Environmental Sustainability in Business

- a case study of prioritizations and the absence of a plastic-focus in the pharmaceutical industry

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Abstract

Given the centrality of business in modern society and the increasing urgency of environmental problems, it is of paramount importance to increase our understanding of what motivates and demotivates sustainability efforts in businesses. By investigating environmental sustainability efforts in the pharmaceutical industry in Europe this thesis contributes to increasing that understanding. In particular, it examines why plastic, despite being at the top of the sustainability agenda today, is not a strategic focus area in the pharmaceutical industry's environmental sustainability efforts. This is done by conducting an exploratory analysis of the rationales in the industry behind focusing on some sustainability areas and not others. The research is conducted at industry-level and is designed as an embedded case study, in which pharmaceutical companies constitute the subunits of analysis, and the primary source of data is qualitative interviews with sustainability representatives from eight pharmaceutical companies. The result is an identification of seven factors influential for sustainability prioritizations within this industry, which all speak against a strategic prioritization of plastic as a sustainability theme. On a broader level, the findings indicate that some industries might be less competitively motivated to make sustainability efforts than the literature suggests. The implication of this, it is argued, is that there is seemingly still some way to go before business naturally takes the lead in the transitioning towards a sustainable and circular society.

Table of Contents

Introduction

Plastic and its irreversible environmental effects have in no time become public enemy no. 1 (Buranyi 2018). From Greenpeace not even having a plastic dedicated team in 2015, the environmental problems of plastic have rocketed to the top of the societal agenda in recent years, creating a "worldwide revolt against plastic" (Ibid.). Being mostly produced by fossil fuels, plastic pollutes in its production, and due to the enormous masses produced, plastic disposal has infiltrated our environment from the oceans (forecasted to contain more plastic than fish by 2050), to our food, and our bodies (Ellen MacArthur Foundation 2016; Smillie 2017; Harvey & Watts 2018). The increasing awareness of these fatal consequences from plastic production and pollution has created "a great wave of public anger pushing those in power to eliminate a single substance from our collective life" (Buranyi 2018). Those in power being everyone from private actors and NGOs to political actors such as the UN and EU, who have both in 2018 come out with strategies on eliminating the plastic problem (UNEP (A) 2018; UNEP (B) 2018; European Commission (A) 2018). Arguably, the worldwide environmental movement against plastic can as such be seen as one of the strongest sustainability concerns to have emerged in the last decade and as a result, plastic has become something that everyone must address.

Unfortunately, plastic is not so easy to get rid of. Plastic is in many ways "the fabric of our lives" and it is present "from the morning toothbrush to the garbage bag that is carried out at the end of the day" (Buranyi 2018; Spokas 2008, 473). The reason being the many qualities it holds, making it a central part of many functions of today's society from packaging to construction to transportation (UNEP (A) 2018). It is easy to make, it is cheap, lightweight, and at the same time robust, and long-lasting (UNEP (A) 2018; Koushal et al. 2014). These benefits make it a perfect material for ensuring the protection of products and safeguarding them from contamination. Hence, this is making it ideal for hygienic purposes, wherefore plastic has come to serve a particularly important function in especially the medical field, where it is used in various applications for e.g. cathers, disposable syringes, and sterile packaging (Koushal et al. 2014; North & Halden 2013). In the pharmaceutical industry i.e., the industry occupied with the production of medicine, the use of plastic is therefore omnipresent (North & Halden 2013; Kunal C. et al. 2012). In the shape of latex gloves, needle patches, containers,

and blister packages, plastic is present from the drug development to its distribution, ensuring safety of the product and patient comfort when used (North & Halden 2013; Kunal C. et al. 2012).

However, despite the global pressure for addressing the issue of plastic and the obvious widespread presence of plastic in the pharmaceutical industry, the industry is surprisingly silent on the issue. This stands in contrast to e.g. the food and beverages industries, and the cosmetics industry, who are enjoying similar safety and hygiene advantages of plastic, but where multiple firms have pledged to address the plastic problem (UNEP (B) 2018). The reason for the silence of the pharmaceutical industry is not that the industry in general does not address environmental concerns at all. On the contrary, the industry is addressing sustainability in many other ways through carbon emissions or drug development for climate changes and hence, new disease patterns (Neville 2019). It is therefore puzzling to see that such a global theme on the sustainability agenda as plastic is not addressed in an industry, which on other sustainability themes takes an active stance, and which is an active user of the material. This raises curiosity as to why some sustainability areas are prioritized over others and it is in this light that we ask the following research question:

> *"Why is plastic not a strategic focus area in the pharmaceutical industry's environmental sustainability efforts?"*

As one can read, it is a very empirically motivated research question, wherefore the thesis will be very empirically grounded. Yet, the implicit emphasis on prioritizations points towards the broader aim and contribution of the thesis, namely to provide insights into how firms prioritize the focus of their environmental sustainability efforts and thereby to add nuances to the theoretical debates on sustainability in business.

Structure

In order to answer the research question, the remainder of this thesis is organised as follows; in the first section, we briefly provide clarification and definition of the main components of the research question. Then, we present a review of existing literature dealing with business'

role in sustainability and sustainability strategies in business. This review serves to contextualize and position our thesis in the relevant literature and to illustrate which gap we seek to address. Following the literature review, the methodology section outlines the research approach and the embedded case study design that has been applied. Besides, the qualitative methods for data collection and analysis are presented alongside considerations to the philosophy of science underpinning the thesis. From here we move on to present our findings on why plastic is not a strategic focus area in the pharmaceutical industry, which are structured around seven explanatory factors. The findings are then in the discussion related to the theories and models explored in the literature review, examining the discrepancies and discussing the potential reasons for why these occur. Finally, everything is summed up in the conclusion.

Clarification of research question

Having presented the research question as a whole, it is necessary to provide some more details and definitions to the subcomponents of which it consists. On the following few pages we will therefore define the key concepts that it mentions to establish a common understanding of the research context before we proceed.

The pharmaceutical industry

At first, it is necessary to elaborate on the research question's mentioning of the *pharmaceutical industry.* An industry is defined as "a classification referring to a group of companies related by their primary business activities" (Invested 2014) and hence, the pharmaceutical industry consists of the companies, who are similarly involved in the production of medicines. The pharmaceutical industry has a two-tier structure with a small amount of large multinational research-based firms, holding the majority of patents, and a large number of small companies, operating under the license of a patent-holder and/or manufacturing off-patent products (OECD 2002; Blum-Kusterer & Hussain 2007). The pharmaceutical industry generally produces three kinds of medicines: *Over-the-counter (OTC) medicines,* which can be purchased by consumers without any prescription from a doctor; *prescription medicines* for which a prescription is necessary, and *medicines purchased by hospitals only* (OECD 2002; Lehnhausen 2016). This pattern of OTC medicines being only one of the three types means

that the pharmaceutical industry can be characterized as mainly business-to-business, with pharmaceutical companies selling primarily to either hospitals, health-insurers and/or pharmacies and not directly to consumers (OECD 2002; Lehnhausen 2016).

The pharmaceutical industry is furthermore characterized by being heavily regulated: "All aspects of the life-cycle of new drugs are regulated, from patent application, to marketing approval, commercial exploitation, patent expiration and competition with generics" (OECD 2002, 105). Hence, the pharmaceutical industry is very different from industries selling their goods without any restrictions (Lehnhausen 2016), and the regulations serve as quality controls to ensure the safety of the drugs produced and to preserve incentives for research and development (OECD 2002). This reflects another characterizing feature of the industry, namely that it is a knowledge and research-intensive industry. The period from the initial stages of research up until the medicine is ready for consumption usually takes around 12-14 years, and in the end, it is only a very small percentage of the products that have been researched, which end up being approved for sale (Lehnhausen 2016; OECD 2002). Thus, this makes it an industry guided predominantly by a long-term perspective with more focus on scale than scope (Kusterer & Hussain 2007).

The research-based pharmaceutical industry in Europe

On the basis of this brief presentation of the characteristics of the pharmaceutical industry, it shall be stressed that it is solely the *research-based* pharmaceutical industry that we are looking at in this thesis. Hence, the multinational companies belonging to the first group in the two-tier structure mentioned above. These are the ones 'in power', setting the standards for the industry as a whole, wherefore they have been deemed the most relevant to examine in terms of sustainability prioritizations and the absence of a plastic focus in the industry. Besides, we are focusing solely on the European[1] part of the industry. Thus, when writing 'pharmaceutical industry' from this point and onwards, it refers to the European pharmaceutical industry only. The choice to delimit the focus in this way has been made first of all to make the scope of the project manageable within the time period available. Besides, focusing solely on the European part of the industry has enabled us to reach a good coverage of the industry, wherefore we have been able to pool the insights from individual company inter-

[1] By European we mean companies that are headquartered in a country on the European continent (not to be confused with the European Union (EU)).

views to findings at industry level (an elaboration on this approach will be provided in the methodology section).

Definition of environmental sustainability efforts and strategic focus area

In addition to presenting the pharmaceutical industry and the delimitations in terms of this, it is furthermore necessary to define what it means when it in the research question says 'environmental sustainability efforts' and 'strategic focus area'.

By *environmental sustainability efforts* we refer to every activity undertaken by the companies in the pharmaceutical industry to improve their environmental performance and reduce their environmental footprint. These efforts are communicated in the pharmaceutical companies' (environmental) sustainability strategies and include everything from taking action in the laboratories for reducing waste to initiatives reducing the footprint from business travels. We do not focus on sustainability efforts in the broader sense (including the social and economic dimension), wherefore when using the term 'sustainability' in the rest of the thesis, it always refers to the environmental dimension. In relation to the environmental sustainability efforts, the research question then mentions that plastic is not a *strategic focus area* in these efforts and asks why this is so. By "strategic focus area" we mean 'a major priority' or 'a central theme' and hence, the question is why plastic has not been taken up as a prioritized issue in the pharmaceutical industry alongside other environmental issues. By including the word 'strategic', we wish to emphasize that what is taken up is a result of prioritization and hence, it is the strategic rationale for prioritizations that we examine to expose the explanations behind the absence of plastic in the industry's efforts.

Plastic

Finally, in terms of the *plastic* referred to in the research question, and which too has been mentioned many times already, it shall be noted that we in this thesis do not distinguish between different types of plastic. Instead, we align with the definition of plastic as "a catch-all term for the product made by turning a carbon-rich chemical mixture into a solid structure" (Buranyi 2018), and when talking about plastic, we do therefore refer to all kinds and forms of the material. Hence, we see it as 'one theme' of environmental sustainability, although we acknowledge that variations exist.

Having presented now in more detail the major components of the research question, the research context has been set. Thus, from here the thesis progresses, beginning from a review of the existing literature.

Literature review

This section reviews firstly, the literature dealing with the role of business in a sustainable society, since there in the puzzle motivating our research question is an implicit assumption of businesses being at the centre of sustainability. Hence, it is within the broader literature on this that our thesis locates. Secondly, we then zoom in on the literature focusing on how sustainability is approached from a business perspective as this is the literature coming closest to the focus of our research on the pharmaceutical industry and its environmental sustainability prioritizations, including the absence of a plastic-focus. Importantly to highlight is though, that since our research question is very empirically motivated, the literature review serves rather to establish the broader theoretical context than to directly guide the focus of the thesis. Thus, keeping this in mind, the literature review is presented below.

Part one: The role of business in a sustainable society

In recent years, 'sustainability' has been widely discussed by civil society, companies and governments around the globe. Broadly speaking, it refers to the "ability to meet the needs of the present without compromising the ability of future generations to meet their needs" (World Commission on Environment and Development 1987, 16), and it covers the three main pillars of economic, social and environmental sustainability (Hansmann et al. 2012). In this paper, it is, as stated, the environmental sustainability that is in focus, which in particular has gained increasing attention due to global warming and climate change; phenomena of which we see the effects today through rising temperatures, rising sea levels, etc. These phenomena do to an increasing extent threaten the continuation of how we organize and run the world today and hence, many actors have started getting engaged with the sustainability agenda. Particularly interesting within this agenda is the development towards increasingly emphasising the involvement of business in driving sustainable change.

This development is what the first part of the literature review will shed light on, namely the perceived role of business in a sustainable society, or in other words, the role that business is expected to fulfil in the transition to such a society. The reader will be taken through a historical review of the debate about the role of business in society's quest for sustainability and

zoom in on the recent decades' move of business from the periphery to the centre of this quest. Today, almost all corporations have sustainability strategies, reflecting that corporations to a smaller or larger degree take responsibility for meeting the needs of society. As a consequence, it is today perceived natural that business takes active part in society as a main contributor to the sustainability agenda. However, this has not always been the case.

Historical development

Going back only 100 years, the corporation was seen as "an ingenious device for obtaining individual profit without individual responsibility" (Ambrose Bierce in Laszio & Zhexembayeva 2011, 36). This perception was dominant in most of the 1900 with the Nobel Prize-winning economists, Milton Friedman, stating in 1970 that the only social responsibility of business is to increase its profits (Milton Friedman in Ibid., 36). The absence of even considering anyone else than the state being responsible for society's development is also reflected in Garrett Hardin's famous concept of the "tragedy of the commons" from 1968. Here, Hardin argues that limitless individual pursuit in a world with limited resources will lead to the ruin of common goods such as oceans, forests and clean air (Hardin 1968). While this point is rather spot on, the interesting underlying assumption is that it is rational for individuals and hence businesses to pursue their own interests and disregard concerns for the environment, and that it is solely up to the state to constrain them on their natural behaviour. Hence, one does not need to go long back in history to find that the perceived role of business was that of a profit maker working only towards the purpose of maximizing shareholder value (Laszio & Zhexembayeva 2011).

From 1970 onwards though, the perceived role of business started to change. With the emergence of Greenpeace and other NGOs along with increasing environmental regulation, expectations for business to take responsibility for more than shareholder value began (Laszio & Zhexembayeva 2011). In corporate language this translated into a move away from solely focusing on shareholders to include the perspectives of stakeholders, officially marked by the publication "Stockholders and Stakeholders: A New Perspective on Corporate Governance" by Freeman and Reed in 1983. Here, they describe the shift from focusing only on satisfying people with equity in the firm to also consider people with a stake in the firm as part of a revolution of management theory (Freeman & Reed 1983). Stakeholder theory has since devel-

oped further from including only people and organizations to considering nature as a stakeholder on equal or more prominent terms as people (Laine 2010). The shift in management theory was supplemented by the introduction of triple bottom line accounting in 1994. This concept encourages companies to consider the social and environmental impact of their business on equal terms with the traditional bottom line of economic revenues and costs (John Elkington in The Economist 2009). Thus, the perception of business' role in society was slowly changing from that of a private profit maker to being a part of and responsible for society and the environment.

However, the trees did and do not grow into the skies. In the process of integrating business into society, underlying contradictions and tensions between profitability and responsibility became apparent (Laszio & Zhexembayeva 2011). This made sustainability appear as a trade-off to profits, where corporations needed to sacrifice shareholder value in favour of the public good (Hart & Milstein 2003). Hence, corporations engaged in sustainability only if the perceived costs were low and benefits high (Prakash et al. 1996 in Doh & Guay 2004). As a consequence, the role of business as maximiser of shareholder value was hard to align with the role of business as sustainability provider. This dilemma is still present today, as John Elkington admits in a recent revision of his concept of the triple bottom line. He describes that it has failed to bury the single (economic) bottom line paradigm and create the system change it aspired for (Elkington 2018). Accordingly, he and many other scholars today attempt to discover and explain how to combine economic rationality with social and environmental responsibility such that business can satisfy both (Laszio & Zhexembayeva 2011). And it is this interesting chapter of history that we are entering now: The theoretical and practical understanding of how the role of business as a profit-maker can be united with and complement the role of business as a participant and contributor to a sustainable society.

As a clear practical example of this development is the shift at the UN level from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs) in 2015 (UN 2018). In comparison to the MDGs, which were adopted in September 2000, the SDGs represent a more comprehensive approach in terms of 1) including more goals and 2) emphasizing more actors' responsibility in delivering the 17 goals before 2030 (Ibid.). Hence, with the SDGs, the private sector, civil society organizations and governments have been *equally*

called upon to take action, marking a significant change from the MDGs, where the role of the private sector was more or less absent (Scheyvens et al. 2016). With the MDGs the responsibility rested primarily in the hands of governments, whereas with the SDGs, as expressed by Scheyvens et al., there has been a "foregrounding of the role of the private sector", who is believed to contribute with particular strengths within for example innovation and efficiency (Ibid.; Gneiting 2017).

Theoretical contributions

Having reviewed the move from perceiving business as unimportant to perceiving it as central in the development towards a sustainable society (exemplified by the move from the MDGs to the SDGs), we now turn to the major theoretical contributions focusing on business responsibilities for society, including the environment.

Most literature engaging with the debate of business' role in a sustainable economy and in society in general falls under the notion of *corporate social responsibility* (CSR) (van Marrewijk 2003). This term was loosely defined in 1979 by Archie B. Carroll as consisting of economic, legal, ethical and discretionary responsibilities (Carroll 1979). The economic dimension includes the responsibility to produce and sell goods demanded by society and pose the fundament of a corporation's responsibilities. The legal dimension requires that corporations fulfil their economic responsibilities within the boundaries of the law, where ethical and discretionary responsibilities are loosely defined as doing more than that demanded by the law (Ibid.). Since then it is certain to say that the last two dimensions have been elaborated extensively, as globalization keeps pushing many of these responsibilities beyond the control of the nation states and towards that of multinational corporations (Matten & Crane 2005). Hence, there is now a broad consensus within this literature that CSR means going beyond the economic and legal responsibilities of the firm and towards that of international governance and the provision of public goods (Matten & Crane 2005 and Scherer & Palazzo, 2007 in Reinecke & Ansari 2016).

For many scholars, this social role of business in society is seen as a voluntary dimension of doing business. This stands clear in the European Commission's first definition of CSR as "a concept whereby companies integrate social and environmental concerns in their business

operations and in their interaction with their stakeholders on a voluntary basis" (European Commission 2001). In the literature, this spans from voluntarily doing something good for society to avoid doing something bad or a so called "negative duty not to harm" (Hsieh 2009; Martinuzzi & Krumay 2013). What they all have in common is that doing good is doing something extra, i.e. it is not per se expected of business. This branch has been challenged especially by the notion of corporate citizenship, which is defined as the role of corporations in administering citizenship rights for individuals. Here, corporations are seen as a fundamental part of society and as important actors responsible for providing, enabling and channelling social, civic and political rights of citizens (Matten & Crane 2005). This shift has also been visible in the EU, whose newest definition of CSR has changed from a voluntary integration of societal concerns to "the responsibility of enterprises for their impacts on society" (European Commission 2011). This is further supported by the notion of CSR as corporate externality recognition, i.e. firm's own governance of the externalities they create (Crouch 2006). Thus, within the CSR literature there has been a move from debating the span of business' voluntary role in society to recognizing corporations' social and environmental impact on society and thereby their non-debatable responsibility for it.

However, despite the removal of the voluntary aspect, this branch of the CSR literature still mostly engages with debating the different aspects and angles of a corporation's responsibility to society, which seems to have little effect on how business behaviour works in practice. An exemplification of this is for example Lund-Thomsen and Lindgreen (2014), describing the academic move from a compliance-based view of CSR, in which companies are expected to comply with responsibility standards, to a cooperation-based view, where companies are expected to induce the standards themselves (Lund-Thomsen & Lindgreen 2014). The conclusion being that this academic shift does not alter the existing power relations and hence, will most likely not change anything empirically (Ibid.). Furthermore, the implicit assumption in the abovementioned literature that doing good in CSR should not be profitable is in conflict with basic business incentives for maximizing shareholder value, and hence is the main puzzle of CSR (Crouch 2006). As a consequence, there is an emerging consensus in the CSR literature on moving beyond the moral reproach of business and accepting the strategic dimension of CSR (Orlitzky et al. 2011). The logic being that "if environmental issues are to be seen as business issues, then good corporate citizenship is not enough" (Orsato 2006, 139).

This includes seeing CSR as a potential competitive advantage in the sense that companies, who manage to rethink their business to include CSR in their overall business strategy, can profit maximize along with fulfilling their responsibility (Martinuzzi & Krumay 2013). On the other extreme, this includes literature aiming at determining the appropriate level of CSR investments to maximize shareholder value (McWilliams & Siegel 2001). The point of departure becoming that "the end result of such activities (CSR) should be an improvement in financial and economic performance" (Orlitzky et al. 2011). However, this includes the consideration about when CSR pays, which had been lacking before (Ibid.; Martinuzzi & Krumay 2013). On this is found that CSR pays, when it increases demand, i.e. when the demand from consumers, employees and investors increases with CSR efforts. This increase in demand then has to be larger than the increase in costs from doings CSR for CSR to be profitable (McWilliams & Siegel 2001). While this is a rather cynical view of CSR compared to the corporate citizenship notion mentioned above, it takes into consideration the profit-maximization aspect of business and thus, attempts to solve the CSR puzzle mentioned before. Furthermore, it points out that CSR only becomes successful, when important stakeholders such as investors, consumers and employees puts it on the agenda (Crouch 2006). This recognizes that the whole economy must move in the same direction for any substantial action to happen – much in line with the idea of a circular economy.

Circular economy

Circular economy (CE) is a notion and an idea that throughout recent years has become widely popular to many different stakeholders (Rizos et al. 2017) as it offers an alternative and more sustainable idea for the future of the world economy. CE is defined as an economic system "that is restorative and regenerative by design" (Ellen MacArthur Foundation (A) 2017) and thus calls for a complete *rethink* and *redesign* of our economic system. The idea of a CE contrasts and questions the appropriateness of today's linear 'take-make and dispose'-logic, and businesses are seen as key players in leading the systemic transformation towards a circular logic (Ibid.). It has for example been argued that CE must be "led by business for a profit within the rules of the game decided by an active citizenship in a flourishing democracy" (Webster 2013 in De Angelis 2018, 33) and that motivating and stimulating businesses to do good rather than to do less bad is at the heart of the CE idea (Ibid.). Besides, and in compari-

son, to previous theories and literature on business' role in ecological and social sustainability, the CE approach directs more attention to the role of business in enabling the change by emphasizing that not one event or 'tipping point' will itself lead to a CE. Rather, it is a system problem that requires a system solution; a system in which businesses are centrally located due to their enormous influence on resource use (Ibid.).

Though gaining much attention today, it is important to mention that CE is not a new way of thinking. Already in the 1960s, economists, industrial ecologists and management scholars were paying attention to the need for more resource-efficient industrial processes (De Angelis 2018). Back then, a particularly interesting and illustrative metaphor was developed by economist Kenneth Boulding in his book *The Economics of the Coming Spaceship Earth* from 1966, where he compared the Earth to a spaceship. In doing so, he wished to illustrate the Earth as a closed system, which - alike how it is in a spaceship - has limited resources available and, consequently, must mirror the functioning of the ecosystem and find ways to make the output of one process the input of another (Ibid.). Another concept reflecting the early presence of circular thinking is 'Natural Capitalism'; a concept developed by Paul Hawken, Amory B. Lovins and L. Hunter Lovins in their book *Natural Capitalism. The Next Industrial Revolution* from 1999. Here, they point to the fact that industrial capitalism has led to wasteful industrial processes due to an undervaluation of nature and hence, that there is a need to undergo what they call 'the fourth industrial revolution' (Hawken et al. 1999). As such, they present four strategies of natural capitalism, which they argue will enable companies, countries and communities to operate and fully value nature as an equally important capital in the economy alongside human, financial and manufactured capital. The four strategies clearly encompassing the idea of increased circularity in the economic system (Ibid.). Thus, from these two examples it is clear that the CE concept has roots dating many years back.

However, since from around 2010 with the establishment of the Ellen MacArthur Foundation, a foundation dedicated to advocating for CE as a solution to the issue of sustainability and alone focusing on "accelerating the transition to the circular economy" (Ellen MacArthur Foundation (B), 2017), the concept has gained momentum globally. The EU and governments around the world are developing CE strategies and programmes and corporations are getting increasingly engaged with the concept (see for example Scottish Government 2016;

State of Green 2016; European Commission (B) 2018; Egerton-Read 2017; H&M Group 2016; Ellen MacArthur Foundation (C) 2017; Danone 2018; Government of the Netherlands 2016). The attractiveness of CE is arguably grounded in its potential as a response to today's environmental problems, currently compromising the sustainable future of our planet. In a world of finite resources, reliance on unsustainable production and consumption patterns is making us vulnerable and hence, as expressed by Rizos et al. in their policy brief to the G20 countries from May 24, 2017, "the concept has gained currency to a large extent because it is viewed as a solution for addressing concerns over rising global pressure on resources as well as for reconciling what is sometimes presented as conflicting objectives for economic growth and environmental sustainability" (Rizos et al. 2017). It recognizes the need for a win-win situation, where economic benefits from going circular for example in terms of reputation or savings on energy and material inputs may go hand in hand with operating to the benefit of the environment (Ibid.).

Despite CE's appeal to a variety of actors, the concept is still rather new within academic literature and only few scholars have been theorizing around the concept. The book called *Business Models in The Circular Economy. Concepts, Examples and Theory* (2018), recently published by the Italian researcher Roberta De Angelis, is as such one of the few and first attempts to do so. In her book, De Angelis defines the three major principles of CE to be 1) preservation and enhancement of natural capital, 2) optimization of resources yields and 3) fostering of system effectiveness (De Angelis, 2018) and she emphasizes businesses' role in incorporating these principles into their business models 'to bring prosperity to both them and the planet' (Ibid, vii). Particularly interesting to this paper is the book's attempt to combine the practitioner literature on CE with academic literature on business models and business strategies in order to shed light on "corporations and the role they might perform in the transition towards a more environmentally friendly economy" (Ibid., 3). De Angelis justifies her choice to focus on the business level by emphasizing corporations' status as "the most influential organisations within the market, which in turn, is the most dominant coordinating institution on the Earth" (Hoffman & Ehrenfeld 2015 in Ibid., 3). Thus, on this basis she argues that involvement of business is paramount to any transformation towards a CE.

Part two: Sustainability in business

In the previous part of the literature review we saw how the generally expected role of business in society and hence in the sustainability agenda went from that of a cynic profit maker to a morally responsible guardian of citizenship rights. Finally, these two roles are united in the role of business in the centre of the CE, doing good both for profits and for the environment. However, this assumed role of business means little if it is not aligned with corporations' idea of themselves or, in other words, their rationale to assume this role. Hence, the next part of the literature review will focus on the other side of the story to try to understand if and how the rationale for adopting sustainable business behaviour is explained (De Angelis 2018). This means trying to understand how sustainability is perceived through the lens of business strategy and what that means for the creation and maintenance of competitive advantage (Laszio & Zhexembayeva 2011).

The motivation for this is manifold. First of all, the challenges for sustainability requires the right set of business lenses to become aligned with profit maximization (Hart & Milstein 2003). Second, little has been said about the business angle of the CE and to the extent of the authors' knowledge there is a lack of a thorough literature review paving the way for looking closer at this (De Angelis 2018). And third, the CE is nothing but a vision without the involvement of business and hence, the principles of CE "require penetration at an organization's highest strategic level" (Lacy & Rutqvist 2015, 149). Thus, it is in this light relevant to review the strategic aspect of sustainability.

Strategy and competitive advantage

To review all the different understandings of strategic management or strategy in general would require a thesis on its own, and hence, we will not endeavour on that mission. However, a short introduction to the concept of strategy and competitive advantage is in its place. A classic view on strategy is that it is a plan of where the company is going and how it is going to get there, reflecting a very linear approach to strategy (Laszio & Zhexembayeva 2011; Chaffee 1985). Alternatively, strategy has been viewed as adaptive in the sense that it is about finding a match between opportunities in the environment and a firm's internal capabilities (Chaffee 1985). This is much in line with Michael Porter's famous definition of strategy

as relating a company to its environment (Porter 1980). Both views seem to have merit when looking at the traditional components of strategy, which are *strategy context*, i.e. the strategic analysis of the environment, *strategy content*, i.e. the strategic choice of the company and finally, *strategy process*, i.e. the implementation of the strategy (Abdullah 2014). From these it stands clear that a company needs a strategic plan, which ensures that its strategic choice matches the environmental and implementational possibilities. As our research question aims at understanding the prioritizations within sustainability strategies, and not how they are implemented, we will focus on reviewing how sustainability is handled in the two first components of strategy, i.e. the context and the content.

Traditionally, there is a great debate as to how much context affects content, i.e. how much of the strategy is left to choice and how much is dictated by compliance to the surrounding environment. This debate has mainly consisted of the resource-based view on the one side and the institutionalist view on the other. The centre of the debate is the question of how a company achieves a competitive advantage, i.e. how the company implements a value creating strategy not being implemented by current or potential competitors (Barney 1991). The resource-based view argues that competitive advantage is gained through the selection, accumulation and deployment of valuable resources. These resources must be unique to the company, hard to imitate (intangible), durable and non-substitutable, hence, allowing for a long-term favourable position of the company (Amit & Schoemaker 1993, Barney 1991, Mahoney & Pandian 1992, Peteraf 1993, and Rumelt 1984 in Oliver 1997). Thus, according to this theory, companies have a high degree of strategic choice. On the other hand, the institutionalist view argues to the contrary that companies have limited strategic choice as they need to conform to normative, cultural and societal pressures in order to gain legitimacy and acceptance (DiMaggio & Powell 1983). An example of this is reflected in the political management theories of Oliver and Holzinger, which emphasize the need to either react to, anticipate, lobby against or proactively shape political regulation in order to gain a strategic advantage (Oliver & Holzinger 2008). Hence, complying with or shaping the strategic context is here the prerequisite for gaining a competitive advantage.

Both views are clearly reflected in the literature regarding sustainable business behaviour. Hart (1995) developed the so-called 'natural resource-based view', where he stated that "the

basis for gaining a competitive advantage in the coming years will be rooted increasingly in a set of emerging capabilities such as waste minimization, green product design, and technology cooperation" (Hart 1995, 991). For the institutionalist view, DiMaggio and Powell (1983) mention environmental regulation as an example of a societal pressure pushing companies to adopt new pollution control technologies. Also, Rutqvist and Lacy (2015) highlight that an important step for companies to gain what they name the "circular advantage" is by influencing the political environment. Over the years, both views have been acknowledged as important aspects of gaining competitive advantage and that combining them allowed a company to pursue a sustained competitive advantage (Oliver 1997). This view is again reflected in the newest literature on sustainable business behaviour, for example in the already mentioned book by De Angelis (2018). Here, the author advocates that despite most literature on sustainable business behaviour being focused on resource and capability development for gaining competitive advantage in a CE, the company must also consider the increasing societal pressures and expectations for sustainable behaviour in order to create corporate outcomes (De Angelis 2018, 78).

Strategy context

After having determined that the literature on sustainable behaviour of firms consider both the context for and the content of strategic choice we will now look deeper into literature regarding the strategic context. This will be followed by a review of the literature for strategic content. The two classical frameworks used to analyse the context of firms are that of PEST and Porter's five forces (Henry 2011). Where the former deals with the general environment of firms, i.e. the macro environment affecting the industry overall, the latter deals with the competitive environment, i.e. the environment within the industry including the power of competitors and suppliers (Ibid.). Traditionally, none of these two frameworks include any explicit considerations to sustainability pressures in the environment. This is rather determining for potential sustainable behaviour of firms as these are the models used to scan the environment for future trends and hence, where to build competitive advantage. However, the PEST model has since its origin been extended to the 'PESTLE'- model, meaning an extension from solely focusing on Political, Economic, Social and Technological factors in the environment to also include Environmental and Legal factors (Frue 2017). Hence, environmental tendencies are now an official part of the strategic context of a company.

Contextual pressures

Out of the main contextual factors and/or tendencies driving pressure on firms to become more sustainable, regulation plays a key role in the literature. Regulation is described as reflecting companies' accountability to society and as "the main driver for sustainability improvements" (Siegel 2009; Blum-Kusterer & Hussain 2001, 300). This makes sense as regulation is the one external factor, which companies are obliged to follow. Hence, current regulation pressures business to comply with certain sustainability standards, and ensures the safety of investments in sustainability (Porter & Linde 1995). Also, the threat of new regulation can act as a driver for companies to proactively anticipate and shape future regulations (Blum-Kusterer & Hussain 2001). The power of regulation to pressure sustainable business behaviour does not, however, imply that environmental regulation is always seen as something positive by business. On the contrary, regulation can be seen as extra costs on business and a threat to competitiveness (Porter & Linde 1995; Ambec & Lanoie 2008). Therefore, the importance of regulation to motivate innovation and resource efficiency instead of increasing the trade-off between profits and sustainability has been highlighted (Porter & Linde 1995).

Another contextual pressure is the trend of declining resources, which business activities contribute to. This includes the increasing resource constraints that businesses face currently and in the coming years (Hart & Milstein 2003; Rutqvist & Lacy 2015; Laszio & Zhexembayeva 2011). Besides the responsibility pressure this induces, it also includes pressure on the value chain, which is often based on access to certain resources, which are now in decline (Laszio & Zhexembayeva 2011). Since economic growth has been strongly correlated with increasing resource use, this pressures businesses to find growth opportunities, which are decoupled from resource use and hence, are more sustainable/circular by design (Rutqvist & Lacy 2015).

Furthermore, key stakeholders constitute important contextual pressures on business. Increasing expectations from these stakeholders coupled with increasing transparency about business behaviour and its consequences pressures business towards sustainable behaviour both to avoid reputational damage and to attract customers, employees and investors, who expect sustainable behaviour from business (Laszio & Zhexembayeva 2011; Hart & Milstein 2003; Ambec & Lanoie 2008). A prime empirical example of avoiding reputational damage is

LEGO's decision to end its partnership with Shell after a global Greenpeace campaign against LEGO's involvement with an environmentally irresponsible company (Vaughan 2014). Also, McDonald's recent promise to only use renewable packaging by 2025 in the middle of the global repel against plastic represents an intent to attract stakeholders through sustainability commitments (Spaen 2018).

Of the external stakeholders being able to lay sustainability pressure on business, consumers are the ones receiving most attention in the literature. Suppliers receive surprisingly little attention, NGOs are mentioned as powerful and rather constant pressures, while investors and employees are described as increasing their pressure on companies to enhance sustainability efforts (Laszio & Zhexembayeva 2011; Cone 2016; Deloitte 2018; Ambec & Lanoie 2008; Doh & Guay 2004). Consumers, on the other hand, are described as paramount for incentivizing sustainability in business. As written by Rutqvist and Lacy' *Waste to Wealth* book from 2015 focusing on circular business models: "Efficient resource use is not the main business driver in a circular model. The true power lies on the demand side: how a company engages customers, their role during and after a product's use, and how they develop products and evolve resource requirements" (Rutqvist & Lacy 2015, 24). This postulate is supported empirically by Bendell (2017), showing that the probability of a environmentally-friendly innovation is strongly and positively associated with its compatibility with consumer demands (Bendell 2017). In other words, companies invest in environmentally friendly products, when these help with satisfying consumer demand. However, the lack of consumer demand for greener products can also act as a barrier in the sense that some literature advocates that companies should not engage in so-called 'green management' if this does not directly benefit the company through increased consumer demand (Siegel 2009). Hence, as stands clear, consumers have a powerful role to play in inducing sustainability through the strategy context of companies. But consumers are also central to the way a company attempts to gain a sustainability advantage, and this leads us to elaborate further on the strategic content literature below.

Strategy content

Having now reviewed the literature shedding light on strategy context for business, illustrating how there can be powerful pressures for and barriers against sustainable behaviour, the following section focuses on the frameworks of strategic content, i.e. the frameworks focusing on the strategic choice for the company when it comes to sustainable action. These theoretical frameworks and concepts focus on how a company achieves a competitive advantage by choosing a particular strategy of environmental behaviour rather than on how the environment leads it to act sustainably. They do not neglect the influence of the surrounding environment, but focus on how companies should strategically respond to the pressures from the environment in order to win competitive benefits.

Within this focus there has been a so-called paradigm shift in the past 20-30 years, marked especially by Porter and Linde's publication "Toward a new conception of the environment-competitiveness relationship" in 1995. In this article, the authors explain how environmental goals and industrial competitiveness has traditionally been seen as opponents, and hence, how social benefits have been seen as a trade-off to private costs (Porter & Linde 1995). However, they argue that this is incorrectly framed based on a perception of the environment as a static constraint instead of framing it more correctly as a dynamic motivator for improvement (Ibid.). This shift is also reflected in other articles explaining that the conventional wisdom regarding environmental protection is that it comes with an added cost for business and that it diverts managers' attention from their main responsibility of making profit (Ambec & Lanoie 2009). Hence, the current focus on sustainability as a way of improving financial, economic and image performance represents a shift (Ibid.). This is important to mention as the literature review will engage with the literature developed after this shift. But we want to emphasize that perceiving sustainability as a strategic advantage is a rather new phenomenon and not necessarily the conventional way of approaching the theme in business.

Three main sustainability strategies

Within the literature focusing on gaining a competitive advantage through sustainability we observe three overall suggestions by the literature: Resource efficiency generating cost savings, differentiation on sustainability increasing demand, and going beyond compliance with regulation and technology creating first-mover advantages. Within these strategies, one can see how the classical debate between cost and differentiation is reflected, originally presented

by Michael Porter in his book *Competitive Advantage: Creating and Sustaining Superior Performance* from 1985 (Porter 1985). Sustainability can thus be seen as a way to minimize cost (e.g. through efficiency gains), and as a differentiating factor, enabling the company to charge a higher price and hence increase revenues. And to some extent going beyond compliance can be argued to represent the focus strategy presented by Porter in which a firm focuses on appealing to a narrow segment valuing specific attributes such as for example sustainability.

The strategy of resource efficiency is the strategy most widely promoted in the literature. The strategy is basically to focus on optimizing resource use mostly through productivity improvements and waste minimization. This gives the environmental benefit of less resource use and thus less pollution, and in turn gives the company a competitive advantage through cost savings while also mitigating the risk of increasing costs in the future (Porter & Linde 1995; Hart 1995; Hart & Milstein 2003; Orsato 2006; Ambec & Lanoie 2008; Laszlo & Zhexembayeva 2011; Lacy & Rutqvist 2015). It is based on the idea that the mere existence of waste reflects inefficient resource use and thereby unnecessary costs, and hence is applicable to most production processes (Porter & Linde 1995; Lacy & Rutqvist 2015). Therefore, it has also been described as the strategy, which is easiest to follow as many low-hanging fruits await in the beginning of the strategy's implementation (Hart 1995; Orsato 2006). Still, the strategy is described as most fruitful in industries with flexible production processes, high processing costs and a lot of waste, as it is here possible to win a lot from optimizing (Orsato 2006; Ambec & Lanoie 2009). Furthermore, the strategy is most likely to give a strong competitive advantage in highly competitive markets where price competition is intense and lowering costs thus has a big effect (Ambec & Lanoie 2009).

Aiming at differentiating the company by making its brand and/or products stand out by their environmental attributes is the second most promoted strategy in the literature, and argued to be the most straightforward strategy (Orsato 2006). The competitive advantage here comes through improving brand reputation and legitimacy, being able to charge a price premium for the product and/or appealing to new market segments interested in sustainable products (Ibid.; Hart 1995; Hart & Milstein 2003; Ambec & Lanoie 2008). As Hart pointed out in 1995, the market for green goods was untapped and hence "a vast amount of unclaimed repu-

tation 'space' with respect to environmental performance" existed (Hart 1995, 995). While this has arguable changed as more companies start tapping into the market, Laszlo & Zhexembayeva highlight in 2011 that intangible assets such as reputation, trust and brand perception today account for a much larger part - around 70% - of the corporate value than has previously been the case (Laszlo & Zhexembayeva 2011). Hence, sustainability can still act as a highly valuable source of enhancement of a firm's brand and thus differentiate its products from others.

Essential for the value creation of this strategy is much alike classic differentiation strategies that consumers must be willing to pay for the environmental attributes of the products, that there is credible information about these attributes and that they cannot easily be replicated by competitors (Ambec & Lanoie 2008; Orsato 2006). As examples of companies being successful with this strategy can be mentioned first Patagonia, a sports clothing company with a line of clothing made from recycled polyester, from which it is able to charge a higher price (Ambec & Lanoie 2008). Änglemark, a sub brand of Coop (a Swedish supermarket chain) is another example, being a brand consisting only of ecological and domestic products, which has been increasing the sales by approx. 130 % in the last 13 years, apparently tapping into a big market segment for sustainable groceries (Orsato 2006). Hence, as visible, consumers play a determining role for the success of this strategy.

The strategy of beyond compliance in reality covers a set of strategies identified in the literature, which do not fall under either resource efficiency or brand/product differentiation and are not promoted extensively enough to receive individual mentioning. They centre around going beyond compliance either through focusing on affecting regulation and increasing industry standards or by focusing on radical innovation and developing the technology needed in the future (Orsato 2006; Hart & Milstein 2003; Ambec & Lanoie 2008; Laszlo & Zhexembayeva 2011). The idea here is to gain a first-mover advantage by proactively shaping the regulatory environment or the technological direction of the future and/or (re)position the company as more sustainable in general (Orsato 2006; Hart & Milstein 2003; Ambec & Lanoie 2008; Laszlo & Zhexembayeva 2011). It can therefore involve spending money on getting expensive internationally recognised standards or investing heavily in technological innovation (Orsato 2006; Hart & Milstein 2003). The regulatory aspect of the strategy is de-

scribed as working well in highly regulated industries, whereas the technological aspect works well in industries, which are unsustainable by nature (i.e. the fossil fuel industries) (Ambec & Lanoie 2008; Hart & Milstein 2003).

Discrepancy between theory and practice

As can be seen from above, the literature on strategy content promotes many ways in which competitive advantages can be gained from sustainable business behaviour. However, despite empirical examples, the academic strategy field is still far from management in practice as pointed out by Laszlo and Zhexembayeva in their book *Embedded Sustainability* from 2011 (Laszlo & Zhexembayeva 2011). Here, they summarize what the literature says about sustainability in business and find that the majority of the literature focus on how sustainability can be a value creation (that sustainability can lead to innovation and commercial benefits) while only few foci on sustainability as value destruction (that sustainability comes at a cost) (Ibid.). Interestingly, they find that this emphasis on value creation in the strategy literature is in clear discrepancy with mainstream business thinking, where sustainability is rather perceived as costly and a trade-off to profits (Ibid.). This leads companies to perceive sustainability as a bolt-on feature rather than embedding it in the overall business strategy, much in contrast to the suggestions of the strategy field (Ibid.). Hence, from this aspect there appears to be a clear imbalance between the literature on sustainability strategies and the reality they intend to appeal to.

Strategic choice and prioritizations

Inherent in the strategy content literature is the dimension of strategic choice, i.e. the logic that a company cannot focus on doing everything at once but needs to prioritize its efforts in a certain strategic direction. For example, Dangelico and Pontrandolfo (2015) show that if a company wants to prioritize improving its image performance, focusing on sustainable materials is better than focusing on energy efficiency and pollution reduction. On the other hand, if it wants to improve financial performance, focusing on energy efficiency and pollution reduction is better than sustainable material use (Dangelico & Pontrandolfo 2015). How exclusive the strategic focus should be is up to debate. On one side, Orsato (2006) argues that managers need to choose between strategies and not just do a bit of everything to become successful. This advocates for a rather exclusive strategic focus; "for instance, by being the first to certify its environmental management system, a firm may differentiate itself from

competitors, while its products or services do not present any environmental features. Conversely, a firm may decide to sell products with eco-labels but not explore the green features of its organizational processes" (Orsato 2006, 131). On the other side, Hart (1995) promotes the idea of strategic interconnectedness, i.e. that there is a natural path dependency in the strategic development and that strategies can be embedded in the sense that one strategic focus can alter another and vice versa (Hart 1995). This view thus promotes a less exclusive strategic focus. Still, both logics reflect that not everything can be achieved at once, and hence that prioritizations are necessary.

Sum-up of literature review

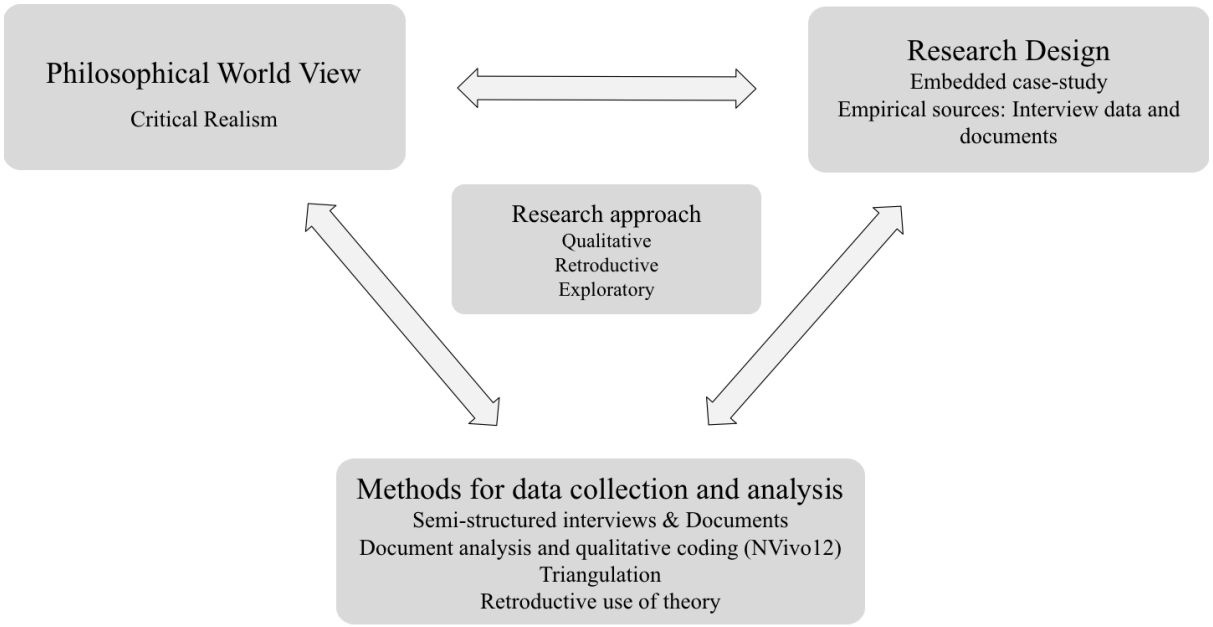
Briefly summing up the literature review (see Appendix A for an illustrative overview), we saw from the first part that there has been a historical move from seeing business and corporations as nothing more than money-makers to increasingly seeing them as responsible for the current state of society. This was reflected especially in the theory about CSR and within this literature there was a move from seeing CSR as voluntary not-for-profit actions to seeing it as an obligatory part of doing business and a potential strategic benefit to companies. This development has led to the current circular economy agenda in society, where business and environment are expected to work hand in hand and mutually reinforce one another. While this vision is powerful if made real, its practical implementation depends fundamentally on the embracement of sustainability in business practices. Hence, in the second part of the literature review we shed light on the strategic dimension of companies' engagement in sustainability efforts from a context and content perspective. In the part about strategy context we learned that there are many drivers for business to become more sustainable such as regulatory pressures or stakeholders demanding sustainability. But we also understood that these factors can act as powerful barriers against sustainability action. Some of them appeared to be stronger pressures than others (such as the pressure from consumers), however, it is still rather unclear which contextual factors affect corporate sustainability efforts the most and how the relative strength of the factors depend on the industry investigated (Blum-Kusterer & Hussain 2001).

Turning to the part about strategy content, it became clear that there are many ways to strategically approach sustainability and gain a competitive advantage by being sustainable such as

saving costs from resource efficiency, increasing demand through differentiating brand and/or products on environmental attributes, and going beyond compliance on regulation or technology to gain a first-mover or positioning advantage. However, the great advancement of sustainability in business presented in the literature is not necessarily reflected in reality despite the academic "optimism" around the topic. This suggests that despite the presence of an intuitive business case around environmental sustainability, "at a practical level the shift is not so easy" (Lacy & Rutqvist 2015, xxi). A better understanding of the practical business angle of strategic sustainability is therefore desirable in order for theory to be able to facilitate and support this shift. Filling this gap is a highly ambitious mission on which we do not expect to endeavour on alone as many aspects need to be investigated before the picture is complete. Still, this thesis is a humble attempt to add a tiny brick to the picture by shedding light on how one particular industry in practice approaches environmental sustainability and prioritizes its efforts on this. The following section will therefore elaborate on the methodology that has been applied for doing so.

Methodology

Having reviewed the broad theoretical context within which the thesis is located, this section now turns to explain the practical approach used to answer the research question of *why plastic is not a strategic focus area in the pharmaceutical industry's sustainability efforts.* The section starts with presenting the critical realist philosophy of science and the retroductive research approach underpinning the thesis. Then, it presents the research design and its subcomponents and ends in an elaboration of the concrete methods that have been applied for data collection and analysis. An illustration of the research methodology is provided below to create an overview before we proceed.



(Figure 1: Illustration inspired by figure 1.1 in Creswell 2014, 5)

Philosophy of Social Science

In the social sciences, three major philosophies exist; Positivism, Constructivism and Critical Realism. Each of these represent a specific view on the world and how we can study it, and every research project will inevitably rest upon one of these underlying logics (Moses &

Knutsen 2012; Marsh & Furlong 2002). Hence, it is important as a researcher to be aware of the underlying philosophy of science of a given project, since it influences the choice of design and methods and sets the barriers as to what is believed possible within the research. As this thesis is informed by critical realism, the following section will zoom in and focus on what this means to the project and the interpretation of the findings it produces.

Critical realism

Critical realism - also referred to as 'scientific realism', 'transcendental realism' or 'empirical realism' - builds on the ontological view that reality is *deep* and the world is *stratified,* meaning that a difference exists between 'the observed reality' and 'the deep reality' (Benton & Craib 2011; Buch-Hansen & Nielsen 2012). The deep reality represents 'the Real World', which is believed to exist independent of our knowledge of it. Yet, in contrast to positivists, who believe that this Real World can be studied through systematic examination of patterns in the world, critical realists maintain that accessing the Real World is highly complicated (Buch-Hansen & Nielsen 2012; Moses & Knutsen 2012). In terms of epistemology, this means that critical realists reject that social science research can be objective and consequently that the goal is to find generalizable truths. This is not believed possible due to the deep reality being out of reach and instead, critical realists accept that a degree of uncertainty to all findings exist, because of every analysis' sensitivity to context (Fuglsang & Olsen 2004). Yet, although the aim is not to find the truth about how things relate (since this is not believed possible), the goal is still to get as close as possible. This is done through the exposition of underlying structures and mechanisms that logically must be in place for an observed phenomenon to make sense. Thus, the aim is to contribute to a better understanding of what we observe, while at the same time acknowledging the limitations of human research in terms of uncovering 'the Real World' (Buch-Hansen & Nielsen 2012).

That critical realism informs this thesis reflects first of all in the purpose's alignment with what is believed possible in a critical realist project, namely to reach a better understanding of an existing phenomenon. Hence, as the purpose is to understand why plastic is not a focus area in the pharmaceutical industry and through the examination of this obtain insights about what drives sustainability prioritizations in firms, there is no intention to come up with generalizable truths or to break down dominating discourses as would be characteristic for respec-

tively positivist and constructivist projects. Besides, the fact that the research question asks 'why' also fits well with critical realism, which as a scientific practice most often builds on why questions (Buch-Hansen & Nielsen 2012). Finally, and which will reflect more clearly as the thesis progresses, the way we use theory also aligns with critical realism, where theories are being used as tools for structuring and discussing findings rather than as frameworks representing final truths.

A retroductive research approach

In addition to the arguments above, the critical realist philosophy is also reflected in the retroductive research approach applied in this thesis. *Retroduction* is a way of systematic reasoning, which starts from empirical observations of surprising facts or puzzles and then moves into the underlying mechanisms in a search for explanation (Buch-Hansen & Nielsen 2012). Hence, it is about moving from empirical conclusion to premise rather than the other way around. This logic clearly reflects the approach of this thesis, where we start with an observed phenomenon - the fact that plastic is not a theme in the European pharmaceutical industry (the conclusion) – which we then seek to understand by examining the underlying structures and mechanisms (the premises) that must be in place for this to make sense.

Retroduction represents an alternative to and a combination of the more common approaches of deduction and induction in the sense that it neither leads to the generation of new theory (alike induction) nor aims at testing or confirming existing theory (alike deduction) (Moses & Knutsen 2012). Rather, through a combination of both inductive and deductive methods, the aim of retroductive processes is to generate insights that can explain why we see what we see, while acknowledging that the findings are not exhaustive. Thus, even though our thesis alike induction takes departure in an empirical observation, and alike deduction uses theory to guide the process of investigating this observation, our thesis aims solely at explaining empirically observed regularities and neither at theory generation nor theory verification, making it a retroductive project.

Research design

Moving on from these overall considerations of philosophy and research approach, the research design is now presented. A research design is the procedure used to investigate the topic at hand (Creswell 2014), and hence, the logic linking "the data to be collected (and the conclusions to be drawn) to the initial questions of study" (Yin 2009, 18). Therefore, this section starts out by explaining the purpose of the paper as it is reflected in the research question. Then, it links the purpose to the specific research design and explains why and how an embedded case study design has been applied. Lastly, it presents the qualitative empirical sources upon which the research builds.

An exploratory study

Starting with the purpose of the research, there are three classical purposes, namely an exploratory, descriptive and explanatory purpose (Saunders et al. 2012). These purposes are different in the sense that exploratory studies seek to understand a problem/puzzle, descriptive studies aim at portraying a situation, while lastly, explanatory studies try to establish causal relationships between variables (Ibid.). Since our research aims at *understanding* how sustainability efforts are prioritized and why plastic is not present as a sustainability theme in the pharmaceutical industry, the purpose can be defined as primarily exploratory. Exploratory in the sense that there are no previous studies or theoretical frameworks offering an answer to our question, wherefore there is nothing to go out and 'test'. Rather, we ask an open-ended question and explore the possible answers to this. In doing so, we obtain insights that may pave the way for further investigation in future studies (USC 2018).

Despite the primarily exploratory nature of this thesis, though, it must be highlighted that most research projects have various purposes (Saunders et al 2012). Hence, there is in this thesis as well a descriptive element in terms of the clarification of current sustainability efforts of the pharmaceutical industry as well as an explanatory element in the provision of potential explanations for these efforts. However, the why element of the research question shows that the research aims at going deeper than merely describing, while the open-ended nature of the question turns focus away from making causal arguments.

Case study design

The research has been designed as a qualitative case study, exploring the particular case of environmental sustainability efforts, and specifically the issue of plastic, in the European pharmaceutical industry. On a broader level, our case study is a case of how businesses address and prioritize their sustainability efforts and even more broadly, on the engagement of businesses with environmental sustainability and their reaction to the societal expectation of them to take environmental action. As such, the case entails two components; 1) the concrete puzzle of investigation reflected by the research question, and 2) the broader theoretical context of sustainability in business that this puzzle speaks into. The former will be directly addressed in our findings section, and the latter will be reflected upon in the subsequent discussion drawing upon the theoretical context presented in the literature review.

Conducting a single case-study of one issue in one industry has been chosen as the research design due to the many benefits in terms of depth and details associated with case research: qualitative case studies are characterized by their intense and rich descriptions of a single phenomenon, event, organisation, or program (Bowen 2009; Siggelkow 2007). Hence, the case study design has been particularly useful for our research purpose, allowing for an in-depth exploration of the rationales behind sustainability prioritizations, which rightfully captures the complexity of reasons for why plastic is not a prioritized issue in this industry's environmental efforts. Additionally, a case study is an ideal point of departure for exploration as no previous studies have provided suggestions for specific elements of sustainability prioritizations to be studied at a broader level. Thus, in order to understand the large and complex issue of firms' sustainability prioritizations, the case study design concretizes the issue to the specific case of the pharmaceutical industry, which ensures that the depth of the research is not compromised.

Embedded case study design

More specifically, our study of environmental sustainability and plastic in the pharmaceutical industry can be characterized as a so-called 'embedded case study', where we look at the subunits (companies) making up the pharmaceutical industry in order to obtain knowledge of the industry as a whole (Yin 2009). This stands in contrast to a holistic case study, which differently looks at just one level (e.g. the industry level) and risks being primarily abstract and without any clear measures or data to analyse (Ibid.). Thus, given the existence of logical

subunits of the pharmaceutical industry - namely the companies without which the industry itself would not exist - an embedded case-study design has been applied, allowing us to analyse the sustainability prioritizations at an operational and concrete level (Ibid.). It is important to emphasize in relation to the embedded case study design that although data is collected at company level, the findings are pooled in the subsequent analysis to sustain the industry-level focus of the thesis. The individual company insights do as such serve merely as inputs for the analysis of the industry as a whole and not as company-specific findings.

In order to cover the pharmaceutical industry extensively, we have chosen to look at those pharmaceutical companies, which together constitute the majority of the pharmaceutical industry in Europe - around 84 percent, when looking at retail sales (see graph below), and with a similar pattern occurring if looking at market value (Statista 2018).

(Figure 2: Graph developed from own calculations based on data from Statista 2018)

The particular companies we have looked at have therefore been Bayer, Roche, Novartis, Sanofi, GlaxoSmithKline (GSK), AstraZeneca, Boehringer-Ingelheim and Novo Nordisk,

which are all large multinational companies, who operate globally, but are headquartered in Europe (Germany, Switzerland, France, United Kingdom, and Denmark). Besides, to ensure that our findings also reflect the considerations of smaller companies, we have chosen to include two smaller pharmaceutical companies, namely Lundbeck and ALK-Abello. Both of these are headquartered in Denmark, but alike the bigger ones, they also operate globally. While we have looked at all the companies' environmental sustainability strategies, we have conducted interviews with six of the eight big ones plus both of the two smaller firms. More details on the interviews will be provided below.

Finally, the embedded case study has been structured around two parts; firstly, the identification of the main focus areas of the pharmaceutical industry's current environmental sustainability efforts. Mapping these have been necessary to create the point of departure for the second part, where then an investigation is undertaken of *why* the identified focus areas have been prioritized over others. Among the 'others' we zoom in particularly on why plastic has not become a theme in the pharmaceutical industry's sustainability efforts. In order to shed light on this, we seek to also understand the factors motivating the areas actually *being* prioritized. In this way we can compare these factors to the factors motivating or demotivating focusing on plastic. Thus, the variance in themes enables us to understand what drives and hinders sustainability efforts and what most likely has led to plastic not being on the agenda.

Empirical sources

The empirical sources used to conduct the case study of this thesis are mainly primary sources such as original documents and interview answers (Moses & Knutsen 2012). For the first part of the case study, i.e. the identification of current sustainability focus areas, we have examined the environmental sustainability strategies of the above-mentioned companies as well as the communication put forward by the European Federation of Pharmaceutical Industries and Associations (EFPIA)[2] on sustainability priorities to the industry as a whole (see Table 1 below for an overview).

[2] EFPIA represents the pharmaceutical industry operating in Europe and all of the companies examined in this paper are members of EFPIA (EFPIA (A) 2018).

Table 1: Environmental Sustainability Strategies – overview of sources

Company	Documents & Webpages
Roche	Annual Report 2017 www.roche.com
Lundbeck	UN Global Compact 2017 Communication on Progress Report www.lundbeck.com
Novo Nordisk	Novo Nordisk integrated Annual Report 2017 UN Global Compact 2017 Communication on Progress Report www.novonordisk.com
Novartis	Novartis ESG Investor call 2018 Corporate Responsibility Report 2017 Environmental Data Supplement 2017 www.novartis.com
ALK Abello	Sustainability Report 2017 - Report on Corporate Social Responsibility www.alk.net
AstraZeneca	Sustainability Report 2017 - Making science accessible www.astrazeneca.com
GlaxoSmithKline	GSK Responsible Business Supplement 2017 Annual report 2017 www.gsk.com
Boehringer-Ingelheim	Annual Report 2017 www.boehringer-ingelheim.com
Bayer	2017 Integrated Annual Report www.bayer.com
Sanofi	2017 Integrated Report www.sanofi.com
EFPIA	EFPIA Annual Report 2017 EPI: Care for People, Care for Our Environment Report 2018 EPS – A Holistic Environmental Risk Management Program 2018 White Paper on Climate Change 2017 White Paper on Circular Economy 2016 www.efpia.eu

The strategies of these companies and the EFPIA are publicly available online on the companies' and the EFPIA's websites. They are therefore attributable to each of these actors, and the benefit of using the strategies to identify the sustainability foci of the industry is that public documents (or whichever format the strategies are presented in) in general represent data, which has been given attention by the publisher (Creswell 2014). Hence, since the publishers are the pharmaceutical companies and their industry association, the public strategies reflect exactly the sustainability areas, to which the industry actors have directed attention. Thus, since the aim of the first part of the case study is to identify exactly the *prioritized* sustainability efforts of the industry, the sustainability strategies have been the obvious empirical sources for this part.

In the second and most exploratory part of the case study, the aim has then differently been to understand what lies behind prioritizations i.e. the strategic considerations underpinning the companies' and thereby the industry's actions. Since information on the underlying motivations for what is done is not publicly available, documents have had little to offer to this (Creswell 2014). Thus, this is why we have used interviews as empirical sources for the second part. Conducting interviews is the most commonly used data collection method in qualitative research (Creswell 2007 in Janghorban et al. 2014) as it offers a series of advantages, the primary one being that it provides access to personal knowledge and experience (Poulsen 2016). It allows researchers to gain insights about topics being inaccessible elsewhere, and we have therefore used interviews to obtain knowledge about the rationales behind the visible prioritizations of environmental sustainability efforts in the pharmaceutical industry. Insight into these rationales could not have been obtained by merely studying documents or doing observational studies, since strategic considerations are rather intangible and not necessarily expressed by actions or in written accounts. Besides, as the aim has also been to uncover the rationales of what is *not* being done, which can never be observed, interviews have been useful. Together, this explains why interview answers have served as the optimal empirical sources for the second part of the case study.

Interviewee selection

Given the heavy reliance on interview answers in our design, the interviewees have been chosen based on their position in their respective companies and their expected valuable and insightful knowledge. Thus, as the aim has been to understand the strategic prioritization of

sustainability efforts, we have interviewed employees working with the global strategic dimension of environmental sustainability, meaning those directly involved in the prioritization and decision-making processes (and not for example those involved in the implementation of environmental projects). The table below presents an overview of the people, whom we have talked to, indicating their name, title, which company they represent and in which country the respective companies are headquartered.

Table 2: Overview of interviewees

Name	Title	Company	HQ country
Mr. Peter Saladin	Global Head, Environmental Sustainability	Roche[3]	Switzerland
Ms. Anja Møller Asgaard	Project Manager, Corporate Health, Safety & Environment	Lundbeck	Denmark
Mr. Morten Storgaard	Senior Project Manager, Corporate Environmental Strategy	Novo Nordisk	Denmark
Ms. Karen Coyne	VP & Global Head of Environment	Novartis	Switzerland
Ms. Marie Grangaard Poulsen	Global Environment, Health & Safety Manager	ALK Abello	Denmark
Mr. Fredrik Hellman	Environmental Sustainability & Compliance Lead	AstraZeneca	UK
Mr. Richard Pamenter	VP & Global Head of Environment, Health, Safety & Sustainability	GlaxoSmithKline	UK
Mr. Ingo Weiss	Corp. EHS Manager Governance & Compliance	Boehringer Ingelheim	Germany

[3] Roche operates globally under two main divisions: Pharmaceuticals and Diagnostics (Roche 2018). Peter Saladin is the Global Head of Environmental Sustainability in the Diagnostics division. Yet, since there is no exact equivalent in the Pharmaceutical division and since the sustainability strategy is developed for the company as a whole by the Sustainability Committee (a sub-unit to the Roche Board's Corporate Compliance and Sustainability Committee in which Peter sits), Peter has been regarded a relevant representative to talk to on the issue of environmental sustainability.

As is evident from the table, we have spoken to one representative per company based on the recognition that by talking to those individuals performing the actual strategizing and decision-making on environmental sustainability within each company, we have gained access to valuable insights on their prioritization methods and the rationales behind their strategies. As has already been stated, we have actively sought to identify those individuals within each company, whom we expected would possess the most valuable knowledge to our project. Through either Linkedin searches or via our network we got in contact with people inside the companies, whom we then contacted to identify 'key informants' within each firm (Campbell 1955 in Dangelico & Pontrandolfo 2015). Thus, through this strategy we have managed for each firm to talk to a highly relevant employee (as an illustration of this see titles in the table above). Thus, rather than talking to many for quantitative reasons, each company representative has been carefully chosen to fit the purpose of our research.

Importantly to mention is that we have used the same interview manual for all the interviews to ensure that the same overall topics were covered. This was important in order to draw conclusions at an industry level - to be able to 'pool' the insights from the different interviews into findings saying something about the industry as a whole. Related to this, we have chosen to anonymize the interviewees in the findings section to reinforce the focus on the industry-level rather than focusing on 'who said what'. Therefore, there are no references to individual company representatives included in the findings section. Finally, and as already mentioned, it must be noted that we have conducted interviews with six of the eight big companies listed earlier (see 'embedded case study design') plus both of the two smaller firms. We have not conducted interviews with Bayer and Sanofi, who politely rejected our requests, and neither with the EFPIA, since this has not been regarded a subunit of the industry, but rather a representation of the industry (EFPIA (A) 2018). Both Sanofi and Bayer have though been included in the first part of the findings section represented by their sustainability strategies, and EFPIA documents have been used in both the first and second part.

Qualitative methods

Having outlined the research design and hence, the strategy for how we get from research question to conclusions, the concrete methods that have been applied for data collection and analysis are now presented. All of the applied methods are qualitative and specifically, the following section details how the interview method, document analysis, triangulation and theory have been used.

Interview method

First, as mentioned in the presentation of the research design, the interview method has been applied as the primary method for data collection. Overall, the qualitative research interview can be compared to a 'guided conversation', where questions are asked by the researcher, who then listens to hear the meaning of the interviewee's answer (Kvale 1996 in Warren 2011). Specifically, we have conducted eight qualitative and semi-structured interviews, where the answers have served as sources of insights about how companies in the European pharmaceutical industry approach environmental sustainability and prioritize actions on this. The design of the interviews has been open and flexible with no precise route prepared beforehand, which is what characterizes a semi-structured interview (Leech 2002). In comparison to a structured interview, which is often used for surveys to obtain many and uniform data, the advantage of the semi-structured interview is that it allows the interviews to progress according to the insights provided and not according to a planned structure, which risks constraining or governing the answers (Ibid.; Kvale 1997 in Poulsen 2016). Especially given the retroductive and exploratory approach of our project, this is beneficial, and hence, the semi-structured interview method has been suitable.

Another benefit of the qualitative and semi-structured interview method is that it enables going into depth rather than generating numerical or superficial data. In line with this, all of our interviews have lasted for around one hour, leaving enough time for detailed and rich conversations, where we have come around many aspects and considerations on the companies' efforts and prioritizations (Poulsen 2016). Finally, it is worth mentioning that we by using semi-structured rather than structured interviews have minimized the influence of us as researchers on the interview answers. Given the conversational nature of interviews it is impos-

sible to achieve complete objectivity, yet, by leaving the design open we have been able to keep our influence at a minimum.

As is indicated in the name itself, though, some kind of structure is necessary even for 'semi-structured' interviews in order to ensure the relevance of the data collected to the research purpose. Thus, we developed an interview guide (see appendix B) as preparation for the interviews and included herein the major themes to be covered and some suggested questions to guide the conversation (Poulsen 2016). This was then used as a checklist throughout the interviews to make sure that all areas of interest were covered. Inspired by Brinkman and Kvale (2014) we organized the interview guide based on a distinction between 'research questions' and 'interview questions' (Kvale & Brinkmann 2014), operationalizing the research questions into more short and simple interview questions. This was meant as a tool to first of all ensure coherence between our research purpose and the interview questions. Together with the initial 'grand-tour question' (Christensen 1994 in Poulsen 2016), where we asked the interviewees to take us through the major components of their sustainability efforts, the simplicity of the interview questions also served to make the interviewees feel comfortable, and as such it paved the way for rich and detailed descriptions. Finally, it enabled us to focus on the concrete actions and examples rather than on opinions, ideals and more abstract considerations.

Dependent on our interviewees' location, the interviews were conducted via either Skype, FaceTime or face-to-face. Where the latter has been possible only for those with offices in Denmark, Skype and Facetime has been the solutions when talking to those working from elsewhere in the world. Even though the face-to-face format would have been preferable for all the interviews, because it - at least from our experience - creates a stronger atmosphere of trust and thereby potentially leads to the sharing of more details, Skype and FaceTime have worked well. As they have improved over the years, these digital communication solutions offer a novel interview method to collect qualitative data (Janghorban et al. 2014, 1), and since we by using these have still been able to 'see' our interviewees and thereby virtually interact, we found it plausible to conduct some of the interviews this way.

Documents as data sources

In addition to collecting data through interviews, documents have served as valuable data sources. First of all, data has been collected from documents for the first part of the analysis, where we have systematically reviewed sustainability strategies of the European pharmaceutical industry in order to identify the current focus areas. Moreover, we have used documents such as press releases, public statements, position papers and similar in the second part of the findings section together with the data gathered through the interviews. Here, the documents have served as supplementary data to the interview answers, holding the particular advantage of being non-reactive to the context and the potential influence of us as researchers (Bowen 2009). These data from documents can as such be regarded more stable and 'clean' from researcher influence. Finally, documents have served as valuable sources for gaining background information on the pharmaceutical industry and the context in which it operates, creating the knowledge base for developing our interview guide and to in the discussion contextualize our findings in the literature on firms' environmental actions.

Qualitative data analysis

Having presented the methods for data collection, the question is then how we have moved from the qualitative data to the findings answering our research question. Which processes and procedures have been applied to enable this 'move', and what do the chosen procedures imply to the validity and reliability of our findings?

First, we have for the introductory part of the findings performed a document analysis, a method that throughout recent years has become increasingly recognized as an independent method in the social sciences alongside e.g. analysis of interview data and observational data (Kristensen & Hussain 2016; Bowen 2009). Document analysis is defined as "a process of evaluating documents in such a way that empirical knowledge is produced and understanding is developed" (Bowen 2009, 33-34). Therefore, when applied in this thesis, document analysis first of all refers how we have manually conducted a systematic examination of the environmental sustainability strategies of the ten pharmaceutical companies and EFPIA. Through this manual method of document analysis, we have examined the strategies as they are reflected in the communication on environmental sustainability efforts put forward by the actors on their websites and in different reports and documents (see overview in Table 1).

Hence, by 'strategies' we refer not necessarily to only one document per company outlining their strategy, but to a broad range of sources elaborating on their efforts. In the examination, we have been looking for similarities and differences in the environmental issues being addressed in order to identify potential tendencies. Due to the narrow scope of this part of our data, the document analysis has been undertaken manually.

For the analysis of the interview data, on the other hand, we have used NVivo12, a computer-based software programme for qualitative research, to organize the data. Given the amount and richness of the interview data gathered, the programme has been useful as a structuring tool for grouping the different motivations occurring from the interviews. Hence, it has helped us to be organized in systematically identifying recurring themes. Importantly to mention is that "looking for themes involves coding", with coding meaning the "identification of passages of text and the labelling of these to indicate that they are examples of some thematic idea" (Lewins et al. 2010). Thus, we have by using the NVivo12 software coded our interview data into different themes/factors that were recurring and common in the different interviews. The labelling process has enabled us to get a clearer picture of what our data could tell and besides, from a more practical perspective, it has enabled us to quickly retrieve and collect together all the arguments from the interviews associated with the same theme. Thus, when writing up the findings afterwards, we very practically have had the examples for each theme grouped together in one document.

The qualitative data analysis processes - the manual document analysis and the analysis of the interview data performed in NVivo12 - have both been conducted in a parallel manner. This means that we simultaneously have performed two independent analyses, before then comparing the 'results' to identify similarities and differences and end up with one common picture. This parallel research strategy is generally referred to as 'interrater reliability', being defined as "the relative consistency of the judgements that are made of the same stimulus by two or more raters" (Lavrakas 2008). Hence, it is the question of whether two or more evaluators see and interpret the same from the exact same data (stimulus), and if that is the case, reliability of the findings increases. Thus, we have pursued this data analysis strategy to minimize the risk of subjectivity in our coding, and thereby to increase the validity and reliability of our findings.

Triangulation

In addition to the arguments already presented of the benefits of the respective methods, another reason for combining these methods has been to be able to 'triangulate' the findings. Triangulation is a verification method, where the researcher by combining methods in a study of the same phenomenon becomes able to ensure the credibility of the findings (Denzin 1970 in Bowen 2009). Hence, it is a way for the researcher to compare evidence produced from different methods and thereby provide "a confluence of evidence that breeds credibility" (Eisner 1991, 110 in Ibid., 28). In this thesis, we have first of all triangulated the data in the sense of comparing the data gathered on the industry's current efforts with what was stated during the interviews on this. The first question we asked in all the interviews was about their current efforts, and we identified a clear overlap in the answers provided here with what we had found through our document analysis. Thus, this strengthened the reliability of the findings on current efforts. Besides, we have as well triangulated the data from the interviews when relevant with other sources of data, for example data indicating the existence of megatrends in order to identify if the same picture emerged. Thus, using different methods has as such enabled us to corroborate the data and thereby 'verify' - or at least indicate - what seems to be the dominating reasons for the current prioritizations and thereby also the reasons for plastic not being a focus area.

Retroductive use of theory

Finally, the retroductive approach is demonstrated in the use of theory. Where case studies in general are theory-creating as "the researcher moves from practice to theory (and not the other way around) from an overall theoretical framework setting the premises for what and how observation takes place" (Kristensen & Hussain 2016, 319), our case study does not aim at 'theory creation'. As explained in the beginning of the methodology section, the aim of a retroductive study is solely to explain empirically observed regularities and as such, this thesis does not constitute a typical example of the theory creating case-study. Rather, theory has been used mainly to serve two purposes; first, theory has informed our interview guide in the sense of providing inspiration to which questions to ask. Second, theory has been used in the discussion of our empirical findings to understand the findings from a broader theoretical perspective. From this it can be argued that a contribution of the thesis is to suggest alterations to existing theories or provide nuances to the theoretical debates. Hence, theory is used

retroductively in this case-study as a guide to investigation and a means to give the findings both empirical and theoretical relevance.

Sum up of methodology

In sum, it has now been established that the thesis is designed as an embedded case study, exploring the reasons for why plastic is not a sustainability theme in the pharmaceutical industry. The case study is embedded in the sense that companies represent the subunits of the industry and by examining these, we have been able to say something at industry level. The concrete focus of our research question constitutes on a broader level a case of how businesses address and prioritize their sustainability efforts and even more broadly, on the engagement of businesses with environmental sustainability and their reaction to the societal expectation of them to take environmental action. Finally, it has been settled that interview answers provided by sustainability representatives from the industry and documents are the main empirical sources used to conduct the research. Hence, having established the methodology, the next section proceeds to present the empirical findings of our analysis based on these sources.

Findings

This section presents the findings, which serve to answer our research question of why plastic is not a strategic focus area in the pharmaceutical industry. The section is structured around two parts, with the first part presenting *what* the pharmaceutical industry currently focuses on in its environmental sustainability efforts, and the second part presenting our findings of *why* these efforts are prioritized and hence, why plastic is not present among the focus areas identified in part one. Both parts are based on our analyses of respectively sustainability strategies of the industry (including documents from the industry association, EFPIA), and interview answers from sustainability representatives complemented by additional sources. Hence, on the following pages, the first part of the findings are presented.

Findings part one: Current focus areas

The overall tendency when scanning the current strategies is that *emissions/energy*, *water* and *waste* are the three central pillars of the industry's green efforts. These are the topics prioritized as focus areas by all the companies and hence, the picture looks very similar across the entire industry. The focus in terms of emissions is on energy consumption and reducing CO2 emissions from production sites and buildings to contribute to the fight against climate change. All of the firms as well as the EFPIA addresses this issue of CO2 and climate change and express in particular their wish to take an active role in reaching the Paris Agreement adopted by state leaders in 2015 at the UNFCCC COP21 meeting. In terms of water, the focus is on using water wisely to prevent and protect against scarcity of water in the future. Hence, the focus is on water conservation and the need for optimizing production processes to become less water consumption intensive. Finally, in terms of waste the focus is on improving waste management to become increasingly circular and leave a minimal environmental footprint from waste. As such, there is a broad focus on reducing the amount of waste generated as well as increasing the amount of waste being reused and recycled in the industry (this paragraph is based on the conjuncture of information provided in the companies' environmental sustainability strategies listed in table 1).

Being more specific, the focus on the above-mentioned overall themes, when it comes to addressing the environmental consequences of the industry's operations, is reflected first of all in how most of the companies have structured their website section on environment around these three titles. A clear illustration of this being for example on Novartis.com under the *environmental sustainability* heading, where the environmental efforts are grouped into 'Energy&Climate', 'Water & Micro-pollutants' and 'Materials&Waste' (Novartis (A) 2018). Another example is found at Boehringer-Ingelheim.com, where under the *environment* heading one finds the subtitles 'Energy consumption and emissions to air', 'Water consumption and emissions to water' and 'Waste' (Boehringer-Ingelheim 2018). Besides being reflected in the structure of the websites, it is as well reflected in what is being measured and reported on by the companies. When studying the various reports and the data included herein it is clear that emissions, water and waste are the prioritized areas, since it is by far on these issues that most concrete data is included in terms of how things have developed over time. An example of this being Bayer's annual report from 2017, where the environmental protection section presents detailed quantitative data for energy consumption and efficiency, air emissions, use of water and emissions into water and waste and recycling (Bayer 2017).

The data element is also closely related to the fact that it is also primarily on the three themes of emissions, water and waste that concrete goals are expressed. When communicating their visions for a greener future, the companies focus on e.g. by how much they can reduce CO2 emissions from the production sites, how much energy they must get from renewable sources in the future or on setting concrete recycling or water consumption goals. Thus, it is clear that the goal-setting as well is structured around the three themes. See Table 3 below for concrete examples of environmental sustainability targets presented by the firms.

Table 3: Examples of environmental sustainability targets

Target(s)	Company and report
• *Reduce CO2 emissions by 5% in 2017 compared to 2016* • *Reduce energy consumption by 3 % in 2017 compared to 2016* • *Recycling of 40% of selected solvents* • *Zero environmental incidents with an impact on the environment*	Lundbeck, 2017 UN Global Compact COP Report
• *By end-2018 the energy consumption must not exceed the consumption in 2014* • *By end- 2018 the CO2 emission must be 5% less compared to the emission in 2014* • *By end-2018 the water usage must not exceed the usage in 2014* • *By 2030, ALK will reduce the amount of waste generation through prevention, reduction, recycling and reuse*	ALK Abello, 2017 CSR Report
• *Maintain operational GHG footprint no greater than 2015 levels by 2025 (including specific targets for Scope 1, 2 and 3 emissions)* • *100% renewable power consumption by 2025 globally with an interim target of 100% renewable power in the EU and US by 2020* • *Reduce energy consumption by 10% against a 2015 baseline by 2025* • *Expand green vehicle fleet by 2025* • *Maintain absolute water use at 2015 baseline levels through to 2025* • *Reduce waste by 10% below the 2015 baseline by 2025*	AstraZeneca, 2017 Sustainability Report
• *Reduce overall carbon footprint by 25% by 2020 (vs 2010) and have a carbon neutral value chain by 2050* • *Reduce water impact across the value chain by 20% by 2020 (vs 2010)* • *By 2020, reduce operational waste by 50% (vs 2010)*	GSK, 2017 Responsible Business Supplement

Important to mention is that despite emissions, water and waste being the three dominating focus areas of the industry's environmental sustainability efforts, other topics are being dealt with too. Some of these falling within one of the three overall focus areas as sub-themes, others being addressed as additional and particularly relevant topics to act upon. Deforestation and palm oil are two such examples addressed by GSK (GSK 2016), Green Chemistry being a focus area with Boehringer-Ingelheim, Lundbeck, Novo Nordisk, among others

(Boehringer-Ingelheim 2018; Novo Nordisk 2018; Lundbeck 2018), and materials appearing in many of the strategies as a focus area, yet, to a lesser extent than the three dominating ones. Especially worth highlighting is the great amount of attention directed towards minimizing pharmaceuticals in the environment (PIE) – pharmaceuticals ending up in nature primarily via patients expelling waste after having taken their medicine (EFPIA (B) 2018; EFPIA (C) 2018; Boehringer-Ingelheim 2018; Sanofi 2018; Novartis 2018). This is an issue, which especially the EFPIA in the two reports "Pharmaceuticals in the Environment: Care for People, Care for Our Environment Report 2018" and "EPS – A Holistic Environmental Risk Management Program" is placing a lot of emphasis on, stating that "the European pharmaceutical industry takes PIE concerns very seriously" (EFPIA (B) 2018, 6) and that "Industry is committed to playing a role in addressing PIE concerns and is actively engaged in minimizing the impact of its activities on the environment" (Ibid., 3). Yet, as an issue it arguably falls within both 'water' and 'waste' and it is not communicated on as extensively as the overall themes, wherefore it cannot be regarded a major focus by the industry in line with the emissions, water and waste.

The absence of a plastic-focus

Having now identified what the European pharmaceutical industry currently focuses on when it comes to environmental sustainability, it is clear that plastic does not appear as a focus area. Even though there - alike the examples of palm oil and deforestation - are some of the companies touching upon plastic and the materiality issues related to their products, it is not a big theme in the industry's green efforts. GSK is one example of a firm that has touched upon plastic with their 'Complete the Cycle' initiative from 2011 - a take-back solution to collect and recycle respiratory inhalers (that are made of plastic) in the UK (GSK (A) 2018). More recently, Lundbeck has included plastic as a topic to look into in order to identify possibilities for improving the handling of plastic in their new 2026 strategy on environmental sustainability (Lundbeck (A) 2018), and in Novartis' new Sustainability Strategy for 2025 and 2030 a goal has been set to become 'Plastic Neutral' by 2030 and already in 2025 have eliminated PVC in packaging (Novartis (B) 2018). Yet, despite these small signs that plastic is starting to appear on the industry's agenda, plastic is still far from being a major current strategic focus area in line with carbon, water, and waste.

Findings part two: Exploration of why plastic is not a strategic focus area

Having established now that plastic is not among the strategic focus areas of the pharmaceutical industry's sustainability efforts, this second part of the findings investigates why this is so. This includes looking deeper into the directly expressed reasons for not including plastic as a focus area, as well as looking into the motivations behind the focus areas that *are* present. By including a focus on the latter, it is ensured that all potential explanations for why plastic is not a focus area are included and not only the industry's own perceived reasons. The logic being that implicitly in the argumentation for what *is* prioritized, reasons can as well be exposed for why something else is not prioritized e.g. in the sense that a factor motivating one focus may be absent or even demotivating another potential focus area. Hence, as explained above, both directly expressed and implicitly indicated arguments are identified. It must in relation to this again be stressed, as mentioned in the methodology section, that since we have chosen to anonymize the interviewees to sustain an industry-level focus, no references to individual interviewees are included in the following section.

Based on the above described procedure for examining why plastic is not a strategic focus area, we have identified seven factors influential for the prioritizations of the industry's environmental sustainability efforts and thereby aiding the understanding for the absence of a plastic-focus (see Table 4 below). The section will be structured around these seven factors, explaining them and their arguments for why plastic is absent as a focus area one at a time. In the end of the section, we then sum-up the arguments and explain how the arguments together answer this paper's research question of why plastic is not a focus area in the pharmaceutical industry.

Table 4: Overview of findings arguments

Factors influential for sustainability prioritizations	*Factor-related argument for the absence of a plastic-focus*
Megatrends	*Short duration of the plastic megatrend*
Environmental impact	*Small perceived environmental impact of plastic*
Data	*Lack of available data on plastic*
Economic costs and benefits	*Few economic incentives for addressing plastic*
Regulation	*Missing regulation on plastic and heavy exposure to regulations on the product side*
Employees and investors	*Superficial employee and investor interests*
Consumers	*Missing consumer pressure for sustainability*

Megatrends

The first factor, which we have identified to be influential for the pharmaceutical industry's environmental sustainability prioritizations, is the notion of what is going on in society i.e. the environmental megatrends on the societal agenda. As plastic constitutes such a mega-trend, this factor from a first perspective speaks in favour of including plastic as a strategic focus area. However, the picture is not that simple, and as became clear when investigating this factor further, it is not merely the existence of a megatrend around a topic that leads it to be prioritized, it is as well the time-duration of the megatrend that matters. In other words, the amount of time an issue has been extensively and widely discussed by society seems explanatory for what is taken up as major focus areas in this industry. Hence, since plastic is a relatively new megatrend compared to others, the issue is currently not prioritized as a main strategic focus area in the industry.

The fact that megatrends are important motivators was explicitly clear from all the interviews. Some of the interviewees mentioned that they in their respective companies systematically scan for what is going on in society to make sure they are aligned with its expectations. Some referred to specific events creating awareness in the public and hence in the pharmaceutical industry and their company such as for example the multinational COP meetings addressing climate change or BBC's Blue Planet episode addressing plastic in the ocean (UNFCCC 2019; BBC 2017). Lastly, some mentioned that they have chosen to comment on envi-

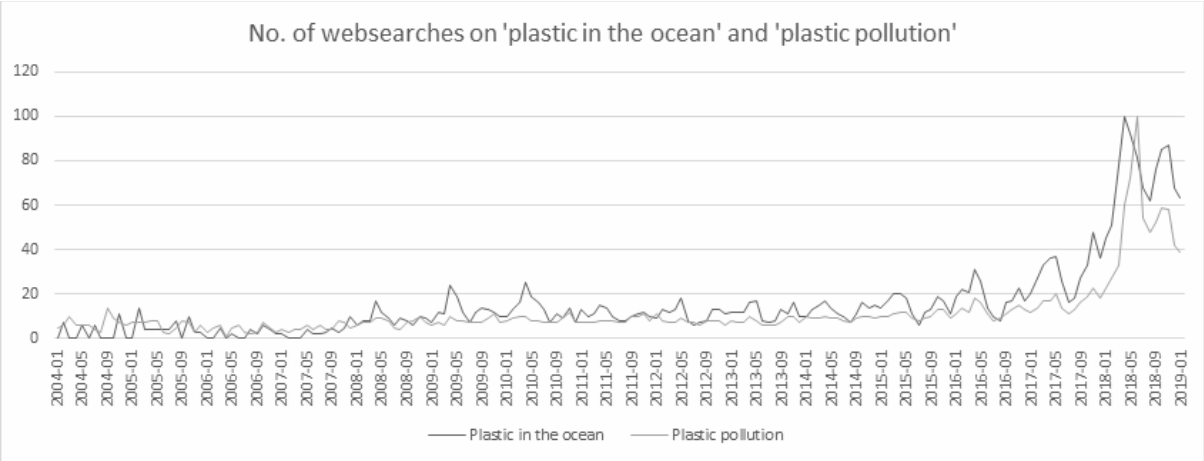
ronmental sustainability issues such as waste, because it has a lot of focus "out there". The main reason for the importance of megatrends seems to be their effect on society's increasing expectations for what companies must do to be seen as environmentally responsible companies and the fear this creates of being seen as a bad company by failing to address the issues society finds important. For example, when an interviewee said, "of course what we don't want is for Greenpeace to say our company is a bad company", implicitly lies the consequence that then they must address the issues Greenpeace wants them to address. Furthermore, megatrends seem to drive prioritizations either through creating awareness about the issues they address or by enhancing the already present awareness. Hence, for some companies the addressing of an issue by society can feed the first attention towards the issue while for others, who were already aware of the issue, the rise of an issue from an internally noticed issue to an externally recognized megatrend pushes the company to start addressing the issue. In short, the general impression seemed to be that "if there is a megatrend in the newspapers then each company has to take a stand on this".

This very strong power of megatrends seemed to also be the main reason for the first steps towards taking a stand on plastic in the industry. All the interviewees demonstrated awareness of the plastic trend reflected in their reference to seeing the damaging effects of plastic in the ocean, which has been the centre of the trend in the media, and also explicitly mentioning the importance plastic has gained in the media and the emotional response it has received by the public. Some of the companies explicitly said they went from not seeing plastic as a big issue to now considering it as an important environmental problem wanting to contribute to the overall global political pressure around the issue. Furthermore, some mentioned that concrete benefits of addressing the plastic issue would be the ability to tell the world exactly how their company addresses this issue. However, a few companies seemed to be relatively unaffected by the plastic mega-trend since they were already aware of this issue beforehand. Still, the current rise of plastic to a megatrend seems to pressure all companies to become more explicit about their handling of the material, and many mentioned that they were planning on including the issue in their upcoming strategies. Hence, it was clear from the interviews that the megatrend around plastic has an important motivating effect on the pharmaceutical industry for recently having started to at least reflect about plastic when talking about sustainability.

However, while the megatrend around plastic seems to force the industry to comment on the issue, the over-shadowing trend driving most of the industry's sustainability efforts is that of climate change. This is seen as the single most important issue to address by all our interviewees to the extent that one said that if climate change cannot be "fixed" then all other sustainability efforts do not matter much. This leads the industry to primarily focus on their emissions and hence energy use in terms of making their energy use more efficient and use more renewable energy in order to decrease their emissions. As one interviewee explained, "renewable energy is on everyone's lips today and hence, we need to set goals for energy reductions in our company". The recognition by the industry that climate change is the most important trend to address is also reflected in the fact that the EFPIA published a white paper addressing specifically the issue of climate change in relation to the industry's sustainability efforts (EFPIA (A) 2017). EFPIA has only published two white papers with environmental focuses, one about climate change, and one about the circular economy, which supports the prominent focus on climate change in the industry (Ibid.; EFPIA 2016). Another trend highlighted by most of our interviewees is that of water, including pollution of water and water scarcity. Still, it does not come close to the attention given to climate change, which seems to direct most sustainability efforts in the industry towards reducing carbon emissions.

The importance of trend-duration

This importance of the climate change megatrend points to an important aspect of how megatrends motivate the industry's efforts, namely that not only the size of the trend matters, but also the duration of it. And in the difference between the time-duration of respectively the climate change megatrend and the plastic megatrend there is an explanation for why plastic is not (at least not yet) a strategic focus area in the industry. Climate change was the first big environmental concern of the world, gaining world awareness in the 1980's, officially marked by the establishment of the Intergovernmental Panel on climate change in 1988 (IPCC 2019). Since then, the public awareness around climate change has increased, marked by, on the unofficial side, e.g. the famous movie "an inconvenient truth" featuring ex-president candidate Al Gore (David et. al (Producers) & Guggenheim (Director) 2006), and on the official side, the annual COP meetings, which have taken place since 1995 (UNFCCC 2019). Plastic, on the other hand, has only gained worldwide importance as an environmental concern within the last couple of years as illustrated for example by the graph below, reflecting the interest over time on plastic in the ocean and plastic pollution.



(Figure 3: Graph developed based on data from Google Trends 2019)

Moreover, from the publication of BBC's blue planet episode on the damaging effects of plastic in the ocean in November 2017, the topic took speed (BBC 2017). The UN published the first official public report on plastic in 2018 (UNEP (A) 2018), and the EU adopted its first strategy for plastics in 2018 (European Commission (A) 2018). The plastic issue has also been addressed by less international actors, ranging from Kim Kardashian to Prince Charles, and the result is, as The Guardian writes, "a worldwide revolt against plastic, one that crosses both borders and traditional political divides" (Buranyi 2018). Hence, there is no doubt that plastic is a megatrend now, however, climate change has been a megatrend much longer than plastic has. This disproportion in trend durations is driving the sustainability prioritizations in the pharmaceutical industry, where climate change is referred to as the overarching purpose/trend for most sustainability efforts and plastic is mostly spoken of as an upcoming trend, which somehow has to be addressed to please the media, NGOs and general public. Therefore, despite plastic being an environmental megatrend today, its relatively short time-duration compared to climate change makes it a less prioritized sustainability focus in the pharmaceutical industry.

Environmental impact

The second factor that we have identified to be playing a big role in the sustainability prioritizations of the pharmaceutical industry is environmental impact, i.e. the effect that the industry's activities have on the environment (Cambridge English Dictionary 2019). Environmental impact was used consistently throughout all the interviews to argue for why certain priori-

ties were made, and hence, it appeared to be one of the strongest factors defining which sustainability areas are prioritized. The importance of environmental impact was clear in various ways. The majority of the interviewees explicitly explained that prioritization of efforts were based on impact and justified it by arguing that the companies do not have enough resources to deal with all sustainability issues. Hence, to convince stakeholders and the rest of the world that the company is taking responsibility for environmental sustainability, "you need to be able to show them through genuine improvements that you are making a difference". In other words, focusing the efforts on areas with measurable impact is easier to communicate and seems more convincing. The importance of this factor was also made clear through various examples of prioritized and deprioritized sustainability areas, which the interviewees provided, when asked to exemplify a prioritisation. For example, one interviewee explained that they do not focus much on waste management as they are not a waste-heavy company. Another interviewee explained that a big prioritisation is to improve the reuse of the large amount of solvents used in the production as this has a big environmental return. Lastly, a third interviewee explained that they had looked at the environmental impact of how their employees commute to work and found it was so small that the company did not want to focus on changing it. These examples all show that areas with big environmental impact are prioritized, whereas areas without are not.

However, how the industry defines and compares environmental impact is less clear. An overall impression from the interviews was that it is mostly about reducing and/or recycling resource use on a big scale. However, there seems to be no industry-wide way of measuring environmental impact (Gasparatos & Scolobig 2012 in Vieira 2015). Interestingly, some large companies have consequently developed or are developing their own systems of measuring and comparing impact in order to be able to consistently select the projects with the highest environmental impact. This again confirms how important a determinant impact is, when companies spend large amount of resources on developing these systems. The systems vary from assessing projects according to their natural capital, giving eco-balance points to different projects, or determining the carbon footprint of a project. What they have in common is though that they all attempt to make the concept of environmental impact more concrete and comparable. It is important to mention that the interviewees also explicitly said that their companies then choose the project with most impact for money, i.e. cost is also an im-

portant factor, as will be explained below. Still, the attempt to make impact measurable demonstrates that it is a very important factor when prioritising sustainability efforts.

An interesting point made by one interviewee, which was also implicitly present in the rest of the interviews, was that "business look at where we have our biggest environmental sustainability impact, which might not be where society thinks they are". This demonstrates how this factor can potentially point in a different direction than the megatrend motivation explained above. For the pharmaceutical industry, however, it seems that the megatrend of climate change is in correlation with where they see their biggest environmental impact is, namely their carbon emissions. It was clear from all interviews that reducing carbon emissions and to some degree water usage are seen as the efforts with the greatest environmental impact. The interviewees either said explicitly that this was where their company had the biggest environmental impact or they simply talked about energy efficiency and renewables whenever possible.

On the other hand, plastic was by all seen as an important issue, but with a low impact potential in their specific industry, as "even if we get rid of plastic we make a 0.5% difference", an interviewee said. However, there seemed to be some variation within the industry as to how much impact was ascribed to plastic. There were indications that companies producing devices made of plastic and/or more consumer-oriented products perceived their plastic usage as having a bigger environmental impact than companies producing drugs mainly for hospitals and no devices. The reason for ascribing more impact to plastic, when producing plastic devices is obvious - "we produce a lot of plastic", and hence impact is bigger. The reason for focusing more on it in companies with consumer-oriented products was more implicit - these companies seemed to focus more on their plastic packaging and the recycling of this, whereas companies producing for hospitals argued that they do not produce "tons of those little plastic containers which you sell everyday", wherefore they perceived their plastic impact as minimal. Still, despite these nuances in the industry, the overall attitude was that plastic does not have a very big environmental impact in the industry. As a consequence, the industry does not perceive it as its responsibility to deal with plastic, reflected for example in this comment by an interviewee: "of course we care, but it is not our biggest impact, it is not our fundamental priority". Hence, from an impact perspective, plastic is not a prioritized sustainability area

as it is perceived to have a low environmental impact compared to other areas such as for example reducing carbon emissions.

Relative impact to others

Furthermore, it was interesting to find that the perception of impact in the interviews was not only influenced by an internal comparison between the environmental impact of different issues, but also influenced by a comparison to other industries' environmental impact from plastic use. In other words, a lot of emphasis was by the interviewees placed on the point that "we are not the big sinners" in comparison to others when it comes to plastic, since "we are not the ones bringing tons of plastic into the oceans every day". This argument was supported by explaining that the pharmaceutical industry's products are not plastic-heavy, in comparison to for example the bottle industry, as one interviewee highlighted to be responsible for around 35 % of plastic packaging globally. Furthermore, the argument was supported by stressing that the plastic being used in this industry "is not the plastic that ends up in the end somewhere in a park and then might be washed into a lake that then goes into a river and that then ends up in the sea". Hence, from this it stands clear that prioritizations are not only affected by an internal absolute impact assessment in the company (comparing the impact to be achieved between addressing two alternative focus areas), but also an externally induced idea about relative impact compared to other industries.

In sum, environmental impact seems to be strongly influencing sustainability prioritizations in the industry in the sense that the industry prioritizes to focus on the sustainability areas on which the industry has the biggest environmental impact for signalling reasons as well as intrinsic aspirations to do 'the most' good. The determination of environmental impact seemed from our interviews to be dependent on the absolute measurable impact of each potential focus area, but also on a self-perception in the industry of being less of a plastic polluter than other industries. Hence, due to the view of the industry that changing anything around plastic does not lead to a big environmental impact compared to other sustainability areas (such as carbon and water), and compared to the impact which actions from other more 'plastic heavy' industries can make, plastic is not prioritized.

Data

In line with the importance of impact determination for sustainability prioritizations, the availability of data is another factor that according to our interview answers seems determining for which environmental issues are being prioritized. Many interviewees pointed to 'the power of data' and emphasized the centrality of data for strategic decision-making on environmental sustainability. Hence, it seems that the issues about which data is available and has been collected for a certain period of time are being prioritized before those issues, where no or limited data is available. CO2, energy, water and waste are all issues, where data has been collected for many years (as can be seen from the reports examined in part 1 of the findings) due to societal expectations and regulations on documentation and transparency. The companies in the industry do as such have a clear picture of the scope of these issues and the areas, and they know where improvements are possible. Plastic, on the other hand, is not an example of such. It was clear from the interviews that not many of the companies have data available on their overall plastic usage and plastic waste and we did neither find any data on this on their web-pages. As a consequence, plastic is not prioritized in line with sustainability areas for which data has been available for years.

Obviously, the connection between data and focus goes both ways, i.e. the lack of data may lead to less focus on a topic, and on the other hand, less focus on a topic may lead to less data being gathered on that topic. Hence, as the focus on plastic has increased the past years, as written in the section on megatrends above, the demand for data on plastic seems to be growing, which may lead the industry to have more data on plastic in the future. This was for example indicated in how one interviewee mentioned that consumers to an increasing extent are interested in accessing data on product content and the materials used for making the products, wherefore work is currently done to meet this increasing demand. Furthermore, it was noted that in tenders, questions are getting increasingly detailed and sophisticated, asking for example into whether recycled materials are used for packaging and the like. However, it was clear from the interviews that the attempt to understand its 'plastic footprint' has only just started. An interviewee for example said: "So it's really in the beginning. Right now we are getting a more accurate baseline on our total plastic usage across the company, everything from research to packaging and general operations. Once we have that baseline then we will start taking specific projects with the packaging group, research, or different business units

within the company". From this it is clear that even though some initial steps are taken to collect data on plastic, the current lack of this data in comparison to the vast amount of data available on other issues is still an important factor standing in the way for focusing more on plastic.

Economic costs and benefits

Besides megatrends, environmental impact and data, a fourth tendency identified in the interviews to affect prioritizations and why plastic is not a focus area is cost-benefit-considerations. An argument or an attitude we encountered consistently throughout the interviews reflecting this was that prioritisations were found necessary, since, as expressed by an interviewee, "we have not got infinite resources to tackle every sustainability problem. Just like any other business decision, it is a decision about where you allocate capital and resources". This reflects exactly the premise of companies, which is making prioritizations necessary, namely that everything competes for resources. Hence, finding ways to combine sustainability with limited resources is an eternal challenge for all companies, and as many of the interviewees pointed out, everything has a price tag and must therefore, if prioritized, also bring some sort of benefit to the company. These benefits being e.g. in the form of cost savings from energy efficiency or material reduction. From this it stands clear that considerations to the economic costs as well as potential benefits associated with addressing a sustainability issue are influencing the industry's priorities.

Considering economic costs and benefits seems, however, according to our interviews, more of a fundamental premise for any prioritization in the companies making up the industry than it seems particular to their sustainability efforts. This means that making or saving money on sustainability does not seem to directly drive the industry to make sustainability efforts, but rather is perceived as a welcoming benefit and a condition for the acceptance of any sustainability initiative, i.e. that it must make business sense in order to be prioritized and implemented. This is reflected in the way that the interviewees explained that their companies measure environmental impact, which is often done in ratio to the economic value created or spent, i.e. as expressed by an interviewee, the question is: "for each invested dollar or euro, how many eco balance points do you improve?". Furthermore, the interviewees repeatedly referred to what makes 'business sense' or what contains 'a clear business case', reflecting that econom-

ic considerations are omnipresent in all decisions. The fact that creating economic value is not what is driving sustainability efforts boils down to the fact that the main purpose of the pharmaceutical industry is producing medicine, not sustainability. Hence, if sustainability cannot be delivered profitably, this compromises investing in their main product. This links to the idea expressed by many interviewees, namely that "a thing is only sustainable if it makes financial sense for a company". Hence, while economic gains are seen as a positive benefit from sustainable actions and a determinant for which sustainability projects to prioritize, costs can more generally act as a barrier for sustainability if they are unacceptably high.

However, costs do not always act as a barrier to sustainability, reflected in how most of the interviewees found that sustainability can also make a profitable business case and that "economy and ecology goes hand in hand". An interviewee for example explained that efforts had been taken in his/her company to ensure the recirculation of solvents, and that these efforts had been highly driven by considerations to cost savings and reduced resource use. Another interviewee expressed that the company that he/she was employed with was working towards reducing the volume of packaging of products for transportation, since this is a way to at the same time save money and reduce resource usage. Finally, a third example of costs not acting as a barrier to sustainability was provided by an interviewee, explaining how his/her company had increased the efficiency of reagents used in their laboratories. This meant that it now required less reagent to perform the same number of tests, which included a reduction in the necessary reagent-container size as well. Hence, as is clear from these examples, economic rationality is not necessarily in conflict with sustainability and can even support it in some cases.

Few economic incentives to address plastic

Still, there are clear differences in which sustainability efforts are linked with economic benefits or at least economic neutrality, and unfortunately not all aspects of sustainability appear to make business sense in the pharmaceutical industry. It stands clear that the biggest economic incentive has been on the energy side. Here, most interviewees explained that there is a clear business case and a potential to save money from energy efficiency and/or renewable energy. Hence, as one interviewee explained, in the area of climate change, it is often profitable to be sustainable as energy costs can be saved. The same kind of logic often applies for water usage, where water efficiency and reduction of water use also saves money. Though,

when it comes to plastic, being sustainable and profitable at the same time is more complicated, according to the interviewees. Some mentioned that they in their companies had reduced tertiary plastic packaging and/or had started to reuse some of the plastic materials that were being used in the production and packaging. Characteristic for these actions, though, was that they had only been possible since the plastic could be either reduced without replacement or that big masses of homogenous plastic could be identified and therefore reused internally in the company.

When it comes to situations where plastic would potentially have to be substituted by another material or where plastic would have to be collected from outside the company, (for example the parts ending up with the consumers), it, however, seemed too costly to the companies to be prioritized. As one interviewee said "there is no alternative to plastic", meaning that no alternative - at least not one which can compare in price and quality - exists, making it too expensive to e.g. substitute plastic blisters with aluminum blisters. Furthermore, recollecting and recycling plastic from hospitals and patients was argued to be too complicated and expensive due to the many links involved and the heterogenous plastic fractions. Hence, despite a few pioneering take-back schemes on medical devices made partially of plastic, "the logistical problems of taking back things are huge from a cost and environmental perspective", an interviewee said. Conclusively, it was from the interviews found that reducing, recycling, reusing or substituting plastic is often not as attractive from an economic perspective as focusing on e.g. energy and water efficiency. This can thereby additionally help understanding why plastic is not being strategically prioritized in the pharmaceutical industry.

Regulation

Regulation was found to be an important factor too, affecting prioritizations in various ways. One such way is the direct effect of complying with current or anticipated future environmental regulation, which by the European Commission was determined to be one of the main drivers of change in the chemical and pharmaceutical industry (European Commission 2009). Another is the more indirect effect of being a heavily regulated industry and the consequences that this has for sustainability efforts (OECD 2002; Towse & Danzon 2010; Lehnhausen 2016). Both of these channels were mentioned by all our interviewees as rather determining for why plastic is less prioritized than other sustainability areas. Specifically,

there is a lack of environmental regulation on plastic, and the strict regulations on the industry affect especially the product and its packaging, which is one of the areas where plastic is used, and together this drives sustainability prioritizations away from plastic. These two channels of the regulation factor - missing regulation on plastic, and heavily regulated product side - are described below.

Missing regulation on plastic

The lack of economic incentives to make plastic a strategic prioritization in the industry is supported by the non-existence of regulatory incentives or rules, pushing the plastic agenda in the industry. This could be for example tax breaks to invest in non-plastic technology or government rules banning the use of plastic for tablet packaging - two illustrations provided by an interviewee, who though also noted, that no such initiatives or rules exist. Had it been the case, the interviewee added, the industry would as a whole take action on plastics, because 1) it would be required by law, and 2) it would mean no competitive disadvantage to spend money on doing it, i.e. create a global "level playing field" as EFPIA calls it (EFPIA 2016). Thus, it was highlighted as an example to underline that some situations need government action for anything to happen, indicating that this may be the case for plastic in the pharmaceutical industry. Still, neither current nor near-future regulation (to the knowledge of the authors of this paper) is directly addressing plastic as an issue in the pharmaceutical industry, wherefore there is no regulatory pressure on the industry to take action.

An example of the missing pressure was highlighted by an interviewee, who referred to the EU regulation, which is currently on its way with a strategy for plastics in a circular economy (European Commission (A) 2018), recalling that this is not intended to affect the pharmaceutical industry, but is directed towards consumer industries/the retail sector more specifically. Hence, the pharmaceutical industry is not mentioned, which, according to the interviewee, is typical for this kind of legislation where, as he/she expressed, "the pharmaceutical industry sometimes has a bit of its own world". Other interviewees did too mention the steps taken by the EU to address the issue of plastic, yet, again emphasizing the little attention directed towards their own industry in comparison to others such as the cosmetics, beverages and food industries. Some though noted that they were following what was coming to ensure compliance and to anticipate potential future legislation. Also, there seemed to be an understanding that the regulatory pressure for reducing the use of plastic will most likely

increase in the future, wherefore the possibility not to act at some point was not seen as an option. Yet, it did not seem to be an immediate priority to the majority and it was in relation to this stressed that anything that makes pharmaceutical production more complicated risks compromising the core task of saving lives and curing diseases.

This reluctance towards regulation, which complicates production of pharmaceuticals, is especially present in EFPIA's white paper on circular economy, which after quickly stating that it greets the development towards a circular economy lists a number of considerations for future legislation. The argument for these special considerations being that: "As a provider of life-saving medicines, the pharmaceutical industry has unique requirements. Balance is needed to ensure that proposals to restrict materials to protect environmental and human health do not prevent the development of drugs vital to protect against illness and disease" (EFPIA 2016, 4). As stands clear from this, the pharmaceutical industry is, besides not being exposed to any regulation on plastic due often to safety concerns, neither itself encouraging any environmental regulatory proposals in this direction.

In contrast to the absence of regulatory pressure on plastic, there have been regulations on CO2, energy, water and waste. This suggests that regulations have some determining effect on the prioritization being made and hence, supports the argument presented above for why plastic is not a focus area. An interviewee for example highlighted that chemical legislation is much more directed towards and effectual on the industry than plastic legislation, explaining why pharmaceuticals in the environment as a waste issue has risen on the industry's agenda. Carbon is as well an area where regulations seem to have driven the efforts in the industry. An interviewee mentioned in relation to this legislation on Chlorofluocarbons ('CFCs') - organic compounds that have earlier been used by pharmaceutical companies among others, but which were found to contribute negatively to ozone depletion - as an illustration of where the industry has reacted and as a whole found an alternative to the use of CFCs. CO2 taxes, taxes on fossil fuels, the 2012 EU Energy Efficiency Directive (EED) and the 2005 EU Emission trading scheme were other types of legislation mentioned by many interviewees as having affected their prioritizations. In sum these findings show that the existence of regulations on a given issue affects whether it is being prioritized or not. Hence,

because there is no legislation pushing the plastic agenda in the industry, the industry is under little pressure from current regulation to prioritize addressing their plastic usage.

Heavy regulation on the product side

In addition to the missing regulations on plastic, it was clear from the interviews that the industry's exposure to heavy regulations on both production processes and the end-products is another dimension of regulation making plastic hard to do without, wherefore reducing it is not prioritized. As many interviewees said, they have limited manoeuvring room to make changes and hence for example move away from using plastic in packaging. This is a result of the extremely strict rules due to the high degree of sensitivity of operations and products, and as an interviewee explained, the many regulations "make things progress a bit slower than in other industries". In terms of the production, it was highlighted for example that turning ventilation systems or air humidity a bit either up or down in a production site is not something you 'just' do in this industry, because it may affect the quality of a product. Everything is tightly managed and "whenever you turn one button, you must send 1000 pages of documentation to the authorities" an interviewee said. Inevitably this tight control constraints and influences how the industry prioritizes environmental sustainability efforts. Where changing the energy source supplying the production to renewable energy for example does not seem to be a major issue (because doing so does not risk causing any change to the product), our interview data indicates that it is much more challenging to take steps on the factors more directly related to the products.

Especially two issues related to regulations on the product side appeared in many of the interviews. The first one being the certification of pharmaceutical products. Many interviewees mentioned that it is challenging to change anything related to already certified products, since the certification of products requires companies to file big applications including documentation for the efficacy, safety and quality of the drug (LIF 2017). This includes documentation for example on the content of a product, the packaging of it, and what information is included on the leaflet that comes with the drug; information that must be provided in the application in order to secure the safety and hygiene of the product when it reaches the market. However, a consequence of this all-encompassing registration process is then that any - even if minor - change to an already certified product will mean that a re-registration process must be conducted, implying high costs to the companies. As expressed by an interviewee "if we choose

to change packaging type, we more or less have to get the product re-filed once again. This is a highly resource demanding process and hence, if we do not thoroughly believe in an idea for change, we do not initiate another big approval process". Another interviewee as well touched upon this issue by pointing out the need for starting at the beginning/at the R&D stage of a product's development process when wanting to upscale something. Hence, together these examples show that there is very little flexibility when first a product has been certified to make continuous improvements and e.g. make products more environmentally friendly. This also applies for the plastic, which is part of a certified product, making it a challenging issue to address.

The second issue of regulations on the product side, which was highlighted in many of the interviews, is the fact that as soon as you get close to the product, the regulatory requirements are extremely strict; strict in terms of purity requirements of packaging to secure against contamination of the products; strict in terms of packaging size and information attached; strict in terms of materials allowed for packaging and so on. As an illustration of this, an interviewee pointed to the potentially unnecessary printing and attaching of the information leaflet in every pack of medicine when selling to chronically ill patients, who are used to taking their medicine. Yet, since it is required by law to include the leaflet, it is not possible to change this practice and thereby use less paper. Another example mentioned, was the possibility of making packages smaller to in this way minimize the use of resources. Yet, again since it is required by law that a certain amount of information with a specific font and font size must be added to the packages, it is challenging to make the packages any smaller than they currently are. Finally, in terms of materials and specifically plastics, an interviewee explained that "you cannot use bio-based plastics, since you will then hit the *pharma-wall* of extensive requirements". It was explained that only when there are no purity requirements, bio-based or recyclable plastics can substitute current plastics. This could for example be for the plastic wrapped around working clothes for the labs or around products when shipped.

Finally, many interviewees also emphasized the distinction between primary, secondary and tertiary packaging, recalling their efforts on making their secondary and tertiary packaging more environmentally friendly, however, not being able to 'move' on the primary packaging, which is the one directly touching the medicine. Specifically, in relation to plastic this issue

was clear; eliminating the use of plastic in exchange of recycled or alternative materials was mentioned in relation to secondary and tertiary packaging, but not for the primary packaging. The argument was here that the strict requirements to the density and quality of the primary packaging are making it impossible to use recycled materials and find alternatives to the plastic in for example blister packages used for pills. Plastic is a highly useful and secure material, and as such it was mentioned that it is hard to find alternatives that can be expected good enough for approval with the authorities. Thus, this again points to the regulatory barriers on the product side when it comes to pharmaceutical products in terms of moving away from plastic.

Together, regulation seems to influence sustainability prioritizations through differences in direct regulation on environmental issues, where plastic has not yet been regulated in the pharmaceutical industry, whereas other areas have. Furthermore, the heavy regulations around all sides of the products produced in the industry further complicate changing materials close to the product of which plastic often constitutes one. While the industry is also regulated on its processes, these regulations seem to be less limiting for changing efforts made on emissions, waste and water. Together, this makes regulation incentivize action on regulated sustainability areas, while disincentivizing action on areas in close touch with the product itself, such as plastic, which help explain why plastic is not prioritized in the industry.

Employees and investors

Having now come about the regulation, economic costs and benefits, impact, data, and megatrend factors, the question remains about the people actually working or investing in the industry, i.e. the traditional stake- and shareholders. Given that these people are the ones making the business run through either their working efforts or their equity, they have the potential to be powerful drivers of sustainability prioritizations as well. Interestingly though, this does not seem to be the case in the pharmaceutical industry according to our interview data.

In the case of investors, it was clear from the interviews that the industry is experiencing an increasing interest in sustainability and transparency about sustainability efforts from investors. This interest is visible through e.g. a NASDAQ questionnaire asking the companies

about their sustainability efforts, eventually leading to the NASDAQ Global sustainability index, tracking the sustainability performance of companies and making it visible to investors (The Nasdaq Group 2019). Additionally, the interest for and investment in responsible and sustainable investment is as well growing more generally (Eurosif 2016). This interest from investors is, however, on a rather superficial level and does therefore not deal with specific sustainability areas in detail. Hence, despite one interviewee mentioning the presence of few single-issue investors, pushing for specific issues such as e.g. water pollution, the overall impression from our interviewees was still that the investor interest is too general to affect prioritization. This means that even though the investor interest in sustainability is increasing, investor interests do not seem to be determining for why plastic in contrast to other sustainability areas is not on the agenda in the industry's sustainability efforts.

In the case of employees, the picture is rather similar. The industry seems very aware of the increasing importance of being a responsible employer in the eyes of employees and especially the younger generations. This is not surprising given the multitude of reports describing the importance of corporate responsibility for the millennial generation, stating for example that 64% will not take a job if a company doesn't have strong CSR values (Cone 2016) and that 33% believe business should improve/protect the environment (Deloitte 2018). Additionally, the European Commission recommends in particular the chemical and the pharmaceutical sector to improve the image of the sector as providing sustainable solutions and innovations in order to in this way attract the young generations (European Commission 2009). Hence, the goal of being an attractive employer for this generation definitely seems to motivate the pharmaceutical industry's sustainability efforts.

Regarding the employees already employed, various interviewees mentioned that their employees had approached them specifically regarding their company's handling of plastic, though mostly regarding the plastic used internally in the company such as e.g. plastic cups in the canteen. Also, one interviewee mentioned the existence of volunteering employee groups addressing specific "green" issues around the world. Still, it was clear that the interviewees found that the employee interest for sustainability could be satisfied by having an overall strategy for sustainability and environmental sustainability. Thus, as expressed by one interviewee, the overall attitude was that "we do not believe you get an employee who chooses

company based on whether we use reusable plastic in our final product". In sum, the increased employee attention towards sustainability seems to have the same effect as that of investors, namely a general increase in sustainability focus, but too superficial to affect the specific prioritizations and thereby whether plastic is or is not taken up.

Consumers

Finally, the last factor identified in the interviews to influence the sustainability prioritizations is that of a missing consumer pressure for adopting a plastic focus. A driver of sustainability which has been discussed extensively in the literature is that of gaining a competitive advantage by being more sustainable than competitors to in this way become more attractive to consumers. This can be achieved through either improved brand value and/or gain of market share, or in the words of Porter, through either *differentiation* or *positioning* (Porter 1985). Given that plastic is a rather new theme on the sustainability agenda, and it is a theme, which has especially been addressed by consumers (Joyce 2018; Buranyi 2018), a great deal of potential for differentiation on sustainability attributes lies in addressing plastic. However, as indicated by all our interviewees, this potential for gaining a competitive advantage by addressing plastic is not something which drives the sustainability prioritizations in the pharmaceutical industry.

Instead, as indicated by the interview data, there seems to be little to no competition on, no consumer pressure for and limited brand value from differentiating sustainability efforts in the pharmaceutical industry. It seems that the industry broadly moves together on sustainability efforts as no company sees any significant benefits from standing out. This was clear already from the mapping of strategic focus areas done in part 1 of the findings, and it was additionally supported by the interviewees describing the same three areas - emissions/energy, water, and waste - as their companies' main sustainability priorities. Furthermore, they all seemed to share the same chronological order, with the industry first looking at energy, then water, and lastly waste, and when asked directly if their industry was competing on sustainability efforts, or alternatively, whether they thought they could gain any competitive advantage from sustainability actions, the majority of the answers were a clear "no".

Missing consumer pressure for sustainability

The main reason for the absence of competition on sustainability attributes, is the lack of consumer pressure for sustainability. Most of the interviewees said they experience little to no consumer interest in the sustainability of their products, and the interest they then do experience seemed in no way to move any of their efforts in a certain direction. This is mainly explained by the fact that their consumers, the patients, are highly dependent on the products that the industry produce and therefore care little about anything else than the effect and quality of that product. Hence, as one explained, it is not like deciding on which milk to buy in the supermarket, where the consumer has a range of different options and actively chooses the most sustainable one. In the pharmaceutical industry, there is sometimes only one option for the consumer, and additionally, the consumers have no opinion about the medicine, but "are in general happy as long as they get some medicine that works". Or, as expressed by an interviewee: "Here is a simple question: you or someone you love is ill, and we have a tablet that will make you better. Do you care about its package?"

Adding to this, another interesting feature of the pharmaceutical industry, which seems to affect its competitive focus, is its mainly business-to-business structure, i.e. that consumers and customers are often not the same people. As described in the introductory section about the industry, the customers buying the medicine are often hospitals or health insurers, who then provide the medicine to the real end-consumers free of charge (OECD 2002; Lehnhausen 2016; Guha et al. 2008). Hence, this business-to-business structure, where the actual buyers of the product are not consuming the product creates an interesting situation, where the end consumer is indifferent to price and only cares about quality i.e. effectiveness, and the buyer has to ensure good quality for an affordable price in order to make money and/or keep the budget (OECD 2002; Lehnhausen 2016). This focus on getting value for money inevitably creates competition on price, and this is felt by the pharmaceutical industry, which more or less explicitly expresses that in this competition "it is the price that matters, and the effect of the medicine for the patients". Some of the interviewees mentioned experiences with hospitals and sometimes even end consumers asking about environmental efforts of the company, which seemed to be a rather new tendency. But it was nothing they expressed to have any effect on the competitive focus in the industry.

Hence, a minimum of both consumer and customer pressure for sustainability makes the pharmaceutical industry compete primarily on other factors such as drug quality and price. This in turn gives the companies in the industry little incentive to aim for a competitive advantage through sustainability efforts. It should be mentioned, that there might be differences here between products sold directly to the consumer, so-called OTC drugs, and those sold indirectly via insurances and hospitals. Since demand is controlled exclusively by consumers for OTC products, they are potentially more differentiable via sustainable attributes such as e.g. less plastic packaging, and sustainability has the potential to be a driver for sales here (Lehnhausen 2016; Pharmapack 2019). However, this distinction was not present in the interviews, which is probably due to the fact that the companies we have talked to mainly focus on the production of pharmaceuticals requiring prescriptions. Hence, here it seems that consumer pressure is not affecting prioritizations. As one interviewee said: "if you can't find a way to deliver some sort of benefit beyond people thinking you are a good company this is not really sustainable". In other words, there is no commercial gain from improving brand-value through sustainability efforts.

Still, it seems the companies are very aware of the sustainability efforts of one another, hinting towards it not being completely unimportant what competitors do on this area. Furthermore, most of them are ranked on the top of various sustainability indexes, which is one of the most explicit ways of expressing an ambitious position on corporate sustainability. Hence, it seems the companies in the industry perceive some sort of indirect, intangible brand and/or legitimacy effect from being seen as sustainable. This implicit assumption was supported by some of the interviewees explicitly saying that they perceived it as a risk doing far less sustainability efforts than the overall trend in the industry, e.g. "it is not because we think we can sell more by doing these things (sustainability efforts), but we are afraid to be excluded from the good club if we don't do them". Thus, there might not be a perceived competitive advantage to gain from being more sustainable than others, but there seems to be a perceived competitive disadvantage or a loss of legitimacy from being significantly less sustainable than the overall industry.

In sum, the absence of consumer and customer pressure in the pharmaceutical industry inspires no competition on sustainability efforts and hence, limited competitive advantage to

gain by differentiating sustainability efforts. This is reflected in the companies' compliance behaviour of "following the pack" rather than trying to be a first mover on an upcoming sustainability theme. Since plastic is an upcoming sustainability theme and in particular something, which, unlike e.g. emissions and water, consumers are in touch with almost every time they consume a pharmaceutical product, addressing plastic would be an obvious way to attempt to differentiate products. However, given that there is no consumer pressure for sustainability, this incentive is lacking in the pharmaceutical industry. Hence, the missing consumer pressure on sustainability can in this way help explaining why other factors have more to say in determining the sustainability prioritizations in the industry and therefore why plastic is not a strategic focus area in the industry.

Considerations to user-friendliness

Still, it is worth highlighting that considerations to the consumers are present in the prioritizations, just not in the form of pressure. This is reflected by some interviewees touching upon the issue of balancing user-friendliness versus getting rid of plastic. Given the sensitivity surrounding pharmaceutical products, user-friendliness is something given high priority in order to ensure that the consumers are feeling safe and confident using the products without any complications. Hence, it was indicated by some interviewees that because getting rid of plastic as a materiality issue may compromise the user-friendliness of the products, it is not a major and easy priority to implement. Importantly to stress here is the *may* as there can be examples where reducing plastic increases the user-friendliness too. One interviewee for example said that the establishing of take-back schemes and initiatives to reduce the packaging size of the company's products were initiatives taken in order to increase the user-friendliness, while also saving costs and minimizing the firm's environmental impact. However, this 'positive' contribution to user-friendliness of reducing plastic usage was not the dominant tendency in the interviews.

More concretely, it was by some interviewees mentioned that for example with blister packages the industry could over time move to only aluminium instead of plastic. Technically, this would be possible, it was argued, however, since aluminium for some people is harder to use, there would be an 'expense' or a compromise to take with user-friendliness from doing so. Hence, the user-friendliness factor here seemed to constitute a barrier to move away

from plastic. In relation to this, another interviewee highlighted that consumers were already complaining about blister packages, finding them hard to handle. Thus, making it even harder would not make the consumers happy and is therefore not in the interest of the companies. Another element indicating the importance of focusing on user-friendliness was the mentioning in one interview of discussions on storing medicines at home for example in relation to children and needles. Here, the safety of the packaging is highly important to make sure the products are not causing any harm. Thus, this is a priority and an example of user-oriented measures coming before making the products or packaging greener.

Finally, a third example was an interviewee's emphasis on the necessity of things looking the same, because of the many feelings involved for patients taking their medicine. Patients will worry if e.g. the packaging looks different at some point (for example by a change of the packaging material to a greener alternative) believing that changes may have also been made to the medicine inside. In order for patients to feel safe, it was argued, it is therefore important that the packaging does not change irregularly in order to signal stability. Together, these examples show, that despite the largely absent pressure from consumers in the pharmaceutical industry, decisions are still taken with an eye to consumer needs. Thus, since getting rid of plastic risks compromising the user experience for consumers, this as well help to understand why it is not a major priority.

Sum-up of findings

Having reached the end of the findings, it stands clear that a variety of factors influence the sustainability prioritizations of the pharmaceutical industry and therethrough why plastic is not prioritized as a strategic focus area in the industry. By examining the both directly expressed and the implicitly indicated arguments for why plastic has not been taken up alongside the major issues of emissions, water and waste, a variety of explanations have been identified.

First, it was found that since plastic is a relatively new megatrend compared to others, the issue is currently not prioritized as a main strategic focus area in the industry. Second, it was found that from an impact perspective, plastic is not prioritized as it is perceived to have a

low environmental impact compared to other areas as well as relative to if other industries take action, and third, that from a data perspective, the current lack of data on plastic is still an important factor standing in the way for focusing more on plastic. Fourth, when looking at costs and benefits, it was found that reducing, recycling, reusing or substituting plastic is often not as attractive from a cost perspective as focusing on energy and water efficiency, and fifth, it was found that neither current nor near-future regulation is directly addressing plastic as an issue in the pharmaceutical industry, wherefore there is no regulatory pressure on the industry to take action. Besides, in relation to regulations, it was found that the heavy regulations around all sides of the products further complicate moving away from the use of plastic.

Moving on to the traditional stakeholders, it was found that investors and employees do care and increasingly ask for sustainability efforts in the industry. Yet, since the interest from these two stakeholder groups appears rather general and superficial, there is no push from these sides to take action on the plastic issue more specifically. Finally, a similar argument was found in relation to consumers, who as a result of the business-to-business structure of the industry as well as their serious dependence on the industry's products are largely absent in pressuring the industry on the green agenda and thereby as well on the plastic issue. Though, it was recalled that consumer concerns are still present in respect to considerations for user-friendliness, which however again was found to speak against the prioritization of plastic as a strategic focus area.

In sum, it is concluded that plastic is not a strategic focus area in the pharmaceutical industry's environmental sustainability efforts because the above described seven influential factors in combination speak for the prioritization of other issues and against the prioritization of a plastic-focus in the pharmaceutical industry.

Discussion of findings

Having found in the section above the factors being influential for how the pharmaceutical industry prioritizes environmental sustainability efforts and thereby why plastic is not a strategic focus area in the industry, the question of what these findings imply on a broader level about companies' green efforts and prioritizations occurs. Hence, the thesis now turns away from the narrow focus on plastic to discuss what we can learn from these concrete findings on a broader level. Which insights can we derive from our findings shedding light on why firms prioritize as they do? And how do the findings relate to the existing literature on business and environmental sustainability? To shed light on these questions and derive theoretical insights based on the empirical case study conducted, the following section will now engage in a discussion of our findings, contextualizing these within the theoretical/conceptual debates about sustainability in business presented in the literature review. To structure the discussion, it is divided into the following three parts:

Part one: How do our findings relate to the literature discussed in the literature review on sustainability in business?

Part two: Why are there deviations between our findings and the literature? To what extent can the deviations be explained by the characteristics of the pharmaceutical industry?

Part three: Which implications do our findings suggest in the context of a transition towards a CE and the extensive emphasis on business' role in leading this transformation?

Part one: Deviations between our findings and the literature

In the literature review, the distinction between *strategy context,* i.e. the strategic analysis of the environment, and *strategy content*, i.e. the strategic choice of the company (Abdullah 2014) provided the structure of the second part focusing on sustainability in business. It was highlighted how traditionally in the literature, there is a debate as to how much of a firm's

strategy is left to choice and how much is dictated by compliance to the surrounding environment. The former being primarily argued by proponents of the resource-based view, whereas the latter on the other hand reflects an institutionalist view, emphasizing the power of external pressures on companies' strategic choice (Oliver 1997; DiMaggio & Powell 1983). Looking at our findings in light of this distinction, it is clear that there is a significant support for the context/institutionalist arguments. The companies' strategies on environmental sustainability are more compliance-based and concerned with following what others do than driven by competitive motivations, illustrated first of all by the great amount of attention paid to the influence of mega-trends, regulations, (relative) impact and legitimacy concerns on prioritizations. These are all external factors influencing the choices of the firms and there was no indication of the companies prioritizing to become unique and, in this way, obtain long-term favourable positions relative to competitors and stakeholders.

Missing competitive motivations

It is interesting to notice this imbalance in emphasis on context over content in the findings, given the rich literature focusing on the content/strategic choice when it comes to environmental sustainability (See for example Hart 1995; Laszlo & Zhexembayeva 2011; Orsato 2006; Oliver 1997). When doing the initial research for this thesis there was a clear majority of literature emphasizing the competitive motivations for taking sustainable action, and only fewer articles pointing to compliance with the surrounding environment as motivation. Hence, according to the literature there was a clear expectation of the prevalence of competitive arguments for making sustainability prioritizations. Yet, this expectation did not materialize within our findings, where especially the missing consumer pressure seemed to strongly demotivate competition on sustainability efforts. This was clear from the neither explicit mentioning nor implicit indications of e.g. differentiation advantages, first-mover advantages, branding benefits or similar positioning arguments in the interviewees' accounts of their prioritization strategies, which all depend on consumer interest. Even the cost savings arguments seemed not to be driven by a search for competitive cost advantages, but rather as a way to determine which sustainability efforts are viable to undertake. Hence, in comparison to what was expected from the literature, our findings show that prioritizations of environmental sustainability efforts in the pharmaceutical industry are not significantly motivated by competitive objectives, but rather by a wish to comply with external pressures and thus remain legitimate in the eyes of the public.

This point is clearly exemplified by looking at the relative absence of value-creation arguments for sustainability prioritizations compared to those presented in the literature. Laszlo and Zhexembaya (2011) also made this argument, saying that there is an imbalance between how sustainability is perceived in mainstream business thinking and how it is represented in the strategy literature (Laszlo & Zhexembaya, 2011). As outlined in the literature review, Laszlo & Zhexembaya present this argument on the basis of a study of the strategy field, finding that a significant majority of 'the strategist's repertoire' is seeing sustainability as value creating rather than as value destructing, whereas in the mainstream business thinking it is the other way around. Our findings point in the same direction. Of the eight generic strategies of sustainability they define, only three can be said to find strong support in this thesis' findings. The three being 1. sustainability as an added cost (value destruction), 2. sustainability as an efficiency gain (value creation), and 3. a way to protect (and enhance) the brand (Ibid.). These were all highlighted as motivational factors by the interviewees for how sustainability efforts were prioritized. The remaining five (sustainability as 1. a factor of differentiation, 2. sustainability as risk mitigation (value creation) 3. a pathway to new markets, 4. a way to influence industry standards and finally, 5. as a driver of radical innovation) were only mentioned by few or none of the interviewees as having influence on prioritizations (Ibid.). Thus, there are some indications that business is perceiving sustainability as value creating, but they are not nearly as strong as the main literature presents them to be. Again, this supports the overall argument of this part, namely that in relation to the literature this paper has found environmental sustainability efforts to be only minimally driven by competitive motivations.

Interestingly, some scholars then suggest that given the absence of a wish to differentiate on sustainability and in this way win a competitive advantage, increased collaboration will occur (Arevalo et al. 2011). The logic being that as the natural alternative to moving on your own, a push towards collective action and formation of partnerships with stakeholders will take place. Hence, one would from this point of view expect to see close ties, collaboration and alignment of efforts in an industry with little competition on sustainability. Our findings, however, do not present a clear picture in support of this. On the one hand, it was not by the interviewees communicated that close collaboration on sustainability took place. Only one interviewee mentioned the industry association as a driver for the industry's common sustain-

ability efforts and only few referred to conferences with knowledge-sharing taking place within this area. Hence, there was limited focus on collaboration, suggesting in comparison to the scholars referred to above, that increased collaboration is not in this particular case balancing the minimal focus on differentiation. On the other hand, though, when looking at the high degree of homogeneity in the industry's sustainability efforts, it could indicate that some kind of collaboration is taking place. None of the firms we have talked to take a radically different approach from the others and as stated, some interviewees did highlight that they were sharing knowledge and experiences with other industry actors bilaterally and at conferences. Yet, despite these elements of collaboration, the overall impression was not that a systematic collaborative approach to environmental sustainability was present among the industry actors. Hence, our findings lend limited support to the argument that a major tension on sustainability in business models is one between differentiation and collective action (Ibid.).

On a broader level, another interesting internal debate within the content literature is the one between Orsato (2006) advocating for the importance of a rather exclusive focus on one strategy and Hart (1995) emphasizing the interconnectedness and path dependency of different strategic focuses. Where both of these scholars present different environmental strategies for gaining competitive advantage (such as saving money from resource efficiency, leading compliance on international standards or/and focusing on optimizing material use), Orsato argues that companies ought to actively focus all resources on implementing just one strategy (Orsato 20016). Hart differently highlights the need for a sequential approach to environmental efforts, i.e. that for example resource efficiency comes before material optimization etc. (Hart 1995). Within this debate, our findings clearly support the path dependency that Hart suggests. None of the companies we interviewed expressed any overall strategic choice as to where to prioritize their environmental efforts neither on a competitive level as suggested by Hart and Orsato or on a thematic level such as carbon, water, waste or plastic. Rather, it was clear that they were doing a bit of everything, with clear emphasis on some areas (such as carbon over plastic) and some ways of approaching them (such as efficiency over material redesign). But they were far away from following a narrow strategic focus as advised by Orsato. Additionally, there were some signs that the path dependency Hart mentions also is reflected in the pharmaceutical industry both with thematic and competitive focus, where it seems that carbon precedes water, which precedes waste, which precedes plastic for all com-

panies. And, slightly less visible, compliance to standards and resource/cost efficiency precedes product stewardship. Hence, on this aspect our findings actually align rather well with an underlying logic within the strategic content literature showing that sustainability prioritizations are interdependent and expanding over time rather than exclusive and constantly narrow. Still, they back up the beforemade point that sustainability prioritizations are not made based on strategic considerations about a long-term competitive positioning/advantage, but rather are shaped ongoingly.

The importance of the general environment

Now, within the literature analysing business context, and in light of the distinction made here between the general and the competitive environment (Henry 2011), our findings suggest most importance to factors in the general environment as influential for what is being prioritised. This argument is closely aligned with the one presented above, namely that the macro environment, which is affecting the industry overall, has a determining effect on what the industry actors do and do not do within environmental sustainability. Within this environment, it was especially interesting to notice how regulation can act both as a driver for sustainability and as a barrier. Hence, the general trends and regulations, which everyone are exposed to, affect the companies' actions on sustainability more than considerations to the competitive environment, i.e. what competitors do, what suppliers demand, consumer preferences and so on. Due to the more or less absent focus on competitive environment factors in the interviews, it is argued that the various models and frameworks talking about environmental sustainability in business models with a focus on differentiation -, reputation- and branding advantages, have limited explanatory power to this particular industry. Our focus on the industry-level makes it easy to suspect that this focus is what leads us to find that macro-level factors play a more important role than competitive factors. However, important to mention in relation to this objection is that despite our focus on the industry level, we ensured in the interviews to ask questions particularly focusing on the individual company's actions and their specific motivations behind. Only afterwards we pooled the findings to speak at an industry level. Hence, our findings reflect both the effects from the general and the competitive environment and thus, the argument that general factors affect the industry and its companies more than competitive factors still stands.

In sum, it stands clear that sustainability prioritizations in the pharmaceutical industry differ significantly from the literature in the sense that they are much less driven by a strategic search for a sustainability advantage than the literature prescribes them to be. Instead, they are much more driven by contextual factors. This, on the other hand, supports the less prevalent literature highlighting the discrepancy between management thinking of sustainability and academic theories on strategic sustainability. Furthermore, the lack of competitive motivation in the pharmaceutical industry is not compensated by a collaborative approach on sustainability as otherwise predicted by other literature. On a broader level, our findings lend support to the literature suggesting that sustainability prioritizations are path dependent and not to the theories suggesting they are competitively narrowly focused. Finally, within the contextual factors found important, there is a clear dominance of important factors in the general environment such as regulation and trends rather than the competitive environment, where especially consumer pressure is absent. This again reinforces the overall impression that competitive forces have relatively less power in the findings about sustainability prioritizations in the pharmaceutical industry than it is suggested in the general literature about strategic sustainability.

Part two: Understanding the deviations

Having discussed how our findings relate to and differ from the literature on sustainable business behaviour, we now seek to discuss the main things driving the observed deviations. Why do we find these deviations between our findings and the literature and more specifically, to what extent can the deviations be explained by the characteristics of the pharmaceutical industry? In discussing these questions, we zoom in on the following core issues: first, the discrepancy between the literature's focus on consumer pressure and the rather passive consumers in the pharmaceutical industry; second, the discrepancy between the complex regulatory context of the pharmaceutical industry and the literature's account of regulations' effect on businesses' sustainability efforts; and third, the discrepancy between the long research and development horizons in the pharmaceutical industry and literature's focus on flexibility and the need to quickly make changes and adopt sustainable business models.

Before engaging in the discussion of these questions, however, an important overall observation on the distinction between our research and most theory developed on sustainable business strategies must be mentioned. Both our research purpose and our approach for investigation has been very distinct from most of the literature we have encountered on especially the strategic content of sustainable business behaviour. The theoretical literature has mainly taken departure in the observation that many companies find it hard to align normal business incentives with sustainable behaviour; business strategies, structures, operations and supply chains are rooted in unsustainable linear approaches to growth – "it's in their DNA" (Rutqvist & Lacy 2015, Xxi) - and hence, the shift to become more sustainable is challenging. In light of this challenge, the purpose of much literature has been to develop the "strategic logic for the pursuit of sustainable value" (Hart & Milstein 2003, 57), or to categorize "generic types of competitive environmental strategies" (Orsato 2006, 127). In result, the literature has developed theoretical manuals for managers, suggesting how to strategically approach sustainability, and has as such aimed mainly at providing theory to guide practice. On the contrary, our research takes departure in practice and aims at understanding how the strategic logic for sustainability works in practice. It is therefore from this overall difference in approach and purpose not surprising that our findings differ from the literature. Having clarified this, we now turn to look deeper into the elements of the pharmaceutical industry, which help to explain some of the deviations between our findings and the literature.

Active consumers versus passive consumers

The first core element that arguably explains the deviations is the discrepancy between the literature's extensive focus on consumer pressure as a motivating factor for sustainability and the rather passive consumers in the pharmaceutical industry. The active consumers assumed in many of the theories and models within the literature on sustainability in business (e.g. Orsato 2006; Laszlo & Zhexembayeva, 2011) are simply not there in the pharmaceutical industry where first of all, as was found in the findings section, the major concern for the consumer is the quality of the medicine. The serious dependency on the medical products and the often non-existence of alternatives places little power in the hands of consumers. As a result, there is limited pressure exerted on companies from this side, and the various consumer-orientated benefits highlighted in theory from going green do not come at play in this industry. Furthermore, many products are patented and therefore not due to competition at all (OECD 2002). All this together creates a much more complicated competition structure, where consumers

are far from the situation in the supermarket or the outlet for example, choosing between different alternatives and being able to choose the most sustainable alternative. Hence, since the characteristics of high consumer power and thereby competition on product and brand are not attributable to the pharmaceutical industry, the theoretical models focusing on competitive advantage through sustainable differentiation do not apply well here.

Besides the focus on quality and the few alternatives as reasons for the minimal consumer pressure, the structure of the pharmaceutical industry as being primarily business-to-business is another reason for the limited consumer power. Pharmaceutical companies do, as previously mentioned, sell their products primarily to hospitals, pharmacies, health insurers and other intermediary actors, through whom the products then in different ways reach the end consumers. It is therefore not the consumers, who are selecting (if alternatives exist), which medicine they want. This means that a long distance exists between the producer and the user in the pharmaceutical industry, creating a very different situation than is the case in business-to-consumer industries. In business-to-consumer industries the relation is much more direct and consumers can therefore express "the value they attribute to environmental protection through shopping behaviour" (Orsato 2006, 130). It can as such be argued that the strategic content literature with its significant emphasis on branding and reputation benefits from taking sustainable action fits better to explain the dynamics in business-to-consumer structured industries than industries primarily focused on business-to-business alike the pharmaceutical. This suggests that a relatively big explanatory power for the deviations between our findings and the literature is grounded in our focus on the pharmaceutical industry and not for example the clothing, food or beverages industries, where consumers hold a much more powerful position.

Regulation as a driver versus regulation as barrier

Moving on, the second core issue related to our focus on the pharmaceutical industry, and which arguably too explains the deviations, is the discrepancy between the literature's emphasis on regulation as a sustainability driver and the particular regulatory context of the pharmaceutical industry, which can sometimes act as a barrier to sustainable action. First, there seems to be an implicit assumption in most of the theories dealing with the strategic logic of sustainability, that companies in general have big flexibility regarding changes to their product and processes. This does not necessarily mean the willingness to be flexible, but

that they can implement changes in their product or production processes to become more sustainable if it makes economic sense. In the pharmaceutical industry, however, this is not the case. As mentioned, this industry is heavily regulated on both the product and the production side, making the flexibility for sustainable changes minimal. Hence, the prioritization of sustainability efforts might be driven by not only competitive motives as in theory, but also by where it is regulatory possible to make changes. Of course, within "regulatory possible" lies not only the concrete legality of what is possible, but also considerations to costs and risks from regulatory checks and approval-processes. This regulatory dimension is hardly considered in any of the strategic content theories, which naturally makes their logic different from that applied in the pharmaceutical industry.

Second, the theories and frameworks on sustainability strategies and their strong emphasis on the effectiveness of environmental regulations (or the threat of these) on companies (e.g. DiMaggio & Powell 1983; Rutqvist & Lacy 2015) do not consider how other regulations and concerns may directly counteract sustainability regulations. As reflected in our findings, this is exactly what is happening in the pharmaceutical industry, where the high requirements to patient safety and hygiene overrule the requirement to comply with regulations calling for improved environmental standards. Exemptions are often given based on the argument that "any efforts to deliver better environmental outcomes must not have unintended consequences for patient care" (Malcolm Harrison quoted in Oxtoby 2018) and as a result, the threat of future environmental regulation does not work as much as a motivating factor for sustainability as suggested by theory. The industry actors know that exemptions are possible and that patient safety overrules sustainability concerns. Thus, they have limited incentive stemming from this kind of pressure to be proactive to prepare for future regulations. Together, these conditions in the pharmaceutical industry reflect the complex regulatory context to which the industry is exposed, which is not fully captured in the literature's somewhat too optimistic view on the effect of regulations.

Flexibility versus long R&D processes

Finally, a last explanation for the deviations is the discrepancy between the long research and development horizons in the pharmaceutical industry and the sustainability literature's focus on flexibility and the need to quickly make changes and adopt sustainable business models. The pharmaceutical industry is as a result of the long R&D horizons from the first research

attempts of a disease and it cure to the product being on the market relatively constrained in making ongoing changes and improvements to their products. As pointed out in the findings, this requires companies to rethink their product design from the beginning if they want to make alterations, since when first a product has come on the market, the approval processes must be redone if changes are made. As explained, this is an extremely costly process, wherefore it is likely to not be prioritized and hence, potential sustainability changes to the product and/or the production process must be implemented from the beginning of a product's lifecycle. This makes it much harder and more costly in this industry to make ongoing changes to the product than the flexibility to make sustainability adjustments assumed in most theory.

In sum, there are various reasons for why the discrepancy between our findings and the theory seems to be due to the specific characteristics of the pharmaceutical industry. First, the lack of consumer pressure from consumer dependency on products and the industry's business-to-business structure partly removes the competitive potential in differentiating products on sustainability qualities, which theories often appeal to. Hence, sustainability prioritizations are in contrast to the expectations from theory not very affected by competitive motives. Second, the strict regulations surrounding the pharmaceutical industry can act in the opposite direction of the motivating effect from regulation assumed by most theory. This makes sustainability prioritizations depend on where adjustments are regulatory possible. In addition, part of the reason for the strict regulations in the industry, namely the all-encompassing considerations to patient safety, often exempt the industry from environmental regulation especially on the product side, potentially compromising this consideration. Hence, the industry is not as affected by the threat of upcoming regulation as assumed by theory. Third and lastly, the long development and approval process of the product makes it nearly impossible to make ongoing sustainability adjustments, and this stands in contrast to the assumed flexibility to make sustainability improvements which is assumed by many of the theories.

A need for industry-specific nuances in the 'sustainability in business' literature

Overall, it stands clear from this that it can and should be discussed how much 'sustainability in business' can be discussed at a general level and how much is up to industry-specific characteristics. While the more generic sustainability strategies developed in the literature might reflect or inspire some industries, it has been shown above that they to a large extent do not reflect the reality of the pharmaceutical industry. Yet, despite that much explanatory power

for the deviations may be grounded in our focus on the pharmaceutical industry specifically, it is important to mention that for example having to consider strict regulations regarding both product and production when evaluating where to focus one's' sustainability efforts is not unique to the pharmaceutical industry (for examples of other industries being heavily regulated see FAO 2018; McLaughlin & Sherouse 2016). It is neither unique that consumer pressure is weak nor that R&D horizons constrain flexibility, wherefore we would expect to see similar deviations from the literature in industries sharing these same characteristics. Hence, a theoretical generalization can in this way be drawn and the lessons learned from this thesis' findings can as such possibly add valuable insights to understand the dynamics in industries sharing similar characteristics. Yet, identifying industries empirically that are sharing these characteristics is beyond the scope of this thesis and does therefore remain a potential focus area for future research.

At the end of this part of the discussion it must be mentioned that the pharmaceutical industry was chosen for the case-study of this thesis exactly because an interesting puzzle was identified regarding their sustainability efforts. Hence, we already from the start expected to observe some discrepancy with existing theory due to our focus on this industry. This does however not make the insights gained less important, namely that upcoming theories or current theories need to be more nuanced and context sensitive in order for strategic sustainability to become reflected and applicable in all industries and not just those being well suited for sustainability-related competitive advantages. Enlightening the path for industries needing big transformations to resemble anything like the sustainability ideal painted in the theories is paramount for the desired transition towards a business-led circular economy.

Part three: Implications for the idea of a business-led transition towards a CE

In the previous two parts we have tried to grasp our learnings in the context of existing literature and discussed possible explanations for why deviations exist between our findings and what is already written about businesses and environmental sustainability. This has been done in order to better understand the contribution of our thesis to the broader debate on business

and sustainability and, as argued in the section above, there are elements in the findings that are seemingly specific to the pharmaceutical industry, but which may as well be useful to understand the potential for and challenges with environmental sustainability efforts in other industries sharing similar characteristics. Taking off from here, the third and final part now takes the discussion a step further to discuss the implications of the findings in the context of the transition towards a CE. The pharmaceutical industry is here seen as an example of 'business' and how business acts in light of the CE discourse's significant emphasis on business' role in leading the sustainable transformation (De Angelis 2018).

A too idealistic idea?

As reported in the literature review, many businesses are today alongside government actors, organisations, activists and academia embracing the idea of the CE. There are many positive and optimistic accounts on businesses taking on the responsibility to advance the CE (Khalamayzer 2018; Benzaken 2018), and one can easily get the impression that due to the (at least superficially) successful involvement of business with the CE concept, the transformation from linearity to circularity is just around the corner. However, the picture is not as simple and bright as that. By taking a closer look as we have done in this thesis, it is clear that there are still challenges and obstacles to overcome before business can and will take the leading role that the literature calls for (Webster 2013 in De Angelis 2018). For example, there was only limited reflection in our interviews of the *redesign and rethink* logic of the CE. Some interviewees did mention that they had been looking into e.g. redesigning packaging as a way to minimize their plastic footprint. Yet, the redesign thinking appeared limited to relatively small areas in contrast to the CE concept's call for complete redesign of business models. As such, the factors identified to influence prioritizations pointed rather towards a logic of compatibility with the already existing business models than towards complete rethink and redesign to go 'circular' and thereby become more environmentally friendly.

The above presented argument indicates that sustainability is perceived rather as a 'bolt-on' component to the core business activities than as an embedded and redefining issue for the business as a whole (Laszlo & Zhexembayeva 2011). By 'bolt-on' is meant that it continues to be an additional component to the core business rather than being embedded in the sense of running through the veins of the entire organization (Ibid.). An illustration of this is for example the great emphasis by our interviewees on cost as a determining factor for prioritiza-

tions as well as the repeated recalling of prioritizations being necessary. "You cannot do everything", many of the interviewees said, reflecting the argument that "every company has to some extent a degree of cherry picking for some environmental issues and looking the other way on other issues" (Arratia 2018). Together, this illustrates how being green is yet just one thing to consider among many others, and how it is still considered legitimate to not fully consider all environmental concerns. Another element pointing towards the 'bolt-on' approach is as well the overall picture occurring from our findings of a compliance rather than front-runner approach to environmental sustainability. Hence, in light of arguments saying that CE "must be led by business for a profit" and that businesses are paramount to any transformation towards a CE (Webster 2013 in De Angelis 2018), our findings point in a rather doubtful direction for the CE idea to fully materialize.

The indication by our findings that it cannot (yet) be expected that business will take the leading role in the transformation towards the CE also reflects in the argument presented earlier about the limited competitive motivation for sustainable action in an industry with minimal consumer pressure and tight regulatory control. When companies do not compete on sustainability, the incentive to take action is limited to business' self-perception of responsibility and the potential for value creation through savings. Thus, as soon as the maximum savings in terms of e.g. energy and materials have been made, the green agenda will not be driven forward by competitive motivations and aspirations to do better than your competitors. The often-highlighted understanding that market dynamics will work as natural catalysts engaging businesses in the CE transformation does as such not find support in our findings. Thus, when the Vice-President of the EU Commission responsible for Jobs, Growth, Investment and Competitiveness, Jyrki Katainen, in a speech in 2016 expressed that to businesses "the circular economy makes a lot of sense" (for savings and competitive reasons) and that "there is really no good argument against a circular economy" (Katainen 2016) it seems idealistic. It might be the case in some industries and for some firms that statements like Katainen's hold true. However, to the pharmaceutical industry and similar industries with limited exposure to consumer pressure and/or exposure to tight regulations on the product side, such statements appear somewhat blind to reality.

Getting aligned with reality

In relation to this blindness towards the challenges faced by firms in going circular, it is interesting to observe how arguably regulators counteract themselves. On the one hand, regulators are the ones developing the regulations that in some industries - alike in the pharmaceutical - create an environment with very little manoeuvring room. As has already been discussed, pharmaceutical companies have a hard time using for example recycled materials for packaging or reusing materials in the production due to the high requirements to the safety of the products. Thus, as a consequence of the tight regulations, some green steps cannot be taken. On the other hand, many regulators are as well active advocates for the central role of business in the turn towards a CE. The quote provided above by EU Commissioner Jyrki Katainen is a good example of this, illustrating clearly that a mismatch between tight regulations, on the one side, and the high ambitions for business involvement with the CE concept, on the other, exists. Inevitably, this contradiction puts businesses in a squeezed position, making it challenging to adequately respond to both 'pressures'. Thus, addressing these counteracting regulations could be one step forward towards a more realistic point of departure for the CE.

Sticking with the potential steps forward, a response to the fact that market dynamics do not seem to work as natural catalysts engaging all kinds of businesses with the CE could be to focus on pushing cooperation and partnerships in industries with little competition on sustainability. Thus, to focus on the collective benefits to be won from taking environmental action rather than focusing on the potential competitive benefits to each company. There is no doubt that in some industries and to some firms, circular approaches can be and are being used to "allow businesses to improve their competitive advantage by capturing more market share, expanding into new markets, securing niche markets or being the first mover" (WBCSD 2018). Yet, in industries alike the pharmaceutical, where this does not seem to be the case, a strengthened push by the industry association, interest organizations and politicians towards increased cooperation could potentially increase their involvement in the CE transformation. The Ellen MacArthur Foundation is already expressing on their website that "collaboration with suppliers, customers and infrastructure is the only way to build a circular economy with benefits throughout society" (Ellen MacArthur Foundation (C) 2017). From

this argument though, what is missing is the addition of 'competitors' to the list of actors with whom collaboration should occur.

Our findings furthermore suggest that the general tendency to talk about 'business' as a homogeneous group, which is expected to advance the CE, is missing the nuances of reality (Ellen MacArthur Foundation (C) 2017; De Angelis 2018). Generally, there is variety in the conditions under which businesses in different industries operate, making it easier - or more beneficial - for some business groups than others to adopt circular business models. For example, it can be argued that in comparison to the pharmaceutical industry, where there is little consumer pressure, the food and beverages industries and the clothing industry are examples of industries with a greater incentive to go circular given the reputational advantages with consumers. Besides, a distinction between new and old firms seems necessary, since it inevitably will be a more challenging task to 'turn circular' and redesign your business than to already from the beginning of a firm's life operate with a circular design in mind. Hence, lumping together all types of businesses and expecting them to in a similar way contribute to the move from a linear to a circular economy appears unrealistic. Accepting a greater heterogeneity is therefore needed, such that the nuances of reality become reflected in the aspirations for a circular economy.

On a positive note

Finally, from a more positive perspective, though, one can to the contrary of all the not so uplifting arguments above also argue that our findings actually *do* to some extent suggest optimistic implications for the transition towards a CE. The pharmaceutical industry is an industry, where fewer actions on the green agenda can be expected due to the limited consumer pressure, the missing regulatory push and the industry's powerful position as a result of patients' reliance on the products. Yet, despite these characteristics and the - in comparison to what can be expected by other more consumer-oriented industries - lower expectations to pharmaceutical companies in terms of being environmental champions, our findings have shown that quite a lot is actually done on environmental sustainability. All of the firms have sustainability strategies in place and all, as was found in the introductory part of the findings section, have concretely defined targets on CO2, water and waste and are actively working to progress on these targets. Thus, from the fact that a significant amount of actions is taken by

those, from whom we would expect to see less, it can be argued that our findings also give reason to some degree of optimism in terms of the CE transition.

In sum, the discussion of the implications of our findings in the context of a transition towards a CE points towards a long journey ahead. Despite some indications of a positive outlook, there is a majority of arguments for little optimism, especially in terms of the extensive emphasis on business' role in leading the circular transformation. Little in our findings indicate that a leading role is proactively pursued by business. Rather, our findings suggest a bolt-on and compliance-oriented approach to sustainability, which arguably is not aligned with the perceived key role of business in the CE discourse. Hence, altogether our findings imply that the aspired transition from linearity to circularity is not easy and that the vision of the centrality of business in the CE to a greater extent needs to be aligned with the conditions of reality.

Conclusion

This thesis has examined the research question of why plastic is not a strategic focus area in the pharmaceutical industry and has found that plastic is not prioritized because the seven factors identified to influence sustainability prioritizations in combination favour addressing other issues over plastic. The empirical motivation for investigating this was grounded in the puzzling absence of a plastic-focus in the industry's environmental sustainability efforts despite the increased global attention towards the irreversible environmental effects of plastic and the widespread presence of plastic in the pharmaceutical industry.

In investigating this puzzle, we firstly reviewed existing literature dealing with business' role in sustainability and sustainability strategies in business. From this it was found that the existing literature is rich on suggestions for how sustainability can be a strategic asset for companies, emphasizing both the external pressures for and the internal competitive advantages from taking environmental action. Observing the rather limited practical angle of these bigger theoretical contributions, we conducted an embedded case study of the pharmaceutical industry in which we *empirically* explored the rationales behind different sustainability efforts based primarily on qualitative interviews with representatives from eight pharmaceutical companies in Europe. Based on these interviews and additional sources, we identified seven factors appearing to be the most determining for the industry's prioritizations of environmental sustainability efforts. The seven factors being 1) Megatrends; 2) Environmental impact; 3) Data; 4) Economic costs and benefits; 5) Regulation; 6) Employees and investors; and 7) Consumers. Comparing different environmental sustainability themes, we found that all of these factors in combination speak more in favour of addressing other themes than plastic, wherefore plastic is not a prioritized strategic focus area in the industry's environmental sustainability efforts.

Following this, we engaged in a discussion of the broader implications of our findings, which centred around understanding the deviations between our findings and the literature; why they occur; and what this means for the overarching aspiration of a transition towards a business-led circular economy. In this debate, we highlighted that a big deviation between the literature and our findings is the differing emphasis on competitive motivation for sustainability

efforts, which is promoted in the literature, but absent in the pharmaceutical industry. This, we argue, is to a great extent due to the specific characteristics of the pharmaceutical industry, as its business-to-business structure and its product's unique importance to consumers, removes the consumer pressure present in other industries. Furthermore, the extensive regulations on the industry and its long research and development processes make it less flexible for sustainability adaptations. However, as we also argue, there might be industries where similar characteristics hinder the competitive motivation for sustainability actions, and hence, an important suggestion of this thesis is to add more industry-specific nuances to the understanding of sustainability in business. The contribution of this thesis are the highlighted insights into how the pharmaceutical industry prioritizes its sustainability efforts, which on a broader level provides indications as to what motivates and demotivates sustainability in business. As also reflected upon in the discussion, there is room for improvement in the practical understanding of this as we are far from the ideal of a business-led circular economy. We therefore highly encourage more practical research within this area to assist in paving the way towards the transitioning to a sustainable and circular economy.

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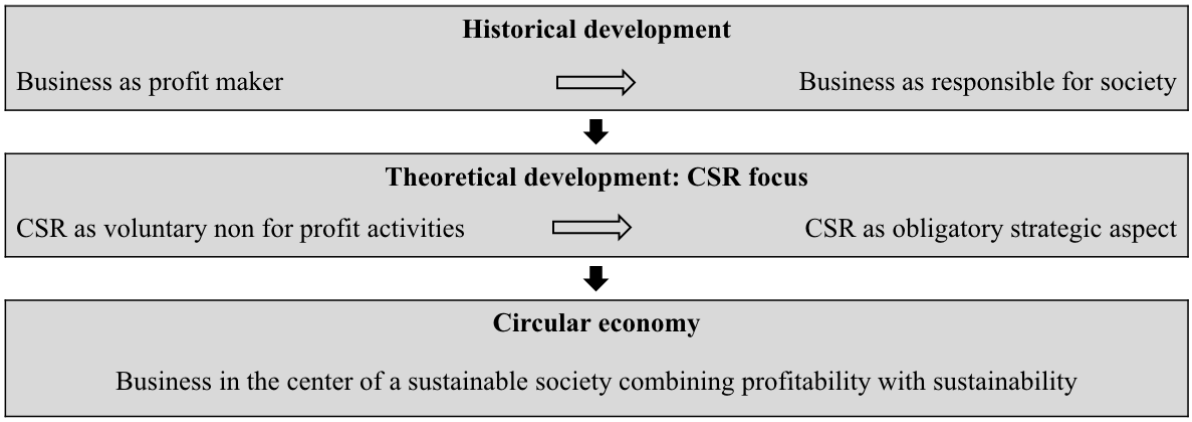
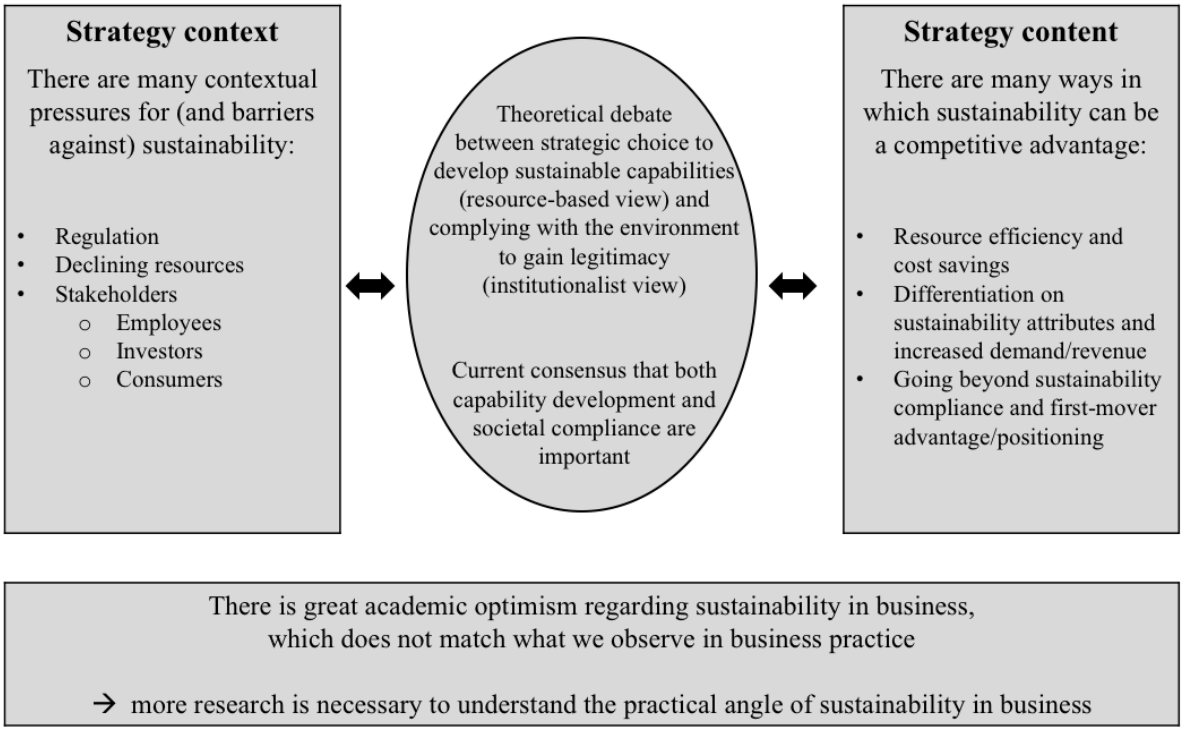
Appendix

A: Illustrative overview of literature review

Part 1: The role of business in a sustainable society



Part 2: Sustainability in business



B: Interview guide

Introductory comments (by us):

- Thank you for taking the time to do this interview. We look forward to hearing your insights.
- We are master students from CBS, studying international business and politics
- We are examining environmental sustainability strategies in the pharmaceutical industry in Europe, and we are interested in understanding how sustainability efforts are being prioritized; what rationales are behind focusing on some areas and not others (here, we are particularly curious about why plastic does not seem to be a theme)?
- We have been passionate about environmental sustainability for a long time and wrote our bachelor paper about the climate negotiations in 2009 and 2015. Now, we want to turn our focus towards the business angle of the topic especially in light of the extensive global focus on the transformation to a circular economy, where business is supposed to play a central role.

Practicalities:

- Is it OK with you that we record the interview?
- To let you know, the paper won't be confidential, wherefore we wish to ask; do you prefer being anonymous ("sustainability employee at XX") or can we use your name and title?
- I Klara/Lene, will lead the interview, and Lene/Klara will take notes, control the time and ask supplementary questions.
- We may interrupt you to get around the full topic within the time available.

Introductory questions:

- Can you walk us through the major components of your company's sustainability strategy?
    1. What are you doing? where? etc. (specific examples, action?)
    2. How would you say your sustainability strategy has evolved over the years? (which theme came first, etc.)

Research questions	*Interview questions*
Which factors have motivated and enabled the current environmental sustainability efforts in the industry? (Drivers)	**Can you describe the main benefits for your company from what you have done regarding environmental sustainability?** **Why did you choose to take this action?**

	<u>Supplementary/follow-up questions:</u> Are your investors interested in your sustainability efforts? Are they the reason for some of them? Do you experience customer interest in your sustainability efforts? Satisfaction? dissatisfaction? New areas of inquiry? Has there been an economic benefit from the sustainability investments/efforts? Why? Why not? In which areas? Would you say that you brand yourself as a sustainable company? Have any of the sustainability efforts come about because of regulation? Which ones? Has technology had any impact?
Which factors have demotivated and challenged environmental sustainability efforts in the industry? (Barriers)	**Have there been environmental sustainability areas where you wanted to make an effort but could not? Why?** Similar supplementary/follow-up questions as above.
Are the efforts based on a reactive or proactive approach? Are the sustainability efforts in the industry evolving simultaneously in the same direction (interconnected) or is each company specializing in different areas (disconnected)?	Do you invest in sustainability R&D? In case yes, how much do you invest in sustainability R&D? Would you say that there is competition between firms in this industry on sustainability efforts? Explain. Do you follow what other pharmaceutical companies do on sustainability? Do you

	follow what other industries do? Why/why not? Would you say that being a sustainable company is a competitive advantage in this industry? How? Why? Is this a new phenomenon? Can you describe something that your company does on sustainability that you would perceive as a competitive advantage? Do you think the sustainability areas in your strategy complement each other?
Why is plastic not a theme among others in the industry's environmental sustainability strategies?	Do you see any potential new focus areas the coming years? **Do you focus on your use of plastic as an element of your sustainability efforts? Why?** Do you see a potential for increasing the focus on plastic? Why/why not? **What are the challenges for including this as a focus area?** **What could on the other hand be the opportunities/benefits - if any?** Have plastic been on the agenda in the industry to your knowledge? e.g. at conferences, events or the like? To what extent? Have you experienced any stakeholders addressing this issue?

Final comments (by us):

- We do not have any further questions. Do you have anything to add or something you wish to express that we have not come about?

- Thank you again for taking the time.
- We will send you the paper when it is done, if you are interested in reading it?
    - In case they ask for editing, we will send it to them mid-November with expected reply beginning of December.