in the long-term where the goal is to make their research and innovations adaptable on a larger scale as well. In addition, another driver within the financial performance is the added value that the CE work generates to H&M's brand and products. This increases sales and also gives H&M a stronger competitive advantage in the markets where these aspects are valued according to Hallin.

Corporate structure

H&M is a listed company, which means that they have to take their shareholders' values into account when making strategic decisions. Depending on the corporate structure a company have, sustainability will be viewed in different ways and if the owners are valuing long-term investments and improved environmental performance, the structure can become a driver for the company (Gouldson, 2008). Hallin means that the decision to work with CE was a strategic business decision and also a way of communicating this work to their shareholders. This shows that the shareholders' value the long-term investments and strategic decisions regarding CE and therefore, the structure can be a driver for H&M. The corporate culture can also be a driver if sustainability is viewed as an opportunity within the company rather than a threat (Gouldson, 2008). Within H&M, the corporate culture that Hallin can see is that everyone comes to work in order to make a difference and to create long-term value for both their customers and society. The employees of H&M are according to Hallin value-driven and believes in the work that H&M is doing regarding their vision of becoming 100% circular by 2030. Hallin means that the culture within H&M is seen to be a driver for them to work with CE and sustainability since the company puts sustainability values in great focus in all that they do.

Environmental and social responsibility

The internal drive for companies to work with ESR can also be a driver to incorporate these values within their business practices (Engert, et al., 2016). This can be done through working

with CE and incorporating these values in every business decision (Geissdoerfer, et al., 2017). Hallin describes sustainability and CE as something in the core of H&M and says that their efforts are driven by a willingness to contribute to a more sustainable China. This is also to make their employees feel proud of the company and the work that they do. It is important that companies with the aim to take this responsibility, have long-term perspectives on these actions and include all stakeholders when making these decisions (Falck & Hebllich, 2007). H&M is making this long-term commitment through committing to becoming 100% circular by 2030, using sustainably sourced materials for all of products. It is a way for them to take responsibility for their environmental impact and to do what they can to lower this impact. To take social responsibility, companies can invest in society and aim to improve individuals' life quality (Porter & Kramer, 2006). H&M believes in doing what is right and sensible, their work should not lead to an alloy of others but everyone at H&M should feel that they contribute to society, making fashion more democratic and available to everyone. This is also part of the social responsibility according to Hallin, where they want to make sustainable fashion available for everyone and not only accessible through the high-end fashion.

Customer demand

If customers demand sustainability to be incorporated within businesses, this can be a driver for companies to further work with this and to communicate what they are doing (Porter and Kramer, 2006). According to Hallin, the main customer demand for recycled materials can mainly be seen from the European and to some extent also the American market. Where these types of values are demanded, the literature points out that shared value can be created for the customers and the company (Porter & Kramer, 2006). This can Hallin see happen mainly on the western market where customers are willing to bring their used clothe to the stores for recycling and also demand sustainability information from the company. In China, this demand can be seen to be increasing but more slowly and with more focus on the health and pollution aspects of the products. This confirms Su et al. (2016) research on that the Chinese market is starting to become aware of environmental issues but are large population is still lagging behind. Hallin means that the change towards more sustainable and circular fashion needs to happen in collaborations with the customers and that is one of the drivers for H&M to making it easier for the customers to contribute. Hallin can see that the trend of recycling clothing is emerging in China and Hong Kong and she thinks that this is a trend that will come even stronger as new generations start to become more aware of sustainability.

5.2 Barriers for CE and sustainable business practices

In this section, barriers for the five case companies that were identified from each of the respondents are presented and analysed through the analytical framework of this study.

5.2.1 Nilorn

In the interviews with Nilorn's Sustainability Manager Anna-Karin Wårfors in Sweden and Supply, Sourcing and CSR Manager, Cheryl Hall, in Hong Kong, the following barriers were identified.

Legitimacy

According to Wårfors, Nilorn needs to communicate their sustainability work, avoiding that it turns into greenwashing due to lack of evidence for their work. This is why all of their work has to be genuine and provable, which also means that the work they do should be quantified, measured and communicated to the stakeholders. This can be seen as a barrier for Nilorn to work and communicate their sustainability work since they do not want to risk being viewed as untrustworthy by their customers. Wårfors also points out that since Nilorn is a listed company, they have their shareholders to consider when making strategic decisions regarding their sustainability work. Being open and transparent is pointed out by Engert et al. (2016) as crucial

in order to maintain legitimacy and to make impacts more manageable. Nilorn is part of sustainability certifications and engages in initiatives as a way of managing and asserting their quality and values, according to Wårfors. This is a common practice, in line with Engert et al.'s (2016) research. Assessing risks related to Nilorn's production, brand value and human resources are important indicators for Nilorn to be aware of. This can be in terms of identifying the risks related to the production regarding what chemicals are being used, how their workers are exposed to these chemicals and what effects these chemicals may have on both the environment and the workers. This can be challenging since not all effects are seen directly but rather emerge over time. According to Wårfors, Nilorn also has several initiatives in the company to work against corruption, both for the community and their workers. These efforts are important for both internal and external communication in order to fully embrace sustainable business practices (Giunipero, et al., 2012).

Government

Hall can see that there is a lot of pressure on manufacturers coming from the Chinese government regarding both environmental and social aspects within the implementation of CE. The government can implement regulations overnight, which can affect manufactures location as well as what materials are accessible, regardless of the individual firm's environmental performance. The implementation of regulations happens quickly and sometimes, Hall explains, it is challenging for Nilorn's manufacturers to be able to adapt to these changes and, in some cases, they are instead forced to close down. Nilorn can have collaborations with manufacturers and help them improve their environmental performance, but regardless, if the manufacturers are in the wrong geographic place for that type of production, they still risk being closed down by the government. This results in that Nilorn has to find new suppliers, which can both be costly and time-consuming. It can therefore be seen as these quick implementations of governmental regulations can pose as a barrier for Nilorn, since it does not necessarily pay off to make environmental investments for their manufacturers because they might be forcefully closed down regardless of their environmental performance. These relocations and restructuring of industry are an effect of the regulations discussed by Su et al. (2013) and Geng et al. (2010).

Su et al. (2013) also identify the financial challenges posed by the regulations, which is also pointed out by Hall. In China, many of Nilorn's manufacturers have to pay for their wastewater and solid waste, which is a way for the Chinese government to create incentives for lowering the amount of waste that is created. According to Hall, they can meet resistance at the manufacturer when they ask them to make additional investments for more financially demanding certifications, such as bluesign. This is because they are already paying for their environmental impact related to their waste, to the government. Some markets are more open and have gotten further along in the implementation of regulations and the adoption of more sustainable business practices, according to Giunipero et al. (2012). This may cause friction when companies want to do investments that go further than laws and compliance, such as Nilorn.

Investment in technology

According to Hall, Nilorn has to be able to motivate their suppliers and manufacturers that investment in more sustainable technology can generate long-term profits and also that these investments can generate improvements within their internal organization. However, she explains that this sometimes poses as a barrier as manufacturers often want to see returns on their investments quickly. Su et al. (2013) also discuss this issue of difference in timeframe when it comes to return on investments. The lack of incentives for investment causes China to often lag behind (ibid.). Nilorn also faces the challenge of gaining access to the right technology

for their industry and that the labelling industry is lacking behind in the development of sustainable business practices. This is, according to Hall, because the textile industry has gotten most of the attention and the labelling industry has been left in the shadows. This has resulted in less pressure from external stakeholders and therefore it hasn't forced the industry to develop in a sustainable direction. This supports that even though the Chinese government has implemented environmental regulations, the lack of incentives and more forcing regulation has led to few innovation-attempts to lead the change (Su, et al., 2013).

Public awareness

Another aspect that can be seen as a barrier for companies to work with sustainability is if the public awareness about these aspects is low (Su, et al., 2013). According to Hall, the Chinese costumers do not have an as high demand for sustainability within businesses as compared to Sweden. The Chinese consumer, Hall explains, is rather focused on health aspects or improvements that make a visual difference. This can be seen as a barrier for Nilorn to further develop their sustainable business practices since the demand from the market is very low and might not generate any beneficial results. Hall explains that certifications and awards are important traits to the Chinese market, but they are not as willing to look further down the chain to get the full picture of the circularity of product. Hall means that what is most important for the Chinese customer is the face of the product, rather than the process of making it. This supports Su et al.'s (2013) reflection that the Chinese customer does not yet demand sustainable business practices to a larger extent. Even though there are national initiatives to change the industry in China, the strive for socioeconomic change needs to include civil society as well and changes in people's mindsets (Ghisellini, et al., 2016).

5.2.2 Envac Far East

In the interview with Envac's Managing Director, Jeffery Siu, in Hong Kong, the following barriers were identified.

Management control systems

According to Siu, it is difficult to measure in absolute numbers the environmental and social impacts of Envac's technology as well as gaining access to the right data. Siu discusses that this could be because the effects of the alternative of not having their system, are usually not available and therefore it is difficult to make a comparison of what improvements are created through Envac's system. Engert et al. (2013) and Giunipero et al. (2012) also discusses this lack of non-financial indicators for sustainability available. This is supported by Siu's reflection of the difficulty in measuring the sustainability impact of their product due to the lack of applicable indicators. Envac works with the certification ISO9001, as all subsidiaries of Stena Adactum AB, where commonly used measures are included but are still lacking in the non-financial area.

Government

In some areas, Siu can see that the government is adjusting towards CE due to the Chinese regulations and that these regulations are seen to become more influential as time passes. Siu can see the effects of regulations described by Geng et al. (2010), of eco-industrial parks and industrial symbiosis. However, Siu also says that the waste management regulations are lacking far behind in Hong Kong and that the government is not making any strong efforts to make changes as from what Siu can see. This can be seen to be a barrier for Envac to make further investments related to environmental performance since it is not an aspect which is supported by the government, which supports Su et al.'s (2013) discussion as well. Siu says that government regulation demanding more sustainable and circular solutions for waste management would be of benefit to Envac, as their technology can be a part of the solution. According to Siu, this is due to the fact that residential housing is a scarcity resource in Hong Kong which the developers can sell quickly and at a high price, without incorporating any

additional luxuries or efficient waste collector systems. Therefore, these types of investments are viewed as an unnecessary investment for developers and are not something that Envac can see as an increasing demand for unless governmental regulations are initiated to change this. This shows the need for complex solutions since many different aspects need to be taken into account in order to work with this complex issue, as discussed by Engert et al. (2016).

Public awareness

According to Siu, the Chinese population is traditional and have their set ways of working, which also implies that changes in behaviour and values take time. He can see that there are sustainability initiatives and some customers demanding these changes, but the greater mass is still not regarding sustainability and CE as a priority. Due to this, Siu means that the demand for sustainability from Chinese customers is not quite there yet. This shows that low public awareness can be a barrier for Envac to motivate their work with sustainability within their business practices. This aspect further supports Su et al.'s (2013) and Engert et al.'s (2016) view of the Chinese market as not yet fully engaged in the demand for more sustainable business practices. Other factors of this that Siu discuss is, for example, the fact that China is a large country with a large population which makes it challenging to get the message across to the whole population. Siu points out that the educational level varies a lot between the different geographical areas of China, where it is, in general, lower on the countryside comparing to the cities. CE is not yet well recognised by the Chinese population and according to Siu, it will take time to educate the whole population about these issues. This could imply that due to the low public awareness, the demand for sustainable waste management is low which could pose as a barrier for Envac to further implement their products in China. This view is confirmed by Su et al. (2013), where research shows that the public awareness in China about sustainability is low and this can lead to low incentives for companies to further improve their environmental performance (Engert, et al., 2016).

5.2.3 Current Consulting Group

In the interview with CCG's Partner and Managing Director, Björn Wahlström, in Hong Kong, the following barriers were identified.

Management control systems

With CCG's customers, the demand for sustainability audits is quite low on the Chinese market. Previously CCG offered more wholesome sustainability audits but as demand was low, Wahlström explains, they developed a light version where CCG conducts an audit focusing on quality performance indicators where social and environmental indicators are also reviewed, but to a smaller extent. Wahlström says that this service is an adoption to the market's demands, where sustainability indicators are asked to be assessed by their clients but not to the extent of them being the main focus for their clients. Wahlström does not discuss whether this lack of demand is due to lack of interest or what it might depend on. The theory discusses the issue of current management systems using inadequate indicators more focused on financial performance (Giunipero, et al., 2012). However, this issue is not pointed out by Wahlström as a reason he has seen in their demand for the service, just that it is not a big demand for a wholesome sustainability audit.

Access to information

Wahlström has seen an improvement in access to information regarding sustainability performance in China, much due to national policies that require companies to measure and report some of their impacts. However, these policies do not target all aspects of sustainability, but only include some indicators, such as water and air quality. This could pose as a barrier for CCG to conduct environmental audits on the suppliers since not all information is made available for them. Indicators on social performance and conditions are not included in national

policy campaigns yet, according to Wahlström, and still requires CCG to conduct their own investigations. Su et al. (2013) identify accessing information on sustainability effects as an issue in China, which is both supported and contradicted by Wahlström's answer of this, depending on what factor of information is demanded.

Investments in technology

There are few proactive actions taken before the directions come from the customers to improve sustainability in the production in China, Wahlström observes. Su et al. (2013) description of how China is lagging behind in technological development, is supported by Wahlström. He, however, recognizes that when they meet with the suppliers and assesses their environmental sustainability that they are not unfamiliar with the concepts which were the case a decade ago. Before CCG could be met by disbelief on why they were at the factory. Now, the suppliers know that international customers have demands when it comes to sustainability and expects them to have directions, sometimes also help with investment in improved technology. When asked if there are proactive changes initiated by the suppliers themselves, Wahlström does not see this very often and says that the demand usually comes from the European customers and the supplier wait for instructions from above. Su et al. (2013) describe the CE climate for micro-level actors as not being imperative but more suggesting when it comes to technological changes and investments. As Wahlström describe, the investment forces come more from the customers than the government, which suggest that Su et al.'s (2013) reflection is correct.

5.2.4 Bluewater Group

In the interview with Bluewater's Business Developer, Viggo Ljungqvist, in Hong Kong, the following barriers were identified.

Investments in technology

Engert et al. (2016) stress the need for investment in sustainable technology and production. China's latest five-year plan includes strategies for how companies on a micro-level should incorporate eco-design in their business practices (Su, et al., 2013). Ljungqvist says that Bluewater strives to work with durable and sustainable materials that assert for the quality and sustainability of their technology and product. Today, Ljungqvist explains that the plastic used in their water purifiers are toxic free, however, the use of recycled materials is not something incorporated yet. According to Ljungqvist, this is something Bluewater is looking further in to, but it needs further investments in research to find innovative solutions for the material used to be more environmentally friendly and also fit into a more circular system.

Public awareness

According to Ljungqvist, water purifiers are still perceived as a premium product and the effectiveness of different types varies a lot on the market. This poses a barrier for Bluewater, and part of their work consists of educating the customers and the market about their product. Even though Bluewater has one of the most efficient technologies on the market, the perception is still that it is easier and cheaper to continue buying water on bottles. It is difficult to change people's perception, according to Ljungqvist, but Bluewater is continuously striving for the market to see it as an investment that benefits both themselves and the planet.

5.2.5 H&M Group

In the interview with H&M Group Greater China's Sustainability Manager, Hanna Hallin, in Hong Kong, the following barriers were identified.

Government

Hallin points out the Chinese government as a key stakeholder when it comes to CE and recycling. Hallin explains that, previously, the recycling business and all type of management related to recycling textiles have been prohibited in China. This forced H&M to send all

recycled materials to Germany where they recycle the textiles to, in the next step, send it back for manufacturing in China. This poses as a barrier for H&M to reach their goal of becoming 100% circular by 2030 since the availability and logistics are not there for recycled textiles in China, yet. To H&M, the availability to process recycled materials in the same place as where they are sorted and not having to ship them around the world is important. China has also prohibited the import of textiles which, together with regulations on recycling, makes it difficult for H&M to change their materials that are manufactured there. Today, millions of tons of textiles end up at landfill in China even though there is a great value in it. Hallin explains that, in order to capitalize on this value, China needs to have a structure that supports the recycling of these materials as well as the economic incentives for companies to recycle. As long as this structure around recycling is not established, Hallin says, this issue forms a barrier for reaching a CE. Engert et al. (2016) discuss that the complexity of CE and sustainability demands for more thought through and diverse regulations in order to manage the problem, not only the symptoms of it. Hallin's explanation of how Chinese regulation goes against itself in the matter of encouraging more circular practices while at the same time having bans on the material that are needed for this change, all making it difficult for companies like H&M to fulfil their vision.

Investments in technology

A barrier regarding the holistic changes towards CE that Hallin sees is how regulations directed to support CE sometimes might lead to reversed effects as they are only constructed to deal with a symptom of the issue but not the issue itself. Hallin explains that H&M, in their dialogue with the Chinese government, try to use their expertise in the textile industry to affect how regulations are put forward in order for them to be as efficient as possible. There is an unpredictability in how Chinese regulation might affect companies as well, in that if contamination is made aware of the first action is not to find the responsible emitter. Instead, Hallin explains, a whole area of manufacturers could be forced to move or have to shut down even though they are not the main emitter. This might lead to investments made in factories being lost as factories have to move to different areas. According to Su et al. (2013), the need for investment in sustainable technology and processes is large in China. By the risk, uncertainty and unpredictability in that these investments might be undone due regulations, leads to resistance from the manufacturers to make investments and technological enhancements. Even though the Chinese five-year plans are supposed to influence firms to take actions, according to Su et al. (2013), these uncertainties might lead to resistance instead.

Public awareness

According to Hallin, Chinese customers have not yet reached a point where they demand sustainability considerations in their shopping experience. This can be seen as a barrier for H&M to work with sustainability because if the demand is low, their work could risk not generating any financial benefits. In general, awareness in China is seen to be that the customers are aware about issues regarding the environment and that pollution has negative effects but are still more concerned about the personal health rather than environmental and global impacts. This supports Su et al.'s (2013) discussion of lack in public knowledge. Also, the view on recycled materials and sustainable consumption is not the same as in nations which are further along on this matter and values. Hallin says that their journey with making the recycling of textiles attractive in their stores has been difficult due to these different' views, both structural and cultural reasons. Most H&M brand stores are not situated close to the living areas but in big malls which therefore makes it inconvenient for customers to transport textiles for recycling. This also poses as a barrier for H&M to overcome in order to better motivate their customers to recycle their cloth. There is also the view on using clothes made from recycled materials or second-hand clothing, where it is often seen as unsanitary or wrong for superstitious reasons, Hallin explains. The socioeconomic change that the government is

striving for in China has some distance to go (Ghisellini, et al., 2016) - regarding education and awareness - before the demand can increase and motivate more companies to incorporate CE and sustainability due to market demand (Engert, et al., 2016).

5.3 Analytical summary

In table 5, the analytical findings are summarized based on the theoretical framework.

Table 5: Summary of analytical findings

	Drivers	Barriers
<i>Nilorn</i>	<ul style="list-style-type: none"> • Government – stricter regulations & increased access to information • Corporate structure – stakeholder’s sustainability values, certifications • ESR – desire to lower environmental impact • Competitive advantage – keep & attract new customers • Customer demand – sustainability values, European demand 	<ul style="list-style-type: none"> • Legitimacy – Avoid greenwashing & risk • Government – Unpredictable enforcement & incoherent regulations • Investments in technology – Short time loss against long term win & lack of technology • Public awareness – Focus on health aspects & visual improvements
<i>Envac Far East</i>	<ul style="list-style-type: none"> • Government – stricter regulations, collaborations • Innovation – efficient systems • Corporate structure – internal values, management systems • Customer demand – resource efficiency, European demand 	<ul style="list-style-type: none"> • Management control systems – Lack of adequate indicators not focused on economic effects • Government – Lacking regulations for sustainable solutions • Public awareness – Lack of knowledge in China overall
<i>Current Consulting Group</i>	<ul style="list-style-type: none"> • Government - stricter regulations & increased access to information • Customer demand – European demand 	<ul style="list-style-type: none"> • Management control systems – Low demand for sustainability control systems • Access to information – Improvements done but missing in some areas • Investments in technology – Improvements driven by customers, not manufacturers themselves
<i>Bluewater Group</i>	<ul style="list-style-type: none"> • Innovation – new markets • Corporate structure – internal values • ESR – increase access to water, lower resource use • Customer demand – social values, European & Chinese demand 	<ul style="list-style-type: none"> • Investments in technology – Sustainable & durable materials • Public awareness – Educating the market
<i>H&M Group</i>	<ul style="list-style-type: none"> • Government – openness towards recycling, regulations • Innovation – new business opportunities • Financial performance – increased sales, brand value • Corporate structure – stakeholder’s sustainability values • ESR – lead the industry towards CE • Customer demand – European demand 	<ul style="list-style-type: none"> • Government – Contradicting regulations & lack of holistic perspective • Investments in technology – Unpredictable & uncertain enforcements of regulations • Public awareness – Cultural reluctance & focus on health rather than sustainability

In this analysis, the following drivers have been identified and thematised based on the respondent’s answers: government, corporate structure and capabilities, customer demand, competitive advantages, financial performance, innovation, and ESR. This shows that the used analytical framework has been applicable in this study, but it should be reflected over that other factors could have been found if the answers were analysed through a different perspective and framework. In this study, it was found that all companies, but Bluewater saw the Chinese government as a driver when working for CE, which can show that the Chinese CE regulations

have influenced these companies. This confirms what Porter and van der Linde (1995), Gagelmann and Frondel (2005) states about the government as a driver. The corporate structure is seen as a driver for all companies but CCG. These companies all have owners or shareholders that value environmental and social issues as well as having a culture which views sustainability as an opportunity rather than a threat. This supports Gouldson's (2008) statement on corporate governance and its influences on companies' sustainability work. However, what differs from Gouldson's (2008) research is that even though both H&M and Nilorn have external shareholders they still value long-term sustainability investments and not only short-term returns.

Another driver that is identified is customer demand, which Porter and Kramer (2006) mean influences companies' approach towards sustainability. All companies can see customer demand as a driver, where mainly the European customers value sustainability and want the companies to communicate their work. Nilorn mentions that they also view their work towards CE as a competitive advantage and it becomes a driver for them to further develop this work since it increases brand value and reputation in the industry. This is, according to Pelozo et al. (2012), true where the research also shows that brand value is a crucial asset for companies to have. Financial performance is identified as a driver by H&M, where they can see that this can be improved through their work with CE. This confirms what Schaltegger (2011) states, where sustainability work can generate increased profits and reduce costs. Envac, Bluewater and H&M Group can see how innovation can be a driver to and create new market opportunities. This is in line with what Engert et al. (2016) states where innovation is discussed to open up new markets, enhance resource efficiency and increase competitiveness. The final driver, ESR is identified by Nilorn, Bluewater and H&M. This implies that their work is driven by their willingness to take responsibility for their social and environmental impact (Engert, et al., 2016).

In this analysis, the following barriers have been identified and thematised based on the respondent's answers: legitimacy, management control systems, access to information, investments in technology, and public awareness. This can imply that the used analytical framework is applicable but also that other barriers might have been identified if other factors were used to analyse the companies. It is seen in the study that Envac and CCG saw that management control systems were a barrier when working towards CE in China and Hong Kong. They both state that the focus is more on other quality and health aspects than sustainability, as sustainability can be difficult to quantify. This confirms what Engert et al. (2016) and Guinipero et al. (2012) discuss the lack of appropriate ways to quantify sustainability effects. Only Nilorn mentioned transparency and communication as a barrier, referring to their work in creating legitimacy for their sustainability work and avoiding greenwashing, which is important, according to Engert et al. (2016). It was only CCG who mentioned access to information as a barrier, discussing how information has become more available for some factors but unimproved for other factors. This supports Su et al.'s (2013) discusses how China's fragmented governmental system led to the unclarity of where information could and should be accessed.

All companies but Envac discusses investments and technological enhancements as a barrier for engaging in more sustainable business practices. This is because it is perceived more as a short-term loss than a long-term improvement, as well as double payment related to waste management. This confirms Su et al.'s (2013) and Engert et al.'s (2016) discussion of the need for technological enhancement but low willingness from manufacturers to invest. Nilorn, Envac and H&M saw how the government, with its lack of and misdirected enforcement and lack

effective incentives, can be a barrier for working towards CE. Su et al. (2013) and Engert et al. (2016) discussion of how legislation and incentives are lacking in encouraging change on a firm level and do not embrace the complexity of sustainability and CE, is supported by Nilorn, Envac and H&M. All companies mention public awareness as a barrier to work with CE and sustainability in China and Hong Kong, describing the current awareness level as low. This supports Su et al.'s (2013) research and points at the need for human and institutional capabilities in order to increase awareness and with this demand for more sustainable and circular companies.

6 Discussion

In this chapter, a discussion is carried out related to the findings of this study and the research questions presented in Chapter 1. The theoretical framework that is used in the analysis has been of help to guide the discussion forward, but the discussion also relates to theories regarding CE in different contexts.

6.1 What drivers influence Swedish companies to work towards circular economy in their business practices in China and Hong Kong?

Due to the complexity of sustainability, it can be seen that the different drivers for a company to work with CE and sustainability are co-dependent and influence each other. It can be seen how most companies view the external factors - customer demand and government - as drivers whereas the internal factors are only viewed as drivers by some. Some drivers are more connected to each other than others, where customer demand is seen to be the driver that influence all the internal drivers. This can further imply that the different drivers are interconnected. The drivers that are seen to be connected to customer demand are the corporate structure, ESR, and competitive advantage. In addition, financial performance and innovations related to sustainability can affect the competitiveness on the market, which in turn is also based on the customer demand. The governmental influence on the five case companies in this study can be seen as less affected by the other drivers, which could be due to the fact that the government is an external stakeholder with more than the companies interests in mind.

When analysing the five case companies, it is clear that the *government* can be a driver for them to work with CE and sustainability. This confirms the literature of sustainability drivers, where the government's regulations and policy play an important role in order to promote more sustainable business practices (Porter & van der Linde, 1995b). The companies confirming this all had in common that they saw an increasing environmental awareness from the government due to the demand for environmental assessments, stricter environmental regulations and increased demand for waste management. Therefore, it can be seen that Su et al.'s (2013) discussion regarding the stricter regulations of CE is confirmed. However, it contradicts, up to a point, the fact that firms in China are not incorporating these regulations within their business practices (Su, et al., 2013). Nilorn can see how their waste management has improved due to these regulations and Envac also points out that the government has influenced their work due to the increased demand on efficient waste collection systems. This is in line with Ashford's (2002) research because as the waste management systems are made more efficient, it can become a win-win situation for the company and the environment. Nilorn, Envac and CCG can also see how the access to environmental information has improved due to the government's regulation which confirms Gouldson's (2008) research. This can be seen as important for all mentioned companies when assessing their own environmental performance and also ease the communication to their stakeholders. It could also be a driver for them to continue to develop their environmental performance (Gouldson, 2008). For H&M the government has been a driver due to the fact that they have invited H&M to join discussions of how China can improve their CE policies related to recycling. This shows, according to H&M, that the Chinese government is open to changes within the recycling industry, which also encourages H&M to further invest in this. The literature does not discuss this type of converted influence, which could imply that H&M has a unique role in their position to interact with the government.

Innovation is, according to Engert et al. (2016), another factor which can become a driver for companies to work with sustainability, which is confirmed by the some of the companies in this

study. The companies mentioned how technological enhancement improves their environmental performance and helps them to reach new markets. Bluewater saw innovation to be a driver in the sense that they want to develop a new leasing program which could result in them reaching new customer segments. This new sales strategy could open up new markets and decrease the environmental impact, which in the literature is seen to be factors that drive companies' sustainability work forward (Hart & Milstein, 2003). H&M can also see how innovation drives their work towards CE through their research donations to HKRITA since new technologies for recycling within the textile industry could lower their environmental impacts and also increase the access to recycled materials. This goes in line with what Engert et al. (2016) state that innovation can lead to cleaner production and be a way for companies to stay competitive on the market. The literature also identifies the need for companies to find innovative solutions to adjust to sustainable business practices due to the scarcity of natural resources (Hart & Milstein, 2003). Innovative solutions related to resource scarcity is mentioned by H&M as a driver for them to invest in technology for efficient resource use. Innovations and investments can also be seen by Envac to drive their sustainability work forward to better fit into a circular system. Envac has made investments in research projects in order to find solutions of how to more efficiently handle food waste which, in line with Engert et al. (2016), could open up new market opportunities.

Financial performance is a factor that the literature discusses as a driver for companies to work with sustainability (Schaltegger, 2011). This is because it can generate brand value, increase revenue, increase competitive advantages, and reduce costs due to resource efficiency (Epstein & Roy, 2001). The companies in this study did not overall mention financial aspects when discussing their work related to CE and sustainability. All of them points out that their work is motivated to either satisfy their customers or gain competitive advantages, which in turn can be seen as increased financial performance. This is, however, not mentioned as a driver by the companies and the reason behind this could be that other drivers are seen to be more important or that the financial performance is not known by the respondents. CCG, which is a consulting firm, might not be able to see their sustainability work as a cost reduction since they are not directly affected by increased resource efficiency since they do not work directly with manufacturing or physical products. Within this study, the only company that mentioned financial performance as a driver was H&M. For them, their work related to CE is viewed as a business decision and aimed to generate future revenue. They see that these investments can satisfy their customers' demands, which can generate more sales and in turn create value for their customers. This is also an aspect which Nilorn touches upon, as their decisions to develop their "What can you do"-concept is also to stay competitive on the market and not risk losing market shares. This could be seen to improve their financial performance since it can lead to increased sales, but it is not a factor that is brought up by the respondent. In addition, Nilorn and Envac both work with environmental management systems, which according to literature is viewed to be a cost reduction (Epstein & Roy, 2001). Despite this, financial performance is not mentioned by the companies but rather viewed as a necessary component to be able to conduct business.

The corporate structure is seen to be a driver for companies to work with sustainability according to Gouldson (2008), which is also confirmed by the majority of the companies in this study. Nilorn, Envac and H&M all have internal capabilities to work with sustainability, either through certifications or through management systems. This can, according to Gouldson (2008), be a driver since it makes the work with sustainability more efficient, reduce costs and could increase a company's legitimacy. Using management systems is also viewed as a driver through a financial aspect, which can imply that the two drivers are connected with each other.

Nilorn and H&M are both listed companies and theory show that companies with external shareholder generally want to generate short term returns and do not value long-term sustainability investments (Gouldson, 2008). Within this study, this is proven not to be the case for neither Nilorn or H&M who can see that their shareholders value these long-term investments and wants them to be transparent about their sustainability work. This could also lead to an increased drive for the companies to work with sustainability and for H&M to continue their process of becoming 100% circular by 2030. For Bluewater, the CEO of the company is a key player for their sustainability work, which confirms what Gouldson (2008) states, where the management's view of sustainability is important for a company to work with these issues. The mother company of Envac incorporates sustainability within the whole corporation, which influences Envac's business practices as well. Both Bluewater and Envac can see how the ownership and management is driving their sustainability work forward which furthermore confirms Gouldson's (2008) research. The governance structure and capabilities also shape the corporate culture, where all companies but CCG sees that the culture is a driver to work with CE. The corporate culture of Nilorn, Bluewater and H&M is shaped in a way where sustainability is viewed as an opportunity for them to do better from a societal perspective. This also confirms Gouldson (2008) research, where it states that culture is a driver for sustainable business practices if it is viewed as a possibility rather than a threat. This connects to the next driver in this study where the motivation to "*do good*" and take responsibility for the environmental and social impacts is further discussed.

The values of a company and the desire to "*do good*" is a driver for sustainability work, which can result in companies taking *responsibility for their social and environmental impacts* (Engert, et al., 2016). Nilorn, Bluewater and H&M are all driven by sustainability values and a desire to contribute to a better society through improving the social and environmental aspects of their businesses. They do this through different initiatives, either by lowering the chemical use, improve their resource efficiency or reducing the use of virgin natural resources. The companies all agree on that the reason behind these initiatives is that they want to contribute to sustainable development and that these values are seen throughout the management and culture. This shows how all of these drivers are interconnected, and that neither corporate structure, culture nor ESR is isolated from one another. According to Porter and Kramer (2006), companies should incorporate their environmental and social responsibility within their core businesses and deeply anchor this within their business practices. By doing this, it could also generate competitive advantages, if the stakeholders demand this type of responsibility from the company (Porter & Kramer, 2006).

Within this study, it can be seen how *competitive advantage* is mentioned to be a driver only for one company, Nilorn. It should, however, be reflected over that more companies could have seen competitive advantages as a driver but did not mention this in the study due to unknown reasons. The competitive advantage for Nilorn is gained through frequently communicating their sustainability work, developing customer-designed products but also by having long-term collaborations with suppliers. Their reputation and brand value are also viewed to be important drivers when working with sustainability and CE. These aspects are, according to Porter and Kramer (2006), important to consider, but also that the actions cannot only be short-term but rather incorporated throughout the company. This study shows that the other companies do not mention competitive advantages as a driver, but based on the analysis, it can be seen how all companies could gain competitive advantages through their sustainable business practices. H&M states that their strategy to become 100% circular and lead the change within the textile industry is a way of managing future risks but also to satisfy the demand from stakeholders. By leading the change, it could lead to competitive advantages since it could generate positive

publicity, increased brand value and new customers. These are all valuable assets for a company, and a way to stay competitive (Engert, et al., 2016). Both Bluewater and Envac are companies where sustainable products are in focus, and it could be argued that by further working with sustainability and CE, they also gain competitive advantages. This can be in terms of gaining legitimacy from their stakeholders, having high quality products which are resource efficient and create unique selling points of how their products are more environmentally friendly than the competitors. Therefore, since Engert et al. (2016) means that competitive advantage can be a driver for sustainability work, it can be seen that this can be the case for both Bluewater and Envac as well. The point is also further made by Engert et al. (2016) that competitive advantage can only be a driver for sustainability if there is a demand from the stakeholders, and where the customers value sustainability initiatives.

The factor that all five case companies saw as a driver for their work towards CE and sustainability is *customer demand*. According to Gouldson (2008) and Peattie (2001), customer demand can be a driver for sustainability since it is through their demand that the company generate income and survive in the long run. The demand can influence the product designs, decision making, incorporation of sustainability and what information is published. The study also shows that the internal drivers that are discussed above all are related to customer demand, either from existing or potential customers. This could be because it is due to their demand, that companies can generate profit through CE and sustainability practices. Nilorn addresses the customer demand through for example their “*What can you do*”-concept and H&M through their vision of becoming 100% circular by 2030. Both these initiatives are created to satisfy their customers demand for sustainability, along with the companies’ desire to take responsibility for their environmental impacts. Therefore, it can also be seen how customer demand influences the factor of ESR but also innovation and financial performance. Nilorn, Envac, CCG and H&M can all see that the main customer demand for sustainability is yet from Europe, but that it is on the rising in China as well. CCG sees that the Swedish customers are the ones with environmental demands on their suppliers, and little is arising from the suppliers in China. This confirms Su et al. (2013) discussion on that the demand for sustainability is slowly emerging in China and that as awareness increases, the customer demand will follow. Bluewater can already see this demand in Hong Kong and how their products are received with a positive attitude from customers. Therefore, from Bluewater, the customer demand for sustainability is seen to be a driver for them to further develop their product to be more sustainable. The study shows that all five companies are in a consensus of that it is the customer that is driving the change towards CE and that it is through their demand that business practices can change.

6.2 What barriers influence Swedish companies to work towards circular economy in their operations in China and Hong Kong?

The barriers discussed in this study can be regarded as interconnected to some extent as they influence and are influenced by each other. This relates to the complexity of sustainability overall, where actions affect numerous dimensions simultaneously. Both the transparency and legitimacy barrier as well as the management system can be regarded as internal barriers. The barriers access to information, investments and technological enhancement, as well as public awareness, can be seen as external and all are influenced in some way by the government.

For companies, it is important to be transparent and to communicate with stakeholder, both internally and externally (Engert, et al., 2016; Giunipero, et al., 2012). Engaging in these activities helps companies establish *legitimacy* for their sustainability work and shows

stakeholders that the company is aware of its impacts on the environment and society (ibid.). In this study, only Nilorn addressed this as a barrier and discussed how they work to preserve legitimacy in their brand, in order to not be accused of greenwashing. The literature states this as a barrier, however, majority of the companies did not mention this issue in this study. Even though the companies did not mention this as a specific barrier it does not mean that they do not take legitimacy into account or view this as a barrier within their communication. Both Nilorn and H&M present yearly sustainability reports, which is a common communication channel used to gain legitimacy from stakeholders. External communication of sustainability is important, according to Giunipero et al. (2012), as it helps companies to keep their stakeholders informed on the company's initiatives and actions, in order to assure transparency and legitimacy. How internal communication is done can depend on the corporate structure, which also includes the corporate culture and values of the firm. The corporate structure and culture are in this study discussed as a driver, which might be one of the reasons this has not been identified as a barrier for the companies.

The use of *management control systems* that includes accurate and quantifiable performance *indicators* is, by both Guinipero et al. (2012) and Schaltegger and Lüdeke-Freund (2012), regarded as a barrier for work towards CE and sustainable business practices. According to Engert et al. (2016), there is a lack in systems and indicators that include more than the financial effects of a company and its sustainability performance, which is supported by Envac who has seen difficulties in measuring the positive effects of their waste collector solution. CCG can see a decrease in demand for sustainability audits and that the focus is more on quality management and working environment than sustainability aspects. However, some of the companies in this study does not mention management control systems and performance indicators as a barrier for working towards CE. However, this does not exclude it from being a barrier for the company, just that it was not brought up within this study. Nilorn, Envac, and H&M are all engaged and work with various sustainability certification and/or management control systems, viewing these as something positive. Even though the literature points out the use of accurate and efficient management control systems as a barrier (Engert, et al., 2016), according to this study, this is still a commonly used tool for companies to manage in control their environmental impact and performance. Whether the performance indicators included in the systems or certifications are sufficient enough or not, is not discussed by the companies other than Envac. However, this does not mean that this is not a problem and there is still a need for developing indicators for non-financial measures. This can be seen in literature where theories of CE emphasis how nature and economy are connected which should also be depicted in how performance is measured (Ghisellini, et al., 2016).

Su et al. (2013) discuss how *access to information* poses a barrier for working towards CE. In China, this is a concern as the governmental structure is fragmented, making it complicated and time-consuming to access the right information (ibid.). However, in this study, only CCG addressed this barrier and mentioned that this issue is accurate, but also state that the availability depends on what factor that is requested. Previous measures and legislation from the Chinese government have increased controls on some factors, such as water and air quality, which are therefore more closely monitored (Su, et al., 2013). The reason only one of the companies in this study mentioned access to information as a barrier could depend on their relationship with the manufacturers or that the respondents were not aware of this issue. Working closely with or having direct control over the factories in which the companies' have their production might increase the involvement in the gathering of information. If firms outsource production instead, the information that is requested is gathered by the external partner and not always done by the company itself. In the latter case, when information is not gathered by the company themselves,

it does not necessarily mean that requirements of information are lower. As CE is a system approach that advocates awareness throughout the whole value chain (Merli, et al., 2018; Giunipero, et al., 2012), companies with multiple levels of suppliers often have extensive requirements on what information they need in order to monitor their impact. As some of the companies point out, access to information has changed for the better in China due to policy regulations and increased monitoring, which indicates that the government plays an important role in this barrier. However, in Su et al.'s (2013) explanation of this barrier, China's fragmented governmental system is an issue and that if improved, it could ease the work towards CE. This could imply that the barrier of accessing information can be related to the government's regulations and this shows how the two barriers affect each other as well.

The influence of *governmental incentives and enforcement* of legislation poses a barrier to working with CE in China, according to Su et al. (2013). The majority of companies in this study mention this barrier, discussing how a lack of financial incentives and support combined with low and unpredictable enforcement practices causes worry in manufacturing. Nilorn, Envac and H&M all agree on that the Chinese CE policy work today has not fully grasped the complexity of CE, which has led to legislation being inefficient and sometimes contra productive. Engert et al. (2016) and Guinipero et al. (2012) point out this complexity, discussing how sustainability and CE need to be addressed from various angles and on multiple dimensions simultaneously. In the above discussion of drivers, the government is mentioned by all, but one company in this study, indicating that the Chinese CE policy context has a large influence on companies' actions in the matter. The companies in this study also discuss how they are affected by the Chinese regulations and all mention that the low financial incentives for CE investments and lack of tax policies that premier sustainability leads to resistance for change.

It is quite clear that the government has great influence over companies' ability to invest in and develop more sustainable technology, which is also pointed out by Su et al. (2013) as a barrier for working for CE in China. In order to redirect manufacturing and the economy into CE and towards more sustainable practices, investments and technological enhancements are needed (Su, et al., 2013; Engert, et al., 2016). In this study, all companies except Envac mentions this as a barrier to their work towards CE in China and Hong Kong. *Investments in technology* for more sustainable production is important in order for China to successfully transform to have a CE (Su, et al., 2013). However, as explained by the companies in this study, such investments are considered too costly in the short-run for many manufacturers. They can also see an unwillingness to make such investments due to irregular and unpredictable enforcement of legislation, that affect not only the disobeying party but manufacturers geographically close as well even though they comply with the regulations. In order to encourage micro-level change towards CE, the policy environment in China could benefit from having a more holistic perspective, which in the literature today is regarded as fragmented, not considering the complexity of changing a whole socioeconomic system (Su, et al., 2013). This also includes educating the public about the changes needed and to improve the overall awareness of sustainability to overcome the environmental challenges in China (ibid.).

The last barrier discussed is *public awareness* of CE and sustainability, which is mentioned by all the companies in this study as a barrier for them to work with these issues. Lack of market demand for more sustainable business practices is also recognized by Su et al. (2013) as a barrier for companies to work towards a CE in China and Hong Kong. This lack of public awareness, when it comes to CE in China, could be a contributing factor to why few improvements have been done on a micro-level in China, as discussed by Ghisellini et al. (2016) and Liu et al. (2009). All companies see that the demand for sustainability is low within the

Chinese and Hong Kong population, and rather focused on health and safety issues of products. The companies in this study recognize customer demand as a driver for their work with more sustainable business practices, but the main demand is still coming from the European market. Due to this, actions that increase public awareness of these issues could potentially decrease the effects of this barrier and lead to increased micro-level demand for sustainable business practices.

6.3 End discussion

Based on the discussion above, it can be seen that the drivers and barriers for companies to work with CE and sustainability are connected and affecting each other. It can be seen that the business practices related to CE are shaped in different ways, depending on both internal and external factors. The external factors; government, customer demand and low public awareness are recognized to influence business practices by the majority of companies in this study. This could imply that these factors have an important role to play when discussing sustainability and CE within business practices. The public awareness in China and Hong Kong is, according to the case companies, seen to be relatively low compared to the European market. However, the companies within this study are all faced with the demand of both European and Chinese customers which results in that they all still view the customer demand as a driver for their sustainability work.

The study also shows that many of the companies are driven by their internal values related to sustainability and that they want to take responsibility for their environmental and social impacts. However, it can be discussed that these values would not be incorporated into business practices if there was little or no demand for sustainability actions on the market. Since global public awareness of sustainability has increased, the benefits of incorporating these values in their business practices may have increased as well. This implies that customer demand and public awareness are closely related and that these factors have a great potential to both hinder and encourage change towards CE. In order to increase the Chinese public awareness, there is a need for governmental regulations and educations that diffuse knowledge of CE and sustainability to the Chinese population. This could, in turn, result in increased customer demand of sustainability from the Chinese market. Within this study, the barriers that are identified by most companies are related to the Chinese government's regulations and incentives, either through lack of financial support, lack of a holistic perspective or low educational levels of CE. This could suggest that the Chinese government poses as a barrier for companies active in multinational contexts to work with CE within their business practices.

All of the respondents of this study emphasize the importance of both the government and the customers for their work for CE and sustainability. This indicates that the companies are affected by the governmental top-down approach in China as well as the market bottom-up approach from Europe. In China, the incentives to work with CE is initiated by the government and based on this study, the government is viewed to be an influential factor for all of the companies. It could indicate that the companies are influenced by the top-down approach existing in China. However, the study also shows that the customer demand and internal values of the company are important drivers which could show that the companies are also influenced by the bottom-up approach that exists in Sweden. Therefore, the notion of CE existing in either a top-down or a bottom-up context could be misleading as the case companies do not premier one of the factors more than the other. It illustrates the complexity of CE and the importance of having a holistic view of sustainability when addressing these issues.

7 Conclusion

In order to answer to the aim of getting a better understanding of “*how the Chinese circular economy context is influencing Swedish companies’ sustainable business practices in China and Hong Kong*”, a multiple case study is conducted on the five Swedish companies; Nilorn, Envac, CCG, Bluewater and H&M. The conclusions that are made are based on the empirical data, analysis and the discussion related to the research questions.

Within this study, all of the factors identified in the analytical framework are found in the case companies whereas some factors are seen by more companies than others. According to the findings, it can be seen that some factors might have a greater influence on the companies’ sustainability work than others. This is seen to be the external factors; government, customer demand and public awareness which all companies have identified to either be a driver, a barrier or both for them to work with CE in China. These factors are seen to be more influential since they also affect the other drivers and barriers that the companies state to have when working towards CE. The customer demand is seen to influence the internal drivers for the companies but also poses as a barrier in terms of low public awareness within the Chinese and Hong Kong population. The study also shows that the companies identify the main customer demand for sustainability to come from Europe and that the demand from the Chinese market currently is low, but it is slowly increasing as well. The Chinese government is seen to both be a driver and a barrier for CE, which can indicate that there is a complexity to CE and sustainability that is yet not fully incorporated by the Chinese CE policies. Therefore, what is identified of how companies active in a multinational context are influenced in their work towards CE in China and Hong Kong is that there seems to be greater influence of the external factors as these, in turn, affect the internal factors. These implications could be of guidance for other European companies active in similar contexts, providing insights of how they might address the different drivers and barriers in their work towards CE.

This study has strived to get a deeper understanding of how companies are influenced when working with CE in a multinational context. The Chinese top-down approach to CE can be seen in how the government can be both a driver and a barrier for companies when working towards CE. However, since the companies are active in a multinational context, they are also seen to be influenced by the European bottom-up approach. This is because the market - through customer demand and public awareness - is perceived to be both a driver and a barrier for companies in their work towards CE. Due to globalisation, companies are more affected by different contexts, increasing the need for them to understand the interplay of their sustainable business practices and the geographical and political context they are active in. This study can also indicate that CE is a global phenomenon and - as China is a hub for international manufacturing - how China adapt to a circular system could affect how CE is implemented across the globe. Therefore, the conclusion can be drawn that as CE is complex it should be used and applied as such. This could also enrich the discussion of why CE does not have an internationally agreed upon definition, which is that it is dynamic in its nature and adapts to the specific context in which it is applied in.

Critical reflection and future studies

This study contributes with insights into the complex situation for companies active in multinational contexts in the work towards CE, especially in China and Hong Kong. However, it is important to point out that this study is based on the answers received from the respondents from the five companies and their view of their sustainable business practices. This means that factors that were not mentioned by the companies are not included in the study, but it does not exclude that other factors could influence their sustainability work as well. It should also be

reflected over that the findings might have been different if another analytical framework would have been used, even though the framework has been adaptable and dynamic throughout the data collection. Due to the interpretive nature of this study, the absolute truth is not of interest here but rather how the reality is perceived by the participants. It is from their understanding of the situation that the conclusions are drawn. Furthermore, the study is based on only five companies and it is therefore difficult to draw general conclusions for a whole population. The study can instead confirm existing literature and address gaps that exist within the research field today. This gap is filled by conducting a study of CE on micro-level in China, with the aim to provide an in-depth view of how Swedish companies' work towards CE in China and Hong Kong. It can provide a better understanding of how companies in similar multinational context are approaching CE and what factors might influence their work. It could also be of guidance for Swedish companies when entering the Chinese market and to help them understand how the Chinese CE context might influence their sustainability work.

To further explore the finding of this study and enhance the guidance for companies working with CE in a multinational context more research is needed. This could, for one, be in term of assessing the interplay between a company's sustainable business practices and national policy context in other national contexts. This could further improve the understanding of how companies are influenced by the different contexts that they are working in. Furthermore, it has been beyond this study's scope to explore how specific CE policies in China affect companies on a micro-level. However, it would be interesting for future studies to investigate the efficiency and accuracy in these policies in order to get a deeper understanding of their effects on companies' CE work. This could generate a deeper understanding of which policies generates results in terms of both environmental and social performance of a country. It could also be interesting for future studies to explore the inverted relationship on how multinational companies can affect governmental policy. This is because companies have a crucial role to play in the change towards sustainable development, as they are global players with market power to initiate global change.

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Appendix 1

Interview guide

- Who are you and what is your position at the company?
- Tell us a little about the company!
- How does company X work with sustainability? Why did company X choose to work with sustainability and circular economy?
 - In general
 - In Sweden
 - In China and Hong Kong

Internal

- How do you relate this work to circular economy?
 - Regarding your products, how do you view the flow of resources?
 - Are there any strategies to create closed-loop flows?
 - Do you face any challenges regarding the production when working with sustainability and circular economy?
- What motivates you in the work towards a circular economy and sustainability?
- Eco-design in your products? Co-operations with your customers?
- How do you communicate your recycling goals to the customers and other stakeholders?
- In China, there are initiatives for cooperation amongst industries to work together towards circular economy - is this anything you have taken part in?

External

- In a larger context, what role do you as a textile company play to make the industry/world a more sustainable place?
- Do you have any demands on your suppliers regarding their environmental performance? What does these demands look like?
- What are the biggest challenges of working with sustainability/CE, in your industry, in China and Hong Kong?
 - You have a presence in many different countries - How does it differ to work with this in China?
 - How is the customer demand within the different regions that you are active in?
 - How do Chinese circular economy policies affect your work?