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Green Supply Chain Practices for a Consumer Health business in the UK market

The implications of implementing Green Packaging

Master's thesis in the Management and Economics of Innovation Program and Supply Chain Management Program

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Department of Technology Management and Economics
Division of Supply and Operations Management

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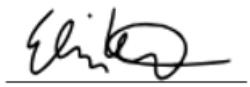

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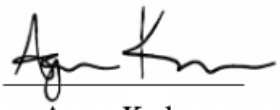

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Abstract

Environmental sustainability is a highly debated topic and has during the last couple of years gotten increased attention. One market that develops fast within this area is the UK market where the pressure of becoming more environmental friendly has intensified lately. An area that has been given extra attention is packaging, where requirements of removing excess material, having the right material type, and using packaging that is fully recyclable are some of the demands. The pharmaceutical and life science company ProHealth is one of the companies that wants to play their part in protecting the environment and that have started to notice the increased pressure in the UK market.

This thesis investigates what drives and hinders a company like ProHealth to work with Green Supply Chain Practices (GSCP). Furthermore an investigation of what will be required by the different actors in the supply chain to succeed with a practice like green packaging for one of ProHealth's food supplement products, VitaBoost, is made. In particular three solutions are studied and the final area of investigation covers the potential outcomes that can come as a consequence of implementing these alternatives. To be able to analyse the mentioned areas the case of ProHealth has been compared with relevant theory within Green Supply Chain Management (GSCM), GSCP, and drivers and barriers within GSCP.

The findings shows that there are many drivers and barriers that affect ProHealth in their sustainability work. The identified drivers includes reduction of cost, management commitment, and pressure from consumers, retailers, and regulations, and are almost identical with the ones found in the literature. However, regarding the barriers there were quite significant differences when comparing the case with the literature. Looking at the case, barriers found were complex company structure and supply chain, lack of direction, contradictory demands from consumers and customers, the many purposes of packaging, lack of collaboration and communication, and regulations and quality standards. The literature on the other hand showed barriers like cost, lack of knowledge, and lack of understanding across the supply chain. These barriers have not been identified so far in the case of ProHealth, but are believed to be more prominent as ProHealth come further in their sustainability journey and increase their maturity level. Another reason for the differences between the case and the literature may be related to ProHealth's characteristics of being a company in a complex industry with quite complex products.

When it comes to the implications of implementing green packaging it is clear that even the smallest packaging change demands that several actors in the supply chain are involved. Three different packaging changes with different levels of efforts are analysed, all of them dependent on engagement from different actors across the supply chain where both collaboration and communication play important roles. Looking at the outcome of the different packaging options the environmental, economic, and reputational outcome are analysed. Moreover, the implications from the three different packaging changes are discussed.

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Word list

ProHealth - The fictive name of the pharmaceutical and life science company of investigation.

VitaBoost - The fictive name of one of ProHealth's food supplement products. The product of investigation.

SuperFood - The fictive name of a supermarket in the UK, also one of ProHealt's retailers.

Own Labels - The expression for the retailers' own brands

3PL - Third-Party Logistics. Used when talking about one of ProHealt's specific 3PL that handles all warehousing activities like repackaging and storing for ProHealth.

SRP - Shelf Ready Packaging. Packaging that can be compared with a tray that is used to put several products on shelf in store.

GSCM - Green Supply Chain Management. Refers to a concept which means that environmental issues are integrated into the supply chain network and its processes.

GSCP - Green Supply Chain Practices. The actual actions where the concept of GSCM are executed. Consists of practices like Collaboration with customers and suppliers, Green packaging, and Internal environmental management.

Sustainability - Refers to environmental sustainability in this thesis.

Consumers and customers - Consumers refers to the end consumers that actually buy the product and consume it. Customers refers to actors like retailers, supermarkets, health and beauty stores, and pharmacies that sell the products to the end consumers.

1 | Introduction

This chapter provides an introduction to the master thesis. The introduction begins with a background section where the background of the research subjects is described with associated relevant theory as Green Supply Chain Management and Green Supply Chain Practices. This is then followed by a presentation of the company of investigation, ProHealth, and one of its products, VitaBoost. The background section is then followed by the aim, limitations and research questions of the thesis.

1.1 Background

In August 2018 a 15 year old girl, named Greta Thunberg, sat down outside the Swedish parlament and began to school strike for the climate (Haynes, 2019). Around one year later, at what is by some claimed to be the largest climate strike in history, millions of people across the globe joined (Laville & Watts, 2019). With this, one can tell that the topic of environmental issues has lately gained massive attention, and it has its reasons. Global warming, biodiversity loss, larger and increasing numbers of wildfires, air and water pollution, and deforestation are just some of the environmental issues that the world is facing (Conserve Energy Future, 2020; Environmental Defense Fund, 2020). To tackle these issues, business as usual is no longer enough and companies are facing a situation where change is necessary (Doyle, 2019). With consumers and employees valuing environmental questions highly (McKinsey, 2010), it has become even more crucial for companies to improve their sustainability performance.

Several theories and tools have been created to respond to companies' increasing focus on sustainability. Two of these are Green Supply Chain Management (GSCM) and Green Supply Chain Practices (GSCP). GSCM is a concept striving for the creation of solutions that are both profitable and beneficial for the environment (R. Zhao et al., 2017) by ensuring that environmental issues are considered within the supply chain network and its processes (Tseng et al., 2019). In relation to the concept of GSCM, GSCP describes the actions that a company can use to apply GSCM (Tseng et al., 2019). It covers a broad range of practices, where one of them is green packaging. Green packaging should be hurt-less to the environment (R. Zhao et al., 2017) and is characterised by in particular four actions: to reduce material, to re-use material, to make the packaging recyclable and to reform the packaging and its purposes (Emmett & Sood, 2010).

One country where packaging and its negative impact on the environment have gotten great attention is the United Kingdom. The BBC documentary series *Blue planet II*, narrated by the famous English broadcaster and natural historian Sir David Attenborough, managed to send messages about the environment that scien-

tist for long have tried to tell. The documentary told a clear story about the issues with plastic in the oceans, by, for example, showing how birds get choked by plastic bags, how turtles ensnare in old fishing nets and how marine-life get caught in plastic rings from can multipacks. With more than 14 million views, Blue Planet II became the UK's most watched TV show of 2017 (BBC, 2018) and led to a massive reaction from the British population who wanted to take action. Initially, this focus was mainly pointed towards the food industry, which consumes heavy amounts of single use plastic, but this focus has now started to spread to areas related to food as well.

ProHealth, which is a pharmaceutical and life science company present in the UK market, has noticed the increasing pressure to become more sustainable and to improve their packaging. They have lately started to get an increased interest for this topic and want to play their part in protecting the environment. The increasing pressure has also made them wondering how their products will be affected, and especially one of their products, VitaBoost. VitaBoost is a nutritional product thereby somewhat related to food. However, as it is also connected to products of more medical character, ProHealth, believes that there is a possibility that it might not gain as much attention as other products. The product has three types of packaging that are visible in store: 1) primary packaging -also know as the tube, 2) secondary packaging -also know as the box, 3) and the shelf ready packaging (SRP) -which is used to store the products on shelf. Besides these layers, VitaBoost also have several other layers of packaging used during manufacturing and transportation.

With the increasing focus on sustainability, and in particular the packaging, ProHealth wants to know what drives the change of becoming more sustainable and what challenges there might be to work against an improved sustainability performance. Moreover, ProHealth wants to know what the implications and outcome of implementing more sustainable packaging would be.

1.2 Aim

This master thesis aims to investigate what drives and hinders the implementation of GSCP internally and externally for a Consumer Health business, namely ProHealth, in the UK market. Furthermore, what is required from each actor in the supply chain to implement one of the GSCPs, green packaging, for ProHealt's food supplement product VitaBoost, will be explored. The thesis also aims to provide a more practical contribution in terms of what potential outcomes that green packaging can bring.

1.3 Specification of issue under investigation

Based on the aim of the thesis, two main topics can be identified. The first one focuses on what pushes and hinders ProHealth to implement GSCP. This leads to the formulation of the first research question:

Which are the drivers and barriers internally and externally to implement GSCP at ProHealth?

The second topic, focuses on what the implications and outcomes the implementation of GSCP could be, and specifically for green packaging. To specify this, three potential packaging solutions, where pieces of the packaging is removed, going in line with the theory of GSCP, are investigated. This has formed the second and third research question:

What changes would be required from the actors, spanning from manufacturing to end consumer, when removing primary, secondary or shelf ready packaging of VitaBoost?

What would the potential outcome be when removing primary, secondary and shelf ready packaging of VitaBoost?

1.4 Limitations

When discussing the supply chain of ProHealth, this thesis is limited to focus only on the actors from manufacturer to end consumer, namely manufacturer, 3PL, retailer and the end consumer. Regarding the actors of manufacturers, 3PLs, and retailers, only one within each area will be included in the case.

2 | Literature review

To be able to answer the research questions, a literature review is needed. The first part of the literature review, Green Supply Chain Management (GSCM), describes how environmental issues can be integrated into the supply chain function and sets the base for the review. This is followed by the section of Green Supply Chain Practices (GSCP) describing actions, that can be used within GSCM, and its outcomes. Lastly, relevant drivers and barriers that push and hinder companies to work with GSCP are identified.

2.1 Green Supply Chain Management

The environmental awareness has increased significantly during the past years (Walker, Sisto & McBain, 2008). Something that Large & Thomsen (2011) bring up is the fact that customers do not always distinguish between an individual company and its partners in its supply chain. This means that the lead company usually gets the blame for all the environmental impact across the entire supply chain. It is consequently crucial to include sustainability to an even greater extent into the business. Many authors express how the concept of GSCM is highly relevant and important with this increasing awareness and pressure on companies (Dube & Gawande, 2016; Vanalle et al., 2017).

GSCM is a concept which means that environmental issues are integrated into the supply chain network and its processes (Tseng et al., 2019). With other words, sustainability should have an active role in all activities like design, procurement, manufacturing, packaging, and distribution. Compared to supply chain management, GSCM strives for creating solutions that not only benefits the profit, but also create benefits for the environment (R. Zhao et al., 2017). The chosen definition for GSCM in this thesis is the one by Tseng et al. (2019, p. 151) "GSCM can be defined as the integration of environmental management system into the supply chain process including collaboration with customers, suppliers, and logistics service providers to share information and knowledge with an aim to improve environmental performance.".

Something that is important to underline with GSCM is the fact that it is rather a concept than the actual actions that are in focus (Tseng et al., 2019). Tseng et al. (2019) describe how GSCM is the mindset of working more sustainable in the supply chain. These thoughts can then be translated into actions through GSCP that will be described in further detail in the next section.

The concept of GSCM also emphasizes the importance of collaboration across the supply chain with actors like customers, suppliers, and logistic service providers. S.

Kumar, Teichman & Timpernagel (2012) argue that the full potential of a green supply chain can only be achieved by working closely across the supply chain. It is thereby not enough that a single company is aware of potential environmental improvements, it needs to be done together. Through performing GSCM, information and knowledge can be shared among the actors to achieve a better environmental performance (Tseng et al., 2019). Regarding the outcome of working with GSCM, the literature shows that there are different perceptions of what kind of results that comes with performing it (Zhu, Feng & Choi, 2017), something that will be elaborated on in sections below.

2.2 Green Supply Chain Practices

Whereas GSCM is said to be the concept, Tseng et al. (2019) describe GSCP to be the action. GSCP, which in some cases is also referred to as GSCM practices is described by a broad range of literature which each includes different practices. Zhu, Sarkis & Lai (2008) include internal environmental management, external GSCM, investment recovery and eco-design into GSCP. Worku & Virdi (2019) further build on this and adds green manufacturing, green distribution and reverse logistics. Rao & Holt (2005) instead focus on collaboration with customers and suppliers, reverse logistics, green purchasing, green design and reuse of used products. In some cases the practices are divided into internal and external ones (Zhu, Sarkis & Lai, 2012). The practices that require transactions with suppliers and customers are defined as external ones, whereas the practices that do not requires this, like eco-design, environmental management, and financial policies, are considered as internal activities (Zhu, Sarkis & Lai, 2012).

In this thesis, GSCP will be referred to as collaboration with customers and suppliers, green packaging, and internal management support. Below, a description of each practice will be provided followed by the outcomes of using GSCP.

2.2.1 Collaboration with customers and suppliers

Chin, Tat & Sulaiman (2015) describe collaboration as the link between GSCP and sustainability performance and Micheli et al. (2020) mention that organisations having a well-developed collaborative capability have a higher possibility to succeed with the implementation of GSCM programs. In this sense, collaboration is not only a practice itself but also an enabler for the other practices (Chin, Tat & Sulaiman, 2015). Collaboration with other actors creates long-term relationships in turn building trust. This is important as the trust enhances the commitment among the actors to implements GSCP (Micheli et al., 2020).

As was mentioned above, collaboration exist both with customers and suppliers (Rao & Holt, 2005). By using collaborative activities with the suppliers and customers the organisation can together with the actors lower the environmental impact and find environmental solutions (Lin, 2013). Specifically, collaboration with customers is stated to include collaboration for eco design, cleaner production and green

packaging (Jabbour et al., 2014). The collaboration with suppliers is instead stated to be needed when designing green products, when helping suppliers to develop environmental programs and finally when providing awareness seminars (Chin, Tat & Sulaiman, 2015). Moreover, it is beneficial to collaborate with suppliers as this gives the company increased power in influencing the supplier to pursue green purchasing and using green processes (Lin, 2013).

2.2.2 Green packaging

Packaging is one of the most readily available ways of reducing cost and environmental footprint (Emmett & Sood, 2010). Hence, the practice of green packaging is especially important for companies to use when becoming more sustainable.

Emmett & Sood (2010) describe the development of packaging during the last years. Traditionally, the packaging has had the purpose of protecting the product through transportation, movement and storage. However, today, the packaging also has a purpose of making the product attractive. This is done through using packaging that draws attention to the product on shelf and providing necessary information about it. With this added purpose, methods of using unnecessary amounts of material to draw attention to the product have been initiated (Emmett & Sood, 2010). However, as the topic of sustainability has been rising on the agenda these methods can be troubling for the product. Many of the consumers have started to realise that the consequence of this kind of packaging often lead to wastage, excessive cost, resource overuse and misuse and environmental degradation due to landfills. Therefore, companies pursuing with it is at risk of negative consequences coming from consumers perceiving the over-packaging as a main cause to the environmental pollution (Emmett & Sood, 2010).

Since the topic of sustainability and environmental protection has grown the practice of green packaging has gained more interest (Hao et al., 2019). Zhanga & Z. Zhao (2012, p. 902) define green packaging as "environmental friendly package, which is completely made by natural plants, can be circle or second use, be prone to degradation and promote sustainable development, even during its whole lifecycle, it is hurtless to environment as well as to human body and livestock's health". Emmett & Sood (2010) argue that there are four key differentiatiors between green packaging and traditional packaging, namely: Reduce, Re-use, Recycle, Reform, illustrated in Figure 2.1 and described in more detail below.

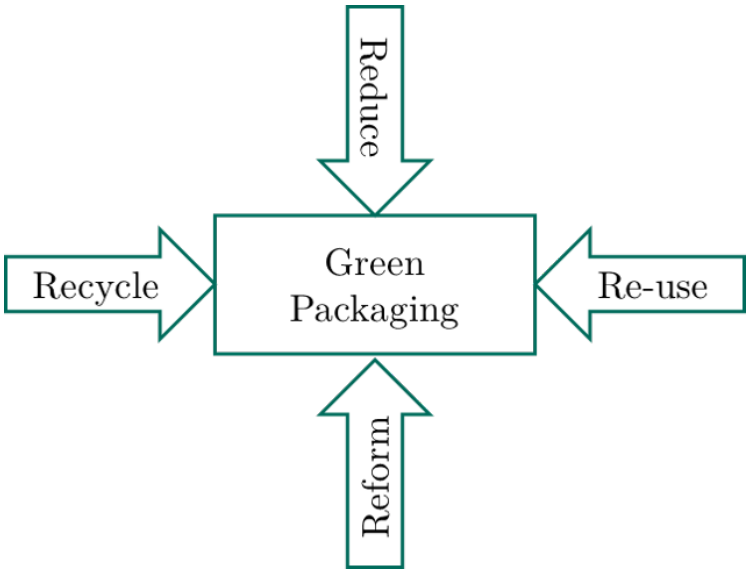

Figure 2.1: The differentiators of green packaging. Picture inspired by Emmett & Sood (2010)

Reduce: By reducing the packaging the companies use less material and can thereby decrease their environmental impact. Through this, the chance of being accepted by environmentally proactive consumers increases.

Reuse: By reusing the packaging the company creates a closed loop. When the consumer is finished using the product the company takes care of the packing and prepare it for re-usage. This solution is particularly suitable when the company is responsible for the delivery of the product as picking up the packaging in direct connection to the delivery only will require a low additional cost.

Recycle: In those cases where it is difficult to create a closed loop, it should be possible to easily recycle the product. The product should be recycled in such a way that it either can become the same type of product again or that it can be created into a similar one.

Reform: When reforming the packaging the purpose of the packaging and how this can be fulfilled without any environmental impact is investigated. This area includes a broad range of improvements including everything from using biodegradable material to making the product digital to avoid packaging.

The packaging represent the product and the company before the consumer starts using the product. Hence, the packaging sends messages to the consumer about the product, the company, and its operations (Emmett & Sood, 2010). The consumer can therefore draw conclusions about how environmental conscious the company is. A company should therefore carefully consider its packaging and make sure it sends a message that goes in line with what the organisation stands for (Emmett & Sood, 2010).

2.2.3 Internal environmental management

It is argued that internal environmental management (IEM) is crucial for improving environmental performance (Zhu, Sarkis & Lai, 2008). By working with IEM, the managerial support and the resources needed for accomplishing change can be created (Agarwal & Giraud-Carrier, 2018; Zhu & Sarkis, 2004).

Pan et al. (2019, p. 247) refer to IEM as it "includes the establishment of environmental management departments, the sharing of environmental information between departments and the integration of environmental data and information systems". Agarwal & Giraud-Carrier (2018, p. 5) instead argue that it "captures the commitment and support of senior and mid-level managers for GSCM, the implementation of environmental management systems (e.g., ISO 14000), and the integration of environmental improvements throughout the organization". Zhu, Sarkis & Lai (2008) further build on the importance of management support arguing that in most cases it is crucial to have senior management support when successfully implementing or adopting to any innovation, technology, program or activity. Moreover, it is also argued that for the company to succeed with environmental practices there must be support from mid-level managers.

The internal environmental management practice in not only important for the internal practices but it is also necessary when working with the external ones (Agarwal & Giraud-Carrier, 2018; Zhu, Sarkis & Lai, 2013). Preferably, the organisation should start with IEM first and then pursue with external environmental management practices (Agarwal & Giraud-Carrier, 2018; Zhu, Sarkis & Lai, 2013). This is partly because of the need of increasing the knowledge of working with such matters internally, before entering external initiatives (Agarwal & Giraud-Carrier, 2018). It is also suitable to start with IEM as the external practices should be based on and coordinated with the internal ones (Zhu, Sarkis & Lai, 2013). Furthermore, this gives the internal organisation a chance to build internal resources and to create support for external environmental practices (Zhu & Sarkis, 2004).

2.2.4 Outcomes

The topic of the outcomes of GSCP have been covered by several researchers and when discussed it is often in terms of environmental and economic performance (Pan et al., 2019; Zhu & Sarkis, 2004). Amongst most literature there is a consensus that GSCP is improving the environmental performance of the company (Zhu & Sarkis, 2004). However, regarding the economic performance, GSCP have showed different results in different studies (Zhu & Sarkis, 2004). Zhu, Feng & Choi (2017) explain that the economic performance can be negatively impacted due to, for example, increased costs because of the use of environmental friendly materials, but it can also be positively impacted by using less material.

The implications on economic and environmental performance when implementing the different practices have also been described. Rao & Holt (2005) claims that collaboration with customers and suppliers strengthens both the environmental and

economic performance. Regarding green packaging, Emmett & Sood (2010) write that green packaging can reduce environmental impact and cost. Lastly, Pan et al. (2019) saw that internal environmental management leads to both improved economic and environmental performance. It can be stated that the three practices described above have proved to have positively impacted the environmental and economic performance. However, as was mentioned above there are still studies showing that GSCP have negativly impacted the economic performance.

Besides economic and environmental performance, GSCP can lead to other outcomes as well. One that is recurring in the literature is the reputational outcome, where several studies bring up reputation as an important outcome of working with GSCP (S. Kumar, Teichman & Timpernagel, 2012; Rao & Holt, 2005; Walker, Sisto & McBain, 2008). By acting more environmental friendly, the company increases its chances of being seen as a responsible and sustainable company which often leads to a better reputation (S. Kumar, Teichman & Timpernagel, 2012). This in turn, could also affect the consumers' buying decisions in a positive way.

2.3 Drivers

This section will discuss what drive the work with GSCP and other similar green initiatives forward. The factors that motivate or force the companies to perform GSCP are usually called drivers (Tseng et al., 2019). Many authors like, Walker, Sisto & McBain (2008), Tseng et al. (2019), Tay et al. (2015), Y.-C. Huang, C.-H. Huang & Yang (2017) and S. Kumar, Teichman & Timpernagel (2012) describe how there are both internal and external drivers that make companies perform GSCM, GSCP and other similar sustainable practices. The stronger presence of the drivers, the quicker adaption of sustainable practices, since the lack of response to the them might mean a threat of the existence of the company (Tseng et al., 2019). The sections below will explain the most mentioned drivers in literature and these will then be summarized in Table 2.1.

2.3.1 Internal drivers

Internal drivers are factors that are connected to the business internally, and usually described as organisational factors (Walker, Sisto & McBain, 2008). Below, the internal drivers in the shape of Cost reduction and Driven management and employees will be described in more detail.

2.3.1.1 Cost reduction

The desire to reduce cost can be seen as a recurring internal driver for environmental activities (Tseng et al., 2019; Walker, Sisto & McBain, 2008; Zhu & Sarkis, 2004). Zhu & Sarkis (2004) even argue that economic performance is one of the most important drivers for enterprises that wish to perform sustainable practices making the cost structure an important factor. Tseng et al. (2019) continue with explaining how companies usually try to reach a higher resource efficiency through reducing

cost, waste, and water use, which is something that affects the environment in a beneficial way.

Even if some argue that cost reduction is an important driver for sustainable practices, it is not always the case that the companies do have the sustainability focus on top of mind (Walker, Sisto & McBain, 2008). The cost reduction might be a goal in itself, that in turn results in additional positive outcomes like positive environmental impact. Walker, Sisto & McBain (2008) describe situations where companies that have excelled in several sustainability practices have not originally been driven by environmental compliance, but by a focus on cost reduction only. This focus have then resulted in both increased quality and less waste meaning a positive result for the environment.

2.3.1.2 Driven management and employees

Another important internal driver for performing sustainable practices is the driving force and commitment from inside the organisation (Tay et al., 2015; Tseng et al., 2019; Walker, Sisto & McBain, 2008). First of all, management commitment is crucial for companies that aim to implement sustainable practices. Dubey, Gunasekaran & Childe (2015) describe how it is impossible to succeed with green practices without the support from the higher management. They continue with arguing that the management should strive for working proactive rather than reactive to be able to go green.

In addition to management involvement, the employees are also an important driver for sustainable practices (Muduli et al., 2013). If environmental changes should be successful they need to be rooted within the culture of the company (S. Kumar, Teichman & Timpernagel, 2012). Muduli et al. (2013) explain how top management is responsible of creating a strong culture that offers the employees freedom regarding decisions within environmental improvements. Empowered employees that feel that they have autonomy and decision making power are usually more dedicated to the environmental improvement process, making the balance between employee freedom and management intervention important (Govindarajulu & Daily, 2004).

Muduli et al. (2013) further describe the importance of providing environmental related training and education. By using education and effective communication, the employees will understand both the importance and the aim of working more sustainable (H. Kaur, 2011). This in turn, will result in a higher level or participation which drives the development forward. To succeed with this, it is important that there is a constant flow of information between management and the employees (Muduli et al., 2013).

As can be concluded from the above, both top management and employee commitment are not only drivers for performing sustainable practices, but also prerequisites to succeed with it (Muduli et al., 2013).

2.3.2 External drivers

External drivers are, in contrary to internal drivers, factors that affect the company from the outside of the organisation. In order to handle the growing environmental pressure from different stakeholders, companies need to extend their focus beyond the internal boarders to external partners in the supply chain (Laari et al., 2016). According to Walker, Sisto & McBain (2008) companies tend to be more influenced by external drivers than internal. Below, the external drivers in terms of customers and consumers, regulations, reputation, and competitors will be explained in further detail.

2.3.2.1 Customers and consumers

The literature shows that one of the most important drivers resulting in environmental practices is the pressure from customers and end consumers (Walker, Sisto & McBain, 2008). Zhiqiang Wang et al. (2018) describe how the customers can make companies increase their sustainability focus in several ways. The most obvious one is that they take advantage of their power position and start to put pressure on companies. Consumers and customers do have the power of either positively or negatively affect a company through buy or boycotting a company's products (Collins, Steg & Koning, 2007). Companies that do not fulfill the customers' requirements consequently risk that their products will not be bought. Gong et al. (2019) also describe how customers' and consumers' buying decisions are affected by their perception of a company's sustainability work. However, they also underline that even if they take the sustainability activities into account, it does not automatically mean that they are fully aware of all the sustainability activities of the company.

Zhiqiang Wang et al. (2018) continue to describe how another way for customers to drive the development forward is to educate the partners in the supply chain in sustainable practices making them more conscious within the topic. This is something that could thereafter spread from one company to its suppliers, resulting in even more spread awareness across the supply chain.

2.3.2.2 Regulations

Regulations and legislation from the government seem to be strong drivers for working in a more sustainable way (Tseng et al., 2019; Walker, Sisto & McBain, 2008). The increased demands for scarce, natural resources in combination with a huge increase in amount of waste and pollution from companies have made governments more aware (Hafezi & Zolfagharinia, 2018). The role of the government within initiatives like GSCP has in turn been getting more attention during the past decade (Lee, 2008). Regulations and legislation have been implemented by governments to slow down the pollution and make companies more environmental conscious (Hafezi & Zolfagharinia, 2018). Companies who do not follow the environmental regulations face penalties and fines which can affect their results in a negative way, forcing them to adapt (Sajjad, Eweje & Tappin, 2015).

Something that is important to emphasise is that regulations alone is not sufficient to encourage companies to work more sustainable (Gattiker & Carter, 2010). Walker, Sisto & McBain (2008) explain how regulations are important drivers if they are created and met in the right way. If companies only act in a reactive manner to the regulations, sustainability will less likely be integrated in the company's value chain processes to the same extent as for companies that are truly motivated to change. In other words, regulations and legislation from the government seem to be strong drivers in particular if companies work to meet them in a proactive and innovative way (Walker, Sisto & McBain, 2008).

2.3.2.3 Reputation

Another driver that is brought up in literature is the strive for a good reputation (S. Kumar, Teichman & Timpernagel, 2012; Tay et al., 2015; Walker, Sisto & McBain, 2008). The bad impact on the environment during the last decades has increased the public's consciousness of environmental issues (Walker, Sisto & McBain, 2008). The increased awareness of sustainability among the public has in turn lead to that buying decisions have been influenced by the companies' environmental reputation. S. Kumar, Teichman & Timpernagel (2012) explain how a company can enhance its brand value and increase both sales and the customer satisfaction through achieving a reputation of being a responsible and sustainable company. Furthermore, Walker, Sisto & McBain (2008) describe how the achievement of a good reputation, with respect to sustainability, is not only about keeping existing customers or end consumers, but also an opportunity for companies to acquire new ones and to gain market share. Consequently, companies strive for achieving a good image through performing and communicating activities like GSCP.

However, companies need to be careful in how they communicate their sustainability efforts. The incentives from companies of communicating positively about their environmental efforts can result in companies presenting their sustainability efforts in a misleading way, also called greenwashing (Delmas & Burbano, 2011). This usually means companies that communicate their poor environmental performance in a positive way which means that customers, consumers, and other stakeholders may perceive their sustainability efforts in a better way than they really are. Delmas & Burbano (2011) describe that the risk with greenwashing is that consumers will become increasingly cynical about green statements, which could erode the market for green practices in the future.

2.3.2.4 Competitors

Competitors can also be seen as an external driver for performing GSCP (Y.-C. Huang, C.-H. Huang & Yang, 2017; Tseng et al., 2019; Walker, Sisto & McBain, 2008). If a company is not adopting to the current sustainability movement it may result in it lagging behind compared to companies that do comply. According to Mahler (2007), being sustainable is a source of competitive advantage and it is seen more as a crucial factor for survival rather than a costly inconvenience. The competitive pressure in the markets both encourages companies to evaluate

their current environmental practices, and also encourages them to imitate their successful competitors by performing GSCP that can improve their competitiveness (Y.-C. Huang, C.-H. Huang & Yang, 2017). In addition to imitate competitors, companies may strive for acting before other companies, giving them a competitive edge over less-sustainable companies in the market (Mahler, 2007).

Table 2.1: Drivers to implement GSCP based on the literature

Drivers
Internal
Cost reduction
Driven management and employees
External
Customers and consumers
Regulations
Reputation
Competitors

2.4 Barriers

In contrary to drivers, Tseng et al. (2019) describe how barriers hinder the implementation of GSCM. They further argue that the the stronger presence of the barriers, the worse implementation level of green practices. As for the drivers, the barriers may also be divided into internal and external barriers (Tay et al., 2015; Tseng et al., 2019; Walker, Sisto & McBain, 2008). The most mentioned barriers in literature will be explained below and summarized in Table 2.2.

2.4.1 Internal barriers

There are several internal barriers that might hinder companies from performing GSCP successfully. The barriers of cost, lack of knowledge, and lack of top management commitment will be described in further detail below.

2.4.1.1 Cost

One internal barrier for performing sustainable practices that is brought up in the literature is cost (Walker, Sisto & McBain, 2008). Both Hafezi & Zolfagharinia (2018), Sajjad, Eweje & Tappin (2015), and Dube & Gawande (2016) explain that there are usually high initial costs for implementing sustainable practices since it often requires development of new infrastructures, systems, and processes. Other

costs that are usually added are costs for maintenance and environmental packaging (J. Kaur et al., 2017). Hafezi & Zolfagharinia (2018) further argue that the research and development cost is even higher for companies in the pharmaceutical, automobile, and electronic industries.

In addition to companies' strive for keeping the costs down to benefit their financial results, there is often a pressure from the consumers regarding low prices. The desire for lower prices does not always go in line with the implementation cost of sustainable practices, meaning that it sometimes discourage the implementation of sustainable initiatives (Orsato, 2006).

2.4.1.2 Lack of knowledge

The lack of knowledge has been described as a barrier by several authors (Dube & Gawande, 2016; Govindan et al., 2014; Revell & Rutherfoord, 2003). According to Govindan et al. (2014), the lack of environmental knowledge can be described as an insufficient awareness of environmental legislation and little attention paid to the environmental footprint of the business and how adopting green practices could improve it. Moreover, Dube & Gawande (2016) describe that there can also be a lack of knowledge in terms of technical expertise in how to implement sustainable practices. This means that the organisations will have a hard time finding a product that responds to the new environmental demands from the customers (Dube & Gawande, 2016). A consequence of having a low environmental awareness and insufficient expertise on how to improve is often that the company works reactively instead of proactively (Revell & Rutherfoord, 2003).

2.4.1.3 Lack of top management commitment

The lack of top management commitment is stated to be a major barrier to GSCP (Dube & Gawande, 2016; J. Kaur et al., 2017; Ojo, Mbowa & Akinlabi, 2014). As been mentioned in drivers, having a committed top management is necessary when pursuing GSCP. According to Ojo, Mbowa & Akinlabi (2014), management commitment can influence and support actual formation and implementation of of GSCP. In contrast, the top management can also resist to change the unsustainable activities and investments. This creates great barriers hindering the company to implement GSCP (Narayanan, Sridharan & P. Kumar, 2019). Wooi & Zailani (2010) claim that one reason for top management not committing to GSCP can be the fear of failure. As was mentioned before, economic improvements are not guaranteed when implementing GSCP. Because of this, fear of failure with the implementation potentially leading to monetary losses, product failure, and loss of competitive advantage can arise (Dube & Gawande, 2016).

2.4.2 External barriers

In addition to the internal barriers, there are also several external barriers that are of specific interest. The external barriers are forces that affect a company from outside the organisation. The external barriers of regulations, lack of understanding

across the Supply Chain, and lack of customer awareness will be described in the sections below.

2.4.2.1 Regulations

Even if regulations are seen as strong drivers for working more sustainable it is still important to stress the fact that it could also be counter-productive. Gattiker & Carter (2010) describe how government regulations within sustainability sometimes perceives like enforcing threats resulting in less commitment to the sustainability projects. Having inflexible regulations, meaning that the implementation and outcome are clearly stated, can also result in inhibited innovation (R. Ramanathan et al., 2017). As mentioned earlier, companies that only work reactively against regulations will less likely include sustainability into their value chain processes to the same extent that companies that are truly motivated (Walker, Sisto & McBain, 2008).

Dube & Gawande (2016) describe how another issue connected to regulations is the fact that many governments do not make industry friendly policies towards green practices as GSCM. They describe how there are usually a lack of specific benefits or rewards for companies who actually implement sustainable practices, something that could be implemented by the government to steer companies in the right direction.

2.4.2.2 Lack of understanding across the Supply Chain

U. Ramanathan, Bentley & Pang (2014) describe how companies have started to realise that it will not be enough to work alone if one wants to reach a green supply chain. Having the majority of the actors in a supply chain on board is thereby critical to succeed. However, several authors describe how there is a big challenge that there is still a lack of understanding across the supply chain regarding sustainable practices (Balasubramanian, 2012; Dube & Gawande, 2016). The lack of understanding results in both bad coordination and communication which in turn leads to lack of green supply chain initiatives (Balasubramanian, 2012).

2.4.2.3 Lack of customer and consumer awareness

As been mentioned before, customers are said to be a driver for companies to become more sustainable. When consumers become more environmental conscious the chances of buying green products increase. Through this increased focus, companies are pushed into adopting GSCP (Luthra, Garg & Haleem, 2015). However, when there is a lack of customer awareness, it becomes a barrier. Dube & Gawande (2016, p. 1560) refer to this as when "customers do not know about green products and their benefits" and Majumdar & Sinha (2018, p. 1114) describe it as when "consumer support and encouragement for green products is only limited to some niche sectors". In a study on fifteen food packaging companies in North India, Zhigang Wang et al. (2016), exemplify this through describing the situation where the companies using GSCM had less demand. Moreover, Zhigang Wang et al. (2016) mention that by

involving senior management who can promote GSCM internally and to customers the companies can overcome the barrier.

Table 2.2: Barriers identified to implement GSCP based on the literature

Barriers
Internal
Cost
Lack of knowledge
Lack of top management commitment
External
Regulations
Lack of understanding across the SC
Lack of customer and consumer awareness

2.4.3 Summary of Drivers and Barriers

Based on the above, Table 2.3 provides a complete summary of the drivers and barriers found in the literature.

Table 2.3: Drivers and Barriers to implement GSCP identified based on the literature

Drivers
Internal
Cost reduction
Driven management and employees
External
Customers and consumers
Regulations
Reputation
Competitors
Barriers
Internal
Cost
Lack of knowledge
Lack of top management commitment
External
Regulations
Lack of understanding across the SC
Lack of customer and consumer awareness

3 | Methodology

This chapter describes the methods used to fulfill the aim and answer the stated research questions. First of all, the research approach is described. This is followed by the research process clarifying the different steps in the method. Thereafter, the literature review and data collection is explained in further detail. The method chapter ends with describing the research quality in terms of validity, reliability, and ethics.

3.1 Research approach

This project is the result of a master thesis on behalf of the pharmaceutical and life science company ProHealth and their Consumer Health division. ProHealth wanted to get a better overview of what drives and hinders a successful sustainability improvement and what implications and potential outcomes that comes with changing their way of working. When it comes to sustainability requirements, one of ProHealth's markets was seen as more intense than the others, namely the UK market. The UK market develops fast and has a lot of consumers and retailers which have become more conscious within this area. Besides this, regulations that will disadvantage unsustainable solutions are also becoming initiated. Furthermore, the market in the UK is ProHealth's second largest market, making it even more important to investigate. Based on this, ProHealth's business in the UK was chosen to be explored in more detail.

Since the research focused on a bounded situation, with ProHealth in focus, a case study was an appropriate approach to take (Bryman & Bell, 2015). The decision of performing a case study was mainly based on the fact that it allows to investigate something in more dept. Using a single case rather than several cases was chosen since it provides additional opportunities of getting an even deeper understanding of the situation, something that a case based on several cases cannot achieve in the same extent, within this specific time frame. Through performing a case study, a more detailed investigation of ProHealth and the actors around them could be performed.

During the initial interviews there was a clear pattern of one topic within sustainability that stood out from the crowd. Packaging and the use of plastic were brought up on almost all interviews without any leading questions. Everything from packaging waste regulations to both retailers' and consumers' requirements within this area were discussed. Additionally, this was considered an area where ProHealth had potential to change and make an impact. Because of the above mentioned, a decision on limiting the scope to sustainability focus within packaging was made.

One product that early in the project was of extra interest and that was selected to be studied was VitaBoost. VitaBoost is ProHealth's third largest brand within the Consumer Health division in the UK and is a food supplement product in the form of effervescent tablets. One of the main reasons for investigating VitaBoost was the fact that it is not categorized as medicine, but rather belongs to the category of nutrition products. As the interviewees during the initial interviews mentioned that the sustainability requirements would hit the nutrition market before the medicine market it was considered to be more urgent to examine compared to ProHealth's other products. When examining VitaBoost, the current state of the product and its packaging and three potential packaging solutions were investigated. The different packaging solutions were focused on removal of material where the first option was to remove the SRP, the second option was to remove the box, and finally the third option was to remove the plastic tube, thereby implementing a loop solution. VitaBoost and its packaging are shown in Figure 3.1 and more detailed information about the product and the different packaging options are presented further in the case and the analysis. The decision of which the three solutions were going to be were based on several factors. As removing packaging turned out to be important to the different stakeholders, especially the retailer SuperFood, the three potential solutions included removing one part of the packaging. The three types of packaging closest to the product were chosen to be removed. This was in line with SuperFood's demands and with the consumers' demands which were mainly focusing on the packaging that was visible in store. Another reason behind the decision was that the solutions were highly different and were projected to result in dissimilar implications, something that was believed to add value to the thesis.

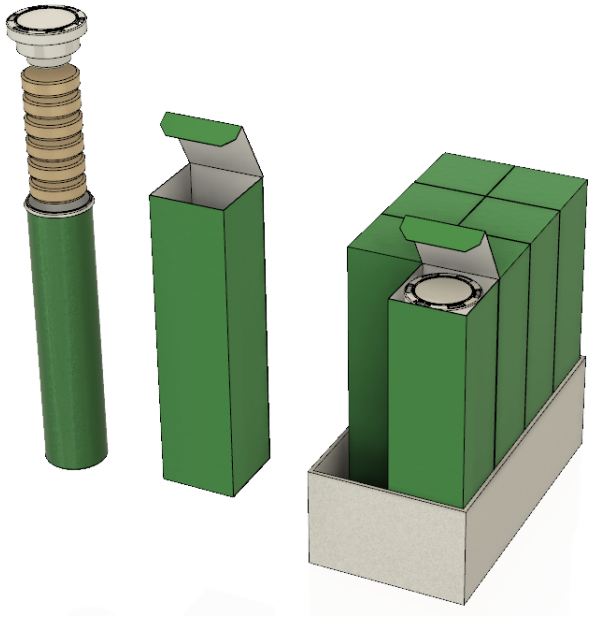

Figure 3.1: VitaBoost and its packaging. To the left the plastic tube is shown, in the middle, the box, and to the right the SRP in the shape of a grey box.

In addition to get an understanding of ProHealth's situation internally, it was also crucial to include information about other actors in their supply chain. Figure 3.2

shows an overview of the actors, closest to ProHealth, that were considered to be most involved in the packaging of the products. In addition to ProHealth themselves, both the manufacturer, the Third Party Logistics (3PL), the retailer, and the end consumers were included. The reason for including these actors was to get an insight in the other actors' sustainability work, their requirements towards ProHealth, and their willingness to change and collaborate.

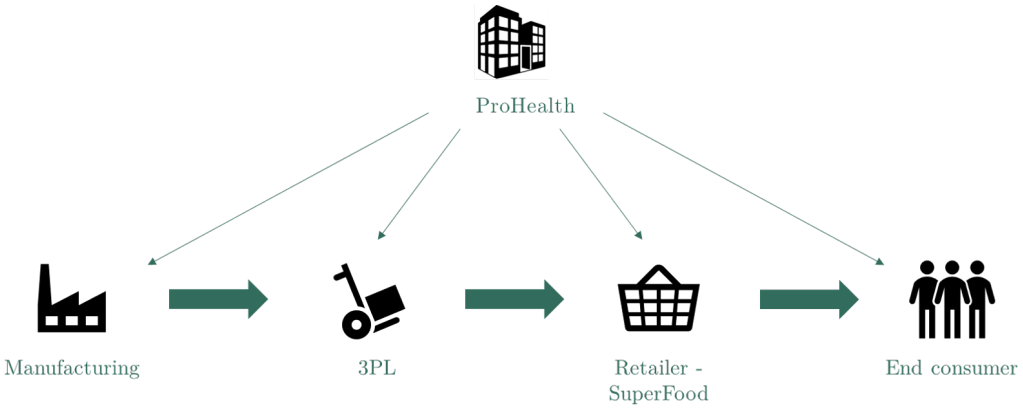

Figure 3.2: ProHealth and parts of its supply chain

3.2 Research process

As can be seen in Figure 3.3 the research process consists of three parts: an iterative process and a linear process, which are both affected by the literature review. As the scope for the thesis was rather broad in the beginning, an iterative process was needed to narrow the scope and find a specific direction of the project. From the problem identification a method was therefore created to enable more data gathering. Once the data was collected the researchers could use the new information to narrow the scope. This lead to a more specific problem identification and a new direction of investigation could be set. The process of updating the method, gathering more specified data and refining the problem specification from here continued until a suitable scope was set. Thereafter, the process became linear and continued with the analysis and discussion followed by the final conclusion. As can be seen, the literature review is performed both during the iterative and the linear process. The reason for this is that it is influenced by and influences the other steps which means that it needs to be developed continuously.

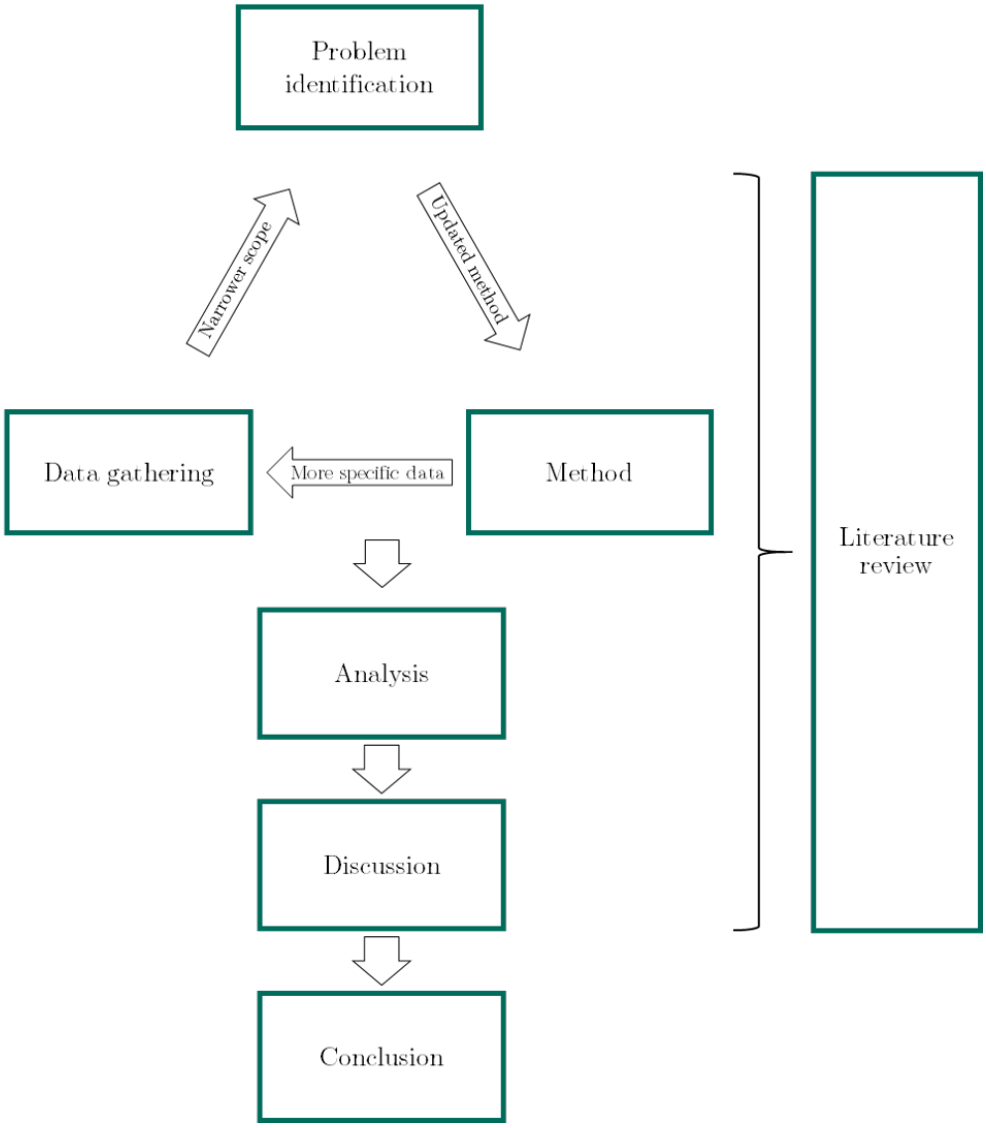

Figure 3.3: The research process

3.3 Literature review

A literature review was performed to get a deeper understanding of the topic and to find relevant literature to compare the findings with. Theory within the areas of both GSCM and GSCP where included as well as theory about drivers and barriers with working with sustainable practices. Furthermore, literature about outcomes of working with GSCP and how to collaborate across the supply chain was included.

The theory was mainly based on scientific papers, articles, and books gathered from data bases as Google Scholar, Chalmers library, and ScienceDirect. Even if the topic of GSCM and GSCP is a relatively new topic, it was important for the researchers to make sure that recent papers were used to assure that the information was up to date. To find relevant literature important keywords have been

used like for example Green Supply Chain Management, Green Supply Chain Practices, Green packaging, and Drivers and Barriers within GSCP. In addition to using these keywords, relevant theory have been identified through the concept of backward snowballing. Backward snowballing means that the reference list in already found literature is used to identify new relevant literature to include (Wholin, 2014).

One thing that was noticed by the researchers during the creation of the literature review was the fact that the drivers and barriers often differed between paper to paper. To handle this challenge, many papers where taken into account to identify some patterns of what drivers and barriers that were brought up most frequently. Furthermore, several literature reviews like the ones performed by Walker, Sisto & McBain (2008), Tseng et al. (2019), and Dube & Gawande (2016) were used in order to assure the use of the most mentioned and relevant drivers and barriers in the research. The same situation occurred for the GSCP where there were a lot of different practices that were brought up in literature. To be able to choose between them, the three that were considered most relevant were chosen. During the initial interviews both packaging, collaboration, communication and management commitment were brought up as important topics which resulted in that green packaging, collaboration, and IEM were the chosen practices.

3.4 Data collection

This section includes information about the procedure of collecting the needed data. A data collection can consist of primary or secondary data depending on the person collecting and analysing the data (Bryman & Bell, 2015). This research is based on both primary and secondary data where the primary data mainly consists of interviews and observations and the secondary data of internal documents. Since this research is based on methods where the informants get the possibility to share their perspectives rather than specific numbers and measurements, the research is within the category of a qualitative approach (Eriksson & Wiedersheim-Paul, 2008). Below, both the primary and secondary data collection are described in further detail.

3.4.1 Interviews

To get a better overview of the situation at ProHealth, interviews were performed. The interviews were divided into three rounds. The first round gave the interviewers information about the current state. To get more information about specifically the packaging process the second round contained interviews covering this area. Finally, the third round of interviews covered the topic of other actors in the supply chain. All three rounds of interviews are described more into detail below. However, first the interview arrangement for all interviews will be described.

3.4.1.1 Interview arrangement

All performed interviews were semi-structured. Through having semi-structured interviews, thoughtful questions could be prepared in advance, but there was still room for the interviewers to keep an open mind and ask follow-up questions (Bryman & Bell, 2015). This means a good combination of both being flexible and enough structured to compare the answers from the interviewees. Furthermore, not having fully structured interviews means that there are possibilities of getting important information that the interviewers first did not think about through asking new questions.

Before all interviews, an interview guide with interview questions was prepared. Since the purpose of the initial interviews was to get a deeper understanding and overview of ProHealth's situation, the initial questions were quite open. Through this, the interviewers avoided to steer the interviewees in any direction.

Interviews were both performed over Skype and face-to-face. Both the first and the third round of interviews where held through Skype whilst the second was held face-to-face. The reason for not having all interviews face-to-face was mainly the distance between the interviewees in London and the interviewers in Gothenburg. To be able to get information fast and continuously, Skype interviews were considered to be a good option. There is a risk of not capturing all signs, like face expressions, over a Skype interview which is something that could result in inferior results compared to a face-to-face interview (Bryman & Bell, 2015). However, since several people were interviewed and all interviewees could be reached for clarification questions if needed, the decrease in quality was considered to be almost insignificant.

All interviews were recorded in order to validate the notes that were written during the interviews. After each interview, the answers were discussed and summarised. After every round of interviews the findings were summarised by categorising the findings using color coding or mapping. Through this, patterns in the interviewees' answers could be found and new insights drawn. Based on the new information a new round of interviews could be held.

3.4.1.2 First round of interviews

The purpose of the initial interviews was to interview people with different roles and backgrounds to get their view of the situation. Interviewing many people with different positions would contribute to a broader perspective and less risk of leaving any important details out.

A sampling criteria of individuals with different and relevant backgrounds was passed on to the supervisor at ProHealth. Through the sampling criteria and the supervisor's insight in the company, interviews with people that fulfilled these requirements were arranged. These interviews were finally held with the people presented in Table 3.1. The scheduling of the interviews were made by the supervisor since she had access to all contact details that were needed. Furthermore, letting a person who already works in the organisation schedule the interviews would increase the chance

to get everybody on board.

Position	Date	Duration
Product Change Manager	2020-02-05	51 min
Senior National Account Manager	2020-02-05	23 min
Sales director Consumer Health	2020-02-05	32 min
Brand Leader Medicated Skincare	2020-02-06	34 min
Nutritionals Brand Lead UK Ireland	2020-02-06	42 min
National Account Manager (Ecommerce)	2020-02-06	30 min
Head of Grocery and Ecommerce	2020-02-07	33 min
Group brand manager	2020-02-07	27 min
Product Supply Coordinator	2020-02-07	40 min
Marketing head Consumer Health	2020-02-11	28 min
Head of brand	2020-02-11	18 min

Table 3.1: First round of interviews

To get an insight of ProHealth's situation, and what drives and hinders an implementation of GSCP, questions within several areas needed to be covered. Questions about the sustainability requirements of the retailers and consumers were stated. How the potential communication and collaboration between the actors were performed were also of interest. Furthermore, questions about ProHealth as an organisation also needed to be covered. Within this, questions about their sustainability strategy, their ability to change, how they work with sustainability today, and how they communicate within the organisation were stated. All the questions that were the base for these initial interviews are presented in Appendix A.

3.4.1.3 Second round of interviews

The findings from the initial interviews clearly showed patterns of sustainable packaging being a debated topic. Furthermore, some of ProHealth's retailers were pointed out as leaders in the sustainability development. In order to cover these areas, a second round of interviews needed to be performed. These interviews were performed face-to-face during the visit in London. The interviews were held with the individuals showed in Table 3.2. This is individuals with knowledge about the packaging process, how changes can be made within the organisation of ProHealth and key individuals between ProHealth and one of the leading retailers, SuperFood, within sustainability. The sample of questions that were the base for this second round of interviews are presented in Appendix B.

Position	Date	Duration
Head of Shopper Marketing UK&I	2020-02-26	49 min
Senior National Account Manager	2020-02-28	51 min
Product Supply Coordinator	2020-02-28	57 min
Product Change Manager	2020-02-28	46 min

Table 3.2: Second round of interviews

3.4.1.4 Third round of interviews

To increase the validity of the findings even more, an interview with one of the leading retailers within sustainability was scheduled, namely SuperFood. Through this, a perspective from an external part could be included. This interview contributed with additional information about SuperFood's sustainability work and what type of requirements they have on their suppliers. It also added important information about the end consumers' sustainability requirements and how willing SuperFood is to collaborate within the area. Furthermore, an interview were held with a person from ProHealth with insight in the manufacturing and how they work with sustainability. More information about these interviews in the third round are shown below in Table 3.3 and the interview questions are presented in Appendix C.

Position	Date	Duration
Vice President Head Region EMEA Supply Chain	2020-03-30	20 min
Category Technical Manager, SuperFood	2020-04-29	93 min

Table 3.3: Third round of interviews

3.4.2 Observations

In addition to the interviews, observations were performed too. After the initial interviews a visit to the London office was performed. This, in order to get a better understanding of the organisation and its processes and the products. During the London visit the main locations visited for observations were the ProHealth office, the 3PL warehouse and some of the retailers' stores.

3.4.2.1 The ProHealth office

The main observation that was done at the ProHealth office was to see the different versions of VitaBoost and its packaging together with several types of point of sales material that are used to marketing the products. The purpose of the session was to get insight into how the product was sold, what the selling point of the

product was, and the different packaging and material used to sell it. To get a better understanding during the observation the Head of Shopper Marketing UK&I, who is responsible for point of sale material and has extensive insight in consumers buying decisions, held the session.

3.4.2.2 The 3PL warehouse

The second observation was performed at ProHealth's 3PL warehouse. The purpose of the visit was to see the repackaging process of VitaBoost step by step making it possible to observe the different activities and identify potential inefficiencies. The reason for doing this through an observation was to get a correct understanding of the process, which in some cases can be difficult through interviews (Bryman & Bell, 2015). During the observation, ProHealth's account manager for the warehouse and a contract manager working for the 3PL, held the observation and explained all steps. The observation included all steps of the process from the arrival of the products, to the repacking and warehousing of the products and finally to when the products left the warehouse.

3.4.2.3 The retailers

The final observations were done at two of the main retailer stores. The purpose with the observations was to get an understanding of how products are sold on the shelf in the UK, both in terms of the usage of SRP and in the primary and secondary packaging. The two observations were performed at a health and beauty retailer and at a supermarket, namely SuperFood. The reason for observing these stores was that they are the main physical retailers of VitaBoost. Moreover, studying both of the retailers was found important due to their differences in how they use packaging and SRP. The specific stores that were observed were recommended by the supervisor at ProHealth who believed they were representative. The observations were necessary as the two students writing the thesis are Swedish and there are differences in how products are sold in the UK compared to Sweden.

3.4.3 Internal documents

To get relevant information and data, internal documents have also been used. Initially, the internal documents were used to gain a broader and deeper understanding of the company and its strategy processes and products. However, as the understanding of the situation increased and the scope was set, the internal documents were a source of getting specific and detailed information on for example packaging material and its weight for VitaBoost. Around 15 internal documents were reviewed within the following areas:

- Sustainability Strategy Global and Consumer Health
- Corporate profile ProHealth UK
- VitaBoost weight info and packaging sequence
- Regulatory taxes

3.5 Research quality

When evaluating the quality of a study, validity and reliability are crucial aspects to look further into (Bryman & Bell, 2015). This is therefore something that have been considered during the project and in the creation of the research methods. Another important aspect is the ethical aspect and how this has been taken into account in the project. Below, the validity, reliability, and ethics will therefore be elaborated on in further detail.

3.5.1 Validity

The concept of validity refers to whether the researchers have investigated what the thesis is said to be investigating or not. This can be divided into internal and external validity, where the internal one describes if the researchers' theoretical ideas and conclusions are relevant based on the data that has been gathered. The external one instead refers to if the conclusions can be generalised (Bryman & Bell, 2015).

The internal validity has been strengthened through both making sure that the data that the conclusions are drawn from is correct and through ensuring that that the right conclusions are drawn. To strengthen the quality of the data several actions have been made. Interviews have been held with people having both different roles and coming from different supply chain actors, to assure that several point of views are included. Moreover, a high number of interviews have been held and in some cases interviews have been held more than one time with individuals that were especially relevant for the project. One factor potentially lowering the quality of the data can be the fact that the consumers have not been interviewed. Instead information about the consumers have been gathered through the interview with a retailer, SuperFood, who has great insight into consumer preferences and behaviour. As this information is not gathered directly from the consumer there is a risk that the data is not completely correct. In addition to the interviews, other sources of data have also been used, something that is believed to strengthen the internal validity as this gives the researchers the possibility to compare the information and to assess if it is correct or not. To assure that the right conclusions have been drawn from the data, the researchers have regularly worked with their supervisor and with a review group, consisting of other master thesis students, to validate the conclusions.

Regarding the external validity, one thing that can be argued weakening it is that this study only involves the case of one company. However, as aspects of the situation of ProHealth is not something that is specific to the individual company, one can argue that most conclusions drawn from the case are applicable to other situations as well. The main aspect that might differ from other cases is that ProHealth operates in the life science and pharmaceutical industry and some consequences coming from this might not hit companies from other industries. Continuous discussion with the supervisor, with deeper knowledge about the topic of the thesis, have been held to assure that most conclusions can be generalised.

3.5.2 Reliability

According to Bryman & Bell (2015) there are two types of reliability, namely internal and external reliability. The external reliability refers to what degree a study can be replicated whereas the internal reliability refers to if all research members agree on what they have heard and seen during the data collection (Bryman & Bell, 2015).

To achieve a high level of external reliability can be challenging since the social setting is constantly changing, something that Bryman & Bell (2015) mention. The fact that the performed observations were unstructured and the interviews were semi-structured also makes it harder to entirely replicate the study. Having semi-structured interviews means that there is room for following-up questions and there is no assurance that the interviewers ask them in the exact same way. However, since interview guides and a research process have been provided, the study can be replicated to some extent resulting in similar results which increases the external reliability.

Regarding the internal reliability, it got increased by the high diversity in data sources. The fact that both members in the team have had the opportunity to take part of a large and diversified data set has lead to it being easier to reach consensus regarding the general picture. Furthermore, to also ensure alignment between the two members on each individual moment of the data collection both members of the team attended all interviews and observations. In addition to this, all interviews were always recorded and continuous notes were taken. After each interview, both members would together write a summary of the interview including the main take-aways. If any disparity would be noticed the recording would be used. If this would not solve the issue the interviewee would be asked to provide a clarification. A similar process were used during the observation. However, as there were difficulties in recording the observations the process did not include any recording.

3.5.3 Ethics

Ethics is an important aspect to consider when executing a research project, both with respect to the people that participate in the research but also in regard to the result of the research (Bryman & Bell, 2015). Because of this, the ethic aspects have been considered during the whole project.

First of all, ProHealth and all interviewees in the study were promised anonymity. Consequently, no names of neither the company nor the employees where revealed in the findings. However, the roles were allowed to be presented to show what type of people that were included in the study.

All interview questions were carefully reviewed to avoid sensitive questions that would affect the interviewee in a negative manner. Furthermore, the investigation was made rather on an organisational level than an individual level, which further decrease the sensitivity for the participants.

Bryman & Bell (2015) further describe the importance of avoiding deceptions. Deceptions occurs when researchers present their study as something other than it really is. This is something that have been considered during the whole project and it has been avoided through continually discussing the findings to make sure that the findings have been perceived in the same way. In addition to this, the findings were shared with the supervisor at ProHealth for further validation.

Based on the all above, this research can be seen as a non-sensitive study from an ethical perspective.

4 | Case Description

This chapter consists of the case description based on mainly material from interviews, observations, and internal and external documents. To begin with, a description of the company in focus, ProHealth, will be given. Within this, areas like the company structure, how they work with sustainability, their strategies, and how they communicate and collaborate will be covered. The case will also give a description of the product of investigation, VitaBoost, and its packaging process. Furthermore, forces that are pushing and challenging ProHealth in working more sustainable are covered.

4.1 The structure of ProHealth

ProHealth is a multinational pharmaceutical and life science company of German origin with headquarters in Leverkusen. The company was started 1863 in Barmen, Germany. Consequently, the company is now heading for its 160th anniversary and has had the opportunity to gain many years of experience within health and agriculture. With their almost 117 000 employees located at 420 consolidated companies, ProHealth has a yearly sales of €35 015 million.

ProHealth is present in 90 countries world wide and the location in focus for this thesis is, as mentioned before, in the UK. The headquarters for ProHealth UK is situated in a city called Reading located west of London. With around 1 000 employees, ProHealth UK is one of ProHealth's top markets making up of around €1.1 billion yearly sales.

4.1.1 The divisions

ProHealth consists of the three divisions Pharmaceuticals, Consumer Health, and Crop Science, shown in Figure 4.1. The Pharmaceuticals division is, in terms of sales, the largest division at ProHealth. This division mainly focuses on prescription products within areas like like cardiology, women's healthcare, and specialty therapeutics. The Crop Science division instead focuses on how ProHealth can create better solutions that supports the farmers' work with agriculture, offering solutions within crop protection, seeds and traits, and digital farming.

The final division, Consumer Health, will be the one in focus in this report. This division focuses, unlike the first division, on non-prescription products. In other words, it includes products that are bought over-the-counter without any approval from a doctor. ProHealth provides over 175 brands within this category with the purpose of helping people achieve a better self-care and health. The Consumer Health division is in turn divided into different areas like dermatology, digestive health, cold and allergy care, and nutrition supplements where the latter of them

will be investigated in this report. Nutrition supplements are products that ensure that the body has all the important nutritions that it requires. It could be products within prenatal vitamins, products that take care of our immune system, or general well-being formulations like the product of investigation for this report, VitaBoost.

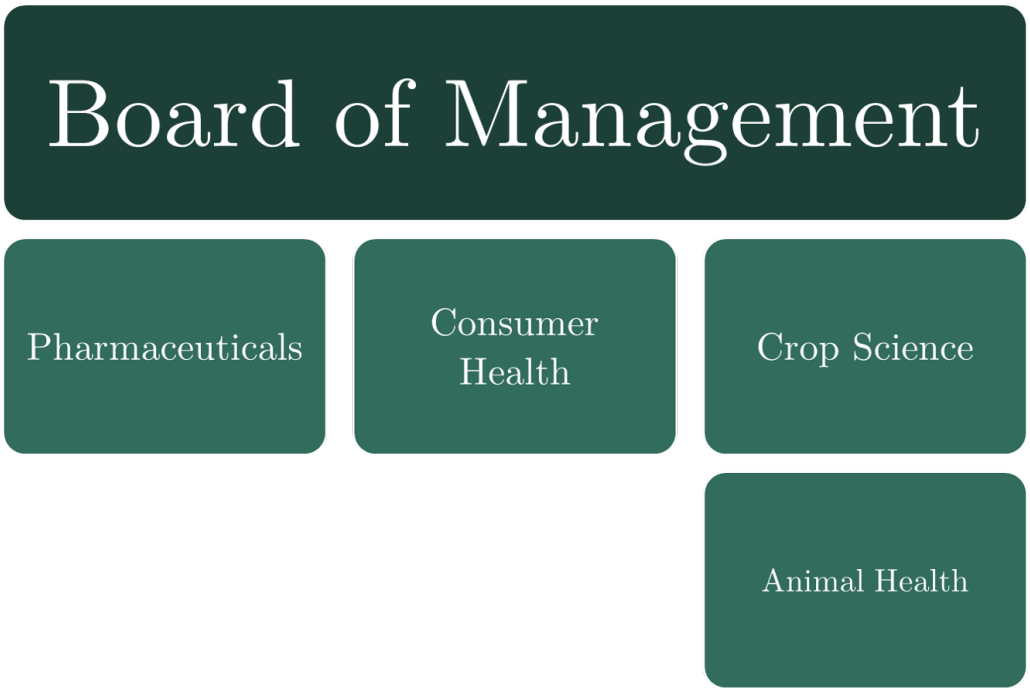

Figure 4.1: The company structure of ProHealth

4.1.2 The complexity of the structure of ProHealth

ProHealth acts in a quite complex environment. There are complexities internally connected to their organisational structure, but also externally since there are many other actors in their supply chain that they need to consider and adapt to. Both the internal and external complexity will be further elaborated on below.

4.1.2.1 The internal complexity

ProHealth is a corporation with a large and complex organisational structure. Having many offices, departments, and locations to take into consideration makes it slow and inflexible in changing according to new demands at the market.

Furthermore, ProHealth is a highly centralised company. This spans both across the manufacturing of the products, where most products are produced on a global term, as well as most decision making which is made on a global level. Because of this, the local offices relies heavily on the approval of the global team when initiating most changes. The global office will take all locations situations' into consideration when approving a change. This means that a single location cannot make a change

if it is not seen as an over all benefit for the entire organisation. Regarding sustainability and packaging, this is especially troubling for ProHealth UK, since they are facing sustainability requirements on their market that has not reached most other markets yet.

4.1.2.2 The external complexity

In addition to the internal complexity, ProHealth also faces external complexity. ProHealth is a part of a large and complex supply chain with several actors with different goals, requirements, and wills. Changing something in the supply chain therefore often creates a situation of a "domino effect" where the change initiates several other changes into the rest of the supply chain. As the wills are not always aligned it can be hard to reach a consensus and pursue with a change. In combination with a slow and complex organisation this creates a situation for ProHealth UK where changes are introduced too late in an organisation that is slow moving.

"The intention is right, but we are quite slow. We lack the agility, flexibility, even if the intention is there. [—]. I think we are quiet well embedded in sometimes complex structures that are difficult to adapt in change. If you look at our supply chain network, there is a lot of complexity in it, which means that if you try in change anything you get a lot of implications." - Senior National Account Manager

4.2 Sustainability at ProHealth

This section will present ProHealth's sustainability strategy and their efforts made within the area. Furthermore, the level of communication and collaboration related to sustainability between ProHealth and other relevant actors in their supply chain will be described.

4.2.1 Strategy

ProHealth describes their main focus within sustainability as making health care and food accessible for everyone while at the same time handling the challenges of climate change and protecting the environment. Until the end of last year, ProHealth, had not included sustainability as a part of their strategy. As a consequence, ProHealth has so far had few sustainability initiatives. However, recently the topic has gained momentum within the organisation where the top management has become increasingly committed to improving the sustainability performance of the company. The increased commitment though, has not been communicated to the employees which has resulted in a lack of a clear direction throughout the organisation. Below, an explanation of ProHealth's new strategy and how it has affected both a global and local level will be explained.

4.2.1.1 The Global Sustainability Strategy

In December 2019, ProHealth Global launched their first sustainability strategy. As before this date, the company had not had a clear plan of how to work within the area. With the launch of their new strategy, ProHealth expressed that they wanted to be a leader in their industries for sustainable development and sustainable business.

Within their new strategy ProHealth focuses on both social and environmental sustainability where the goals for the environmental pillar consists of three goals going under the 13th sustainability development goal; Climate action. The environmental targets which cover the time period 2020 until 2030 are the following:

- Become carbon neutral
- Reduce field greenhouse gas footprint by 30 percent (per kilogram of yield) of the most emitting cropping systems in regions where they operate
- Reduce the environmental impact of crop protection everywhere they operate by 30 percent

In their sustainability strategy ProHealth expressed that for the company to reach its goals, sustainability had to be a central part of the business strategy. This means that it should be included in activities like the yearly planning, investment decisions, and in the overall decision making and operations. To further create incentives to reach their targets and create an engagement throughout the organisation, ProHealth has decided to include sustainability targets into their compensation systems for the board of management and their other managerial employees.

"By making sustainability an even stronger part of our strategy and operations, we aim to achieve long-term returns and generate a positive impact for society and the environment." - ProHealth's CEO

As was mentioned above, the global sustainability strategy covers both social and environmental sustainability. With this it can be noted that the environmental goals and their connected initiatives is mainly connected to the Crop Science division whilst the Consumer Health division is more influenced by the social sustainability. However, the Consumer Health division has two main goals connected to sustainability:

- Be 100 percent carbon neutral by 2030
- Develop more planet-friendly packaging

To reach their goal of packaging ProHealth Consumer Health applies the 4 R's:

- Reuse: closing the loop
- Reduce: using less
- Recycle: increase recyclability

- Replace: alternative approaches

4.2.1.2 The UK Consumer Health Sustainability Strategy

Before the global sustainability strategy was developed the UK division had a strategic direction of highlighting the most urgent sustainability topics in the UK market to the global office. As the pressure of becoming more sustainable constantly increased in the UK market, ProHealth felt a need to push the global team to commit to more sustainable solutions. This was due to the company having such a centralised structure meaning that if sustainability was not prioritised on a global level it would most likely not be possible to pursue with many changes on a local level.

When the global strategy was confirmed, ProHealth UK developed their own strategy. The plan was developed on a management level with no one from the employee level involved. Moreover, the plan was not communicated to the employees. This has lead to employees experiencing a situation where they only know that there is a global strategy but they have a hard time to convert the global plan into a local strategy. With this, the employees experience a lack of direction of how they should work with sustainability. Moreover, they do neither see a plan being developed for the creation of a strategy nor any new initiatives being taken. As a consequence, the employees feel little power to contribute to improving the company's sustainability work. Instead, they have been working on an ad hoc basis where sustainability initiatives have been taken after requests from consumers or retailers.

"There is no real communication about it (sustainability). It is very superficial. It is included, it is there, but it is not much to it." - Head of brand

"I don't think there is much guidance other than we should care. [—]. I mean we talk about it, but I don't think there is any clear "here is what we are focusing" - Brand Leader Medicated Skincare

4.2.2 Efforts

Since the sustainability strategy was set up so recently, no major sustainability efforts have been made within the organisation so far. Until now, ProHealth has been working in a reactive manner where they have responded to the immediate demands of the consumers and retailers doing the bare minimum within sustainability.

4.2.2.1 Global Efforts

Despite the fact that there is a lack of sustainability efforts so far, it should be mentioned that ProHealth Global lately started to strengthen their sustainability focus through hiring more people with sustainability backgrounds and adding positions that only focus on sustainability. This have resulted in each of the three divisions having a sustainability responsible. Moreover, a sustainability council has been put together that is responsible for giving advice to the Board of Management in all

sustainability issues. The council's role is also to contribute to the development of the sustainability strategy to increase leverage towards the UN Sustainable Development Goals. Despite these initiatives it is worth mentioning that this is still in its initial state, meaning that no major improvements within the area have been completed yet.

4.2.3 UK efforts

The fact that the sustainability strategy has not reached an employee level yet has resulted in less sustainability efforts made on a local level in the UK as well. The lack of direction has made it hard for ProHealth UK to know what actions to take and what to prioritise. However, the increased pressure within packaging in the UK market has led to an increased focus within this area and consequently to a few sustainability actions to meet this pressure. During the last year, some of their consumer health products have been labelled with recyclability labels with the purpose of informing the consumers of how to recycle them.

"We are now in the process of showing, physically showing, if the product is recyclable or not. Only in the UK. [—]. When we are changing packaging we are including the recycling information on it. [—]. From a health care point of view there are no other suppliers doing that at the moment so we are quite at the forefront in that." - Business development & Innovation Head

In addition to this, efforts of mapping the recyclability of all consumer health products, with the aim of increasing the number of recyclable products, have been initiated, but not yet completed. The increased focus within sustainable packaging in the UK has also resulted in the UK office putting more pressure on the global team of including it to a greater extent in the sustainability strategy.

"There is a lot more that we could be doing" - Head of brand

4.2.4 Communication and Collaboration

Regarding the communication and collaboration of the sustainability efforts ProHealth does currently not have a clear strategy. This applies to both sides of the supply chain including consumers and retailers as well as manufacturers and 3PL.

When it comes to the communication between the manufacturer and ProHealth they have supply chain operations meetings on a day-to-day basis where the operational questions are discussed. In addition to this, a business review is performed quarterly which focuses on more strategic questions. Regarding the communication about sustainability, it seems to be limited and there are no clear examples of what areas that have been discussed.

"I am not sure if we have any (sustainability communication). If we do, it is very limited" - Vice President Head Region EMEA Supply Chain

ProHealth has regular communication with its 3PL. This includes communication on top level that is held annually, on operational level every 6th month, improvement calls every 6th week and weekly and daily communication. The communication held regarding sustainability is restricted to the 3PL reporting their monthly warehouse CO_2 emissions and yearly transport CO_2 emissions.

ProHealth's main communication with the retailers is through weekly visits to the different stores. The meetings are the most efficient way to communicate with the retailers and they are used to discuss commercial matters. However, neither during the visits nor during other occasions sustainability is on the agenda. The subject is only discussed if there is a request from the retailers.

"It (the sustainability communication) is on a quite ad hoc manner. It would be when they request information or when we think we have a particular update we take it to them" - Senior National Account Manager

Since ProHealth sells their products through retailers they rarely communicate directly with their consumers. The main communication from ProHealth to their consumers is through packaging and point of sale material where they promote the product and educate their consumers about the product and the condition that it treats. However, there is almost no communication connected to sustainability. Except from the recyclability labels on the products and their sustainability report, there are no other clear ways of communicating their sustainability work. One reason to the lack of sustainability related communication with both consumers and retailers is the low level of improvement that ProHealth has done within the area. Because the company has so far only been doing the bare minimum within sustainability there is only minor things to communicate and doing so would be disadvantageous since it would highlight the lack of progress.

"If we were doing something worth mentioning we would, but baring in mind that we are probably doing the bare minimum when it comes to sustainability it is necessarily not something that we would want to sell to the retailers" - Head of brand

Regarding the collaboration, ProHealth does not collaborate within sustainability with any of the actors. This is partly due to the lack of communication limiting the chance of finding areas of collaboration, but it is also due to ProHealth's insufficient progress within sustainability. As ProHealth has not initiated any major sustainability initiatives there has not been anything to collaborate around.

"We are not collaborating specifically on sustainability (for 3PL). Our key objective is providing a service to our internal and external customers"- Account Manager HealthCare

4.3 Forces pushing ProHealth to become more sustainable

There are several forces pushing ProHealth to become more sustainable. Below, they will be described further, divided into internal and external drivers.

4.3.1 Internal

The internal pressure on becoming more sustainable has been fairly low. However, one source of pressure is the possibility to drive cost reduction which simultaneously has lead to a push for enhanced environmental performance. Also, as a consequence of the increased external pressure the top management of ProHealth UK has prioritised sustainability issues higher thereby pushing for change. Below, the drivers in terms of cost reduction and management commitment will be elaborated further.

4.3.1.1 Cost reduction

As been mentioned, ProHealth has a centralised manufacturing meaning that no local markets will get special solutions for their market. As the UK retailers demands SRP, which no other market wants, the product is not produced with the SRP directly. This means that after the product is manufactured at the global manufacturer it is repacked in the UK (Described in more detail in section 4.5 The packaging process). The repacking process requires a lot of manual work and packaging material leading to high costs for ProHealth. Because of this, ProHealth has been pushing for removing the SRP thereby saving money, and as a consequence improving their environmental performance since less material would be used.

4.3.1.2 Management commitment

With the increasing sustainability focus, the top management in the UK have realised the importance to become more sustainable to increase their competitiveness. However, as ProHealth has a centralised structure, they have found it very hard to drive the change locally. To change towards a more sustainable approach, the management in the UK have therefore started to raise the sustainability question to the global team. Lately, also the top management on a global level have realised the importance of putting this topic on the agenda and have therefore started to set up a plan to change.

"We have been driving the sustainability agenda with the global team to say it is absolutely important both from a packaging point of view, but also from a marketing point of view. For a longer term we need to look at sustainability as a part of our innovation program." - Business development & Innovation Head

4.3.2 External

The past years the focus on sustainability has increased in the UK market pushing UK companies to increase their focus on sustainability. With markets like the food

industry experiencing the initial pressure, the focus on sustainability has now started to spread into other areas. ProHealth UK is experiencing mainly three external forces that are driving the change: the consumers, the retailers, and the regulations. The main requirements from these drivers are connected to single use plastics and packaging. Below, each of the driving external forces within sustainability and how they affect ProHealth will be presented.

4.3.2.1 Consumers

One actor putting pressure on UK companies to work more sustainable is the consumers. When the series *Blue Planet 2* was released 2017 highlighting the effects of plastic pollution the topic got massive attention in media. The UK consumers quickly became more aware of environmental questions and as a consequence of the increasing criticism towards single-use plastic the packaging of products got into the spot-light.

"There's a huge shift in mindset from consumers. [—]. It became kind of the latest hot topics in the UK when a famous naturist, David Attenborough, did a Blue Planet programme on TV which highlighted the plastic in our oceans" - Sales director Consumer Health

With the increasing awareness consumers have started to change their purchasing behaviour with respect to their new requirements. However, the consumers are not always informed enough to make the right purchasing decisions from a sustainability perspective. As the subject of sustainability is highly complex the consumers rather act after what is hyped in media than what would be the best option from a sustainability perspective. Besides this, consumers also have requirements regarding quality and price that is prioritised highly -and for some products, prioritised significantly higher than sustainability.

"There's a lack of education. All they do know is that [...] single-use plastic is bad" - Sales director Consumer Health

"People are generally looking for sustainable products if they can, but I still think things like price and the quality of the product come out far higher than the sustainable credentials" - National Account Manager (eCommerce)

One decisive factor of the level of sustainability pressure, is how frequent the product is bought. Generally, consumers tend to be more concerned about products bought on a regular basis. One industry that therefore has been highly affected by consumers' sustainability requirements is the food industry. This market is characterised by a lot of single use packaging and plastic, something that has been noticed by the end consumers. This is reflected in requirements such as consumers demanding recyclable packaging, avoiding single-use plastics and being critical to excess packaging.

"[...] Sustainability concerns from a consumer standpoint only becomes top of mind

if there are products that you use frequently" - Head of brand

Unlike the food industry the products of ProHealth have so far not been affected by the increasing sustainability pressure. As most of ProHealth's products are bought occasionally the increasing pressure from consumers has not been critical to the company yet. The medical character of ProHealth's products further protects them from the increasing environmental requirements. The reason for this is that the consumers' need for such products is significantly higher than for other products thereby lowering the sustainability requirements.

In spite the fact that ProHealth's products are of a medical character and bought occasionally the pressure from the consumers is expected to increasingly affect the company. The pressure is expected to spread from the food industry, currently exposed to high sustainability requirements, to other related industries such as nutrition products.

"I 100 percent think it will come quiet rapidly into our area"- Group brand manager

4.3.2.2 Retailers

A second driver that put pressure on the companies in the UK market is the retailers. As end consumers are increasing their sustainability requirements it is crucial for the retailers to have suppliers that provide sustainable solutions. For ProHealth these retailers include supermarkets and health and beauty retailers.

As mentioned above, the increased pressure is something that has been especially visible within the food industry and in particular within packaging. The increased pressure within the food industry has however begun to spread to other related industries. Although it has not fully reached ProHealth yet, there is a common perception that it will in the near future. One reason for the delayed pressure is the fact that a major part of ProHealth's offering consists of medicine. The high-quality requirements on these types of products, that makes it difficult and time consuming to do changes to a product, have resulted in a higher understanding from retailers. However, this indulgence will not last forever and ProHealth has a lot of nutrition and non-prescription products that will not be protected by these excuses.

"Certainly food manufacturers are under considerable pressure around the use of unnecessary packaging. [...]. It is not affecting us yet, but I think it will." - Head of Grocery and Ecommerce

ProHealth provides its nutrition products to a lot of supermarkets and beauty and health retailers, where SuperFood is one of the supermarkets. This actor is good example of a retailer that has started to put more pressure on its suppliers, especially within the packaging sector. Requirements regarding recyclability, less excess material, and using the right type of material have forced the producing brands to take action to secure their position on the shelves.

"Their requirements are very much to do with [..] recyclability and about packaging and as well as you know single used plastics for some of our products like VitaBoost. [...]. Mainly about recyclability." - Head of brand

One thing that makes the sustainability efforts within packaging more challenging is the fact that the retailers sometimes have requirements that are somewhat contradictory. On one hand they want packaging solutions that use a minimum amount of packaging. On the other hand, they want solutions that make the shelf refilling as efficient as possible which sometimes requires extra material. This is a trade off that is confusing both for the retailers and the supplying companies.

4.3.2.3 Regulations

A third force that pushes for more sustainable solutions is different regulations. Regulations and taxes are implemented by the government to control both type and amount of material used in companies. The first producer responsibility legislation in the UK was the Packaging Waste Regulations that was introduces 1997 (Defra, 2019b). The purpose with these regulations is that companies producing packaging in some way should take responsibility for their impact on the environment reducing the amount of packaging waste that goes to landfill.

Valpak which is the leading environmental compliance scheme in the UK that helps companies to follow these regulations describes the regulations on their website as:

"Obligated producers must pay a proportion of the cost of the recovery and recycling of packaging via the purchase of certicates or recycling evidence, otherwise known as Packaging Waste Recovery Notes" (Valpak, 2020)

In ProHealth's situation, this means that they are obliged to declare and pay a levy for all packaging used from the 3PL until it reaches the consumer, except from the actual tube and the cardboard box around it. The result of the declared material during 2019 for the Consumer Health division was around £66 000.

The increased focus on sustainability and packaging waste has made the government consulting new plans to address the environmental impact of waste, and especially the use of single-used and virgin plastic. Over 2 million tonnes of packaging made by plastic is used in the UK every year which accounts for two thirds of all plastic waste in the UK (Defra, 2019). Furthermore, the majority of the plastic packaging is made from virgin plastic contributing to higher energy use and emissions compared to the use of recycled plastic (Defra, 2019b). To address this problem, the government 2018 announced a future tax on plastic packaging that does not include sufficient amount of recycled material. This will be taking effect from April 2022 (Defra, 2019b).

In addition to this, a parallel consultation is made on reforming the UK packaging responsibility system connected to waste in general (Defra, 2019c). The purpose of

this is to reduce unnecessary and difficult to recycle packaging significantly. Packaging waste should be designed to be recyclable and the amount of recycled material should be increased. Furthermore, there should be less packaging that is thrown away and it should be easier for the consumers to recycle it. However, this reform does not have any planned date of when it will be taking effect.

In addition to the regulations mentioned above, there are also regulations within the medicine market affecting ProHealth and its products. These can be seen as conflicting forces to the environmental regulations from the government. Producing and selling medicine means that it is crucial that a certain quality level is reached. This is especially important for pure medicine products, but it still applies for nutrition products as well. Consequently, many of ProHealth's products need to be produced and stored in specific ways making it harder and more time consuming to change the product or its packaging towards becoming more sustainable. When it comes to change different parts of the product, it is clear that the closer a change is to the actual product, the harder it is to change it. Changing the formula of a product requires years of testing and is something that is often described as "impossible". Changes connected to the packaging is easier to perform. Among the different layers of packaging the primary is the hardest one to change. This because it is in direct contact with the product itself and need to assure the right level of protection. When changing all types of packaging the aspect of the product staying protected during its transportation also needs to be taken into consideration. All of this makes it more complex for a company like ProHealth to change and adapt to these new potential environmental regulations from the government.

Since ProHealth acts in the market within medicine they are together with other similar companies in the progress of trying to influence the government of making exceptions for companies in their situation. However, one needs to take ProHealth's other products, like nutrition products, into account. If the government will have indulgence with medicine products, it does not mean that they will make an exception for products that are not categorized as medicine.

Business development & Innovation Head: "We have tried to lobby for those government consultations. Using our governments affair and PAGB to do that, trying to influence them."
Researcher: "That's lobbying for the health care business to not be affected by the laws?"
Business development & Innovation Head: "Correct"

In addition to lobbying for exceptions regarding these sustainability requirements, ProHealth has also started to think of the possibilities of affecting the quality regulations as well. It might be possible to have less strict quality regulations for products that are not seen as pure medicine, as for example VitaBoost. However, this is only thoughts so far meaning that there are no clear answer whether this will be accepted or not.

Table 4.1: Drivers to implement GSCP and especially green packaging

Internal
Reduction of costs
Management commitment
External
Consumers
Retailers
Regulations

4.4 The investigated product - VitaBoost

Because of the increased pressure from the market and the government, ProHealth has started to evaluate how they should work with sustainability for their more exposed products. One of the products that is predicted to be hit by the pressure first is VitaBoost. This is a product that is expected to not be protected in the same way as medicine since it is a nutritional product. The retailers' increasing requirements will probably lead to less indulgence with this type of products and the end consumers' increasing awareness will probably punish nutrition products like VitaBoost before medical products that they really need. In addition to this, it is a product that goes under the category of single-used plastic which means that the future regulations might hit hard on this product.

VitaBoost is ProHealth's third largest brand in the UK and it is a food supplement in the form of effervescent tablets. It contains vitamins and minerals like calcium, magnesium, and zinc and has the purpose of improving the energy level during a day. VitaBoost, in this case, is in the flavor of orange but there are other versions of it coming in flavors like mango and berry. The product can be found in both major supermarkets, health and beauty stores, and pharmacies.

The tablets are sold in a plastic tube made by virgin plastic which in turn is placed in a cardboard box, shown in Figure 4.2. The cardboard box was recently redesigned and is from now on made by recycled carton. The box around the tube has many purposes like increasing the stability on the shelf in the stores, protect it during transport, increase the efficiency of packing the product at manufacturing, and probably the most important - to make the product more visible on the shelf and make it look more premium. The brand is one of the main selling points for the consumers when choosing this type of product. This makes it crucial to present the product in a premium way.

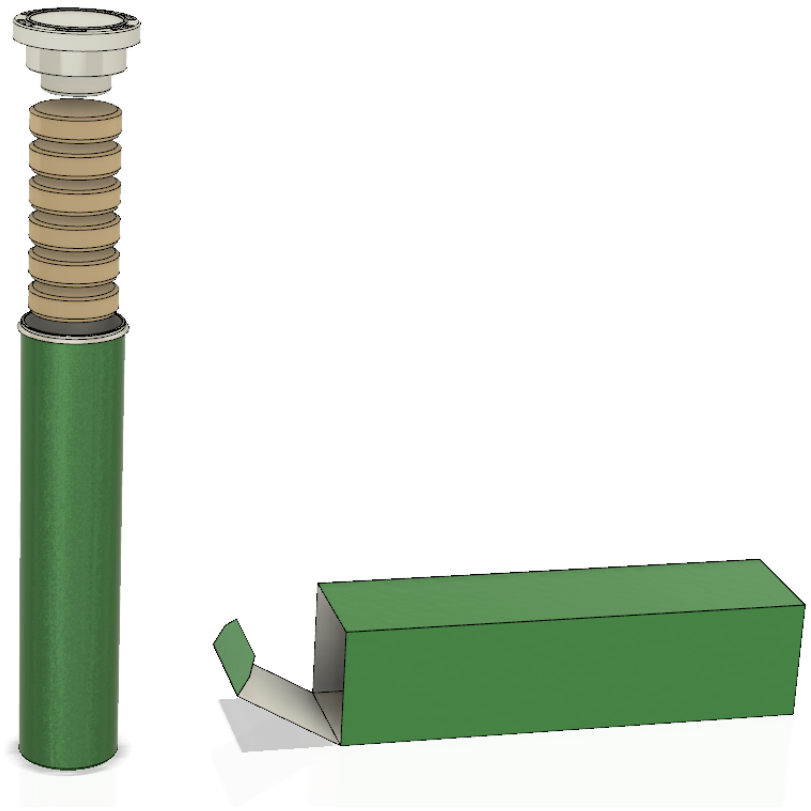

Figure 4.2: VitaBoost and its packaging

There are several other brands that offer similar products in the market. Within its category, VitaBoost is the market leader and owns a market share of 36 percent before the two main competitors with 16 and 9 percent respectively. However, due to the competitors' significantly lower prices and the similarity of the products, the competitors are expected to increase their share.

Since all products in the market are relatively similar, VitaBoost has a relatively low level of differentiation. However, one difference it has compared to its competitors is the strive for a premium appearance. Moreover the taste of VitaBoost outcompetes some of the competitors' tastes. Regarding the packaging of the products, almost all similar products are sold in the same form as VitaBoost. However, many other brands exclude the box and only keep the plastic tube. Since VitaBoost has the largest percentage of the market, many other brands imitate their design making many of the products look quite similar in the stores.

VitaBoost is produced on a global level, meaning that all products are produced in the contracted factory in France. VitaBoost is manufactured using a granulation process which is more complicated than the direct compression process used by many of the competitors. While the compression method means that the ingredients are just put into a tablet press and pressed together, a granulation process instead means that new bonds needs to be created between the particles adding a complexity to it (Tousey, 2002). This is one of the main reasons why VitaBoost both has a

higher price in stores than other brands and ends up with quite low margins.

"VitaBoost is manufactured using a granulation process which is more complicated than the direct compression process used by the Own Label. We also have higher quality standard than the Own Labels. We are investigating changing to direct compression but this is quite a major change and will require technical work." - Business development & Innovation Head

4.5 The packaging process

The packaging process for VitaBoost consists of several activities performed by different actors in ProHealth's supply chain. The whole process starts at the manufacturer and continues all the way until it reaches the end consumer. To get a better overview of the process, a process flow have been created which is shown in Figure 4.3. This process will specifically focus on a retailer which is progressive in their packaging efforts, namely SuperFood.

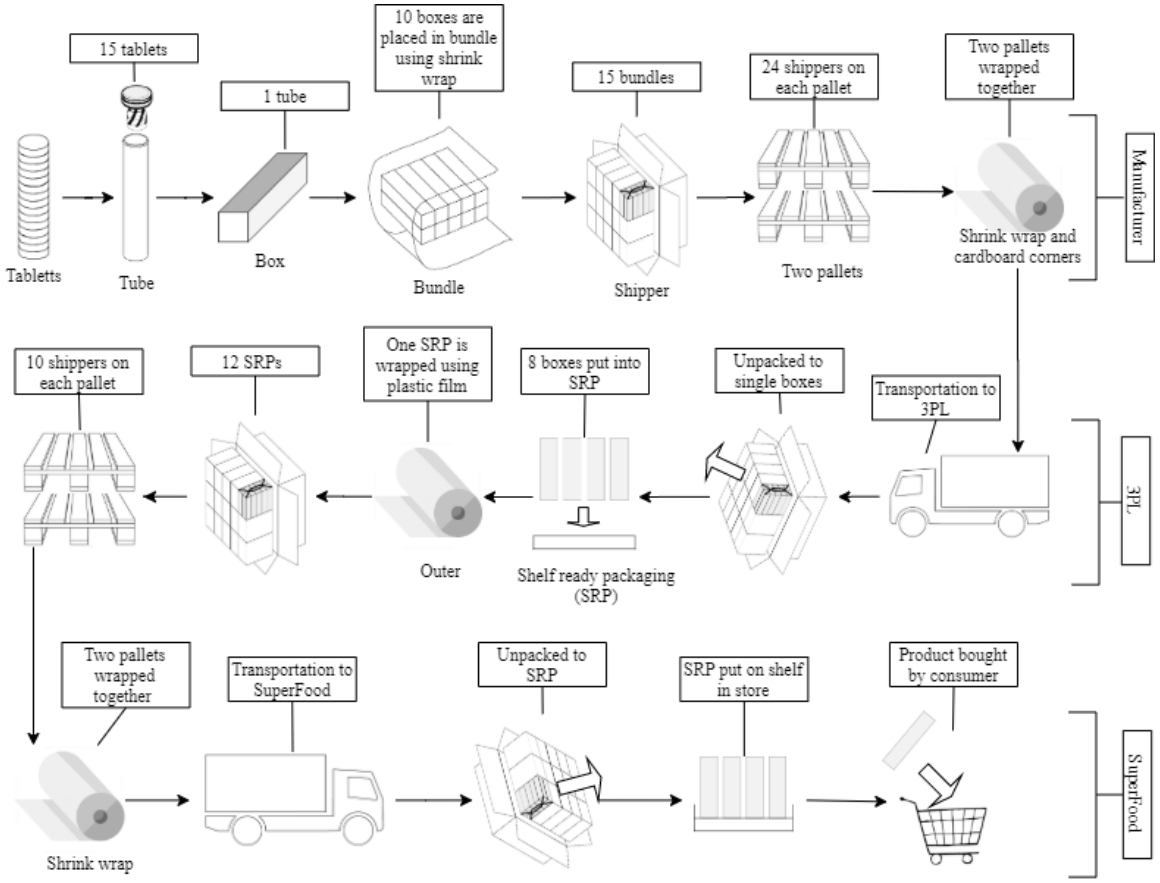

Figure 4.3: The full packaging process of VitaBoost

At the manufacturer, 15 produced tablets are put in a virgin plastic tube which in

turn is put in a small virgin carton box. The carton boxes are thereafter bundled in 10s covered in shrink wrap, followed by 15 of the bundles placed in each shipper. Two pallets are then loaded with 48 shippers and the whole pallets are thereafter wrapped into plastic and prepared for transportation.

The goods are then transported to the next destination, ProHealth's 3PL, that handles all warehousing activities for them. This is the place where VitaBoost gets repacked to fulfill the retailers' requirements regarding both form and volume. The pallets with VitaBoost are unpacked and the bundles in the shippers are split into single pieces again meaning a lot of manual work. This means that a lot of material in this step is removed and replaced with new material to fit the new volumes. However, all removed material is recycled.

Further into the process, eight carton boxes of VitaBoost are put into a tray made by non-recyclable cardboard. As mentioned before, this tray is also called SRP which simplify the replenishment of the goods in the stores. The SRP with the products are then covered by an outer in the shape of a plastic film. These are then placed in a new shipper, where the lid of the shipper is removed due to efficiency requirements from SuperFood. Everything is then placed on a new pallet that should be sent out to SuperFood. How many shippers that are placed on each pallet differs between different orders. The pallet is once again wrapped into plastic and prepared for transportation.

When the pallets arrive to SuperFood, the products are unwrapped and placed on the store shelves in the SRP. When the products have been sold, the SRP is recycled. The responsibility of the handling of the rest of the packaging, the plastic tube and the small carton box, is finally placed on the consumer that buys the product. The material used during the entire process is displayed in Table 4.2.

Type of packaging	Cardboard(g)	Recycled Cardboard(g)	Plastic(g)
Tube (M)	0	0	20.4
Box (M)	0	9.2	0
Bundle shrink wrap (M)	0	0	0.662
Shipper (M)	0	4.92	0
Material used for wrapping pallet (M)	0	0	0.028
SRP (3PL)	1	0	0
Outer for SRP (3PL)	0	0	2.5
Shipper (3PL)	0	3.06	0
Material used for wrapping pallet (3PL)	0	0	0.104
Total use	**1**	**17.18**	**23.694**

Table 4.2: Material used per unit for VitaBoost, (M) = material added by the manufacturing site, (3PL) = material added by 3PL

4.5.1 Actors involved

As can be concluded from the section above, there are many actors involved in this process and there are many actors' requirements that need to be taken into account if potential changes should be made. The manufacturer, the 3PL, SuperFood, and the end consumers handle the packaging in some way. In addition to this, ProHealth as a business itself has own requirements and factors to take into account like the strive for being more sustainable and the strive for having a high visibility on shelf and keep the premium appearance of the product. Furthermore, many of the decisions connected to changes in the packaging process are made on a global level, adding ProHealth Global as an additional actor to consider. The subsections below will give a description of each of these actors and give an explanation of what factors that are important for each actor when it comes to the packaging process and everything connected to it. Furthermore, a description of how these actors work with sustainability today is given.

4.5.1.1 ProHealth Global

Even though ProHealth Global is not directly involved in the above described process it still has a lot of power in the packaging process. The global division is responsible for all decision making for the primary packaging (the tube) of VitaBoost. Moreover, they also have some directives for the secondary packaging (the box) that the local offices need to follow. This includes increasing the proportion of Forest Stewardship Council carton and paper which means that the wood used to produce it

should come from responsible sources. In addition to this, they will also base their decisions on commercial interests meaning that changes on the packaging should not affect the sales in a negative manner. An example of this is changing the packaging in such a way that it decreases the visibility on shelf. Since this can potentially lower the sales, the global office could neglect such a change. Having this type of global decision making means that if one location wants to change something, the change needs to be beneficial for the other countries as well. As will be described more into detail below, ProHealth Global is also responsible for the manufacturing of VitaBoost meaning that they have the authority to take all decisions connected to the manufacturing.

As been mentioned in previous sections, ProHealth Global has started to increase their focus on sustainability, and especially on packaging. Their decisions regarding packaging is therefore expected to be based on their new strategy.

4.5.1.2 Manufacturer

As mentioned above, ProHealth uses a global manufacturing strategy where all VitaBoost are produced in the same factory in France. Since the manufacturing is outsourced, changes in the packaging process that affects the manufacturer's operations need to be accepted by the manufacturer. ProHealth's products stands for 95 percent of the produced products at the manufacturer, putting ProHealth in a good position to negotiate and put pressure on them. However, the manufacturers still have other companies to take into account. Their main priority is to gain economies of scale to be able to produce the products as cheap and efficient as possible. This means an endeavor for having everything as standardised as possible and not create adopted solutions for single brands. Thus, if ProHealth wants to change more extensive things, like changing the production line and machines, they might need to cover for the investment themselves.

When it comes to the sustainability efforts within the manufacturing the manufacturer in France is a part of an industry specific supplier program focused on decreasing the energy consumption. ProHealth perceive the manufacturer to be open to changes and new initiatives. However, as mentioned before, changes that requires investments needs to be covered by ProHealth.

"The manufacturer is in general open to change. As long as ProHealth pays for the improvements it is fine" - Vice President Head Region EMEA Supply Chain

4.5.1.3 The 3PL

ProHealth's 3PL is the one handling all warehousing activities for them. They have the role of providing supply chain solutions for manufacturers within the healthcare sector and they support their customers with logistics solutions. They handle everything from transportation and storing to repackaging and therefore acts like an intermediary between ProHealth and its retailers.

This 3PL supports more than 140 companies with its services and has seven different warehouses across the UK. This means that they have a lot of different customer requirements to fulfill and adapt to. However, in similarity to the manufacturers, they do strive for high standardisation in the processes to gain economies of scale. This is seen through for example the sizes of the shippers, where they recently decreased the amount of variants to only six types. The amount of different requirements on the 3PL are not just many, they are also quite tough. If something is wrong with one sent pallet, some customers, like SuperFood, sends back the whole truck to make a statement. This has resulted in a thoroughly handling of the packaging at the 3PL to avoid the negative consequences.

"SuperFood is all about efficiency. If SuperFood got a pallet with mixed products they would not accept it. You get a fine and the truck sent back if you do not follow their rules. They are very decisive regarding this". - Contract Manager at the 3PL

Looking into the 3PL's sustainability efforts it is clear that they have started to focus more on this during the past years. They only use trucks with standard Euro 5 which is together with standard Euro 6 the ones that emits the least (Theea, 2017). In addition to this, they have started to educate all the drivers to drive in a more sustainable way. This is something that is controlled by systems in the trucks and then reported on big screens to all drivers and managers. Looking more into the packaging efforts, all material that is removed in the repackaging process is recycled. They have also reduced the use of plastic and implemented a zero landfill initiative. In addition to this, they have started to use a new type of plastic solution for the wrapping of the pallets consisting of less virgin plastic and more biodegradable plastic.

"The new plastic solution has made the plastic more stretchy which has resulted in 55 percent less plastic used in the shrink wrapping process" - Head of Health, Safety, Environment Facilities at 3PL

4.5.1.4 SuperFood

SuperFood is a large retailer in the UK and ProHealth's second largest account. SuperFood is one of the supermarkets that is in the forefront of driving the sustainability focus forward. They have their largest business in the UK where they have 3,787 stores.

"SuperFood is in the lead, but all other are following." - Head of Grocery and Ecommerce

Two of SuperFood's top priorities are efficiency and standardisation. In order to meet these requirements the company wants products to be easily and effectively put on shelf. Besides this, SuperFood also has requirements connected to sustainability, both internally but also externally towards their suppliers.

SuperFood works with sustainability on several levels where one target is to be-

come a zero-carbon business by 2050. Moreover, the company is also focusing on areas such as marine sustainability and sustainable agriculture. The company has a long term focus on sustainability and believes that sustainable products should not cost more than other products.

One area which SuperFood has worked intensively to improve is packaging. They strive for finding more sustainable packaging solutions for their entire assortment, meaning that all different types of products aims to be included. However, there is one exception: medicines. This is due the the high quality standards on these types of products. When improving the packaging SuperFood takes a holistic view, having an end to end focus where all packaging used throughout the process are investigated for potential improvements. It should be mentioned though that most initiatives currently seems to be on the packaging visible to the consumer.

Within packaging, one of SuperFood's goals has been to remove the hardest to recycle materials included in their so called "red list" for their own brands by the end of 2019. All materials that are included in the list are shown in Table 4.3. SuperFood managed to comply to the goal and stopped manufacturing products using red materials by the end of the year. However, the requirements do not only stay within their own business. SuperFood has started to include their suppliers into these goals as well.

Table 4.3: Materials categorised into red, amber and green materials by SuperFood

Red - Exit	**Amber - Hold**	**Green - Preferred**
PVC and Polystyrene	Home Compostabel E.g. Cellulose, Materi-bi and Natureflex	Sustainabily sourced wood board, paper and Glassine
Oxy degradeabe materials	OPP - Oriented poly-popylene	PET - Polyethylene terephthalate
Rigid water soluble plastics	Black plastic	Glass
PLA - Polylactic acid	PP - Polypopylene (for certain food applications)	PP - Polypopylene (non food)
Industrial compostable	Complex laminates	HDPE and LDPE
Polycarbonate	PVdC (Not PVC)	PE - Polyethylene (Preferred material for flexible film)
Acrylic	New materials	Steel and Aluminium

Besides this, SuperFood also includes their suppliers into other parts of their packaging improvements. In August, SuperFood met with 1750 suppliers, where Pro-

Health was one of them, to inform them that packaging will form a key part of their decision-making process of which products that are allowed to be sold there or not. They made it clear that suppliers that cannot fulfill their requirements will lose their rights of placing their products on SuperFood's shelves.

In order to communicate their sustainability requirements in a clear way, SuperFood has set a strategy called the 4Rs strategy which stands for Remove, Reduce, Reuse, and Recycle shown in Figure 4.4. This plan will be fulfilled through first of all Removing non-recyclable and excess packaging from its business. Where it cannot be Removed, it should be Reduced as much as possible. Further on, opportunities of Reusing packaging should be investigated. Finally, everything that cannot be reused should be Recyclable to create a closed loop. SuperFood's CEO pointed out that:

"Our work to Remove, Reduce, Reuse and Recycle is already transforming our packaging. Over the next twelve months, we will remove one billion pieces of plastic, further reducing the environmental impact of the products we sell. By focusing on solutions that we can apply across all our UK stores and supply chain, we can make a significant difference and achieve real scale in our efforts to tackle plastic." - CEO SuperFood

This shows that their focus is not merely internally, but across the whole supply chain. Regarding how SuperFood work together with their suppliers they mainly work with giving directives on the goals that they want their suppliers to strive towards. With a high number of suppliers it is difficult for SuperFood to be involved in all suppliers' operations and have high levels of collaboration with all actors.

Figure 4.4: The Rs representing SuperFood's 4R strategy

4.5.1.5 End consumer

The final actor in the chain is the end consumer. At SuperFood, the consumer buys the product and finalises the chain of actors. It has been seen that consumers have became increasingly aware of sustainability issues and have put increasing pressure on both SuperFood and ProHealth to work towards more sustainable solutions, especially within packaging. However, what has also been noticed is that they rarely want to pay extra for sustainable solutions. Moreover, the consumers do not want to have to make all the difficult choices themselves but rather want SuperFood to help them to buy the right products. This means that the consumers expect the retailer to have put products on shelf that both are sustainable and affordable. Besides this, consumers also want to be informed about product changes due to a product becoming more sustainable. By being informed, they are more likely to accept the product change and adapt to it.

4.6 Challenges to change the packaging

Based on the case, several challenges in changing the packaging can be found. These will be summarized in Table 4.4 and are categorised into external and internal challenges.

Table 4.4: Challenges to implement GSCP, and especially green packaging

Internal
The complex structure of the company
Slow and inflexible organisation
High centralisation and global decision making
Product produced on a global level
The lack of direction
Non-existing global sustainability strategy until December 2019
Strategy has not yet streamed down to an employee level
The the many purposes of the packaging
Need of high visibility often results in larger packaging
Strive for premium appearance often results in larger packaging
Packaging needed to protect product during transportation
Packaging needed for product stability on shelf
Packaging needed to pack products effectively
External
The complex supply chain
Many actors involved with non-aligned goals
Intertwined operations leading to domino effects when pursuing change
High standardisation in manufacturing and 3PL
The lack of Communication and Collaboration
Lack of communication and collaboration within sustainability
Retailers' and consumers' contradictory demands
Retailers demands unsustainable packaging due to efficiency requirements
Consumers making unsustainable decisions due to lack of knowledge
Consumers sometimes value price and quality significantly higher than sustainability
Regulations and quality standards hinders change
Regulations on packaging for nutritional products securing quality does not align with sustainable alternatives
ProHealth's quality standards require a lot of testing for product change

5 | Analysis

This chapter analyses the findings in the case with the theory in the literature review. Based on this, the research questions should be answered and the analysis should also create a foundation for the discussion in the next chapter. The analysis begins with analysing and comparing the drivers and barriers in the case and in the literature to find out how these forces affect ProHealth. This is followed by an analysis of three different packaging solutions that ProHealth could implement to become more sustainable. Within these three options, the implications that comes with such a change and what would be required by the different actors in the supply chain to implement it will be analysed. Furthermore, what drivers, barriers and potential outcomes that can arise as an effect from the different options will be elaborated upon.

5.1 Drivers and Barriers

In this section the drivers and barriers from the literature and the case will be compared and discussed. Mainly the drivers and barriers that differs between the literature and the case will be in focus. Figure 5.1 provides a summary of the internal and external barriers and drivers brought up. The figure shows four quadrants where the vertical axis describes if it is a barrier or a driver. The horisontal axis instead shows whether the driver or barrier is internal or external, i.e. if it is directly connected to ProHealth itself or if it is connected to outside factors, such as other actors in the supply chain or regulatory factors. It is important to note that the placement within the separate quadrants is not relevant as the scale on the axes is binary and not continuous. With this, it is only important to reflect upon which quadrant a barrier or driver is placed in. To divide the barriers and drivers into the ones identified in the case of ProHealth and the ones sourcing from the literature a green and red colour have been used. The green one indicates case specific barriers or drivers whilst the red colour indicates literature specific barriers or drivers.

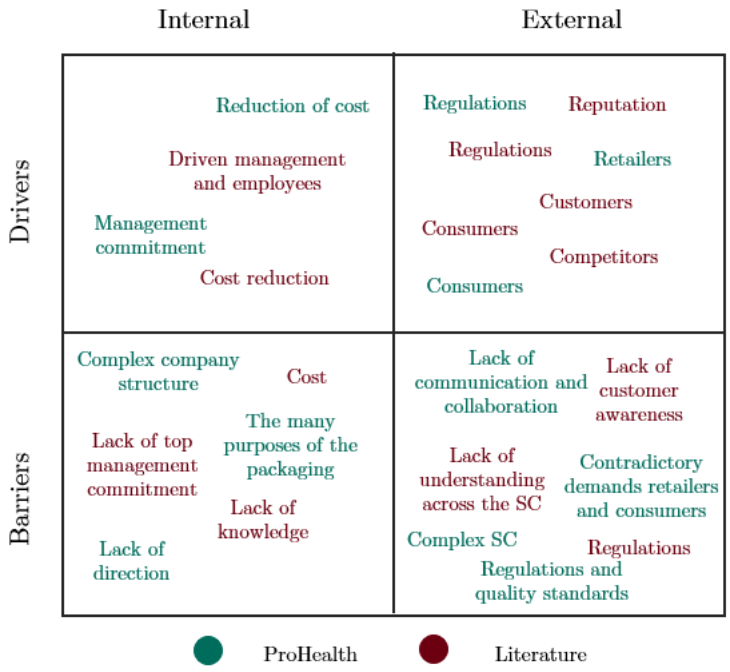

Figure 5.1: Drivers and barriers from both the case and the literature

5.1.1 The drivers

Comparing the case of ProHealth and the drivers from the literature many similarities can be found. Figure 5.2 below shows what drivers that differs and what drivers that are similar, where the highlighted ones in dashed lines are the ones that differ. In the figure it can be seen that few drivers differ and that the only ones that differs are from the literature.

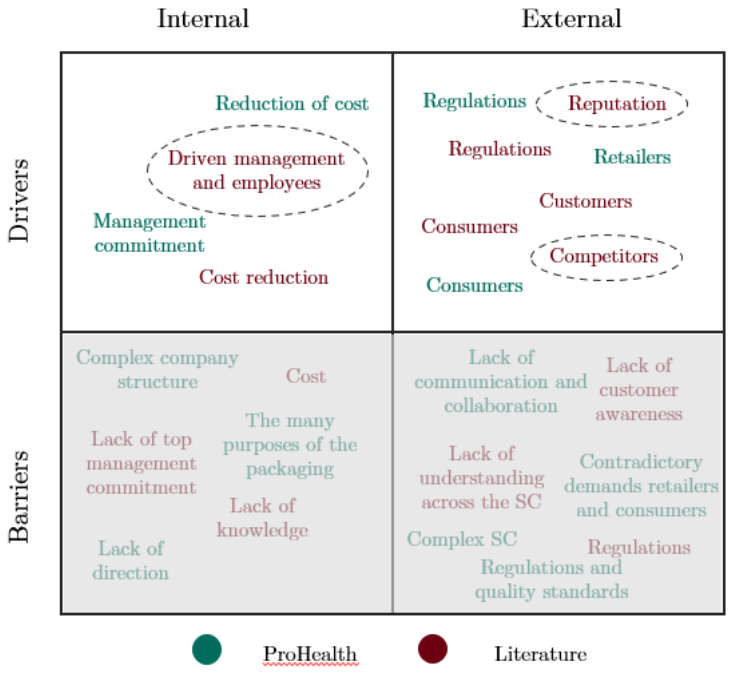

Figure 5.2: Overview of the similarities and differences between the drivers in the case and the literature. The highlighted drivers are the ones that differ between the literature and the case.

As can be seen in this figure the internal drivers are almost identical besides the literature mentioning the employee commitment as a driver. This has not as clearly been seen in the case of ProHealth. With this said, the possibility of having more committed employees in the future should not be excluded. One reason that this driver has not been shown could be the lack of a clear direction making it hard for the employees to know what to do. Moreover, a difference in management commitment between the case and the literature can be seen. At ProHealth UK the management worked with highlighting the importance of GSCP to the global division and developed plans of how to tackle the sustainability issues. However, they do neither communicate this to the employees nor working on creating a local organisation that favours such development. In contrast, Muduli et al. (2013) describe how the management should create a strong culture enabling employees to take decisions related to environmental improvements. This difference might also explain the lack of employee commitment within ProHealth.

Regarding the external drivers both the literature and the case bring up customers, consumers and regulations which further strengthen the arguments that they are important drivers. The literature further discusses reputation and competition as drivers. In the case of ProHealth the purpose of improving the sustainability performance has been to not lose consumers or customers due to not fulfilling their sustainability requirements. This can be contrasted with how some companies instead are striving for improving sustainability performance to get a good reputation (S. Kumar, Teichman & Timpernagel, 2012; Tay et al., 2015; Walker, Sisto & McBain,

2008). Regarding the competition ProHealth does not experience any pressure from competitors as the competitors, so far, have not done any major improvements either.

5.1.2 The barriers

In contrast to the drivers there are major differences to the barriers described by literature and the case of ProHealth, something that can be seen in Figure 5.3. First, the barriers that are literature specific will be discussed, followed by the ones that are case specific.

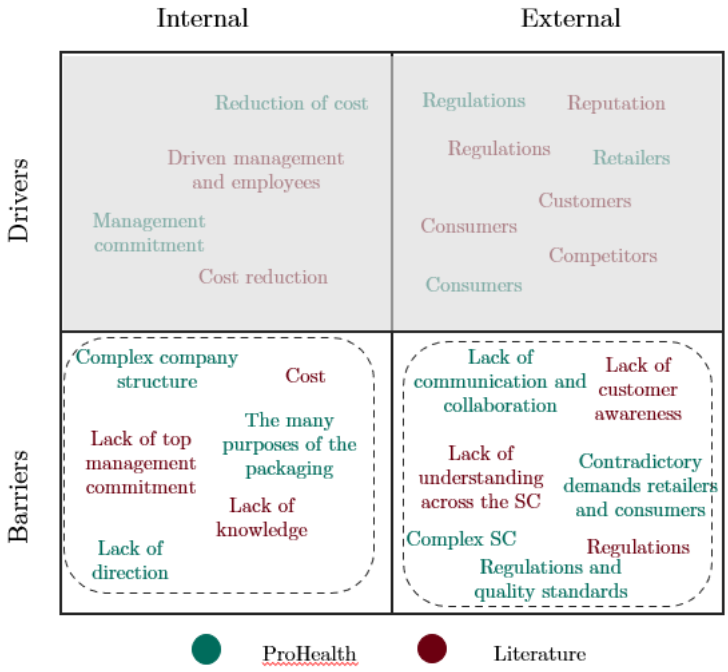

Figure 5.3: Overview of the similarities and differences between the barriers in the case and the literature. All barriers are highlighted meaning that none of the barriers are identical.

Internally the literature mentions several barriers that have not been noticed in the case of ProHealth. The cost and the lack of knowledge are two of these. However, there might be a reason for them not being highlighted. As ProHealth have not tried to initiate any major sustainability initiatives yet there have been few or no possibilities at all for the two barriers to be noticed by the company. With this said, one can say that these barriers might arise in a later stage of ProHealth's sustainability work. The third internal barrier from the literature is lack of top management commitment. One can assume that before ProHealth Global increased their focus on sustainability there was a lack of management commitment on a global level. However, ProHealth has now managed to tackle this barrier as they have made it a top priority on a management level. Moreover, the case highlights that the UK

office has had a strong management commitment where the management have tried to raise the question on a global level.

If we instead turn to the external barriers, one of the barriers highlighted in the literature is the lack of understanding across the supply chain. Similarly as with the internal barriers, the reason for this barrier not being highlighted might be the that there have not been any major initiatives that would trigger this barrier yet. The barrier in form of regulations described in the literature differs a lot compared to the one described in the case. Gattiker & Carter (2010) describe how regulations within sustainability can be perceived like enforcing threats which results in reduced commitment to the sustainability projects of the company. This angle of regulations is not something that has been highlighted in the case of ProHealth. Regarding the external barrier, lack of customer awareness, it can somewhat be seen in the contradictory demands described in the case. However, the situation described by Dube & Gawande (2016) of the consumer not being aware of the of green products has not been recognised in the case. ProHealth has instead noticed a market with high awareness, but where the issue rather is the lack of knowledge of what alternatives are more sustainable than others.

There are also several barriers that have been identified in the case of ProHealth that are not brought up frequently in the theory connected to GSCP. Despite their absence in the literature, these barriers are seen as important challenges that needs to be taken into account for ProHealth while trying to implement GSCP.

To start with the internally ones, one of the barriers that is not brought up is the complex company structure. ProHealth is an old company adjusted to the old market requirements where sustainability was not a main focus. Their high level of hierarchy, global decision making and complex structure might make them less suitable in a new market environment where sustainability is of great focus. The new market is characterised by a fast moving development with sustainability requirements that change in a fast manner. This is problematic since ProHealth sometimes have a hard time to adapt in a fast way to the new requirements due to the complexity of the organisation. Having many decision paths means a greater difficulty of acting quickly on a local level which could get bad consequences. Connected to this, there is the challenge of having a business in many different locations with different requirements. ProHealth UK acts on a market which has come further in the sustainability development meaning that they would like to act now. At the same time there are many other locations that act on markets where the consumers are not ready for these types of changes. Having a global manufacturing and the wish of standardised solutions for all locations means that this becomes even more challenging. This means that it is both hard to make local adaptions at the same time as it is risky to make global changes since the market might not be ready everywhere. Based on all of this, the complexity of the company structure is seen as a big barrier hindering ProHealth to change. However, this structure could have been beneficial in a situation where the markets would have been at the same sustainability maturity. In a case where all markets were prepared for this type of change,

this structure might would have contributed to more resources and a more powerful move than a more decentralised structure would have.

Another factor that is not brought up in literature as a common barrier is the lack of direction. In the situation of ProHealth it has been clear that even if there has been a direction on a managerial level, it has not reached the employees which has made it difficult for them to know how to act. This has in turn resulted in a lack of sustainability efforts, which means that the lack of direction can be seen as a barrier in the case of ProHealth. The fact that sustainability is such a comprehensive subject can either result in few initiatives since the employees do not know where to start or it can result in efforts being spread out and not aligned across the organisation. However, something that is important to emphasise is that the lack of direction and sustainability efforts might be an effect of setting up a sustainability strategy so recently, meaning that the level of actions might change in the near future.

The last internal barrier highlighted in the case is the purpose of the packaging. For ProHealth, the packaging is not only a way of protecting the product, but it also has the purpose of increasing the visibility and stability on shelf, making the product look more premium and, enabling the product to be packed more efficiently. Emmett & Sood (2010) mention that the packaging has several purposes and that it often is a source to an over-usage of material. However, in the literature the purposes of the packaging is never highlighted as a barrier to implement GSCP. In the case of ProHealth though, it can clearly be seen as a barrier since it somewhat hinders ProHealth to convert to green practices.

Moving on with the external barriers, the case of ProHealth covers several external barriers that have not been highlighted in the literature. To start with, the lack of communication and collaboration has been mentioned in the literature, but not stated as a barrier but rather as an enabler for working with GSCP. The enabler and barrier are argued to describe the same issue with not having a sufficient communication and collaboration. Therefore, the case of ProHealth and this thesis do not see this barrier as a contribution but rather as a way of continuing to highlight the risk of insufficient levels of communication and collaboration.

Another external barrier that has not been brought up is the challenge of acting in a complex supply chain. Factors as conflicting goals, the domino effect and the fact that activities are not happening in isolation are often brought up in other literature (Håkansson & Snehota, 2006), but it was not identified as a pattern in the literature connected to GSCP. However, since it in the case of ProHealth hinders the implementation of GSCP, as green packaging, it is seen as an important barrier to take into consideration in this situation as well.

The barrier of contradictory demands from retailers and consumers are partly brought up in the literature. The consumers' contradictory demands in form of having other priorities and having a lack of knowledge is highlighted in the literature. However,

the retailers' strive for efficiencies at the expense of the sustainability performance is not. This barrier is not only problematic because it makes the retailers demand unsustainable solutions but also because it potentially blocks new more sustainable solutions that in the long run could meet the requirements of efficiency. Since standardisation and scale enhance the efficiency, new solutions initially can lower the efficiency whilst when the adaption of them increases they will become more efficient. Because of this, retailers might avoid solutions that in the long run would provide both efficiency and improved environmental performance.

Finally, regulations is another barrier that needs to be analysed further. Regulations are brought up in literature as a barrier for working with GSCP. However, they do not cover how industry specific regulations may hinder these types of initiatives. ProHealth that is a pharmaceutical and life science market does not only need to take the packaging regulations into account, but also regulations connected to quality standards of the products. There are clear directives of what type of material that needs to be used for different types of products and the closer the product the stricter directives to assure a high quality. This is especially relevant for medicine that has even higher demands on quality, but it still applies for products like VitaBoost. Having these types of regulations make it more challenging to work more sustainable since changing or removing material might mean that the quality regulations are not fulfilled. With other words, there is a big problem with regulations not striving in the same direction.

5.2 Changes in packaging process

To become more sustainable and to meet the increasing pressure ProHealth needs to act. Therefore, an investigation of the potential consequences of ProHealth implementing green packaging has been performed. Three different alternatives, all including the removal of one major packaging component, have been chosen to be explored further. The first alternative is to fully remove the SRP, while the second and third is to remove the box and the tube. These three options are especially interesting to investigate since there is a belief that there will be different levels of efforts and outcomes as an effect of implementing them. The sections below start by explaining how the original packaging process would change when implementing either of these three changes. Then, the implication of each change and what would be required of each actor to comply to the new processes will be analysed. Furthermore, there will be a discussion of some of the most noticeable barriers and drivers that would hinder or push for the specific change and what enablers there are to succeed. Lastly, the potential outcomes that these types of solutions might have will be elaborated upon.

5.2.1 Removal of SRP

The first change is to remove the SRP, which means the packaging that makes it possible to put many products on the shelf at the same time in store. The new process is shown in Figure 5.4. As can be understood from the figure, the actors

that are affected in this first option are the 3PL, SuperFood, and ProHealth themselves. Since the process at the manufacturing is exactly the same as in the original packaging process, nothing specific will be required from them. Regarding the end consumer, no changes in their buying behavior are required either.

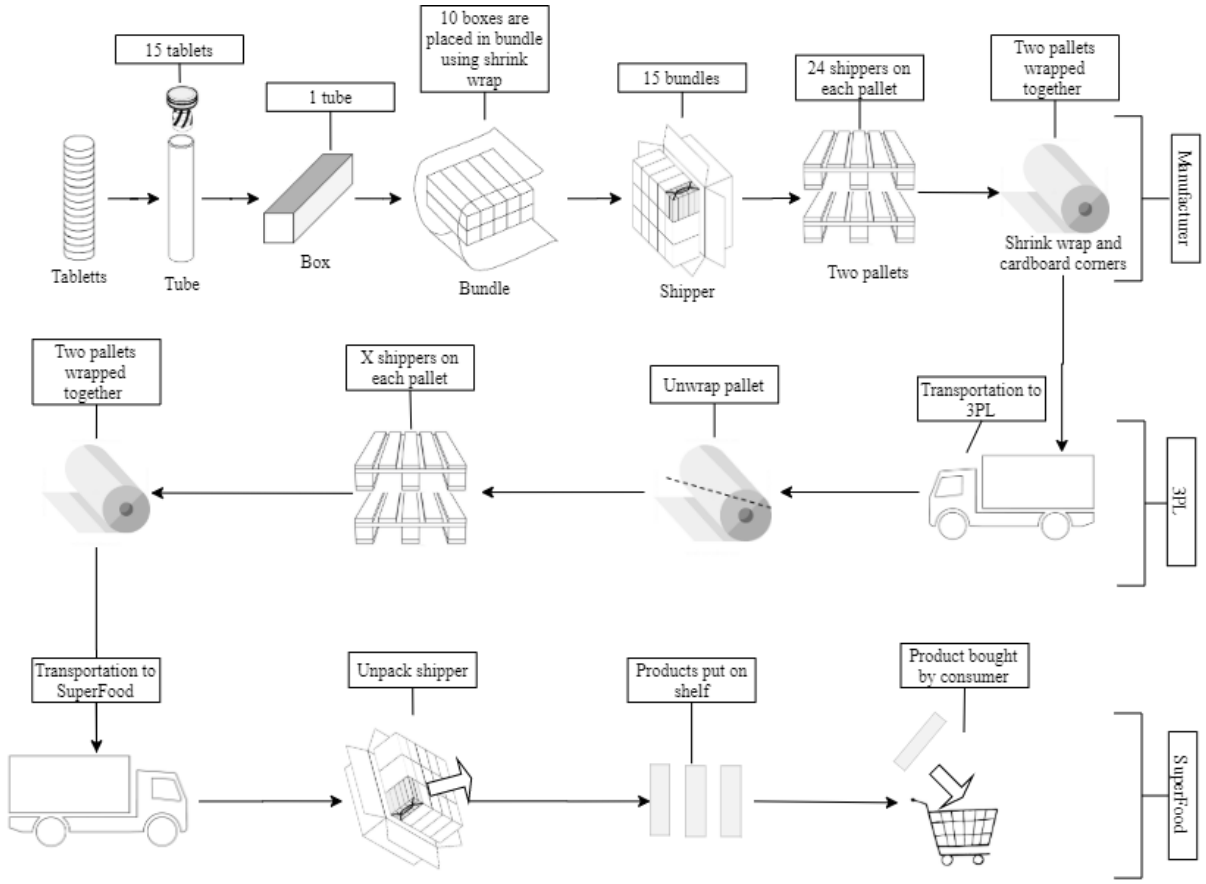

Figure 5.4: The updated process for when the SRP is removed

Starting with looking into the changes at the 3PL, the removal of SRP would result in removal of the repackaging process as well. As explained earlier, the repackaging process means that single boxes of VitaBoost needs to be placed in the SRP which then needs to be placed in new shippers. Removing this part means that when the products arrive at the 3PL the pallets are unwrapped and the right amount of shippers, according to SuperFood's order, are placed on the shippers. The pallets can then be directly sent to the retailer. The reason for not sending the full pallets directly to SuperFood from manufacturing is that it is still assumed that they do not want full pallets and that they want different amounts of shippers at each shipping occasion. So, to be able to start delivering VitaBoost without the SRP, the 3PL needs to accept to remove their repackaging step. Since this only requires them to remove a step in their process that does not affect the process as a whole, it is assumed to not require any major actions from their side.

The removal of the SRP also results in changes at SuperFood. As a consequence

of removing the SRP, SuperFood would have to place the VitaBoost one and one on the shelves. It has been assumed that SuperFood does not require any new, additional material when leaving the SRP out. Comparing how the removal of SRP affects the 3PL contra SuperFood, it is clear that there are more extensive changes for SuperFood than the for the 3PL. First of all, SuperFood needs to accept to fully remove the SRP and find new ways of placing the products on the shelves. The removal of SRP also means that they need to accept slightly larger volumes. In the original packaging process, the VitaBoosts were put together at the manufacturer in bundles of 10 and then repacked into bundles of 8 at the 3PL. This new solution would mean that the repackaging step would be removed and SuperFood would need to accept bundles of 10 instead of 8.

Looking at ProHealth themselves, they would also need to make some changes. Since SRP is usually a suitable place for information and marketing they need to find new ways of delivering their messages to make sure that the consumers get the right information so that sales will not be affected in a negative manner.

To implement this change, there are some barriers that need to be handled. First of all, ProHealth needs to get SuperFood on board to remove the SRP. This might be a challenge since SuperFood is constantly striving for high efficiency. Removing the SRP means a high risk of losing efficiency since the main purpose of the SRP is to be able to put the products on the shelves in a fast manner. A high level of efficiency is important for SuperFood since they do have many different products and will save a lot of working force, time, and costs by making sure that the replenishment of the shelves can be done in a fast way. Another thing that SuperFood needs to accept is the slightly higher volumes. This might also be a challenge since they, so far, have been so strict in how they want their products delivered.

On the other hand, there are also some drivers that speaks for succeeding with this change. Even if SuperFood strives for efficiency, they are also said to be one of the leading retailers within sustainability. This is something that is shown through for example their sustainability program where they put a lot of pressure on their suppliers to change to more sustainable packaging. This is where their contradictory demands comes in. They have a strong desire for working more sustainable, but at the same time they require their suppliers to deliver the products in SRP which requires more material, and does not go in line with being more sustainable. However, as the pressure from the end consumers continuously increases, one can argue that SuperFood might be even more driven in working more sustainable which will make it easier to get them on board on removing the SRP.

Furthermore, as been mentioned in the case, there are several regulations from the government that push companies to implement more sustainable packaging and there are also future regulations that will be taking effect from 2022 within this area. This is something that can be seen as a potential driver in all of the three options of removing packaging. However, the strength of this driver will depend on on how strict the new regulations will be.

Another internal driver that can be identified in the removal of SRP is the cost savings. It is hard to predict exactly how the costs as a whole will be affected. However, it is believed that removing the SRP would mean decreased costs for ProHealth since both the material for the SRP and the whole repackaging process would be removed.

Even though there are several drivers pushing for this change ProHealth still needs to handle several challenges. ProHealth needs to have a clearer communication with SuperFood. The contradictory demands need to be questioned and ProHealth needs to explain the importance in changing this. There might also be options that can fulfill both the efficiency and sustainability requirements. However, to find these the two actors need to have a dialogue and collaborate closer with each other. This is something that goes in line with suggestions from S. Kumar, Teichman & Timpernagel (2012) and Micheli et al. (2020) who emphasise the importance of collaboration to succeed with GSCP.

Furthermore, as cost savings is seen to be one of the drivers for implementing GSCP, it would also be a good idea for ProHealth to be open to share the benefits of removing SRP with SuperFood in some way. The sharing of benefits could act like an incentive for SuperFood to change to achieve a more sustainable solution.

5.2.2 Removal of the box

The second change is instead to remove the box for VitaBoost. This change is shown in 5.5. The actors that will be affected by this change are the manufacturer, ProHealth Global, ProHealth UK, and the end consumers. Since the repackaging process and the warehouse activities are assumed to be the same, the 3PL will continue their work without any new changes. Moreover, SuperFood is also expected to continue their work as before since VitaBoost still will be sold in the same way.

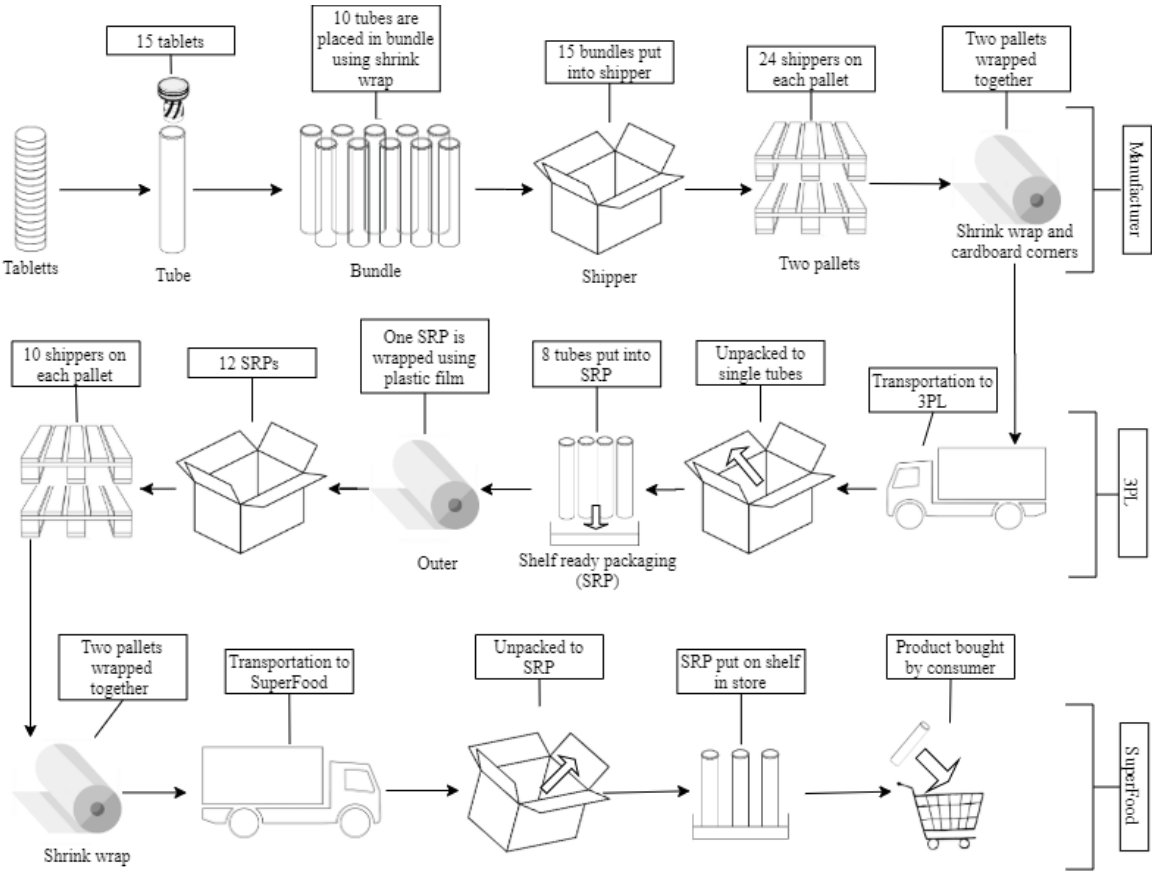

Figure 5.5: The updated process for when the box is removed

Starting with looking into the changes at the manufacturer, the step including wrapping the tubes into a bundle is assumed to be identical with the current process. However, the manufacturer would have to pack VitaBoost without the box, something that could lower the efficiency. In order to do this, the manufacturer would have to accept to remove the step of adding the box in the manufacturing line. As VitaBoost is produced on a global term there are two possible ways of producing VitaBoost without the box: 1) provide ProHealth UK with an individual solution where the box is removed whilst all other countries continues having Vitaboost packaged in the box; 2) remove the box for all locations. As ProHealth Global are responsible for the manufacturing they would have to accept these changes. Moreover, as ProHealth is by far the largest consumer of the manufacturer the choice of implementing any of the scenarios is rather a decision for ProHealth Global than the manufacturer. If ProHealth were to accept any of the scenarios the implications would be different depending on what scenario would be used. With scenario 1, the standardisation of the manufacturing line would decrease implying higher costs and longer lead times. Instead turning to scenario 2 the change would apply on all locations, including those with lower sustainability pressure, that might not be ready for the change yet.

Besides ProHealth Global and the manufacturer, ProHealth UK would also be affected. As the SRP would still be used, a new SRP adjusted to only the tubes would

need to be developed, something that can be done either internally or externally. The amount of material usage for a potential new SRP is assumed to be the same as for the current one.

Looking at the last step in the process, the end consumers would be affected since they would have to buy the product without the box. They might perceive VitaBoost as less premium and the product might not be as visible on shelf as before which can be troubling.

As can be seen above, there are several challenges in removing the box. Firstly, having a centralised structure and global manufacturing makes it increasingly difficult to respond to the needs to individual locations. As the UK market is more progressive within environmental questions compared to most other markets where ProHealth is present, it is especially troubling for ProHealth UK. In addition to this, the contradictory demands from the consumers is an issue. As the consumers are not only environmentally conscious but also attracted to the "premiumness" of VitaBoost there might be negative effects of the change. Adding to this, is also the fact that the box has the purpose of increasing the visibility of the product on shelf meaning that removing the box could further affect the sales negatively. Moreover, as the employees at ProHealth UK is highly convinced that one of the main differentiators of their product is the box the employee commitment in removing the box might be low. Lastly, as the box is also a way for the manufacturing to pack the product quickly, there might be challenges in getting them to adjust to the change as it lowers their efficiency.

Even though there are challenges hindering this change there are also drivers promoting it. As was mentioned the centralised structure is troubling, however, as ProHealth Global has recently gained increasingly interest in environmental questions there are possibilities to leverage this to enable changes. However, there might be a risk that the company is not ready to implement changes on a global term, but there are possibilities that the UK market, for example, can become a test market for trying new packaging solutions. Moreover, the barrier of the consumers' contradictory demands also means that there is a driver in terms of consumers' pressure on companies to act more sustainable and, in some cases, favour sustainable solutions. In addition to this, S. Kumar, Teichman & Timpernagel (2012) mention that improving the reputation is a strong driver for implementing GSCP. These two drivers could be leveraged by using the removal of the box as sending a message about the company's intentions to become more sustainable, something that goes in line with the theory about green packaging that Emmett & Sood (2010) describe.

To handle the above challenges and leverage the drivers, it is clear that ProHealth UK would need to increase their communication and collaboration with ProHealth Global. Communication is needed to make it possible to present the reasons for change being needed. Moreover it is also needed to come up with alternative solutions (to make UK market at test market for example). To enable such solutions collaboration between the parties is necessary. Moreover, as this change can lead

to VitaBoost being perceived differently a clear plan of how to tackle the change is needed. With this plan the employee commitment can be ensured by the management supporting the employees in the removal of the box and clearly communicating the benefits of doing so. To further strengthen the commitment of the employees, Govindarajulu & Daily (2004) describe the importance of finding the right balance between employee freedom and management intervention. They also explain how empowered employees that feel that they have autonomy and decision making power will be more dedicated to the environmental improvement process. Based on this, it is clear that ProHealth would in combination with their plan benefit from giving the employees more freedom. Together with the plan, this will potentially make employees increasingly empowered to implement positive change and find new alternative solutions to create a premium impression of VitaBoost and to increase product visibility. Lastly, as this solution is highly dependent on consumers continuing buying the product, despite the box being removed, communicating the reason for the change and the benefits to consumers is critical.

5.2.3 Removal of the tube

The third, and final change, would be to remove the whole plastic tube and achieve a so called loop of packaging, shown in Figure 5.6. This solution means that the consumers bring their small plastic tubes, further called reusable tubes, to the retailer which can be refilled each time they buy VitaBoost. Removing the original plastic tube would in turn result in the removal of both the SRP as in the first solution and the cardboard box as in the second solution. This means that every actor in the original packaging process would be affected and it implies major changes to how the actors work and interact with each other.

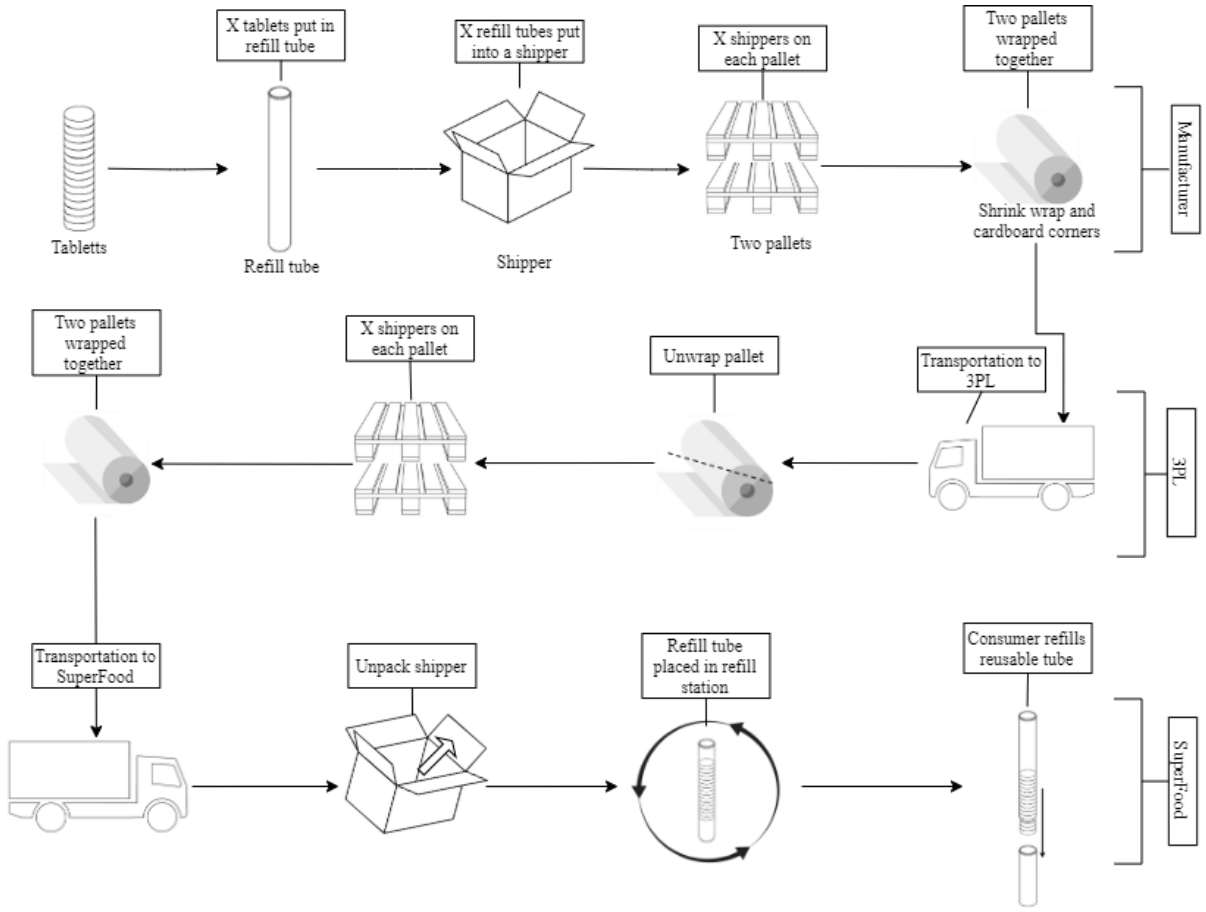

Figure 5.6: The updated process for when the tube is removed

First of all, the manufacturer would have to place the tablets in a new type of packaging instead of the plastic tubes. This could for example be a longer plastic tube that fits many tablets and that can be put in store as a refilling station, further called refill tube. The refill tubes could then be placed in the shippers which in turn are put on the pallets. The size of the shippers might be increased a bit, to fit the longer refill tubes. However, it is assumed that the total material consumption for each product, in terms of shipper material, will stay the same as for the original solution. Succeeding with this change requires the manufacturer to accept to change to this type of manufacturing. As was described in the section about removing the box, this change could be done for either the UK individually or for all locations. Moreover, similarly to the case with the box, the global office would have major power when taking the decision. However, as this is a huge change, the manufacturer could possibly be more resistant to change compared to when removing the box.

At the 3PL, the new packaging process will be similar to the first solution where the SRP was removed, meaning that the whole repackaging process can be erased and the shippers are directly placed on new pallets that can be transported to SuperFood. Even if the 3PL would not have to perform the repackaging they are assumed to get a new responsibility in terms of sending the refill tubes from SuperFood back

to the manufacturer. As this solution is built on the criteria of closing the loop the refill tubes must be sent back to the manufacturer and the best actor to do this is assumed to be the 3PL.

Regarding the handling of VitaBoost at SuperFood, it will also be changed. Instead of putting the original packaging and SRP on the shelves, the refill tubes will be put at the refill station. This means that refill stations, refill tubes, and reusable tubes, would have to be developed, something that ProHealth UK would be responsible for. Moving on in the process, the consumers would bring their reusable tube and refill them with VitaBoost tablets in the store. When the refill tubes are empty, SuperFood is responsible for sending them back to the manufacturer, through the 3PL, to be refilled again thereby closing the loop. With this new solution, the end consumers would no longer be able to buy VitaBoost directly in the packaging and would have to change their buying pattern. The consumer would have to bring their own reusable tube, or buy one, every time they want to buy VitaBoost. Moreover, they would have to refill it themselves.

As there are several actors involved in this change and as it is so extensive there are several barriers to tackle. As been mentioned above, the centralised structure and the global manufacturing complicates changes. Because this change is more extreme than the others this barrier will probably have even more impact in this situation. Moreover, as was described in the case with the box, SuperFood has contradictory demands and strives for efficiency. This could potentially hinder this change as the work process of handling VitaBoost would look entirely different thereby potentially lowering the rate of standardisation which in turn decreases the efficiency. As the consumers would have to change their buying patterns and probably put more effort into buying VitaBoost challenges can arise here as well. The consumers have, as been mentioned, other priorities than environmental ones. If, for example, time and effort are prioritised higher than environmental features the consumer might choose another alternative.

When trying to pursue with this change there might also be barriers in terms of lack of commitment and high investment cost. With major and complex changes there can often be high levels of uncertainties and these could potentially lead to a lack of commitment both internally and externally. Moreover, the change could also imply high initial costs, that ProHealth would have to cover (manufacturing changes, refill stations and marketing campaigns to mention some) which can hinder the implementation. This is something that goes in line with what Hafezi & Zolfagharinia (2018), Sajjad, Eweje & Tappin (2015), and Dube & Gawande (2016) discuss, who underline the risk of initial development costs when implementing GSCP. In addition to this there are also barriers in form of regulations and quality standards that might hinder the change to happen. As was mentioned in the case, the closer a change is to the product the tougher the quality standards and regulations get, meaning that this can have a massive impact. Lastly, this change requires several actors to commit and to execute their tasks well. As Dube & Gawande (2016) argue there can be a lack of technical expertise in implementing GSCP and Balasubramanian

(2012) describes that there can be a lack of understanding regarding sustainable practices throughout the supply chain. With several actors there is a risk that the awareness amongst some of them or within ProHealth is too low thereby creating an additional barrier to this change.

In contrast to the barriers there are also drivers that push for this change. Firstly, the increased management commitment on a local level and the increased focus on sustainability on a global level can be drivers promoting the change. Moreover, as was described under the removal of the box, SuperFood has a clear focus on sustainability which increases the chances of the acceptance of this solution from their side. With the consumers also having a trend of increasing sustainability focus this further strengthens the chance of the consumers also being more adaptable to this change. Moreover, for ProHealth UK, and to some extent SuperFood, this change could have a positive impact on the reputation which has shown to be a driver for implementing this type of change (S. Kumar, Teichman & Timpernagel, 2012; Tay et al., 2015; Walker, Sisto & McBain, 2008). If ProHealth would be the first one within its industry to implement this type of change it could even become a competitive advantage (Mahler, 2007). This is something that could also be connected to the lack of differentiation. As was mentioned in the case, many of the products, like VitaBoost, in the market are relatively similar. To implement this change could be a chance to reach a higher differentiation level and stand out from the crowd. Lasty, due to the possible decrease in material usage this solution could lead to a decrease in cost which is something that has been proven to be a driver for ProHealth when implementing GSCP.

Even though there are several drivers pushing for this change ProHealth still needs to handle several challenges. As been explained above this change is extensive and requires all actors to be involved. Because of this, it is highly important for ProHealth to have a clear plan of how the change could be implemented. It can be beneficial to develop the plan together with the other supply chain actors to make sure everybody's needs are taken into consideration. Through this plan both employees and actors can get an increased understanding of their role in the project and increased decision making power thereby strengthening their commitment (Govindarajulu & Daily, 2004). To further strengthen the commitment for the change, management commitment is crucial. As this change might require high costs initially and will only be financially beneficial in the long run the management needs to be committed to the plan and communicate this to their employees. By doing so, they empower employees to make difficult decisions that currently are not the most beneficial but aligns with the plan and give long-term returns.

In addition to the above, as the actors are connected to others through different activities it is critical to assure high levels of collaboration and communication between all actors. To make the work for the actors easier it can be helpful for ProHealth to act as a coordinator making sure everything runs smoothly. With this role, ProHealth will also be able to spot potential issues and assign relevant actors to find a solution. Lastly, as this change requires high involvement from the different

actors it can be beneficial to share the potential benefits. By doing so incentives in committing to the change are created which furthers increases the chance of a successful implementation.

5.2.4 The outcome of packaging removal

The above sections have covered the mapping of three different packaging changes, what actors that would be affected in ProHealth's supply chain, and finally what would be required from the different actors to succeed with these changes. This section will instead present the potential outcomes of performing these three changes. It will cover the potential environmental, economic, and reputational outcomes that might come with these type of changes.

5.2.4.1 Environmental outcome

First of all, the environmental outcomes will be analysed. The main focus will be the change in amount and type of material connected to each change. The three following Tables 5.1, 5.2, and 5.3 show what packaging changes that occur as a consequence of removing the SRP, the box, or the tube. The tables end up with showing the total use of the different types of material and also the total material savings that each option results in.

Packaging changes - Removal of SRP	**Cardboard(g)**	**Recycled Cardboard(g)**	**Plastic(g)**
Tube (M)	0	0	20.4
Box (M)	0	9.2	0
Bundle shrink wrap (M)	0	0	0.662
Shipper (M)	0	4.92	0
Material used for wrapping pallet (M)	0	0	0.028
SRP (3PL)	~~1~~	0	0
Outer for SRP (3PL)	0	0	~~2.5~~
Shipper (3PL)	0	~~3.06~~	0
Material used for wrapping pallet (3PL)	0	0	0.104
Total use	**0**	**14.12**	**21.194**
Total savings	**1**	**3.06**	**2.5**

Table 5.1: Total use and total savings of material (per unit) with the removal of SRP. (M) = material added by the manufacturing site, (3PL) = material added by 3PL. The strike-through text indicates material savings.

Packaging changes - Removal of box	**Cardboard(g)**	**Recycled Cardboard(g)**	**Plastic(g)**
Tube (M)	0	0	20.4
Box (M)	0	~~9.2~~	0
Bundle shrink wrap (M)	0	0	0.662
Shipper (M)	0	4.92	0
Material used for wrapping pallet (M)	0	0	0.028
SRP (3PL)	1	0	0
Outer for SRP (3PL)	0	0	2.5
Shipper (3PL)	0	3.06	0
Material used for wrapping pallet (3PL)	0	0	0.104
Total use	**1**	**7.98**	**23.694**
Total savings	**0**	**9.2**	**0**

Table 5.2: Total use and total savings of material (per unit) with the removal of the box. (M) = material added by the manufacturing site, (3PL) = material added by 3PL. The strike-through text indicates material savings.

Packaging changes - Removal of tube	**Cardboard(g)**	**Recycled Cardboard(g)**	**Plastic(g)**
Tube (M)	0	0	~~20.4~~
Box (M)	0	~~9.2~~	
Bundle shrink wrap (M)	0	0	~~0.662~~
Shipper (M)	0	4.92	0
Material used for wrapping pallet (M)	0	0	0.028
SRP (3PL)	~~1~~	0	0
Outer for SRP (3PL)	0	0	~~2.5~~
Shipper (3PL)	0	~~3.06~~	0
Material used for wrapping pallet (3PL)	0	0	0.104
Total use	**0**	**4.92**	**0.132**
Total savings	**1**	**12.26**	**23.562**

Table 5.3: Total use and total savings of material (per unit) with the removal of the tube. (M) = material added by the manufacturing site, (3PL) = material added by 3PL. The strike-through text indicates material savings.

Based on the numbers in the tables above it can be concluded that the negative impact on the environment, from a material use perspective, would be decreased in all of the three changes. This goes in line with the literature which says that the implementation of GSCP usually results in improvements of the environmental performance of a company (Zhu & Sarkis, 2004). However, it is highly important to stress the fact that because of the removal of the packaging on these three levels, extra material might need to be added to assure the quality and safety of the product, something that ProHealth needs to take into account.

By comparing the three options one can tell that the final one, removal of the tube, gives the most remarkable change. The implementation of a loop system would mean that all material except for the shippers and the plastic wrap around the pallets could be removed from the original process. Succeeding with this could thereby result in a positive impact on the environment. However, something that is not included in these calculations is the addition of the new longer refilling tubes and the reusable tubes that the consumers use. The production of these tubes will of course have an impact on the environment, but if they are used as planned they will be reused many times meaning that the impact on the environment on a longer time perspective will be low. As mentioned above, it is crucial that the consumers are willing to change their buying behavior and do not buy a new reusable tube each time they buy VitaBoost since this will destroy the whole purpose of the loop concept.

5.2.4.2 Economic outcome

Regarding the economic outcome it is hard to predict the exact impact since there are many factors that affect it. Looking at the sales one can argue that the sales might increase since these changes go in line with the customers' and consumers' sustainability requirements. Fulfilling these requirements could mean not only that existing consumers are kept but that new shares of the market can be captured. Looking at it from another perspective one can also argue that there is a risk of losing sales and market share since the whole market might not be ready for these types of changes. Depending on which packaging option that is chosen, the premium appearance and visibility in store of VitaBoost might be impaired meaning that the sales can be impacted in a negative way.

Looking at the cost side, it can also be impacted in both a positive and negative way. On one hand, the costs might decrease on a long term basis due to the use of less material. This will also result in a lower tax for the material use. Furthermore, two of the options namely removal of SRP and removal of the tube would mean that the repackaging step at the 3PL could be fully removed which would save costs. On the other hand, one can argue that the initial costs might increase (Dube & Gawande, 2016; Hafezi & Zolfagharinia, 2018; Sajjad, Eweje & Tappin, 2015). Changing the packaging might mean that additional R&D costs, more coordination, and investments in manufacturing might be needed to adapt to the new packaging solutions.

Through analysing both the revenue and cost side and how they could be affected by these changes, one can tell that there are no obvious results and that no solution speaks merely for higher or lower costs or sales. With other words, it is hard to predict whether the implementation of green packaging will contribute to a positive or negative economic outcome. This is a good example that goes in line with Zhu & Sarkis (2004)'s thoughts of that the literature is not in consensus of whether the performing of GSCP would lead to an improved economic output or not.

5.2.4.3 Reputational outcome

In addition to the environmental and economic impact, there is a belief that ProHealth will get other beneficial outcomes as well. As the literature brings up, there is a possibility that the reputation will get affected in a positive way when working with GSCP. S. Kumar, Teichman & Timpernagel (2012) explain how the implementation of a GSCP, like green packaging, means that both the company's brand value and customer satisfaction can be enhanced (S. Kumar, Teichman & Timpernagel, 2012). If ProHealth communicates their efforts in an efficient way so that the consumers become aware of their initiatives they will increase their chances of being seen as a responsible and sustainable company. Achieving a good reputation will both mean a better possibility of retaining existing consumers, but also the opportunity of acquire new ones (Walker, Sisto & McBain, 2008). This means a chance for ProHealth to gain market share and get a competitive advantage. However, it is crucial that ProHealth is aware of the risk of being accused for greenwashing (Delmas & Burbano, 2011). Since ProHealth has not made that much efforts within sustain-

ability yet, there is a risk of communicating the removal of any of these packaging in a too aggressive way. A consumer with high sustainability awareness could review ProHealth as a whole and might find a lot of deficiencies in their sustainability work so far.

6 | Discussion

This chapter covers the discussion of the thesis including the impact of the drivers and barriers on ProHealth and the potential reasons for the differences between the literature and the case. Moreover, a discussion regarding the complexity around deciding what packaging solution would be most beneficial is presented.

6.1 Barriers and Drivers

As has been seen in the case and the analysis there are several drivers and barriers that affect ProHealth in their sustainability work. The question is how strong the drivers and barriers actually are? Is an implementation of GSCP possible despite the presence of so many barriers? The sections below will discuss the identified drivers and barriers and what level of impact they currently have on ProHealth. Moreover, the potential reasons for the differences between the literature and the case, evaluated in the analysis, will be covered.

6.1.1 The impact of the drivers

The case of ProHealth presents several drivers, as can be seen in Figure 6.1.

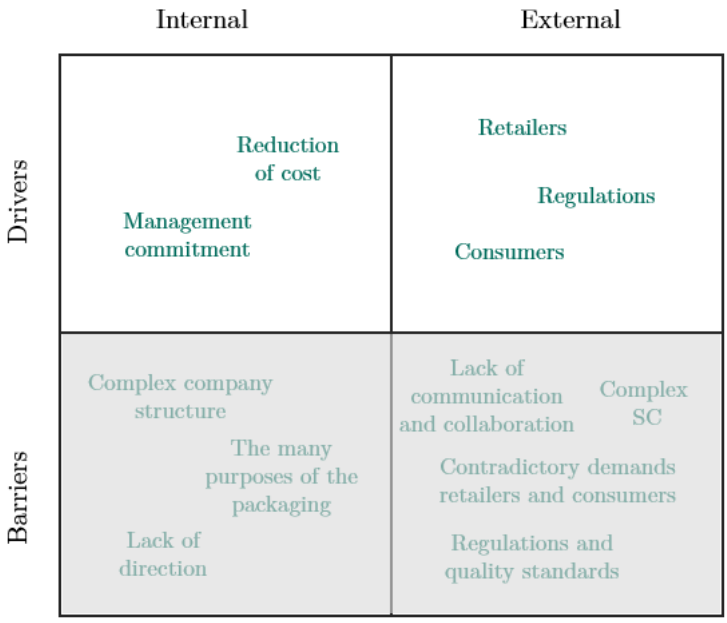

Figure 6.1: The drivers for ProHealth to implement GSCP

Starting with the internal drivers and the management commitment it is perceived that this driver has increased lately and will continue to increase even more in the near future. There are already signs of a trend in the management being more and more engaged within these types of questions and the next step would be to carry this on to an employee level which would further push the development forward.

Regarding the cost reduction, it is seen as a strong driver. As ProHealth is a company striving for profitability, decreasing the cost is of big interest. Sustainable solutions can lead to cost reductions (Zhu, Feng & Choi, 2017) and the drive of cost reduction can therefore promote the implementation of sustainable solutions. In this case, it can be argued that sustainable initiatives that are financial beneficial are more likely to happen compared to those that are not. This is not only because of ProHealth's cost focus but also because of its consumers' requirements. With consumers that are said to be price sensitive and who rarely tolerate sustainable products being more expensive, reducing the cost can be seen as a success factor.

Moving on with the external drivers, the regulations are not seen as a very strong driver at the moment. The reason for this is that there are many regulations that have not taken effect yet and there is an uncertainty regarding how they will turn out. Despite this, there is a belief that these regulations still act like an indirect driving force since ProHealth feels the pressure of working more proactively and wants to be prepared on future changes. However, the pressure is believed to be even stronger when the regulations are actually set. How strong this driver will be will also be affected by the development of the quality regulations within ProHealth's industry. If the quality regulations will continue to be so strict it might hinder the development of more sustainable packaging making sustainability regulations a weaker driving force. Besides this, the strength is also dependent on how well developed the sustainability regulations are. As Walker, Sisto & McBain (2008) mention, regulations can be developed in such a way that companies become more focused on handling the regulation than on actually becoming more sustainable, which in the end can hurt the drive towards strengthening the sustainability performance. Moreover, as there is currently lobbying against the sustainability regulations, there might be an exception for products like VitaBoost potentially further decreasing the strength of the driver.

Finally, there is the driver in terms of pressure from customers and consumers. On one hand, one can assume that this driver is strong since they, as Collins, Steg & Koning (2007) describe, have the power of either positively or negatively affect a company through buying or boycotting a company's products. Not fulfilling their requirements may result in the end consumers boycotting VitaBoost or that it gets de-listed at SuperFood which would affect ProHealth in a negative way. However, with ProHealth not experiencing the pressure from competition one can start to question how strong the pressure from consumers and customers really is. As the competitors have not yet improved either there are simply no alternatives for consumers and customers to choose instead. However, it can be argued that this might not be a long-lasting situation since all it takes is that one competitor strengthens

its sustainability performance. In the current situation this might even be something that is highly valuable to do since it could potentially lead to a competitive advantage. With some products of ProHealth being of a medical character one can question whether a consumer or a customer actually would change to another product of a competitor that has increased their sustainability performance. As ProHealth's products, due to its medical character, are often highly important and difficult to replace, there might be a risk that the sustainability features for some of these products do not matter and that the pressure from consumers, customers and potential competition is irrelevant. However, if we turn to the product of investigation, which is a food supplement, one could assume that it is rarely crucial for consumers. With this in mind, the pressure from customers and consumers would matter even though there would be no competitor pressure, since they would be able to fully exclude VitaBoost.

6.1.2 The impact of the barriers

Switching focus to the barriers instead, there are, as mentioned before, many barriers that ProHealth needs to be aware of and handle to move forward with their sustainability work, shown in Figure 6.2.

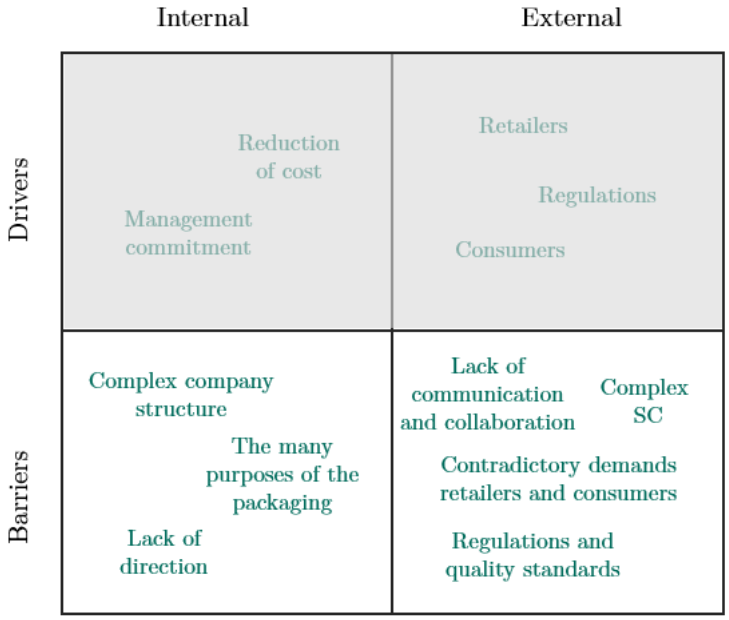

Figure 6.2: The barriers for ProHealth to implement GSCP

Starting with an internal one, like the complex company structure it is perceived as a strong barrier. This, because ProHealth acts on many different locations with different requirements. In addition to this, the decision making and communication throughout the company is both complex and slow, making it even harder to act and

to change the way the company is working. With change capabilities being an important part of becoming a more sustainable company (Eccles, Perkins & Serafelm, 2012), one can clearly state that the complex company structure hinders ProHealth in developing more sustainable solutions.

The same goes for the barrier that is connected to the many purposes of the packaging, which is also seen as a strong barrier. The reason for this is that there are several aspects to consider while looking to change the packaging, something that goes in line with Emmett & Sood (2010)'s theory on the the packaging having several tasks to fulfill. Not only the right level of quality and safety of the product should be achieved, but the product also needs to be visible on shelf and have a premium appearance. On top of that, the packaging should use as little material as possible and the right material from an environmental point of view needs to be used.

Moving on to the final internal barrier, the lack of direction, has previously been a strong barrier. Having a clear vision of where the company is going is a strong characteristics of sustainable company (Eccles, Perkins & Serafelm, 2012), and not having one makes it difficult to navigate through the different options that can be taken when improving environmental performance. However, for ProHealth, this has started to change since the management team both globally and locally have started to set a clearer sustainability strategy. There is still a lack of direction on an employee level where they perceive that they do neither know what the plan is nor what is expected from them, but this is something that the management is striving to change. Based on this, it can be concluded that this barrier is relatively low.

It is believed that succeeding with setting a clearer direction throughout the whole organisation might handle several of the other internal barriers. To begin with, this can weaken the barrier of the complex company structure. With the organisation having a clearer direction it can be easier to align the different countries' goals and wills despite a centralised structure. In addition to this, it might also counteract the barrier of the packaging and its different purposes. With a clearer plan, the employees will be more empowered and get a sense of where the organisation is heading with their sustainability work. This in turn can make them more motivated to find new creative packaging solutions that fulfills both the quality and sustainability requirements.

With this said, setting a clearer plan to align all countries' goals might sound easier than it actually is. With a centralised structure there are several countries that influence the company's plan, meaning that the plan might not be as progressive as ProHealth UK would need it to be. Creating a plan that complies to all countries' specific market requirements can be hard and no matter what plan is chosen it will most likely not be the most beneficial for all of the individual countries. As the UK market is one of the most progressive markets within sustainability there is therefore a risk that the plan does not fulfill the UK markets' requirements. This would mean that ProHealth UK will face a situation where they cannot change in the pace as they want potentially causing further barriers. In other words, it might

not favour ProHealth UK and the current barriers might not get weakened even though the company as a whole strives for a clearer direction. It simply depends on how progressive the plan turns out.

Moving on to the external barriers, there are both regulations, contradictory demands, complexity in the supply chain, and lack of communication and collaboration that needs to be taken into account. Starting with the regulations, they are perceived as a strong barrier. The conflict between quality regulations and sustainability regulations is not something that can be solved overnight. As mentioned in the case, ProHealth has been lobbying for getting exceptions for some of their products and to get more time to be able to assure the right quality before more sustainable solutions are implemented. There has also been a discussion whether ProHealth should try to lobby for less strict quality regulations as well since they do have products like VitaBoost that is not classified as pure medicine. This might allow the regulations to come closer to each other, not forcing ProHealth to choose between either of them, thereby potentially weakening the barrier. Furthermore, ProHealth could try to think more outside the box. High quality packaging does not necessarily needs to be unsustainable.

Looking at the contradictory demands, it is more uncertain how strong these barriers actually are. The contradictory demands from the retailers can at the moment be seen as high, but one can at the same time note a trend in increased sustainability focus. The increased focus might lead to a weakening of this barrier. SuperFood might in the near future accept to, for example, remove the SRP to achieve a more sustainable solution at the expense of lower efficiency. However, it is still believed that they in the long term value efficiency high and the main focus will probably be to find solutions that do not affect the efficiency in a too bad manner. Regarding the consumers' contradictory demands it is not clear how they are actually prioritising. It is hard to know what their decision making hierarchy looks like. How do they really value sustainability versus price or quality? This is especially hard to know when the products are of medical character. However, regarding VitaBoost, which is a product that people can survive without, it would be easy for them to just replace it with something else. This might indicate that they are more conscious about factors like price and sustainability. However, it is hard to know how high they value each of these factors compared to the others.

Regarding the complexity of the supply chain it is perceived as high. As can be seen in the analysis, there are many actors involved in changing a small thing as the packaging of one product. Changing a thing like this does not only mean that ProHealth themselves needs to be committed and put effort into it. All actors that are involved need to agree on the change and in addition to this, the right level of knowledge is required to perform the change successfully, something that before has been witnessed to hinder the implementation of GSCP (Dube & Gawande, 2016).

Finally, there is the barrier of lack of communication and collaboration. At the moment it is clear that ProHealth does not have any clear communication nor collab-

oration regarding sustainability with the actors around them, making this a strong barrier. Looking at the literature within this area it describes how collaboration is an enabler for working with GSCP (Chin, Tat & Sulaiman, 2015) and that organisations who has well-developed collaborative capability has a higher probability to succeed with the implementation of sustainable practices (Micheli et al., 2020). Based on this, one can tell that ProHealth has not set a good base for continuing their sustainability work. However, this is something that they can change. They want to do more and the next step is to put their strategy into action using communication and collaboration.

Increasing the level of communication and collaboration could also help to decrease the impact of some of the other external barriers. To start with, the contradictory demands from SuperFood could be questioned through better communication, and through collaboration solutions that fulfill both the efficiency and sustainability requirements might be found. The solution of increasing communication and collaboration could also function as a tool to handle the barrier of the conflicting regulations. Through communicating the challenge of working more sustainable due to strict quality regulations, these regulations might be loosen a bit for products that is not characterised as pure medicine. However, this might be more challenging to affect than the contradictory demands from the retailers. A higher level of communication might also handle the fact that they act in a complex supply chain. Through having a clear dialogue they might be more aware of the other actors' standpoints and it will be easier to come up with solutions that favors several actors avoiding conflicts. Something that is important to underline, is the fact that it is crucial that the different actors are cooperative to decrease the affect from these barriers. In other words, the increase of communication and collaboration is not only a responsibility of ProHealth, but the other parties needs to be willing to change.

6.1.3 The reason for the differences between the case and the literature

As been seen in previous sections, there is a difference between the drivers and barriers brought up in literature and the ones identified in the case.

One difference between the literature and the case is the focus on drivers versus barriers. Walker, Sisto & McBain (2008) describe how there are significantly fewer studies of barriers compared to drivers within this topic. They continue with discussing how the reason for it might be that these type of studies tend to unearth more drivers than barriers or that the researchers prefer to investigate the positive side of the issue. This discussion is quite interesting in this situation since the outcome in this research is the opposite. In this case there are more barriers identified than drivers. There could be several reasons for this. To begin with, it might be that ProHealth really do have more challenges to handle compared to driving forces. Since they, compared to many other industries, have a complex product and act in a both complex organisation and supply chain there might be more challenges to take into account compared to a company that sells a less complex product in a market

that can adapt to new requirements in a faster way.

Another reason for the ratio between the number of drivers versus barriers could be the approach that the researchers have used during the project. The researchers have been solution oriented and thereby have had a strong desire of identifying all possible challenges that ProHealth needs to handle to succeed. By identifying all challenges in more detail it will be easier to see how much effort that will be needed to move forward. Moreover, the approach during the interviews can have affected the ratio. As the interviews have been more centered around the challenges, and more questions therefore asked about this topic, more barriers where probably brought up by the interviewees. Besides this, the reason for the high number of barriers can be connected to the early stage of ProHealth's journey of becoming more sustainable. As humans tend to be resistant to change (Proctor & Doukakis, 2003) the employees might have experienced more barriers at this stage compared to later in the process, meaning that they focused more on this during the interviews.

In addition to this, there has also been a difference in the actual brought up drivers and barriers, something that was shown in an earlier section in Figure 5.1. One major reason for this might be that ProHealth is in the initial phase of its sustainability work. They have just set a global sustainability strategy and they have not had the time to put their thoughts into real actions. This is something that could be connected to the maturity of the company where ProHealth has a low maturity level within this area. Since few efforts have been completed they have not had the time to experience barriers like lack of understanding across the supply chain, cost, or lack of knowledge. Regarding competitors which the literature brings up as a driver, this might also be connected to the maturity level. The industry that ProHealth acts in seems to be in the initial stage of its sustainability development as well, which explains why ProHealth has not perceived competitors as a driving force yet.

With this said, it is believed that this will change as the maturity of both ProHealth and the industry develops. Moving forward with additional efforts will probably result in several barriers being handled and therefore no longer will affect ProHealth. However, additional challenges that have not been seen before might also be recognised when ProHealth brings thoughts into actual actions. This is something that was shown in the analysis part where some literature specific barriers where identified as a consequence of choosing a specific packaging solution. The tube solution for example shown to potentially be facing several barriers that are not visible for ProHealth at the moment. While implementing efforts like this, ProHealth will get an insight in how cooperative and understanding the other actors in their supply chain are or are not. Also the cost might be more visible and increased when moving further into the progress, meaning that it can have a great effect on their decisions making. As Orsato (2006) described it can even hinder the whole implementation if the costs turn out to be too high. Switching to the drivers, it will probably be the same situation, meaning that there is a high probability that for example the pressure from competitors will increase as the industry as a whole increase its focus

on sustainability.

6.2 The packaging solutions - Which would be most beneficial?

Based on the analysis one can ponder upon which of the three packaging solutions would be most beneficial. When discussing this, many perspectives can be taken. Firstly, a perspective in terms of the effort needed can be considered. Secondly, the potential outcomes categorised as environmental, economic and reputational outcomes, is necessary to evaluate. However, when evaluating these there is a high level of complexity and several uncertainties which creates difficulties in concluding the most beneficial solution.

Focusing on the effort needed to deliver the different changes it is clear that removing the tube will demand the most effort. The solution involves all mapped actors, where some of them have to make extensive changes to their current processes. It requires high level of collaboration and communication and that the actors have great insight in GSCP. Regarding removing the SRP the effort needed is significantly lower as it only requires a few actors involved and the adjustment for all except one is minor. The solution where the box is removed is, in terms of effort needed, placed in between removing the SRP and removing the tube, as illustrated in Figure 6.3. The option requires some actors to be involved, where especially the manufacturer has to make large changes to its current processes. Moreover, ProHealth itself has to put a lot of effort into developing new SRP solutions and marketing strategies to succeed with this change.

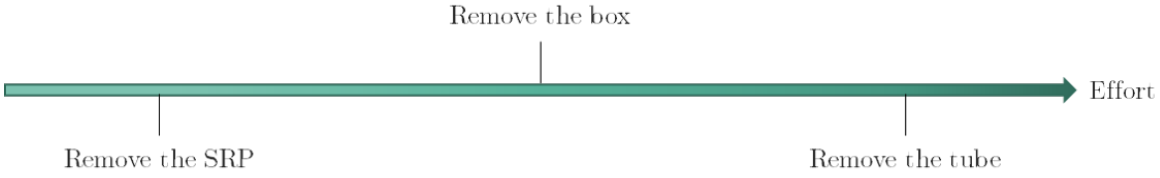

Figure 6.3: The expected effort needed for implementing the three options

What is also important to consider when discussing the effort is if the solution at all can be realised. If the expectation put on the different actors is too high there is a risk that the possibility of succeeding with an implementation is low. Looking at for example the removal of the tube, the actors must have extensive knowledge in GSCP and be willing to initially put a lot of time and resources into implementing the change, something that is not always the case (Dube & Gawande, 2016). As the solution is dependent on all actors taking their responsibility, one actor not being committed to the change fails the entire implementation. With this in mind, one can see that the solutions requiring less effort has a higher chance of success.

Moving on from the efforts to the actual outcomes instead, the environmental outcome can be discussed further. Looking at the three different options in Table 6.1

one can see that the option requiring most effort, the removal of the tube, also gives the largest impact on the environmental outcome in terms of material usage. Comparing the other two makes it more complicated. The removal of the box means a larger saving if looking at the total savings. However, even if the removal of the SRP means a slightly higher total material usage, it uses less plastic. This means that one needs to weigh different types of material against each other. Will it be better to have a higher total material usage with more cardboard but less plastic compared to a solution with lower total usage but more plastic? This question is not easy to answer and you will probably get different answers depending on who you ask. Something that is important to underline here is that there is only the actual material consumption, based on the given assumptions, that is taken into account. The environmental outcome of these options will probably be affected by other things as well. The different options require different changes in the manufacturing that in turn will affect the environment in different ways. There is also a risk that some options might require additional material as a consequence of removing another. Furthermore, the different options are also affected by the consumers' behavior. Looking at the option of removing the tube it is highly dependent on how the consumers choose to act. If they are positive to a change like this and act like it is planned, the tube solution will probably result in positive effects. However, if they buy a new reusable tube each time they go to the store, the whole concept fails. Because of all of these uncertainties, it is hard to give an exact environmental outcome from these three alternatives.

Packaging savings	**Removal of SRP**	**Removal of box**	**Removal of tube**
Cardboard (g)	1	0	1
Recycled cardboard (g)	3.06	9.2	12.26
Plastic (g)	2.5	0	23.562
Total packaging savings	**6.56**	**9.2**	**36.822**

Table 6.1: Overview of the savings of material in the different packaging solutions

When investigating the economic outcome of each option even more uncertainty is added to the outcome of the three options. The economic outcome is dependent on both how the costs and the revenues are affected by the change. Regarding the costs, it is possible to predict potential cost savings and potential processes that will add new costs. However, the proportion between these are rather unclear. The outcome of the sales is instead, in all cases, dependent on how the consumers respond to the change.

If ProHealth would remove the SRP the repackaging process would be cut out of the process thereby decreasing the cost. In this option no costs are expected to be added, however, some of the cost savings would potentially have to be shared with SuperFood. Not having the SRP would mean that SuperFood would have to manu-

ally put the product on shelf thereby decreasing their efficiency. Sharing the benefits could potentially compensate this and increase the incentive to agree on the change. With this, one can say that the costs would decrease in this option. Regarding the sales of the product, removing the SRP is assumed to have a minor impact. The SRP is a way for ProHealth to send messages to consumers and removing the SRP means that one source of convincing consumers to buy the product is lost. However, on the other hand, removing the SRP can also make environmental conscious consumers more satisfied with the product, something that Emmett & Sood (2010) refers to. However, as the product would still look the same and the SRP is not what the consumers buy, both the negative and positive impact is believed to be nearly insignificant.

Regarding the option of removing the box, the cost of the material used for the box will decrease. Removing the box will imply a change of the design of the SRP which can lead to both a decrease and an increase of the cost. Moreover, as the box has the purpose to create a more efficient packing for the manufacturing, removing it might lead to increased manufacturing cost. Based on this, it is clear that one cannot state if the costs will be positively or negatively affected by the change. The same applies to the sales where the change can both lead to consumers being less and more tempted to buy the product. Without the box VitaBoost can lose a part of its premium appearance which is one reason for consumers buying the product. However, with an increased sustainability focus consumers might prefer to buy the product without the box implying an increase in sales. With this it is possible to conclude that it is not clear whether the sales will increase or not.

Turning to the option of removing the tube one can clearly say that the costs will increase initially. Changing the entire manufacturing and creating refill stations at SuperFood will lead to additional costs. However, in the long run, there might be a decrease of the cost due to less usage of material. Moreover, as in the case with the SRP, the removal of the repackaging step will also decrease the costs. Built on the discussion above the outcome in terms of sales in this case also depends on how the consumers adapts to the new solution. Some consumers might experience it to be too much effort to refill their own tube, whilst others will start buying the product because it is seen as a more sustainable solution.

As can be seen above it is hard to predict the economic outcome, something that goes in line with the existing literature on the topic (Zhu, Feng & Choi, 2017). Besides the uncertainties mentioned above, all solutions also depends on how well the company implements them. If ProHealth, for example, manages to leverage their circular solution by using a successful marketing campaign there might be a positive impact on the economic outcome. If they instead fails implementing the refill stations the outcome can be devastating. Moreover, external factors and actors will affect the outcome. Depending on how the taxes, that are to be implemented, and how SuperFood's requirements evolve, some solutions might be more beneficial than others. Also, initiating these changes might have an affect on how for example the brand is perceived, something that potentially could create possibilities of raising

the prices. Finally, not only ProHealth's ability to implement either of the changes will affect the outcome, but it will also be highly dependent on how the other actors in the supply chain manage to implement them, something that is more or less out of ProHealth's control.

Finally, there are other type of outcomes, except for the environmental and economic, like improved reputation (Rao & Holt, 2005). Looking at the strive for a good reputation, the removal of the tube would probably get the best environmental reputation. This, because it fulfills the requirements of a loop solution meaning that the material should be reused to the fullest extent. Looking at the box and the SRP, the change of the box might give a stronger effect since it is a more visible change for the end consumers. The removal of SRP might not even be noticed by them. However, the reputation of a company do not only include the environmental aspect, but could also include the experienced simplicity of buying a product. Looking at it from this perspective the tube solution might get the worst reputation since it can be perceived as a more complex solution where the consumer needs to remember their reusable tube every time they want to buy VitaBoost. To sum up, it can be concluded that the reputational outcome, as well as the others, is quite complex to augur as well.

7 | Conclusion

This thesis has investigated what drives and hinders a pharmaceutical and life science company like ProHealth in succeeding with the implementation of GSCP. Furthermore, what would be required from the different supply chain actors to implement a GSCP, namely green packaging for a product like VitaBoost, has been examined. Finally, the potential outcomes of implementing green packaging has been elaborated upon.

Much can be learned from the evaluation of this topic and the case of ProHealth. With a complex company structure and supply chain, surrounded by pressure both regarding quality standards and sustainability requirements it visualises the complexity in becoming more sustainable and fulfill new demands that have not been present before.

To begin with, it can be concluded that ProHealth is exposed to strong forces in their journey of becoming more sustainable and implementing GSCP. In line with the literature, these are forces in terms of both internal and external drivers and barriers (Tseng et al., 2019; Walker, Sisto & McBain, 2008). The identified drivers in the case were from an internal perspective; management commitment and reduction of cost and from an external perspective; pressure from retailers, consumers, and regulations. These are drivers that are very similar to the ones found in literature where only reputation, competition, and driven management and employees were drivers that were missing in the case. Switching focus to the barriers, the internal challenges; complex company structure, the many purposes of the packaging, and lack of direction were identified in the case of ProHealth. Externally, the barriers; lack of communication and collaboration, contradictory demands from retailers and consumers, regulations and quality standards, and the complexity of the supply chain could be spotted. This differs quite a lot from the literature that instead brought up barriers like cost, lack of knowledge, and lack of understanding across the supply chain. It has been noticed that one major reason that the barriers and drivers from the case differ from the ones found in the literature is the maturity level of ProHealt's sustainability work. Both ProHealth as a company and the industry they are present in have just initiated their sustainability work which means that they probably will experience other types of forces along the way and the impact of these forces will change as the sustainability work develop.

Another interesting finding in this thesis is that several of the barriers are connected to each other. The mitigation of one barrier could potentially lead to the weakening of another. This is believed to be the case for both the internal barrier, lack of direction, and the external, lack of communication and collaboration. Addressing these barriers could help with decreasing several of the others, meaning that they are especially important to manage.

In addition to investigating the drivers and barriers, the thesis has also investigated the implications of ProHealth implementing green packaging by removing the primary, secondary and the shelf ready packaging. By analysing what is required by each actor for the different solutions, it can be concluded that the actors not only have to adjust their individual operations but also need to collaborate and communicate with one another to enable the changes. Besides this, the top management support is seen as an enabler for the implementation of green packaging and GSCP as it both strengthens the organisation and its employees to move in a certain direction. This does not only apply to ProHealth but is also needed from the other actors in the supply chain as they also need to commit to the implementation. The number of actors involved and the requirements that is demanded from each, shows the complexity and difficulty in succeeding with the implementation of sustainable solutions and can be one explanation to why some companies have not reached further yet.

Lastly, the outcome of the three solutions has been evaluated. Regarding the environmental outcome it can be concluded that the solution of removing the primary packaging and creating a loop solution would be most beneficial. However, this is based on several assumptions and is highly dependent on how well the consumer responds to the change. Deciding which of the two other solutions that is better than the other is more complex. Since the two solutions lead to the removal of different amounts of material and different types of material, one needs to decide whether the removal of certain materials is prioritised over the amount of material removed, or the other way around. Instead turning to the economic outcome the thesis provides a similar answer as the literature: that there is no consensus whether the implementation of GSCP leads to improved economic performance or not (Zhu & Sarkis, 2004). In this case it has been seen that the economic outcome is highly dependent on the different circumstances and the individual decisions that are taken when implementing the change. As was mentioned above, it is also highly dependent on the performance and commitment of the other actors. Lastly, investigating the reputational outcome, it is believed that ProHealth has the chance to improve its reputation by working towards more sustainable solutions, something that goes in line with several authors' thoughts (S. Kumar, Teichman & Timpernagel, 2012; Rao & Holt, 2005; Walker, Sisto & McBain, 2008). Implementing the loop solution would probably give the best environmental reputation, but there is at the same time a risk that the experienced simplicity of buying the product could be affected in a bad manner. Comparing the removal of the box and the SRP, the removal of the box might give a stronger effect since it is a more visible change for the end consumers. On the other hand, it might affect the reputation in a bad way since there is a risk that the premium appearance of the product might get reduced. The evaluation of the different outcomes illustrates the complexity for companies during decision making of sustainable solutions. To predict the outcome of certain changes is difficult, and in the case of ProHealth the company needs to weigh several factors against each other and make a high number of assumptions to decide which alternative is the best. This is something that is not believed to be a unique situation

for ProHealth but rather something that affects most companies when making these types of decisions.

Based on this thesis, several managerial implications can be found. The increased sustainability pressure is a fact and based on the case one can tell that the pressure will most likely spread to other areas than food, like nutrition products, as well. ProHealth therefore needs to be prepared and work proactively to remain competitive. This is especially important since they have a complex company structure which makes them slow moving in a fast developing environment. One appropriate start on moving towards a more sustainable packaging would be to remove the SRP. As was shown in the analysis and the discussion, this is the option that requires the least effort and there are fewer actors involved in this option than in the other two. This means that it could be a good way to learn and get other actors on board with smaller steps, which could create a good base for future and more comprehensive improvements like implementing the loop solution. Since the market in the UK seems to be more progressive in the sustainability development compared to other countries, another recommendation is to use the UK market as a test market. By allowing ProHealth UK to implement sustainable solutions prior to other markets, the UK business avoids to lag behind whilst the company as a whole gets the opportunity to test different solutions before they go global. To be able to succeed with these changes it is also highly important that ProHealth make sure that the sustainability strategy and the future direction stream down to an employee level as well. Including and showing them the direction forward will probably increase their motivation and commitment which is seen as an important driver in becoming more sustainable (Walker, Sisto & McBain, 2008). Another thing that ProHealth also needs to work with, which is also highly relevant to other companies in the same situation, is the communication and collaboration. These are enablers to work with GSCP (Chin, Tat & Sulaiman, 2015) and as was seen in the analysis it is clear that even the smallest packaging change demands that several actors in the supply chain are involved, which further stress the importance of having a good communication and collaboration.

To summarise, this thesis provides insight into what it actually means for a company to implement GSCP. It illustrates how drivers push companies to become more sustainable despite the many barriers that they will face. It also brings awareness of the enablers needed for a successful implementation and describes the high levels of complexity when implementing GSCP. However, it also shows the need for further investigation within the area. With sustainability becoming increasingly important, not only for the individual company, but also for the entire population, more knowledge is needed to understand how companies better can implement GSCP. In this thesis, we would especially like to encourage other researchers to investigate how companies should collaborate to succeed with the packaging solutions similar to the ones brought up in this study. Moreover, we also see a need for investigating how consumers better can be integrated into enabling GSCP.

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A | Appendix A - First round

This appendix shows the questions that were asked during the initial interviews that were held with 11 internal employees at ProHealth.

Role

- Can you tell us about your role/position at ProHealth?

Consumers

- What are the consumers' sustainability requirements?
- In what areas have you noticed that the consumers are not satisfied with your sustainability work?
- Do you think these complaints are valid?
- If yes, what possibilities do you see for ProHealth changing to improve?
- Have you noticed that the pressure/requirements from consumers have changed lately?

Retailers

- Which are your main retailers?
- What are their sustainability requirements?
- Do they differ between different retailers?
- In what areas have you noticed that the retailers are not satisfied with your sustainability work?
- Do you think these complaints are valid?
- If yes, what possibilities do you see for ProHealth changing to improve?
- Have you noticed that the pressure/requirements from retailers have changed lately?

Sustainability

- How do you perceive that you work with sustainability today at ProHealth? (environmental focus)
- How flexible is ProHealth in changing the way you are working in order to become more sustainable?
- How do you perceive that your suppliers are working with sustainability?
- How flexible are they in changing the way they work?
- How do you collaborate within these areas?

Communication

- How do you communicate your sustainability efforts to retailers?
- What response have you noticed to these methods?
- How do you communicate your sustainability efforts to consumers?
- What response have you noticed to these methods?
- Do you perceive that the management of ProHealth communicates how you should work with sustainability?

Other

- Do you know if you have any specific KPIs that measure how you perform within sustainability?

B | Appendix B - Second round

This appendix shows the questions that were asked during the second round of interviews that were held with four internal employees at ProHealth.

B.1 Head of Shopper Marketing UK&I

Role

- Can you tell us about your role/position at ProHealth?

Point of Sale material (POS)

- Can you tell us more about POS material?
- What are the important factors of POS? What goal is it to be achieved by using it?
- Which type of products have POS material?
- What type of POS material do you use?
- For how long time is the POS material used before it is replaced?
- What happens with the used POS material that stores are not longer in need of?
- What are the reactions/complaints of the POS material from the consumers/retailers?
- What are the possibilities in changing POS material? (e.g. decreasing the amount of material)
- Could the POS material be used instead of other packaging? What would be better?
- Do you see any alternative solutions that can be used instead of POS material?

Packaging

- What are the difficulties in changing the primary, secondary and Shelf Ready Packaging?
- Have you heard of any complaints about the packaging of ProHealt's products (from both retailers and consumers)?

Retailers

- What sustainability requirements do you perceive that retailers have on POS/-packaging in general?
- What level of collaboration do you have with different retailers?
- If you collaborate, how do you collaborate with them?

B.2 Senior National Account Manager

Requirements from Tesco

- Have you felt that the sustainability pressure from Tesco has changed lately? If yes:
  - How?
  - For what type of products?
- What type of packaging requirements does Tesco have?
  - For primary packaging?
  - For secondary?
  - For SPR?
- Tesco has this red-list with materials that needs to be removed in the near future. Is it clear from Tesco's side whether these requirements are relevant/needs to be followed by ProHealth?
- How do you perceive that Tesco works with sustainability?

Packaging

- Where do you see the most potential to change within packaging? (Both from ProHealt's perspective but also to fulfill Tesco's requirements)
- What would be needed to convince Tesco to stop using SRP?
- Do you see any new potential solutions instead of using SRP and other type of packaging?
- What is the most challenging when it comes to change packaging?

Communication

- What do you talk about during your weekly/monthly meetings with Tesco?
- Is sustainability a part of the agenda?
- How do you communicate what Tesco is saying to the rest of the organisation?

Collaboration

- What type of relationship do ProHealth and Tesco have?
- What level of collaboration do ProHealth and Tesco have?
  - In general?
  - Within sustainability?
- If you collaborate in some way, how does this work?
- If you do not collaborate, do you see any possibilities of collaborating within sustainability?
- Do you perceive Tesco as an actor that is open/close to find collaborative solutions?

B.3 Product Supply Coordinator

Repackaging process for VitaBoost

- Can you describe the repackaging process?
- What type of material is used in the repackaging process?
- Why is the SRP used?
- How many packaging activities are there?
- Are there any inefficiencies in the repackaging process?
- Are there any possibilities to change this process?
- What requirements does Tesco have connected to the repackaging process?

Convincing retailers to change

- How do you try to convince retailers to change to no repackaging/SRP?
- What are the retailers' opinions about SRP?
- If removing the repackaging process, how can the benefits be shared with other actors?
- Last time you talked about some initiatives that did not succeed. Can you tell us a bit more about this? Why did it not work?

Other

- Who decides on what products that should be repacked?
- How much power does ProHealth has over the packaging that happens before the 3PL? (the original packaging, not repackaging)

B.4 Product Change Manager

How to make changes

- How does it work when you want to change something? Can you describe the process?
- What can/cannot be changed with a product?
- What decisions need to be made on a global level and what can be decided on a local level?

Packaging

- Do you know anything about the packaging process?
- What could be changed with the packaging process?
- How do changes on primary, secondary, SRP, and tertiary packaging differ?
  - Easy/hard to change?
  - What is affected by regulations?

- Can you describe how it works/how hard it is to:
  - Decrease the amount of material (smaller, thinner, remove etc)
  - Change the type of material (plastic, cardboard, glass etc)
  - Reuse material
  - Remove material
- Do you think that there are any alternative solutions to SRP?
- Are there any inefficiencies in the packaging process in terms of material usage?

C | Appendix C - Third round

This appendix shows the questions that were asked during the third, and final round, of interviews. The first one held with an employee at ProHealth and the second one with an external part from Tesco.

C.1 Vice President Head Region EMEA Supply Chain

Sustainability - manufacturer

- Do you have any insight in how the contracted manufacturers work with sustainability?
- What sustainability efforts have they made?

Communication

- Who communicates with the manufacturers?
- How do you communicate?
- How often do you communicate with each other?
- What do you communicate about?
- Do you have any discussions about sustainability? If yes:
  - How often?
  - About what?

Power

- Do you feel that it is easy for you to change things/affect the contracted manufacturers?

Collaboration

- Do you collaborate with the contracted manufacturers in some way? If yes:
  - In what way?
  - Within what area?
  - Within sustainability?

C.2 Category Technical Manager, Tesco

Sustainability at Tesco

- What are your goals/vision/targets with your sustainability work?
- What do you do to achieve your goals?
- What do you think will be your future requirements?
- Why do you think it is important to work with sustainability?
- How do you value commercial interests, cost, efficiency, and design compared to sustainability?

Consumers

- What are the requirements from your consumers? Both within packaging and not.
- Have you noticed that the pressure from the consumers has changed?
  - In what way?
- Do you get any complaints from your consumers connected to sustainability? If yes:
  - What type of complaints?
- Do you perceive that the consumers are willing to pay extra for more sustainable products?
  - Does this differ between products?
- How do the consumers prioritize different things like type of material, amount of material, recyclability, virgin materials etc? How well educated are the consumers within the area?
  - How does this affect the way they act?
- Do you think that the sustainability requirements from the consumers will spread from food to other products like food supplements?
- How do you think that your consumers' requirements will change?

Packaging

- What are your sustainability goals within packaging?
- What are the sustainability requirements within packaging on your suppliers?
  - How do you prioritize them against each other?
- Do you have the same requirements for different types of products?
- What happens with suppliers that do not live up to the requirements?
- What do you think your requirements will be within packaging in the future?
- If the secondary packaging would be removed, how could the lower visibility of the product be handled?
- What is your view on the packaging used for products on shelf?
- What do you do with waste from packaging when it have been used?

Suppliers

- What are the sustainability requirements on your suppliers?

- Do the requirements differ between different types of suppliers and product types?
- How will you roll out the changes for the different product groups? Are there any categories that will be considered earlier than others? What are the next steps?
- Is there any category that leads the change?
- Do you have any specific goals for the different categories (Consumer health, beauty)?
- Can you give an example of a supplier that have succeeded/failed with a packaging change?
- Do you collaborate with any suppliers in some way within sustainability? If yes:
  - How?
- What are your intentions when it comes to collaboration? Do you want to collaborate more/less? If more:
  - What type of collaboration could this be?
- Will the requirements change on the suppliers?
- How do you communicate with your suppliers about sustainability?

Other

- Have you fulfilled your aim "to remove all materials included in their so called "red list" for their own brands by the end of 2019"?

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