



LUND
UNIVERSITY

MSc International Strategic Management

BUSN09 – Degree project in strategic management

**Sustainability-centred business model innovation: Learnings
from and insights into how sustainability has affected the
business models of Nespresso and Starbucks.**

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Date: 24/05/2017

ABSTRACT

Title: Sustainability-centred business model innovation: Learnings from and insights into how sustainability has affected the business models of Nespresso and Starbucks.

Seminar date: 31st May, 2017.

Course: BUSN09: Degree project in Strategic Management.

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Keywords: Sustainability, Business Model Innovation, Triple Layer Business Model Canvas, Triple Bottom Line, Coffee Industry, Nespresso, Starbucks.

Purpose: To investigate, analyse and comprehend how sustainability has affected the business models of Nespresso and Starbucks and the extent to which the selected firms have incorporated the triple bottom line approach into their core business.

Methodology: The research is a qualitative study in which secondary archival data is collected with respect to the selected industry and firms. It follows a multiple case-study approach where data is analysed by using pattern-matching.

Theoretical perspectives: This study focuses on Osterwalder and Pigneur's Business Model Canvas, Joyce and Paquin's Triple Layer Business Model Canvas framework and Morelli's triple bottom line approach.

Empirical Foundation: The case study of Starbucks and Nespresso in the coffee industry.

Conclusion: The research arrives to the conclusion that as ambitious the sustainability programs of the selected firms may be, they are not radical enough for tackling the sustainability challenge of the 21st century. The business models of the firms are today more sustainability-centred than before. However, they present a number of interdependent weaknesses that if not tackled, they will result in increasingly high costs for both society and environment. We strongly argue that harnessing sustainability-centred business model innovation cannot be done incrementally. Moreover, to achieve sustainable value firms in the coffee industry should reduce material consumption and pollution. They should operate at a high level of transparency aiding civil society. Then, they need to develop new disruptive technology with the potential of shrinking footprint, a step that also aids the environment. Lastly, they need to meet the needs of those at the bottom of the economic pyramid in ways that enable inclusive wealth creation and distribution.

Table of Contents

ABSTRACT	2
INTRODUCTION	6
Background	6
Problematization: Research.....	8
<i>Niched- focus problematization</i>	10
<i>Purpose of the Study: Why we have selected the coffee industry</i>	10
Aim and scope	11
<i>Scope</i>	11
<i>Aim</i>	11
Limitations.....	12
METHODOLOGY	13
Research Design.....	13
Research approach.....	14
Research Process	15
Data collection.....	16
Data analysis	18
Validity, reliability objectivity.....	19
FRAME OF REFERENCE – LITERATURE REVIEW	21
Sustainability.....	21
<i>Why is sustainability being covered?</i>	21
<i>Definitions</i>	21
<i>Sustainable development</i>	23
<i>Sustainability not sustainable development</i>	24
Sustainability and business models.....	24
<i>How to incorporate sustainability into one’s business: Sustainability in practice</i>	25
<i>Hindrances faced by firms to achieve a sustainable strategy</i>	27
Business model.....	28
<i>What is a business model actually?</i>	28
<i>Managing sustainability-centred business model innovation</i>	29
<i>Sustainability-centred business model design process</i>	30
<i>Implementing sustainability-centred business models</i>	31
<i>Sustainability-centred business model innovation: Transforming business models</i>	32
THEORETICAL FRAMEWORK	35
Paradigm shift: From traditional to sustainability-centred business model innovation	35
The Three-Layered Business Model Canvas.....	36
Presenting and describing the triple layered business model canvas tool.....	37
<i>Traditional business model Canvas: Economic Sphere</i>	37
<i>Environmental business model Canvas: Life-cycle perspective</i>	38
<i>Societal & governance business model Canvas: Stakeholder perspective</i>	39
Three Layered Business Model Canvas in practice	40
CASE STUDY: NESTLE NESPRESSO AND STARBUCKS	42
Outlook of the global coffee industry	42
Introducing Nestle Nespresso	47
<i>Nespresso’s inception: Business phase 1 defined by the firm trial and error (Nespresso, 2016a).</i>	47
<i>Business phases 2 and 3 defined by Nespresso as start-up and global brand expansion</i>	

<i>(Nespresso, 2016a)</i>	48
<i>Business phases 4 and 5 defined by Nespresso as shaping the coffee culture and consolidating global sustainable coffee leadership (Nespresso, 2016a)</i>	48
<i>Ecolaboration report 2009-2013</i>	50
<i>The AAA program</i>	50
<i>Overview of AAA program results</i>	51
<i>Chart of the business-phases of Nespresso as per previously description:</i>	52
Nespresso through the lens of the Three Layers Business Model Canvas	52
<i>Traditional Business Model Canvas: Economic sphere of Nespresso</i>	52
<i>Environmental Business Model Canvas: Life-cycle sphere of Nespresso</i>	53
<i>Societal Business Model Canvas: Stakeholder orientation of Nespresso</i>	53
Introducing Starbucks	53
Starbucks through the lens of the three-layer business model Canvas	57
<i>Economic Business Model Canvas: Stakeholder orientation of Starbucks</i>	57
<i>Societal Business Model Canvas: Stakeholder orientation of Starbucks</i>	58
<i>Environmental Business Model Canvas: Life-cycle sphere of Starbucks</i>	58
ANALYSIS OF CASE STUDY: DISCUSSION	59
Analysing Nespresso’s horizontal coherence of TLBMC	59
<i>Analysing the horizontal coherence of the economic layer of Nespresso</i>	59
<i>Analysing the horizontal coherence of the environmental layer of Nespresso</i>	60
<i>Analysing the horizontal coherence of the social layer of Nespresso</i>	62
Analysing Nespresso’s vertical coherence of TLBMC	63
<i>Vertical coherence 1: Partners, supplies and outsourcing, and local communities.</i>	63
<i>Vertical coherence 2: Customer segments, use-phase, and end-user.</i>	63
<i>Vertical coherence 3: Resources, materials, and governance instead of employees.</i>	64
<i>Vertical coherence 4: Customer relationship, end-of-life, and societal culture.</i>	65
Analysing Starbucks’s horizontal coherence of TLBMC	65
<i>Horizontal coherence of Starbucks economic layer</i>	65
<i>Horizontal analysis of the social layer of Starbucks</i>	67
<i>Environmental Horizontal coherence of Starbucks</i>	68
Analysing Starbucks’s Vertical coherence of TLBMC	71
<i>Vertical coherence 1: Key resources, Employees, Materials</i>	71
<i>Vertical coherence 2: Key activities, Governance, Production and corporate footprint</i>	71
<i>Vertical coherence 3: Customer relations, Social culture, End of life</i>	72
Comparison analysis of the selected firms: Nespresso and Starbucks	73
<i>Social and environmental differences between Nespresso and Starbucks</i>	74
<i>Social and environmental similarities between Nespresso and Starbucks</i>	75
CONCLUSION	77
Contributions	79
Limits and future research	80
<i>Future Research</i>	80
Acknowledgements	80
APPENDIX	81
REFERENCES	85

Table of Figures

Figure 1. Economic layer of Canvas.....	37
Figure 2. Environmental layer of Canvas.	38
Figure 3. Social layer of Canvas.	39
Figure 4. Sustainability centred approach for the coffee industry.	47
Figure 5. Nespresso AAA sustainability program.	50
Figure 6. Nespresso Positive Cup.	51
Figure 7. Business phases of Nespresso.	52
Figure 8. Nespresso's economic Canvas.	52
Figure 9. Nespresso's Environmental Canvas.	53
Figure 10. Nespresso's Social Canvas.	53
Figure 11. Starbucks's economic Canvas.....	57
Figure 12. Starbucks's Social Canvas.	58
Figure 13. Starbucks's Environmental Canvas.....	58

INTRODUCTION

The purpose of this first chapter is to provide the reader with a clear overview of the selected research topic. We will begin by presenting the background of the thesis project. The background shall be followed by a problematization of the selected issue in which we highlight the problems we seek to address. Lastly, we will present the aim, scope, and limitations of this research project.

Background

Business model innovation and sustainability, are two concepts that possess the ability to change the way organizations run their businesses, (Lovins, Lovins & Hawken, 1999; Joyce & Paquin, 2016). The combination of business model innovation and sustainability can create shared value (Porter & Kramer, 2011) as well as creative destruction (Hart & Milstein, 2003). However due to the vast number of heterogeneous definitions and approaches used when referring to business model innovation and sustainability, the ability to understand and use the concepts appropriately is often hindered (Franca, Broman, Robert, Basile, 2017; Schaltegger, Hansen, Lüdeke-Freund, 2016; Bocken, Short, Rana, Evans, 2014; Bocken, Rana, Short, 2015).

Within business model design and innovation, the 'Business Model Canvas (BMC), a model created by, Osterwalder, Pigneur, &Tucci (2005) stands prevalent. Osterwalder, Pigneur, and Tucci (2005) introduced a model template made of, four business pillars constructed from nine key business building blocks. These blocks describe how for-profit firms manage key partnerships, key activities, key resources, value propositions, customer relations, channels, customer targeting, and selection, as well as the creation of dynamic revenue streams and efficient cost structures. This model enables one to understand better the process of both designing and transforming a business model.

With the BMC, a majority of the innovations presented are centred around management's ability to, reconceive an existing business model into one that can create increased economic value (Osterwalder, Pigneur &Tucci 2005). However, it should be noted that the BMC focusses on the economic bottom line rather than on the triple bottom line (Joyce & Paquin, 2016), with the triple bottom line defined as, focused value creation in relation to

"economy, people, and the environment" (Russo, 2008). Chandler and Werther (2015) argue that in the current economic climate, both human and business activity are using the world's resources unsustainably resulting in, dangerous and drastic changes to our planet's atmosphere. According to the authors, a consideration towards sustainability needs to be made. Based on Jonas (1984) definition, sustainability can be referred to as "an ethical responsibility for nature and the future of mankind,"(Corvellec, 2016, p.384). Sustainability in business is often regarded to encompass the triple bottom line, or the 'three-legged approach' (environment, society and economy) (Morelli, 2011). Within the current BMC design, management and innovation are limited to the economic sphere of the three-legged approach missing out on the potential to innovate within the environmental and social spheres (Joyce & Paquin, 2016). This is an issue that both Joyce & Paquin, (2016) and the authors of this thesis, believe needs to be addressed.

When seeking to make changes in relation to a firm's business model, or the introduction of new elements such as sustainability, many business leaders can meet resistance from those involved in the process (Eccles & Serafeim, 2013; Hart & Milstein, 2003). Several managers find it more convenient to avoid change rather than incur the associated costs. This reason and many others such as fear, risk-aversion, short-term orientation and profitability focus undermine business model innovation and the possibility of corporate renewal (reference needed). According to Kalling (2007, p.84), the lure of simplicity is defined as the "implicit or explicit forces that make us choose the known rather than the unknown because the uncertain rewards of embarking on the unknown simply do not match the benefits of sticking to what is known." This human tendency to stick to the known can hinder a firm's ability to embark on a path of innovation and entrepreneurial discovery Kalling (2007, p.84).

As it stands, the shift towards sustainability is one that firms can no longer ignore. Sustainability is not only a 21st-century megatrend; it is a viable tool for competitive advantage (Lubin & Esty, 2010). It is vital to both a firm's longevity (Doane & Macgillivray, 2001) and future success. It is for these reasons among many others that ourselves and scholars such as Joyce and Paquin (2016) believe it is important to address the concept of sustainability and its role within a firm and its business model.

Problematization: Research

In the 20th century, management scholars and academics focused on, developing strategies, tools, and models aimed at enabling business model execution, excellence and efficiency (Schaltegger, Hansen, Lüdeke-Freund, 2016; Blank, 2013). Blank (2013) argues that business model innovation has been neglected due to the inherent complexity of creating new business model designs and the difficulty of embracing the known rather than the unknown. This issue of management facing difficulties when choosing the unknown over the known is supported by Kalling's (2007) "Lure of simplicity" conceptual study.

Management dichotomies have hindered corporate strategic sustainable development as well as business model innovation. Some of these are, path-dependency versus entrepreneurial thinking and discovery, the short-term shareholder perspective over the long-term stakeholder perspective and the economic bottom line versus the triple bottom line, (Schaltegger, Hansen, Ludeke-Freund, 2016; Blank, 2013). Currently, a number of the existing management tools and models, focus on economic value creation e.g. BMC. Investor pressure has resulted in short-termism with businesses operating unsustainably (Eccles & Serafeim, 2013). This short-term shareholder perspective has led to established firms carrying out unethical business practices leading to scandals such as the exploitation of workers and misuse of raw materials (Lutz, 2015; The New York Times, 2012; Lubin & Esty, 2010).

As a result of the misuse of raw materials, earth's resources have been depleted sparking global warming and climate change (United Nations, 2016; Martin, 2007). According to the United Nations Sustainable development goals, (2016), CO2 emissions derived from business and human activity are the primary drivers of climate change (United Nations, 2016). As emissions continue to rise, they have now reached their highest levels in history. The scientific community argues that, if no joint action is taken from governments, for-profit corporations and NGOs to reduce greenhouse emissions, the world's average surface temperature is projected to rise over the 21st century and is likely to surpass 3 degrees Celsius. Consequently, Arctic and sea ice is expected to melt more rapidly resulting in higher sea levels eating up shores and coastal areas. Extreme weather changes will lead to droughts and floods disrupting food production and creating food and water shortages. This will push more people into extreme poverty and hunger, posing irreversible damage to our

biosphere (Martin, 2007).

In addition to environmental threats, companies are faced with issues concerning society and economic systems. According to the Organization for Economic Co-operation and Development (OECD), social inequality and poverty are the most dangerous and critical threats to the well-functioning of our economic system (Organization for Economic Co-operation and Development, 2017). Ultimately, businesses develop and gross domestic products grow when society at large thrives. The income inequality between the bottom 40% of the world population in relation to the top or world's richest 10% stands at ten times. The gap has widened by 43% since 1970 (Organization for Economic Co-operation and Development, 2017). Professor Jared Diamonds in a revealing Ted Talk (2008) presented scientific facts pinpointing that modern society collapse is near if social inequality, climate change, and political, economic, social and technological (PEST) issues are not tackled accordingly. Social inequality and poverty can result in armed conflicts like the one in Syria with years of devastating war. As a result, massive migration has the potential of destabilizing Western societies through growing populism. PEST and climate change challenges if not tackled could greatly change our current economic and societal structure (Martin, 2007; Jared Diamonds, Ted Talk, 2008).

Another contributor to societal and environmental issues is the wide range of unethical business practices resulting from the high short-term profit orientation of corporations. This has led to corporate scandals worldwide for even the largest brands. Volkswagen, Nike, and iPhone have faced a few of these scandals in relation to the working conditions of their workers outside the United States, having been accused of having unsafe working conditions (Lutz, 2015; Duhigg & Barboza, The New York Times, 2012).

As a result of the unethical and unsustainable behaviour of global firms, a gap has been identified, and according to Bocken et al. (2014), a growing number of new innovative start-ups are disrupting industries rapidly with new technologies and highly dynamic sustainability-centred business models. Examples of innovative start-ups are vast e.g. Supermoto energy in Zambia and Smart City based in Lund. However, despite the threat of new entrants, a key reason for firms to transform their business models from traditional to sustainability-centred is their need to take into consideration the environment and societal

context in which they operate (Franca et al. 2017, Bocken et al. 2014). Issues such as a firm's carbon footprint, social impact, and waste product are not only on the minds of governments and NGO's but those of customers and other stakeholders alike (Hart & Milstein, 2003). As described by Franca et al. (2017) if firms fail to successfully transform existing business models into sustainability-centred ones they will be faced with growing social and environmental issues. Broman and Robert (2017) argue that a framework for strategic sustainable development is imperative. They argue that companies need to do their utmost to reduce their negative impacts on ecological and social systems at large while strengthening their organizations. By doing this, they will be better fit to identify and exploit opportunities for economic, social and environmental value creation. Thus, it can be concluded that sustainability centred innovation requires new business models, creation or creative destruction of industries and markets, resulting in the winning of new market shares and reduced risks and operational costs (Broman and Robert, 2017). Consequently, the need for a new business model paradigm is undeniable.

Niched- focus problematization

The Food & Beverage industry has widely been a target of governments and NGOs for their unsustainable manufacturing practices resulting in resource depletion – particularly water. Undeniably, water has been for too long a free raw material and, as a consequence, it has been used inefficiently (Whelan & Fink, 2016; Samper & Quiñones-Ruiz, 2017). As the Food & Beverage industry is broad, we shall focus on the coffee industry.

Purpose of the Study: Why we have selected the coffee industry

To date, coffee is one of the largest commodities traded on global markets only surpassed by oil (Saito, 2004; Investor Guide, 2017; Samper & Quiñones-Ruiz, 2017). The global coffee industry is worth over 100 billion US dollars putting it ahead of most commodities. A study shows that two billion cups of coffee are consumed worldwide every day (BBC, 2015). Over 25 million people make their living from coffee farming, with 67% of the world's coffee being grown in Latin America alone. The remaining 33% is farmed in Asia and Africa. Thus, 90% of the world's coffee production occurs in the emerging world while most of it is consumed by the developed one (Business Insider, 2016; Fairtrade, 2017). Due to its large impact on the global market as well as the lives of its suppliers and

consumers, we have chosen to focus on this industry in particular.

Another distinct factor that inclined us to concentrate on this industry for our research project is an issue described by the UK's Royal Botanic Gardens. This organization carried out research in 2012 revealing ground-breaking results. The results explained how several locations in which wild Arabica coffee is grown, could suffer an availability reduction of 85-99,7% by the end of the 21st century. This is the world's most consumed coffee bean and from the research carried out conclusions show that the excellent coffee we drink every day could disappear by 2080 (BBC, 2015). While rich countries buy it, roast it and drink it without paying for the agronomy, the natural environment in which Arabica grows is being radically affected. It is not until 2015 that the industry realized that if a shift towards sustainability is not established, the Arabica coffee plant and bean could face extinction by 2080 (World Coffee Research, 2017). These undeniable scientific facts have pushed the industry for a radical change of direction if it is to survive beyond the 21st century. Hence, the social, environmental and economic issues faced by coffee companies, make this industry utterly appealing to analyse in relation to sustainability-centred business model innovation

Aim and scope

Scope

The scope of this thesis will be restricted to assessing, two large coffee companies within the coffee industry. The thesis shall assess and evaluate the sustainability issues faced by the firms and how the selected companies have incorporated the triple bottom line into their business models. Also, an evaluation of how they work with the life-cycle (environmental) and stakeholder perspective (society) shall be carried out. To accomplish these goals, the three layers' business model canvas (TLBMC) proposed by Joyce and Paquin (2016) shall be used to make valuable inferences regarding the business models of the selected firms.

Aim

The aim of our work is to answer the following research questions: How has

sustainability affected the business models of two global firms in the coffee industry? And, can the business models of the selected companies be considered sustainability-centred?

Limitations

Often, within academic research, researchers faced with several constraints such as time, limited human and financial resources as well as formal access to data. One of the greatest limitations encountered in this process was that of time. The ten-week time frame presented a significant limitation in relation to the possible depths at which this study could undergo. Additionally, we are two researchers working within a tight time frame without any financial resources. This also represented a significant constraint as it takes time to construct co-authored research, a task that can be challenging in a constrained time frame. Lastly, as we have chosen to focus on two large firms within the coffee industry as opposed to more, we may be faced with the limitation of the representativeness of our study. As the conclusions made might not represent what is happening in all firms within the coffee industry, the generalizability of our study might be a limitation. However, we believe that despite our research being rather focused, it will still hold the ability to provide insight into the effects of sustainability on coffee companies as well as how some of the issues being faced are dealt with.

In the following chapter, the methodology of how our research was carried out will be discussed. This section will explain the steps taken in the study, as well as the implications of the methodological choices made. After this, the literature review and theoretical framework will be presented followed by our empirical study and case presentation. To conclude, we shall deliver our analysis and conclusions drawn from the study.

METHODOLOGY

The purpose of this chapter is to provide a concise illustration of how the methodology of this thesis will be carried out. This chapter will begin with a description of the chosen research design, followed by the research approach. After this, the research process will be narrated after which the data collection and evaluation process will be discussed. To conclude this chapter a brief discussion on the issues of validity, reliability, and objectivity faced in this thesis will be presented, followed by a short conclusion of the chapter.

Research Design

For the purpose of effectively carrying out the proposed research questions, a descriptive research design was selected. David A. de Vaus, (2001) “the function of the research design is to ensure that the evidence obtained enables us to answer the initial questions as unambiguously as possible” (De Vaus, 2001, p.9). For one to be able to capture the appropriate data for their research they need to have an understanding of the type of data that is required to answer their proposed question. The use of a descriptive research design enables us to evaluate the narrative and journeys of our proposed companies based on the data available to us. A well-developed description will provoke ‘why’ questions enabling us to use exploratory research where appropriate for our study (De Vaus, 2001). According to de Vaus (2001), the ability to use the tool of descriptive research well is fundamental to research and has been a large contributor to the knowledge of society. This research design falls in line with our research question as the material used will allow us to illustrate the effects of sustainability on coffee firms using two case examples.

We have chosen to use archival data, strictly focusing on the use of to develop our case studies. Archival data will allow us to gain access to a range of readily available relevant information such as company reports, annual statements, and financial records. As well as news articles, government reports and NGO reports, information that can be overlooked when carrying out a primary research-based approach (Easterby-Smith, Thorpe and Jackson, 2015). This data will be analysed using a pattern matching method that will involve matching the information gathered from the secondary data such as company reports, company news and NGO reports and matching this information to the relevant categories found under our chosen theoretical framework, the three-layered business model Canvas (Joyce & Paquin, 2016). This, in turn, will be used to develop our case studies, that will be further analysed based on Joyce and Paquin's (2016) horizontal and vertical

coherence analysis. Lastly, a comparative analysis of the TLBMC made for the two case studies shall be done to pinpoint similarities and differences between the analysed firms and inform our overall findings.

Research approach

To carry out our research, we have chosen to use a case study approach as it will allow us to conduct a specified and detailed analysis of our selected companies (Easterby-Smith, Thorpe and Jackson, 2015). Using a multiple case study method will enable us to gain detailed insights as well as allow us to replicate our study providing different perspectives and ways in which the issue of sustainability on the business models of coffee firms has been tackled (Creswell, 2007). Having two cases to compare against one another will allow us to differentiate their unique features and differences while also illustrating their points of similarity within our comparative study. Using a case study method is beneficial to this research paper as it enables us to "analyse the data through the description of the case and themes of the case as well as cross-case themes"(Creswell, 2007, p.79), an analysis approach that is very much in line with our overall research design.

By selecting two case companies, Nestle Nespresso and Starbucks, we can explore the research question from two different business model perspectives. This will enable us to assess how the issue of sustainability affects both their business models and what chosen efforts they use to solve the problem. We believe that this approach will enrich our research and overall findings. As we carry our multiple case study, we will ensure to replicate our case study procedure in each case to maintain consistency. However, we do understand that a generalization cannot be made from one case study to another as the contexts of the cases differ (Creswell, 2007).

For our research, we have chosen to focus on secondary textual data, drawing the information for our case studies from, company reports, news and other available company information. To verify the information used we have cross-referenced the claims made where possible from NGO reports as well as industry news articles. We chose this data source as the information needed is readily available from company websites and reports eliminating our need for interviews and primary research. Another reason we selected the use of secondary data was due to the limited time frame we had to carry out our research. Using secondary data saves time, sources are frequently of high quality, especially when

published by sources such as firms and governments (Easterby-Smith, Thorpe and Jackson, 2015). The use of secondary data also allows us to gain access to the company's historical information aiding our comparison on how the firms' business models have been affected and changed if at all. This is a perspective that might not have been possible if primary data collection was our chosen path.

However, despite our confidence in the selected research approach, we acknowledge that it has its limitations. Firstly, by using a case study approach, we are limiting the generalizability and representativeness of our study to inform opinions on the whole coffee firm industry. However, we believe that this niche snapshot that we take using our case studies into the companies can highlight and provide possible areas of further improvement for other firms in the industry. Another limitation we are faced with is that of the level of depth that can be reached when using a multiple case study approach. By using more than one case study, the level of depth covered can often be affected. Nonetheless, the use of multiple case studies can provide a wider perspective on an issue which we believe is useful for our research (Creswell, 2007). Furthermore, the use of secondary data can be a limitation since the data was not created for our research (Easterby-Smith, Thorpe and Jackson, 2015). Despite this, we will ensure that the research question and theoretical framework frame the data collection process. Efforts will also be made to critically evaluate the sources selected and their authors allowing us to evaluate reliability information, as well as assess its credibility.

Research Process

To achieve our aim, we began with an extensive research period into the areas of business models and sustainability, through the examination of books, and journal articles. This step assisted in further framing our knowledge on the issue of business models and sustainability highlighting the current research into both topics as well as the research available on sustainability and business models. During this process, we began compiling our literature review. It provided insight into the current perspectives on the issue of business models and sustainability enabling us to locate our gap. After this process, we carried out research into commercial industries being affected by sustainability issues on an economic, social and environmental level. Not only did we need them to be affected by sustainability, but for the problems in the industry to be well documented. Through this process, we narrowed our focus down to firms in the coffee industry, which was later narrowed down further to Nestle

Nespresso and Starbucks. To carry out our research, we made the decision to use secondary textual data as it allowed us a level of flexibility as we did not have to conduct any primary research. This also saved us time in our tight ten week writing period. To collect our data, we used company reports and company articles to as our case material. Despite interviews having the potential of providing deeper insight into the companies, we determined that secondary data provided the best source of information based on our limitations of time and company access.

The companies we selected for our case study were chosen based on the following criteria. Firstly, the firms needed to be part of the coffee industry, medium to large in size having been in operation for at least the past 30 years. This would allow us to establish how they operated under their traditional business models, as well as the information and time span to evaluate their move towards sustainability. By invoking the above criteria, we created a baseline for our firm selection. We selected Nespresso and Starbucks, two large companies with established business models that we believe have undergone a shift towards sustainability. To provide a degree of variation we chose companies with different business models and value propositions to gain a deeper understanding of the effect of the sustainability issue on different business models. Once the companies were selected, we began a pattern matching process in which we analysed the company information and mapped it into two separate TLBMC templates representing, Nespresso and Starbucks situation in each layer of the TLBMC. After this, we did a horizontal coherence analysis for each layer of the TLBMC for each company after which we carried out a vertical coherence analysis for each company. Following this step, we did a cross-case analysis of our findings ending with a discussion and conclusion of our papers.

Data collection

For the purpose of answering our research question, we selected the use of qualitative data rather than quantitative as it allows us to study the narrative of the company's journey effectively enabling us to illustrate the link between theory and research (Bryman & Bell, 2015). When carrying out research, researchers are encouraged to make use of secondary data first as it assists in the framing of the topic by providing the viewpoints, perspectives, and contributions of previous authors (Easterby-Smith, Thorpe and Jackson, 2015). For this reason, our research process began with a secondary data search into issues faced in the

coffee industry through sources such as company reports from Nespresso and Starbucks, NGO reports from bodies such as Conservation International, Fairtrade, Rainforest Alliance, World Wild Life, among others. Online news articles such as Business Insider, The Guardian, and New York times to name a few, as well as industry magazines such as Coffee Today, and Blog Posts such as The Organic Coffee Association. These sources informed us on industry issues as well as issues being faced by the companies themselves. After this, we did an academic for books and journals covering business models and sustainability to help understand the current data available in this area. The academic research has enabled us to collect data that expand our knowledge surrounding the topic, while the secondary data provided the source for our company case studies, as well as information on current trends and challenges surrounding our research topic.

Primary data collection is an important part of many research projects (Harrell and Bradley, 2009), this can be carried out through interviews, surveys or material formulated by a participant researcher, e.g., diaries. However, due to issues such as company access, and time constraints, primary data has not been a viable data collection option. Despite this, secondary data allows us to carry out our research promptly as it requires us to focus on interpreting and framing the data collected to fit our research question, rather than having to carry out an empirical study which can be time-consuming. As discussed in our research approach, this was an appropriate form of data collection for our research purposes as it is readily available from the company website, it is often of high quality and credibility when published by the firm. Secondary data also provides us with access to historical information that might not have been accessible if primary data collection methods were used. Due to the above reasons, we are highly confident in our choice of secondary data collection.

To carry out our data collection process, a range of Secondary textual data was used to inform our study on the company backgrounds, business models, and sustainability transitions they have undergone. Several pieces of secondary data were selected by evaluating company reports and company news. This data was evaluated to determine its relevance and contribution to answering our research question. Where contributions were found, they were placed in a summary table modelled after the TLBMC. Each layer of the Canvas was given a correlating summary table allowing us to assess how well the information available about each firm correlates to the TLBMC. To avoid solely relying on

company reports we evaluated news articles on some of the claims made by the company where possible. This allowed us to analyse different perspectives on each firm's journey with sustainability, both from their perspective and that of a third party, i.e., The Guardian and Business Insider. This provided the opportunity to compare the statements made by the firm with those of other authors, allowing us to evaluate reliability and validity of the claims being made to a degree to a degree.

It must be kept in mind that, as one uses secondary data, the factors that influenced that data must not be ignored. These are factors such as the original author's motivation, context when creating the data, or potential biases (Saunders, Lewis and Thornhill, 2009). Due to this, we attempted to look for various sources to verify the claims being made by the companies. Source evaluation will also be essential to our research, as we have to ensure that we evaluate the four following points of each source used, 'purpose, authorship, credibility and accuracy as well as the timeliness of the sources, (Easterby-Smith, Thorpe and Jackson, 2015).

Data analysis

For the purpose of carrying out our data analysis, a pattern matching approach will be employed matching patterns from the empirical case studies to our theoretical framework. To perform the data analysis, we will firstly evaluate the two selected companies focusing on their business cycles and the way in which they have carried out their business activities over their operating timeline. We will highlight areas of success as well as pitfalls. To analyse how the firms have been affected by sustainability we will use all relevant information available with a focus on changes made within the last ten years. To carry out the evaluations, we shall create an empty template of our chosen theoretical framework, the three-layered business model Canvas by Joyce and Paquin (2016). With an understanding of each layer and the blocks incorporated, we shall seek to collect company data that matching the identified layers and block categories. After this, the information shall be matched into a TLMBC for each company. At this point, we shall analyse the information found using the horizontal and vertical coherence data analysis approach used within the Joyce and Paquin (2016) TLBMC. This will involve analysing the economic, social and environmental layers of each company horizontally starting with Nespresso. This will be followed by a vertical coherence analysis of Nespresso's three horizontal layers in which we will evaluate how the three layers correlate and influence one another. The same procedure

shall be carried out for Starbucks starting with a horizontal coherence analysis of each of its canvas layers, followed by a vertical coherence analysis of the three layers and how they interact. After individual horizontal and vertical analysis have been carried out for the two companies, a comparative analysis of the case studies will be made. This analysis will aim to highlight the company's points of similarity and difference concerning their approach to sustainability related issues. Their strengths and weaknesses concerning sustainability will be discussed. Overall conclusions shall then be drawn based on the overall findings on how the firm's business models have been affected by sustainability and if these models have become sustainability centred.

Within our data analysis process, source critique has proven to be a crucial part of the process. We will make it a point evaluate the purpose behind why the source was created, for example, company news reports for PR or Annual reports created to inform stakeholders on company progress. This will be taken into consideration as the purpose of the of the source can motivate its creators to either overplay or underplay an issue. The authorship, credibility, and accuracy of the sources will also be evaluated to ensure we critique the information provided by the companies objectively. Based on the amount of information provided by the authors we will be able to evaluate the credibility and accuracy of their claims and methods (Easterby-Smith, Thorpe and Jackson, 2015). Will also make it a point to evaluate our sources of bias and objectivity. Timeliness of the source is another factor we shall consider during our source critic as we carry out our data analysis.

Validity, reliability objectivity

Validity within academic research refers to the trustworthy nature of the data collected and whether or not it communicates the true picture (McNeill and Chapman, 2005). This is an issue that must be kept in every researcher's mind when collecting and evaluating data that they aim to include in their final work (Easterby-Smith, Thorpe and Jackson, 2015). As we are carrying out a multiple case study analysis using secondary data the validity of our sources will be highly important. We need to ensure that we take into consideration the original purpose for which the data was created as well as surrounding factors of potential biases in the selected data. To aid in the objectivity of our study, we will supplement our company reports with available news articles on the claims being made by the company. This will aid us in identifying bias or embellishments in our case study material. As we are using a case study approach, it is difficult to determine the level of generalizability and

representativeness our finding will hold about the industry as a whole. However, we believe that our study has the potential of providing key insights into issues of similarity, across the coffee chain industry concerning sustainability with areas of possible generalization.

In the following chapter, a literature review of academic work concerning sustainability and business models shall be carried out. It shall then be followed by a detailed description of the selected theoretical framework that will be used in this thesis.

FRAME OF REFERENCE – LITERATURE REVIEW

The purpose of this chapter is to search, select and evaluate previous work in the field of sustainability and business models. We shall address first sustainability and its role within a business. This shall be followed by business model theory, concluding, with the link between the two concepts. The evaluation is critical as we do not seek to synthesise previous work in the field, but to understand how these topics have evolved as well as the gaps or problems they hold, providing a clear linkage between the two topics and our research project.

Sustainability

Why is sustainability being covered?

When engaging in business, firms are faced daily with decisions regarding what market to target, what product to launch and what strategy to implement, all for raising equity (Dwyer, & Tanner, 2002). However, today's business environment calls for more than earning money in the short term. Firms today must be aware of their impact on the world around them (Kates, Parris, & Leiserowitz, 2005; Hart & Milstein, 2003; Kerekes, Csutora, & Szekely, 2011). Issues such as a firm's carbon footprint, social impact, and waste product are not only on the minds of governments and NGO's but those of customers and other stakeholders alike (Hart & Milstein, 2003). With the globalization and internationalization of large firms, their impact is no longer tied simply to their home country but rather affects every host country it operates in (Newell, 2013).

The shift towards sustainability is one that firms can no longer ignore. Sustainability is not only a megatrend of the 21st century it is a growing tool for competitive advantage (Lubin & Esty, 2010). Not only is it vital to a firm's longevity (Doane & Macgillivray, 2001) but future success as well. Moving forward firms need to embrace not just environmental sustainability but rather a form of sustainability that takes into consideration all stakeholders (Werbach, 2009; Morelli, 2011).

Definitions

This is a concept that does not have a universal definition to explain what sustainability is (Morelli, 2011; Newell, 2013; Vos 2007). Due to varying opinions held by scholars, scientists, and academics, finding a definition that pleases all parties is a task that is yet to be fulfilled (Kerekes, Csutora, & Szekely, 2011). However, the difficulty

surrounding a universal definition has led to today's definition of sustainability highly up to interpretation, profession and one's understanding (Morelli, 2011).

The term sustainability is one with its roots in the study of forestry. It is a concept originated by the German forestry scientist, Hans Carl von Carlowitz. The word sustainability was created to mean 'Never harvest more than what the forest yields in new growth' (Wilderer, 2007)

In this definition of sustainability, it is key to note that a clear message is being sent on the importance of not exasperating the earth and its resources. This issue of the excessive use of natural resources is faced by natural capital intensive industries, natural capital being the earth's natural resources as well as human labour (Lovins, Lovins, & Hawken, 1999). It must be noted that the focus surrounding this definition is the emphasis placed on the earth's sustenance and that of the environment, not society or the economy. This focus on the environment is echoed by Jonas (1984) as found in Corvellec's (2016) work stating that, the definition of sustainability involves "an ethical responsibility for nature and the future of mankind", (Corvellec,2016, p.384), with this definition introducing the relationship between society 'mankind' and the environment 'nature'.

From its original roots in forestry, sustainability has come to also include issues of society and humanity (Kibert, Thiele, Peterson and Monroe, 2010). "Sustainability is commonly understood to require the balanced pursuit of three goods: ecological health, social equality and economic welfare" (Kibert et al, 2010). This definition of sustainability is not merely focused on the well-being of humanity today but rather that of future generations to come. This is a matter highly affecting farming communities which face issues of sustainability that threaten their economic future due to issues such as lack of information, resources, drought and climate change (Acord, 2010).

Among other definitions, sustainability has come to be viewed as the 'three-legged approach/ Three pillars (Morelli, 2011). This approach considers three key factors, the environment, society and economy and how the three interact to create sustainability. This presents building blocks for achieving sustainability emphasising a need for one to consider issues of society, environment, and economy to achieve sustainability. However, one can raise the question, 'Is one pillar more important than the other? '. As the three entities rely

on each other to achieve sustainability, they can be viewed as equally important but as this definition does not priorities this decision is left to interpretation.

In Lubin and Esty's (2010) article the authors refer to sustainability as an emerging megatrend, like that of quality and information technology (IT). The authors suggest that only by understanding how previous megatrends have worked in the past will a firm be able to create a strategy and develop a competitive advantage surrounding sustainability. This article provides novelty in the way in which it presents the issue of sustainability. Not only does it view sustainability as important for a firm's future, but it also perceives it to possess a disruptive nature that will cause it to change the way in which business is carried out permanently.

Sustainable development

The delicate balance between human economic actions and the environment is one that has been recognized by many scholars however the concept of sustainable development was first highlighted and agreed upon by the Brundtland Commission in 1982 birthed by the Prime Minister of Norway Gro Harlem Brundtland at 'The World Commission on Environment and Development.' According to the Commission, sustainable development falls under the following definition; "Humanity has the ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (Kates et al., 2005; Butlin, 1989).

The concept of sustainable development was the first attempt of its time to bring together the two opposing ideas (Kates et al., 2005). There are no details given within this definition as to the means by which these needs are met leaving leeway for firms to determine for themselves what they consider harmful and what practices to carry out (Kates et al., 2005; Waas, Hugé, Verbruggen, & Wright, 2011). These practices that might not harm the ability for future generations to do them same, but rather may hurt future generations in another way. For instance, fast food companies and their effect on child obesity in the world today (Nestle, 2006). Nevertheless, authors Kates et al., (2005) regard the ambiguity of the statement as a gap for author-scholars to reconstruct to progress the concept of sustainable development. The lack of clear characteristics to better identify the concept of sustainable development is another gap that leaves this definition lacking.

Sustainability not sustainable development

In the relationship between sustainability in businesses, there is a misconception between the terms sustainability and sustainable development. The two terms are often used interchangeably, but there are vast differences between them that must be noted. Sustainability, as opposed to sustainable development, presents a clearer defined core foundation: The triple bottom line, 'economy, people and environment' (Russo, 2008). As mentioned in Morelli's (2011) article the most concise definition of sustainability is that of the triple bottom line. Whereas sustainable development focuses on humanity's ability to continue developing and meeting their present needs without compromising the ability of future generations to do the same (Kates et al., 2005). In this definition, there is no correlation to factors such as the environment or society societal impacts, it is instead mainly focused on economic development. Thus, firms seeking to embrace triple bottom line sustainability (Morelli, 2011; Russo,208) need to focus on becoming sustainable/sustainability centred rather than sustainable development which mainly takes into consideration economic needs. In this thesis, we will be concentrating on sustainably in relation to the triple bottom line, and the ability of firms to integrate this type of sustainability centred focus into their business models, as opposed to that of sustainable development. A sustainability centred focus takes into account social and environmental value creation as well as protecting the environment for future generations.

Sustainability and business models

In relation to sustainability and business models, the authors Lovins, Lovins, and Hawken, (1999) acknowledges the importance of reconceiving the traditional business model if a firm seeks to become more sustainable or rather achieve what the authors referred to as 'Natural Capitalism.' In the eyes of the authors, 'Natural Capitalism' is the capital that comes from the earth's; natural resources and ecosystems. In the book, Natural Capital the authors accuse traditional business models of not valuing their most prized assets; employees, natural resources and the social and cultural systems. Based on the theory of maximising natural capital and human resource, this article suggests several things that a business can do if they wish to shift towards a more sustainable, natural capital centred business (Lovins, Lovins, & Hawken, 1999).

However, we must point out that in this article a number of the points raised surrounding how to achieve natural capital are largely based on ideology and require a change of mindset on the part of the organisation. The claims made raise the valuable point that connects a firm's ability to achieve sustainability to the ideology, vision, and culture of a firm. These elements play a key role in the implementation of sustainability in a firm's business model and without alignment in these areas implementation will be difficult (Lovins et al, 1999; Chandler and Werther, 2015).

As has been pointed out by various definitions and concepts, sustainability is vital to a company's success in today's business environment. However, stated by Eccles & Serafeim (2013) simply putting together a combination of sustainable initiatives and tactics does not equate to a sustainable strategy. According to the authors a sustainable strategy is one that creates value for both shareholders and stakeholders alike. This sentiment is shared by Hart and Milstein (2003). It must be noted that in the definition presented by Eccles and Serafeim (2013) of a sustainable strategy, the term does not simply refer to a strategy with the possibility of maintaining the firm's longevity, but rather a strategy that tackles environmental issues as well.

A crucial point raised in this article is the fact that the authors do not see sustainability as a means of holding the firm back, through the need to comply with various environmental and social guidelines. Rather it is seen as a means of creating shared value that not only benefits the firm financially but creates value for its stakeholders both intrinsically and explicitly. This concept of creating shared value is one that Michael Porter and Mark R. Kramer are largely famous for thanks to their 2011 article that holds the same name, 'Creating Shared Value' (Porter & Kramer, 2011). In this article, the authors not only outline how shared value creation is crucial for a firm to bridge the gap between today's environmentally damaging capitalist system but also how the society amongst which these firms operate can gain value from the firm's existence.

How to incorporate sustainability into one's business: Sustainability in practice

In an attempt at creating roadmaps to the incorporation of sustainability into a firm's business, several scholars have developed tool and frameworks such as Eccles & Serafeim

(2013) Hart & Milstein, (2003) Chandler & Werther, (2015) Porter and Kramer (2011). Authors Eccles & Serafeim 2013 present what they refer to as 'The performance frontier.' This concept emphasises the importance of linking together a firm's financial performance with, environmental social and governance performance (ESG) issues surrounding the firm. It addresses the fact that there does not always have to be a trade-off (Eccles & Serafeim, 2013; Hart & Milstein, 2003) between the two when incorporating sustainability (Eccles & Serafeim, 2013). This is done through creating innovations that take into consideration the two types of performance. However, Eccles & Serafeim's (2013) framework presents several gaps. It does not take into consideration certain limitations firms face such as, limited financial capital, competencies, resources and measurement tools to address the identified ESG issues.

In the article *Creating Sustainable value* also by Stuart L. Hart and Mark B. Milstein (2003), they discuss how firms have an innate need to not only create value for their shareholders but rather to create sustainable value, (Hart & Milstein, 2003). The authors present their sustainable value framework (Appendix: See figure 2) combining a shareholder value framework that they developed which highlights short term and long term shareholder concerns such as revenues in the short term and company vision in the long term (Appendix: see figure 1), with sustainability drivers such as increased industrialization, poverty, etc. (Appendix: see figure 2).

In Hart and Milstein (2003) Framework for a firm to tackle global sustainability it has to tackle all four drivers, it cannot simply select one. For a firm to achieve sustainable value according to the authors, a firm needs to reduce material consumption and pollution related to industrialisation meeting environmental needs. Secondly, it should operate at a high level of transparency aiding civil society. Thirdly it needs to develop new disruptive technology with the potential of shrinking the human footprint, a step that also aids the environment. Lastly, the firm needs to meet the needs of those at the bottom of the economic pyramid in ways that enable inclusive wealth creation and distribution (Hart & Milstein, 2003).

To achieve the author's aim of creating a sustainable value framework incorporating sustainability into the firm, it needs to combine Strategy with the identified shareholder value framework and the outlined sustainability factors This can be seen below in figure 2. This article like that of Eccles & Serafeim (2013) highlights the importance of innovation

and strategy and its link to achieving sustainable value (Hart & Milstein, 2003).

Hindrances faced by firms to achieve a sustainable strategy

In relation to difficulties faced by firms that seek to implement a sustainable strategy, Eccles & Serafeim (2013) points out four barriers that often hinder firms. These four are short-term incentives, shortage of expertise, capital budget limitations and investor pressure. These four issues are key inhibitors to a firm's successful implementation of a sustainability strategy. Traditionally firms are faced with two major issues, path dependency as pointed out by Hedman and Kalling (2002) and shareholder short-termism as addressed by Chandler & Werther, (2015) and Tricker, (2015). These two facts can account greatly for the four issues outline with short-term incentives and investor pressure falling into the category of shareholder short-termism theory, and shortage of expertise and capital budget limitations falling under, path dependency (Kalling, 2007; Hart & Milstein, 2003).

To deal with the four issues outlined, a firm needs to first implement several internal measures. Issues such as a firm's culture and growth trajectory can greatly influence a firm's view on incorporating sustainability through innovation into a firm (Chandler & Werther., 2015).

A key issue addressed by Chandler and Werther (2015) about hindrances faced when implementing sustainability into a firm is the vital need for top management's involvement. According to the authors, top management is the key orchestrator of strategy and its implementation, and without their involvement attempts to incorporate sustainability into one's firm may be futile (Chandler & Werther, 2015; Lubin & Esty; 2010).

In Lubin and Esty's (2010) article the authors refer to sustainability as an emerging megatrend, like that of quality and information technology (IT). The authors suggest that only by understanding how previous megatrends have worked in the past will a firm be able to create a strategy and develop a competitive advantage surrounding sustainability.

Business model

Schaltegger and Ludeke-Freund (2016) argue that business model innovation has long been neglected because of the inherent complexity in understanding what a business model is. If we cannot understand what something is, how can we expect to manage it or even transform it? Consequently, understanding what a business model is, how business models can be managed, implemented, operated, controlled and reconceived is imperative for achieving corporate longevity and future success.

What is a business model actually?

Though Business model research has recently gained more and more attention from scholars, the concept itself is not new. Peter Drucker referred to business models as the “theory of business” already in 1955 (Drucker, 1955).

Wirtz (2011, p.36) defines a “business model as the depiction of a firm’s internal production and incentive system. A business model shows in a simplified and aggregated way which resources play a key role in the company and how the internal operating processes of the firm transform them into products and services” (Wirtz, 2011, p.36). The limitation of the definition proposed by Wirtz (2011) is that it focuses on the resource or internal perspective of the firm. The focus is on economic value creation merely.

Hedman and Kalling (2002, p.113) define a business model as “causally related components starting at the product market level: customers, competitors, offering, activities and organization, resources and suppliers..... In order to make this definition more complete, we also include the managerial and organizational longitudinal process component, which covers the dynamics of the business model and highlights the cognitive, cultural, learning and political constraints on rational changes of the model”. Hedman and Kalling (2002, p.107) present a model that includes both the internal resource and external industry perspectives.

Unlike Wirtz (2011), Hedman and Kalling (2002) do not ignore the context in which firms perform their activities. Nevertheless, the limitation is that the model fails to include the stakeholder perspective into the analysis. Interactions are present but not fully described.

Moreover, the focus is on economic value creation missing out social and environmental aspects. Thereby, the problem is that this description involves economic value only. Ethical and discretionary activities such as avoiding harm to the environment and stakeholders, and working proactively for improving society as whole are not present in such a model.

Hamel (2001, p.83) “a business model is nothing more than a business concept put into practice. A truly innovative development in the field includes the ability to imagine a radically new concept or business model. Therefore, reconceiving business concepts and business models is key to developing new possibilities of value creation” (Hamel, 2001, p.83). This is the first definition to incorporate the concept of radical business model innovation as the key to developing new possibilities of value creation.

Osterwalder and Pigneur (2010, p.14) defined business model as “A business model describes the rationale of how an organization creates, delivers, and captures value”.

All definitions of a business model as a concept present limitations as well as novelties. As scholars attempted to redefine business model as concept and new challenges emerged, business model as concept have continued mutating and evolving. This position and argument is strongly validated by Hedman & Kalling (2003). They argue that business models are nothing but dynamic models that have to be managed and developed over time.

Managing sustainability-centred business model innovation

According to Schaltegger et al. (2016), management has focused on executing and improving activities and processes in incremental ways rather than trying to understand the nature of the business model of the firm they manage. Additionally, Bocken et al. (2014) say that "eco-innovations, eco-efficiency and corporate social responsibility as much they are needed, they are insufficient for embracing and harnessing real sustainability." Bocken et al. (2014) continue by arguing that sustainable business models do actually embed the triple bottom line and a holistic stakeholder perspective resulting in real sustainability and competitive advantage creation.

Wirtz (2011) argues that managing business models involves five key steps. Firstly, a business model needs to be designed. Secondly, it has to be implemented to become real, otherwise it is nothing but an abstract idea. Thirdly, it needs to be operable. Then possible

to control so as to identify and improve deficiencies. Finally, it must be able to be reconceived or transformed as it starts becoming obsolete (Wirtz, 2011).

Osterwalder and Pigneur's (2010) BMC is a useful tool when assessing economic-centered business models. Joyce & Paquin (2016) along with other scholars realized the imperative need for reconceiving BMC into a new tool for assessing business models beyond the economic sphere. Consequently, in light of the need for a new paradigm, they created a new tool based on BMC that addresses the triple bottom line, this model has been defined as the Triple Layered Business Model Canvas (TLBMC).

Sustainability-centred business model design process

According to Chandler and Werther (2015) the stakeholder perspective requires firms to go beyond catering for the needs of shareholders, but rather incorporate the stakeholder perspective into the strategy of the firm and execute on it. Identifying and serving the needs of a firm's primary stakeholders is vital for success (Chandler & Werther, 2015).

According to Bocken et al. (2014) firms that take into account economic, social and environmental material issues when designing their business models, will not only be better fit for coping with change, but also be able to develop competitive advantage to better exploit business opportunities, and create and deliver superior value than competitors (Bocken et al, 2014; Lubin & Esty, 2010; Eccles & Serafeim, 2013).

In 2015, Joyce and Paquin (2016) came up with a new paradigm for business model design defined as TLBMC. Their main contribution made to business modelling is that firms can now through the TLBMC, understand and actually transform or reconceive a traditional business model design, like the ones presented by Osterwalder's (2004) and Wirtz's (2011), into sustainability-centred ones.

This sustainability-centred business model design involves eighteen new key building blocks in juxtaposition to traditional business model design (Joyce & Paquin, 2016). The first nine key building blocks are the traditional ones based on economic value creation. Sequentially, the second nine building blocks are based on the life-cycle perspective aimed

at creating environmental value. And, the last nine key building blocks focuses on the stakeholder perspective with the ultimate goal of creating superior social value (Joyce & Paquin, 2016).

This new novel way of designing sustainability-centred business models enables medium-sized (SMEs) and established firms (MNCs) to reconceive their current business models in order to become more competitive, profitable and sustainable in the long-term. It requires firms to shift the focus from short-term profit making and bottom line to long-term economic, environmental and social value creation (Joyce & Paquin, 2016; Eccles & Serafeim, 2013; Willard, 2012). In the next chapter, Theoretical Framework, we shall provide an in-depth a detailed assessment and explanation of the different components of TLBMC (Joyce & Paquin, 2016).

Implementing sustainability-centred business models

Bucherer, Eisert & Gassmann (2012) argue that there are two ways of implementing new business models:

By replacing existing ones completely.

By implementing them in parallel. This would be the least risky option according to Bucherer, Eisert & Gassmann, (2012).

Wirtz (2011) defines the implementation process in five key steps that are linkable with those of Chandler & Werther, (2015). A fully detailed scheme with the implementation steps of business model designs is available in the appendix: Implementation of business models (see figure 3).

Finally, operating and measuring the performance of sustainability-centred business models is as important as their design and implementation. Lubin & Esty (2010) argue that “Developing metrics that allow companies to measure benefits and understand costs is essential to adapting and redesigning their strategy, as well as communicating results. And Wall Street will increasingly demand evidence that sustainability investments are generating returns” (Lubin & Esty, 2010, p.49). In other words, if sustainability-centred business models’ performance and results can be measured, executives will be able to operate and manage them.

Sustainability-centred business model innovation: Transforming business models

According to Franca et al. (2017) and Schaltegger & Ludeke-Freund, (2016) reconceiving or transforming business models is a neglected aspect of innovation. The focus of business model innovation is often on product-service systems or value propositions rather than on the whole business model level (Franca et al., 2017; Schaltegger & Ludeke-Freund, 2016).

Undoubtedly, the need for understanding how business model innovation is undertaken has become more evident today than ever before. It is also crucial to comprehend the forces sparking such change. Failing to do so, it will not only pose a greater risk over the long-term success of the firm, but also risk to create more environmental and social harm (Bocken et al, 2014).

According to Lubin & Esty (2010) transforming business models from traditional to sustainability centred ones and executing of them is key for success. Firms accomplishing such transformation will secure a prosperous future. Since the word used by Lubin & Esty (2010) is “transformation”, it could be argued that the type of innovation needed for achieving sustainability is transformational. Hart & Milstein. (2003) say that incremental improvements only result in greening and not in the creative destruction of industries. In conclusion, transforming a business model into a sustainability-centred one cannot be done incrementally but rather requires radical change (Lubin & Esty, 2010, Hart & Milstein, 2003).

Today’s drivers of change can be perceived as catalysts to the ever-increasing need for firms to transform their business models towards sustainability-centred ones. These five drivers are based on the work of Chandler & Werther, (2015) and Wirtz (2011): Markets & affluence; Sustainability; Globalization and Regulation; Technology and Media; and, Brands. These drivers of change have two major implications for businesses: Business model life-cycle is dramatically reduced. (Appendix see figure 3).

Business model innovation requires dynamic and continuous shifts from entrepreneurial to planning mode and from planning to entrepreneurial mode, which according to Sarasvathy

(2001) entrepreneurial thinking or effectuation refers to the way that entrepreneurs use means creatively to create new imagined ends or realities. This type of thinking is linked to Schumpeter (1934) description of entrepreneurship as a source of creative destruction. Hart & Milstein (2003) describes sustainability as the creative destruction of industries. Entrepreneurs by disrupting and destroying a current equilibrium, they establish a new one. This is the driving force of innovation. It is often present during the creation of a business or the re-conception of one.

Schallmo (2013) defines business model innovation as an iterative process conformed by six steps: Ideation, business model design, prototyping, detailed design, implementation, and adjustment and diversification. In the appendix, please find an illustration of the business model process innovation (Appendix: see figure 5).

Franca et al. (2017, p.155) argue that “current business model innovation and design generally fails to sufficiently embrace the sustainability dimension” (Franca et al, 2017, p.155). They continue and argue that BMC is nothing but a generic approach to business model design.

To conclude, sustainability-centred business model innovation represents the 21st century business imperative. Business model management and innovation combined with the sustainability imperative represents an opportunity for the creative destruction of industries (Hart & Milstein, 2003) and the establishment of a new meaningful business paradigm set to change the world. As one of the latest contributions to business model design and innovation, the TLBMC by Joyce & Paquin, (2016) is as revolutionary today as it once was Osterwalder and Pigneur’s (2010) BMC. The TLBMC allows the incorporation of the triple bottom line in the process of business model design and innovation. It permits an in-depth horizontal and vertical analysis of the three spheres of a firm’s business model. Finally, the TLBMC is the tool we shall use to analyse the selected firms and the one used to tackle our work and achieve our goals. And, we will present this novel framework in the next chapter of our thesis.

Within the following chapter, a detailed description of our chosen theoretical framework will be carried out. It shall explain the framework theoretically, as well as how it can be

practically used to analyse a firm's business model canvas.

THEORETICAL FRAMEWORK

This chapter will begin by arguing for the necessity of a paradigm shift. This will be followed by the introduction and a detailed description of new framework developed by Joyce and Paquin (2016) defined as the Three Layer Business Model Canvas. After this it will explain how this model can be used to practice.

Paradigm shift: From traditional to sustainability-centred business model innovation

Broman and Robert (2017) developed a framework centred around sustainability principles anchored by the scientific fact that in a sustainable society, natural resources cannot be treated as infinite and people cannot be subject to structural obstacles to their health, influence, competence, discrimination and making-meaning.

Morelli's (2011) "three-legged approach" or triple bottom-line to business and sustainability cannot be fully captured within the traditional BMC developed by Osterwalder in (2004). The original BMC facilitates the discussion and exploration of innovations within the confines of a limited one dimensional view of the existing business models. In light of this we argue that business model re-conception or innovation is linked to the need for a total transformation of the existing business model incorporating more than the economic layer. Upward and Jones (2016) agree with this view, they argue that the traditional BMC is simply incomplete. Franca et al. (2017) work attests to the ultimate business challenge of today being the fact that modern society is neither ecologically nor socially sustainable. The BMC fails at addressing both social and environmental issues due to its one-dimensional nature of outlook.

Consequently, those businesses seeking to partake in the megatrend of sustainability, we recommend that they embrace a new business model paradigm: Sustainability-centred business model innovation. We believe that such radical business model innovation can best be captured by embracing and harnessing sustainability as a key driver of change. In the of this, we believe, the tool that will enable companies to better understand sustainability-centred business model innovation is the TLBMC.

The Three-Layered Business Model Canvas

TLBMC is a new tool developed by Joyce and Paquin (2016) with the aim to explore sustainability-centred business model innovation. This model is built upon the foundation of Osterwalder (2004) and Osterwalder and Pigneur (2010) BMC, with Pigneur also contributing indirectly to its creation. The TLBMC framework, its elements and usability renders it a novel contribution to the field of sustainability centred business model innovation.

The TLBMC adds two new layers to the traditional BMC, an environmental layer based on the life-cycle perspective encompassing 9 new building blocks, and a social layer based on the stakeholder perspective contributing to another 9 building blocks. This new BMC moves a firm away from the one-dimensional perspective of the traditional BMC by incorporating the “three-legged approach”, allowing a more holistic business model to be achieved.

The TLBMC enables for-profit firms to map, understand, evaluate, design, implement, operate and control 27 key building business blocks instead of 9. According to Hart and Milstein (2003) only through transformational innovation can the creative destruction of industries can be accomplished. Moreover, they argue that incremental innovations with concern to sustainability only result in “greening”. Greening can be defined as the process whereby firms try to harness sustainability through incremental innovation. Consequently, complete sustainability can only be embraced and harnessed through transformational or radical innovation. The focus is not on existing value propositions, customers, suppliers, shareholders and processes, but on emerging new markets, technologies, partners and key stakeholders (Hart & Milstein, 2003; Joyce & Paquin, 2016)

Finally, the TLBMC makes it possible for companies to dynamically analyse business model innovation through two new dynamics: horizontal and vertical coherence (Joyce & Paquin, 2016). The horizontal coherence is concerned with a firm’s ability to explore and understand new ways of creating economic, environmental and social value individually through the interaction of the 9 building blocks within each layer. Whereas, the vertical coherence enables a firm to comprehend how value is created across all three layers. These two coherences are indeed a novelty in the analysis of business model conceptualization.

(Appendix see figure 6).

Another novelty is that it enables and leverages, life-cycle analysis and stakeholder needs management with the aim of creating and delivering superior economic, environmental and social value. Nidumolu, Prahalad and Rangaswami (2009) in their work argue that innovating on existing business models can be the catalyst for unleashing a new wave of value. In other words, sustainability-centred business model innovation or TLBMC is a tool applicable predominantly to existing or traditional business models with the scope of transforming them into sustainability-centred ones.

Osterwalder (2004) and Joyce and Paquin (2016) agree that there are three core factors when conceptualizing an organization:

How key components integrate to create and deliver superior customer value

How those components interrelate and interconnect with one another

How the firm captures economic value while creating environmental and social value

Presenting and describing the triple layered business model canvas tool

Traditional business model Canvas: Economic Sphere

It possesses 9 key building blocks causally interacting with one another. The focus is on the economic sphere. A descriptive image is available in the Appendix: Osterwalder's BMC, figure 7.



Figure 1. Economic layer of Canvas

Environmental business model Canvas: Life-cycle perspective

The focus is on the life-cycle assessment, which measures the environmental impact of a product or a service throughout all stages of its life (Joyce & Paquin, 2016). Here the goal for firms should be, to identify material environmental issues through tools such as, measuring its corporate footprint (CO₂), energy and water use, waste generation, level of risk, resource depletion, ecosystems destruction and negative effects on human health and life. Once critical material environmental issues have been identified, a firm should develop programs and solutions aimed at resolving them. Below are the 9 new building blocks within this layer and brief explanation of what they refer too.

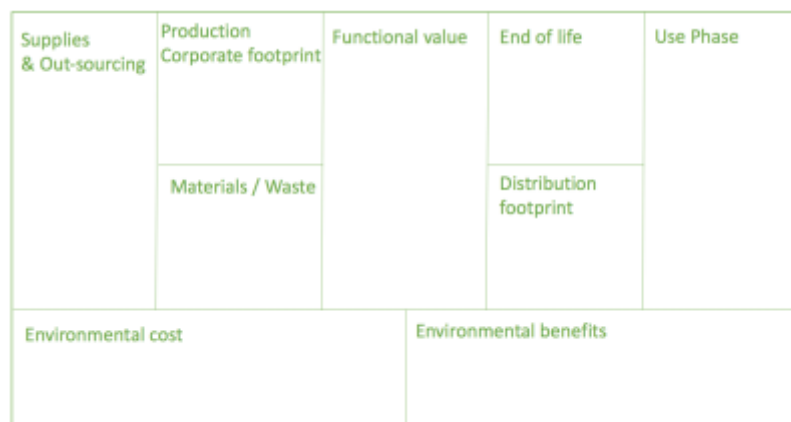


Figure 2. Environmental layer of Canvas.

Functional value: Measures the number of actual consumed products by consumers over a period of time e.g. one year.

Materials: The environmental extension of BMC key resources. “It refers to core bio-physical stocks used to render the functional value” (Joyce & Paquin, 2016, p.1478). For the analysis of a firm’s materials environmental impact, it is important to focus on the key materials that contributes to the largest % of its corporate footprint.

Production: The environmental extension of BMC key activities. All activities with the scope of transforming materials (input) into products (high-value output).

Supplies and outsourcing: All non-core materials and production activities. The environmental extension of key partners. For this block to be classified as sustainable, all suppliers must produce materials in an environmentally friendly way. Example: in the areas of energy or water supplies, firms should shift from non-renewable to renewable and clean energy.

Distribution: firms must pay special attention to the way they ship and distribute their products and services to customers in relation to the emission of CO₂.

End-life: Linked to the functional value of the product / service and its need to be replaced or repaired. When the product life ends, is it possible to recycle or reuse?

Use phase: It refers 100% to the quality of the product or service and the need for its maintenance or service. The longer it lasts the less pressure on the environment. The greater the life-cycle, the better for the customers as well.

Environmental costs and benefits: Negative environmental externalities are costs the firm does not absorb when it pollutes the environment. Firms must either absorb the environmental costs within its cost structure as a sunk-cost or eliminate such cost all together. Environmental benefits are defined as a positive externality, such as cleaner air or water.

Societal & governance business model Canvas: Stakeholder perspective

The focus is on a firm's social impact. By incorporating a stakeholder perspective, firms are better suited to balance the different interests of their key stakeholders. This layer is broad and flexible in use.

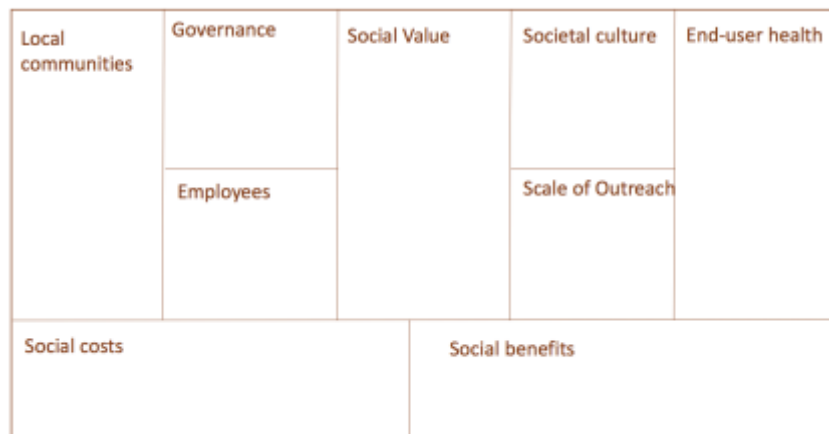


Figure 3. Social layer of Canvas.

Social Value: Sustainability centred firms require the incorporation of social value in their mission statement according to Joyce and Paquin (2016). The goal is to create value for a firm's stakeholders and society as whole.

Local communities: MNCs must assess every single community in which they perform their activities and make sure that they understand their values and cater to the needs of these communities. Supporting communities can take the form of improvement of key infrastructure such as schools and hospitals could be one way. Aiding and supporting key

partners and suppliers such as poor small-scale farmers by providing them better pay and working conditions.

Employees: Joyce and Paquin (2016) argue that employees are core to any organization. Thus, firms that provide safety, training & education, wellness programs, pay and gender equality, are likely to be more successful and increase employee loyalty.

Governance: This involves aspects such as decision making dynamics between board of directors and management, and other governance issues such as transparency and ethics. The key issue is that of understanding whether management and board of directors incorporate a stakeholder perspective signalling a clear sign of commitment to move away from the short-term shareholder orientation.

Social culture: The values and beliefs of the society in which the firm performs its activities should to a large extent be incorporated into the culture of the company.

Scale of outreach: This is achieved by the depth and breadth of the life cycle relationships the firm creates with its stakeholders (Joyce & Paquin, 2016). The longer and more durable the relationship with key stakeholders, the greater the scale of outreach.

End-user: The end user is the customer. The greater the firm's ability to exceed the expectations of its customers, the greater the loyalty and life-cycle of the relationships between them. It is utterly important that businesses focus on customers' health and overall quality-experience.

Social impacts or externalities: Negative externalities must be absorbed and substantiated by the company. Companies that exploit workers by paying below market salaries, increase wage gap between operational workers and executives, allow child labor are not contributing to the development of society and, thus, business.

Social benefits: Community development, infrastructure development, creation of employment and social well-being, among others.

Three Layered Business Model Canvas in practice

Firstly, Joyce and Paquin (2016) suggest practitioners and academics to identify, map, and evaluate all positive and negative economic, social and environmental issues.

Secondly, when negative economic, social and environmental issues have been identified and mapped out, the TLBMC is used to explore new ways to transform the business model through innovations aiming at creating, delivering and capturing superior value.

Sustainability-centred business model innovation through the TLBMC, enables firms to

innovate in three ways:

Visual Representation: Provides greater clarity of 27 key business building blocks for innovation. Horizontal and vertical coherent analysis.

Creation: Innovation through the creation of a new radical business models or radical transformation of an existing one.

Validation: Resolving the benefit-financial cost trade-off.

To conclude, we have presented the arguments for a new paradigm shift. One that requires firms to move from traditional to sustainability centred business models. This can be accomplished by using a novel framework defined by Joyce and Paquin (2016) as the TLBMC. The implementation of this model enables firms to map, identify and evaluate 27 key building blocks in relation to the triple bottom line, economy, people and planet. In the next chapter, we shall present our multiple case study.

CASE STUDY: NESTLE NESPRESSO AND STARBUCKS

The purpose of this fifth chapter is to, firstly, provide a clear overview of the current challenges of the coffee industry in relation to sustainability in the 21st century. It shall then, introduce the journey of Nestle Nespresso and Starbucks through different phases of business. The aim of this is to help the reader understand how sustainability and other environmental forces affected the business models of Nestle Nespresso and Starbucks and how they have incorporated sustainability into their business models thus far. To achieve our goals, we have used Joyce and Paquin's (2016) TLBMC framework. Following the introduction of the companies and their journeys, a snapshot of their current TLBMC will be provided to illustrate how the firms have incorporated Morelli's (2011) "three-legged approach."

Outlook of the global coffee industry

To date, coffee is one of the largest commodities traded on global markets only surpassed by oil (Saito, 2004; Investor Guide, 2017; Samper & Quiñones-Ruiz, 2017). The global coffee industry is worth over 100 billion US dollars putting it ahead of most commodities. According to the BBC (2015) two billion cups of coffee are consumed worldwide every day. Over 25 million people make their living from coffee farming, with 67% of the coffee grown in Latin America only. The remain is farmed in Asia and Africa. Thus, 90% of the world's coffee production occurs in the emerging world. However, most of it is consumed by the developed one according to Businessinsider (2011).

According to Stanford Social Innovation Review (2011), 22% of the world coffee is imported and consumed by the US, 67% by the EU, and the remaining 10% by other import countries. 70% of coffee beans produced and roasted are Arabica the tastiest and highest-quality type of coffee. The remaining 30% is Robusta the cheapest and hardest type of bean seen in instant coffee jars (Fairtrade, 2017).

Not only is coffee one of the world's largest commodities, but it is also an under severe threat from unsustainable practices as well as climate change (Saito, 2004; Samper & Quiñones-Ruiz, 2017). This commodity has seen threats from climate change, with coffee farming regions facing drought and intense sun rays, as well as an environmental crisis

brought about by unsustainable practices. These practices include intensive farming, the cutting down of forests and the intensive use of chemical fertilizer and pesticides bringing about, soil erosion and ecological instability threatening biodiversity (Saito, 2004; Samper & Quiñones-Ruiz, 2017; Stanford Social Innovation Review, 2011 Fairtrade, 2017). According to the World Wildlife Fund (2017), 37 of the 50 countries with the highest deforestation rate, were coffee producers. Unsustainable techniques have resulted in the destruction of entire ecosystems. Every year, the world sees about 46-58 thousand square miles of forest lost, which is the equivalent to 48 football fields every minute (World Wildlife Fund, 2017).

Aside from these environmental issues, coffee farming communities have been faced with both economic and social strains. They have seen a decrease in coffee prices brought on by, fluctuating markets, the introduction of new coffee suppliers, e.g., Vietnam, as well as climate change problems all affecting the global coffee supply and market price (Saito, 2004). Unfortunately, the most severe consequences of fluctuating coffee prices are felt by the farmers who are losing their livelihood (Saito, 2004; Samper & Quiñones-Ruiz, 2017). "Like in most commodities under free market conditions, the coffee industry value chain is now mostly described as a market or buyer-driven governance chain that limits the potential economic upgrade opportunities for farmers" (Samper & Quiñones-Ruiz, 2017, p7)

Due to all these hindrances facing the coffee industry the need for sustainability has been called for from both ends of the commodities value chain. Consumers, society and NGO's have taken note of the plight faced by coffee growers and the community as a whole and have called for a change in the direction of sustainability (Samper & Quiñones-Ruiz, 2017; Starbucks, 2008, p4). Starbucks and this has to lead the industry to become one of the early adopters of Voluntary Sustainability Standards (VSS) (Samper & Quiñones-Ruiz, 2017). "The most notable VSS include Nespresso's AAA, 4C Association, Starbucks C.A.F.E. Practices, Fairtrade, Organic Rainforest Alliance and UTZ Certified" (Samper & Quiñones-Ruiz, 2017, p3).

The foremost known initiative within the industry is Fairtrade; it seeks to provide farmers with better conditions and better pay. Through the spread of information via media and academic writings on the issue of sustainability faced in farming communities, large coffee

brands, and store chains are under increasing pressure to act. They have come to realize that, "there is an evolving consensus on the importance of environmental, social and economic sustainability for long-term brand and company performance" (Samper & Quiñones-Ruiz, 2017, p10). Today, chains such as Starbucks, Dunkin Donuts, and McDonald's buy fair-trade coffee. If we look at the annual growth rate of coffee shops, it stands at 7% with Starbucks being one of the largest coffee chains in the world (Businessinsider, 2011)

As firms and NGOs strive towards the creation of appropriate production policies and practices, it must be kept in mind that, "sustainable coffee production aims to achieve environmental, economic and social sustainability for the long-term development of coffee-growing regions" (Saito, 2004, p2). According to Moeko Saito (2004), this involves, the preservation of natural resources such as, water, soil and biodiversity as well as, organic coffee growing, shade-grown coffee and fair/trade practices in which the wellbeing of farmers and their communities is prioritised (Saito, 2004; Conservation International, 2017; Fairtrade, 2017).

By embracing sustainability, farmers and society are faced with several benefits. The environmental benefits gained are, maintenance of natural biological cycles, habitats, biodiversity as well as human health as, sustainable coffee farming restricts the use of agrochemicals, (Saito, 2004; Conservation International, 2017). The economic benefits enjoyed are, a firm's ability to charge premium prices to customers for organic coffee. For farmers, being VSS certified allows them to get higher than market prices for their coffee, enabling them to enjoy the social benefit of having better standards of living (Saito, 2004; Samper & Quiñones-Ruiz, 2017; Fairtrade, 2017).

It must also be noted that factors that hinder the development of sustainable coffee practices exist. Firstly, according to Saito, (2004) the quantity of sustainable coffee currently being sold on the global market is too small to support the quality that farmers could potentially supply. This deters them from investing in the often-costly decision of implementing sustainable practices and becoming certified. Another issue is the difficulty faced by farmers when seeking to gain VSS Certifications. This is due to the certification process being costly as well as frequently requiring farmers to be part of an organised cooperative.

Another issue is the high-quality requirements eliminating specific farming regions based on issues such as on altitude, being remotely located and having substandard processing facilities. The above factors not only hinder farmers from implementing sustainability practices but rather jeopardise the progression of sustainability within this industry (Saito, 2004).

To be a member of the Fairtrade initiative is undeniably a major milestone for small-coffee farmers. However, it is not enough for tackling the above environmental and social issues and challenges addressed above. More needs to be done. As much as the Fairtrade initiative seeks to provide farmers with better conditions and pay, market price volatility, unequal marginal contributions, pressure for increasing output results in unsustainable farming methods as previously addressed. Many coffee farmers receive prices for their harvest that can be less than the costs of production, forcing them into a cycle of poverty and debt, according to the Organic Consumer association (2017) and the World Coffee Research (2017).

The previously mentioned price volatility hinders the ability of farmers to make long-term plans. Though, Fairtrade criteria create a safety net or a floor / minimum price for safeguarding farmers, that floor is not high enough. Due to the time, it takes for a coffee-bush to reach its full potential yield, normally between 5-6 years, farmers are pressed to work with old and, even sometimes, sick bushes affecting not only productivity, but also the quality of the bean. Finally, Fairtrade provides access to credit during the "lean months", but such credits must be paid back. If price volatility causes a radical negative drop, taking the kg price to its minimum, farmers are pushed into a situation where most of their revenues must be used to pay back such loans, (Fairtrade, 2017).

Moreover, Fairtrade to a large extent excludes a vast number of farmers who fail to meet the requirements or criteria established by Fairtrade Labelling Organizations (FLO). The Fairtrade coffee market is too small as it supports only small-scale farmers meeting the FLO criteria (Fairtrade, 2017).

Unfortunately, a significant amount of the coffee currently being absorbed in the global market is unsustainable. "Fairtrade" coffee in the US represents only 4% of 14 billion US

dollar market. In other words, 86% of the coffee imported by and consumed in the US is produced unsustainably by large plantations. Why? Simply because it is cheaper and more convenient. As a result of that, large plantations do not only implement unsustainable farming practices, but they also exploit workers. By unsustainable practices, we refer to the usage of sun-farming techniques resulting in deforestation and destruction of flora and wild-life, use of pesticides, and exploitation of workers (Smithsonian Migratory bird centred, 2010; Stanford Social Innovation Review, 2011).

Besides Fairtrade, there are a number of initiatives that are neither company or government developed, within the coffee industry that protect the environment and safeguarding consumer health. Some certifications are 100% related to the protection and conservation of the environment such as "shade-grown" or "bird-friendly" certified coffee. Another relevant initiative that should be integrated with Fairtrade is the Rainforest Alliance. Since 1987, it has been working actively to protect forests worldwide while supporting sustainable livelihood. The aim is to restore balance to planet earth. The rainforest alliance involves both protection and conservation of rainforest (Rainforest Alliance, 2017)

We suggest a triple bottom-line approach for the analysed industry:



Figure 4. Sustainability centred approach for the coffee industry.

We consider it relevant to analyse the way that two of the largest firms in this industry have started a transformation towards more sustainability-centred business models. The firms we decided to evaluate are Nestle Nespresso and Starbucks.

Introducing Nestle Nespresso

Nespresso is an autonomous business unit of Nestlé. The firm's headquarters and factories are located in Switzerland, Europe.

Nespresso's inception: Business phase 1 defined by the firm trial and error (Nespresso, 2016a).

Undoubtedly, Nespresso has revolutionized the way consumers experience espresso-quality coffee. Why? Nespresso understood that consumers, who were seeking a barista-quality cup of coffee either at home or in the office at any time, could not have it unless

going to a café. Hence, the firm launched a radical innovation, which was introduced for the first time in 1986, when pioneering and launching the first Nespresso machine and the first four Grand Cru varieties in single-served aluminium pods. From that moment onwards, consumers wanting to experience barista-quality espresso at home and/or in the office could do it at any time (Nespresso, 2015).

Business phases 2 and 3 defined by Nespresso as start-up and global brand expansion (Nespresso, 2016a).

Nespresso took the Gillette “razor and blades” business model archetype and started using it as its own (Joyce & Paquin, 2016). As a result of that, customers were locked-in and obliged to buy coffee pods from Nespresso at a premium price, but only for a while. In the beginning, the machines were not compatible with any other capsule. By the end of 1999, the firm was successfully locking-in b2c as well as b2b customers. The firm found a way to boost brand awareness and customer loyalty via premium membership clubs and VIP events. Consequently, both market share and revenues were expanding rapidly and profitability was no exception. Nespresso was a global brand by 2005 (Nespresso, 2016a).

Business phases 4 and 5 defined by Nespresso as shaping the coffee culture and consolidating global sustainable coffee leadership (Nespresso, 2016a).

In 2006, due to patent-protection loss, competing firms made use of the Nespresso machines technical drawings for developing compatible coffee pods or capsules able to fit Nespresso’s machines (Financial Times, 2014). Hence, Nespresso began losing its customer lock-in competitive advantage. This is supported by the fact that Nespresso suffered a global market share loss due to growing competition from companies such as Starbucks Verismo, Kraft Foods Tassimo, Keurig Green Mountain, and Rogers Family coffee, which is the only firm in the marketplace commercializing 100% organic and biodegradable coffee-pods under its own brand San Francisco bay. (The guardian, 2015; Nestle, 2015; Financial Times, 2014). For instance, Green Mountain coffee has been selling pods in the US for 2.3 billion US dollars in 2006 (Financial Times, 2014)

Nestle global annual report (2015) clearly states that the product and brand category defined as “Powdered and Liquid Beverages” includes popularly positioned products that goes from cheap to premium ones. This category is conformed by brands such as Nescafe, which is

Nestlé's cheapest coffee made of roasted Robusta coffee beans, Dolce Gusto, lower quality coffee with milk, Nespresso, which is the barista quality coffee, Nestea, which is tea, and, finally, Special T. However, concrete and specific data regarding Nespresso's market share and revenues is not publicly available, but the category cumulated is. According to The Guardian (2015), "Nespresso doesn't disclose revenues or profits, but it's a big, global operation: 10,500 employees sell coffee in 62 countries. As of 2012, Nespresso sold more than 27bn of its sleek aluminium capsules worldwide".

The Nestle Financial Statements (2015) shows only total revenues for soluble coffee and coffee systems without making any distinction between its different brands. However, we can see from the figures that the assessed category experienced a total revenue drop from 9.3 billion CHF (Swiss Franc) in 2014 to 8.8 Billion CHF in 2015. It is not possible to establish with accuracy whether the drop-in revenues and market share for Nespresso was sharper than believed as other consumer brands in the category could have expanded while Nespresso contracted.

Nonetheless, another strong argument that supports our theory, it is the fact that Nestle launched Nescafe Dolce Gusto that same year, 2006, in a bid for gaining market share from a market segment that prefers less premium coffee with milk such as lattes, cappuccinos, milk chocolate and even tee. Nestlé's goal was to regain some of the market share lost from Nespresso with a new business unit - Nescafe Dolce Gusto (The guardian, 2015).

Not surprisingly, due to the loss of market share and revenues, Nespresso stepped up the spending in marketing by launching in 2006 the "George Clooney: What else?" campaign and its first branded retail boutique in Champs d'Elysées, France. Incremental New Product Development innovations were sought. The first lattissima machine was released with a new range of Grand Crus for increasing awareness and market penetration in the US.

Finally, due to increasing pressures from both sides of its value chain, rapid deterioration of the natural habitat in which Nespresso's key resource is grown, which is coffee beans, Nespresso understood that in order to create stakeholder value, it had to incorporate sustainability into its core business and execute on it. Consequently, in order to position itself as a leading sustainable provider of a unique coffee experiences to reduce

environmental pressure, secure the loyalty from key stakeholders such as customers and employees, help its key partners, who are the small scale-coffee farmers, launched two initiatives: The Ecolaboration: AAA program in 2009 and the Positive Cup in 2015 (Nespresso, 2015).

Ecolaboration report 2009-2013

In September 2014, Nespresso released for the first time the Ecolaboration full-term report that covers the period 2009-2013. Till date no new report has been released. The aim of the Nespresso Ecolaboration report (2014) was to increase transparency and communicate stakeholders the progress made around sustainability and shared value. Sustainability for the firm is quality coffee sourcing. Whereas societal value creation is deemed by the firm as creation of shared value (CSV) based on Porter and Kramer (2013) CSV concept.

The AAA program

It is a program that it adds quality dimension to environmental sustainability and social welfare, according to Nespresso Ecolaboration report (2014).



Figure 5. Nespresso AAA sustainability program.

According to Nespresso Ecolaboration report (2014), the main areas of environmental impact are: First, machine use or use stage, followed by growing coffee and capsule production, then, packaging.

Overview of AAA program results

AAA Metrics	2009	2013	Variation %
% of coffee sourced from AAA program	47%	84%	78%
% of coffee Rainforest Alliance certified	0%	30%	100%
Number of farmers in the AAA program	26.500	62.000	138%
Number of hectares of sustainable grown coffee	130.000	290.000	130%
Recycling capacity – Aluminum pods	25%	80%	220%
Global scale of outreach – Number of countries	-	62	-
Number of countries with collection and recycling points	-	27	-
Number of countries with recycling home initiatives	0	13	100%
Machine focused sustainability-innovation – Reduction coffee cup footprint	0	20,7%	100%
Transportation annual carbon emission reduction in UE	0	35-40%	100%
Overall improved social conditions	0	22,6%	100%
Overall improved environmental conditions	0	52%	100%

Source Ecolaboration report (2014)



Figure 6. Nespresso Positive Cup.

The positive cup initiative: Sustainability goals 2020

100% sourced coffee from Nespresso AAA program.

100% sourced aluminium in line with Aluminium stewardship initiative standards and increased recycling capacity to 100%.

100% carbon efficient by insetting aimed at cutting carbon footprint by 10%. Insetting is socio-environmental commitments to reduce carbon footprint e.g. farmers must be 100% carbon

neutral. Source: Nespresso web-page (2017); (Nespresso, 2016b).

Chart of the business-phases of Nespresso as per previously description:

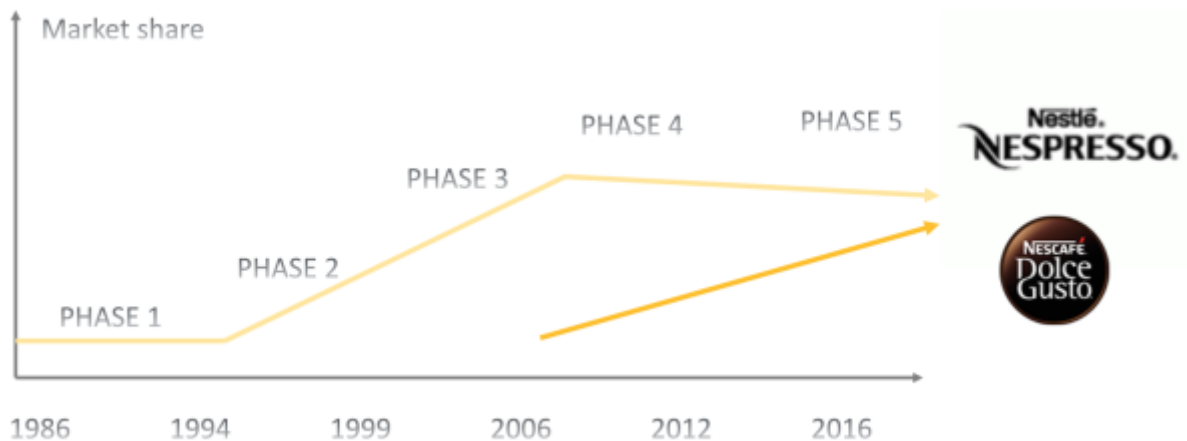


Figure 7. Business phases of Nespresso.

Nespresso through the lens of the Three Layers Business Model Canvas

The information used for crafting the three layers' business model Canvas has been obtained from Nestlé's Annual Reports, Nespresso's web-page and sustainability reports, Joyce & Paquin (2016) peer reviewed article, business magazines such as Business Insider, The Guardian, BBC and Financial times, and other online sources as World Wildlife, Rainforest Alliance and World Coffee Research.

Traditional Business Model Canvas: Economic sphere of Nespresso

Key Partners Eugster/Frisomag – main producer of Nespresso Machines Delonghi, Siemens, Miele, among other manufactures of kitchen equipment Coffee suppliers – AAA program in association with Rainforest Alliance Suppliers of Aluminum capsules / pods	Key activities Sales & Marketing R&D Production Logistics Key Resources Brand Patents Factories Coffee & Aluminum Distribution channels	Value Proposition Nespresso Machines Nespresso Coffee Pods	Customer relations Membership clubs Loyalty Special events Channels Online Web shop Offline Own branded shops Retail shops	Customers B2B customers: Office market B2C customers: Affluent consumers
Cost structure Variable costs: Direct materials: Coffee & Aluminum Direct Labor Fixed costs: Commercialization Administration Financial		Revenues Main revenue stream: Customer lock-in & Premium pricing => Single served-coffee pods Secondary revenue stream: Nespresso Machines		

Figure 8. Nespresso's economic Canvas.

Environmental Business Model Canvas: Life-cycle sphere of Nespresso

<p>Supplies & Out-sourcing</p> <p>Nespresso Machine % carbon footprint is not internalized by Nespresso. The firm simply informs that production is outsourced. No defined by Nespresso how it tackles carbon footprint produced by suppliers.</p> <p>Energy used not specified whether it is renewable or non-renewable.</p>	<p>Production Corporate footprint</p> <p>Production 4,5% footprint Packaging 3,6% footprint Administration 1,9% footprint</p> <p>Materials / Waste</p> <p>Coffee supply 19,9% carbon footprint 84% sourced AAA 30% Rainforest certified Aluminum capsule 11,3% carbon footprint 75% of the world's aluminum is recycled. However, Nespresso does not inform the % of the recycled aluminum used in pods.</p>	<p>Functional value</p> <p>60 Nespresso machine models sold in 64 countries. The figure of sold machines has not been unveiled.</p> <p>27 Billion pods x 40 ml espresso coffee in 2012 = 1080 000 000 Liters Espresso Coffee consumed globally in 2012.</p>	<p>End of life</p> <p>Aluminum capsule, packaging and machines end-of-life 5,5% carbon footprint</p> <p>80% Capsule Recycling capacity % Machine & Packaging recycling capacity not specified</p> <p>Distribution footprint</p> <p>Distribution & Logistics 4,6% carbon footprint The % of emissions is estimated in UE. Train is preferred over trucks. However, % global footprint is not specified</p>	<p>Use Phase</p> <p>Machine use, coffee preparation, cup production and washing</p> <p>46,6 % carbon footprint</p> <p>The main carbon emission is generated in the use phase.</p> <p>Other issues deemed as critical in the use phase is the water and energy use. Nespresso has stepped up efforts to reduce energy consumption by intruding stand-by and power-off features to its machines.</p>
<p>Environmental cost</p> <p>Machine production footprint generated by suppliers is not measured. 20% of aluminum pods end in land fields. Machines are neither collected nor recycled resulting in vast amount of waste. Distribution and Logistics measured simply in EU. The footprint is clearly larger. 46,6% emissions generated during the use stage. 70% of the coffee is non organic meaning that pesticides are used. Unclear water and energy sustainability related programs.</p>		<p>Environmental benefits</p> <p>80% Aluminum pods recycling capacity. Distribution and Logistics in EU has shifted from trucks to trains. 20,7% overall carbon footprint reduced between 2009 and 2013. AAA program created to reduce coffee supply carbon footprint. 30% coffee certified Rainforest Alliance. By 2020, the Positive Cup seeks to further reduce carbon footprint by 10% and be 100% carbon efficient, increase recycling capacity to 100% and 100% of its coffee sourced sustainably.</p>		

Figure 9. Nespresso's Environmental Canvas.

Societal Business Model Canvas: Stakeholder orientation of Nespresso

<p>Local communities</p> <p>84% of the coffee was sourced by 62.000 small-scale farmers in 2013. The number of farmers within Nespresso's AAA program, who benefited from 35-40% premium pay in relation to kg market price, micro-loans access, education and infrastructure improvement, increased by 138% between 2009 and 2013. Nespresso aim is to source 100% of its coffee through its AAA program.</p>	<p>Governance</p> <p>Within Nestle, Nespresso is an autonomous business unit. Nespresso does not disclose turnover nor earnings. Much of the decision making is not transparent and communication to stakeholders is not always clear.</p> <p>Employees</p> <p>Employee satisfaction rate deemed as medium-high. The company score in a scale from 1 to 5 stars = 4 (Indeed). Over 50% of employees have direct contact with consumers. Current workforce 12.000. Nespresso is replacing its retail workforce in Japan by robots.</p>	<p>Social Value</p> <p>Customers: Nespresso works actively with quality to improve satisfaction and experience. Farmers: Nespresso focuses on helping them improving crops yield to achieve greater productivity and profitability. Environment, NGOs and partners: Safeguarding the environment and society at large. Cooperation with Rainforest Alliance and Fairtrade.</p>	<p>Societal culture</p> <p>Nespresso works actively to incorporate the preferences and values of the different country-cultures in which it operates. In the US the firm had to develop a new value proposition to create value. It also incorporates cultural elements into its own culture.</p> <p>Scale of Outreach</p> <p>Nespresso is present in 64 countries. The focus for Nespresso is to maintain its status a global brand. 450 own-branded boutiques in 58 countries. 24/7 customer care and service.</p>	<p>End-user health</p> <p>Nespresso is concerned with the health of the end-user because it increased the % of organic coffee Rainforest certified to 30% in 2013.</p> <p>Providing coffee free from chemicals and trails of harming substances is important for Nespresso.</p> <p>Nespresso provides a unique experience of taste, warmth and caffeine boost.</p>
<p>Social costs</p> <p>Nespresso coffee can result in caffeine addiction. 35-40% premium pay does not matches the high margins charge by Nespresso. There is a gap between the commodity price and retail price of the coffee produced by the farmer. Communities affected by replacement of traditional farming methods.</p>		<p>Social benefits</p> <p>Nespresso works actively with training educational courses and programs aimed at improving the lives of small-scale farmers. Nespresso invests in the improvement of the infrastructure of the local communities in which perform its activities. Nespresso pays a premium price to farmers of about 35-40% higher than market price.</p>		

Figure 10. Nespresso's Social Canvas.

Introducing Starbucks

Starbucks is a global coffeehouse company and chain that began in the United states of America in the city of Seattle. The company being in 1971 and in 1987 changed ownership

through acquisition by another American coffee company named Il Giornale owned by Howard Schultz and a group of local investors, maintaining the name Starbucks. This is when Schultz took over as CEO and began bringing to life his vision of the Starbucks that we see today (Starbucks, 2017a). (A Company information) As part of the Starbucks empire it also owns the brands, Seattle's Best Coffee, Teavana, Tazo, Evolution Fresh, La Boulange, Ethos Water and Torrefazione Italian Coffee (Starbucks, 2017b) (Company Profile).

Starbucks is dedicated to offering its customers some of the world's finest coffee both in quality, taste and sourcing. To date the firm has achieved a rate of 99% ethically sourced coffee, ensuring that the coffee brought into its stores is environmentally friendly, healthy and of the highest quality (Starbucks, 2017c; Conservation International, 2017a; Starbucks, 2016a, p. 5). Starbucks offers a variety of foods and beverages from world class coffees from Africa, Latin America and Asia to premium teas, and high quality pastries and sandwiches (Starbucks, 2017 A) (Company Information) but for the purpose of our analysis we shall be focusing on the firm's coffee based beverages alone.

As a result of an inspirational trip to Italy in 1981 where Schultz was introduced to the coffee bar experience and ambiance in Milan, Starbucks value proposition was born. At this point the now Chairman of the firm determined to make a visit to Starbucks a social experience moving to make Starbucks a third place (home, workplace, Starbucks) (Starbucks, 2017a) (Company Information). This vision has been realised through the firm's store design, atmosphere, ambiance and customer service leading it to be voted 4th for the best customer experience in 2011's in the Global Customer Experience Management Survey (National Business Research Institute, n.d). This focus on the end user and their experience has allowed Starbucks to set itself apart from other coffee companies securing its customer loyalty by providing out of store interaction via social media, campaigns, and online reward schemes improving end user inclusion with the brand and overall customer loyalty (Lauchlan, 2010; Starbucks Annual Report, 2016).

As part of Schultz vision for Starbucks he has built an inclusive work friendly environment for his employees referring to them as partners in the Starbucks experience offering eligible full-time and part-time employees comprehensive health care coverage, equity in the company through bean stock (Starbucks, 2017b) (company profile) as well as higher education opportunities through its Starbucks College Achievement plan in collaboration

with Arizona State University (Starbucks, 2017d) (Collage achievement fund).

As throughout Starbucks operating journey it has seen distinct phases of success and turmoil. In early 2007 Starbucks began to see a decrease in customer traffic within its US stores raising high concerns (Starbucks Annual Report 2007 p3) This decrease is traffic coupled with a turbulent economic climate due to the recession Starbucks found itself having to take drastic steps to remain afloat. After 3 decades of success Starbucks was facing a 47% decrease in net earnings as well as a drop in operating margin from 11.2 to 4.9 as well as a decrease in overall sales (Starbucks Annual Report, 2008, p2). In 2008, former CEO Howard Schultz returned to the position of CEO accompanied by drastic changes within the firm. Changes such as the commitment to close 600 underperforming company owned stores in the US as well as 61 stores in Australia, as well as complete retraining of Starbucks partners (employees) returning the company to its core values, (Starbucks Annual Report, 2008, p3).

As the firm underwent this turbulent time it realized that it had lost sight of its original mission which was to “inspire and nurture the human spirit—one person, one cup and one neighbourhood at a time” (Starbucks Annual Report, 2009, p3). With this new drive towards rebuilding a humanity centred society benefiting company Starbucks set out to put several elements into play such as, focusing on the enhancement of its coffee sourcing ensuring it is of high quality as well as environmentally friendly and ethically sources in line with its renewal of ethical business practices (Muller, 2014). Creating new innovative customer offering that fit the changing economic climate, rejuvenating its Starbucks experience through reward scheme and social media interaction (Starbucks Annual Report 2009 p3-4).

To date Starbucks has made great progress towards its mission to “inspire and nurture the human spirit—one person, one cup and one neighbourhood at a time” (Starbucks Annual Report, 2009, p3). Within the environmental sphere, Starbucks is currently taking several steps to become environmentally friendly in its practices, focusing on water and energy conservation in its US company owned stores, as well as having achieved the purchasing renewable energy equivalent to 100% of the energy used in their global company owned stores electricity consumption. As well as being the number 1 “purchaser of renewable

electricity in its sector on the EPA's Green Power Partnership National Top 100 list" (Starbucks, 2016a, p8). Alongside these efforts, it has made it a point to focus on ethically sourcing 100 of its coffee in 2016 achieving 99% of its goal as well as sharing its ethical farming practices and agronomy research with others in the industry as well as farmers and suppliers.

In relation to the steps taken to rebuild Starbucks society centred culture, the firm has made it a point to help the local farming communities from which its coffee is sourced by providing education and support through programs such as Coffee and Farmer Equity (C.A.F.E) which provides farmer support centres, loans and educational programs (Starbucks, 2017c, SCS global services, 2017, Lopez, 2015) and overall creating mutually beneficial relationships. Starbucks currently operates eight Farming Support Centres in key coffee producing countries around the world from Rwanda to Indonesia (Starbucks, 2016a, p.5). Within its local communities, the firm has made steps to carry out community outreach programs in the US where store workers set up outreach programs in their store communities to give back to those around them be it in the form of fundraising or engaging in community projects (Starbucks, 2016a, p. 15). As well as reinforcing its commitment to its partners (Employees) by ensuring that it maintains its employee benefits such as providing comprehensive health coverage to eligible part-time and full-time employees, as well as Tuition coverage for eligible US partners to achieve a bachelor's degree as part of their Starbucks College Achievement Plan as mentioned above (Starbucks, 2017d).

All in all, Starbucks has taken several steps to return to its age of glory before the 2007-2008 recession. However, they have chosen to undertake this transformation with a focus on impacting society and the environment in a sustainability focused manner. Below you will find the firm's TLBMC including the steps that have been taken in each layer, and in some cases the lack of steps taken.

Starbucks through the lens of the three-layer business model Canvas

Economic Business Model Canvas: Stakeholder orientation of Starbucks

<p>Key Partners</p> <p>Coffee suppliers – C.A.F.E farming practices program in association with Conservation International and SCS Global Services</p> <p>Suppliers of takeaway cup producers and other materials</p> <p>Franchisees</p> <p>NGO collaborated with</p>	<p>Key activities</p> <p>Finance</p> <p>Sales & Marketing</p> <p>Manufacturing and production</p> <p>Human resource</p> <p>R&D</p> <hr/> <p>Key Resources</p> <p>Brand</p> <p>Employees</p> <p>Factories</p> <p>Coffee & Takeaway cups</p> <p>Distribution channels</p>	<p>Value Proposition</p> <p>Quality 99% ethically sourced coffee that tastes good</p> <p>Personalized coffee experience</p> <p>Comfortable social ambience, a place where coffee is not just drank but experienced</p> <p>Third place after the home and workplace</p>	<p>Customer relations</p> <p>Loyalty cards</p> <p>Social media pages and online campaigns</p> <p>Personalized coffee cups with customers name.</p> <p>Warm interaction with barista</p> <hr/> <p>Channels</p> <p>Retail coffee shops</p> <p>Supermarkets</p> <p>Hotels and Malls</p> <p>Airports</p>	<p>Customers</p> <p>B2C customers:</p> <p>Coffee consumers that enjoy quality and delicious.</p> <p>Customers present on social media and online platforms</p>
<p>Cost structure</p> <p>Variable costs:</p> <p>Direct materials:</p> <p>Coffee & supplies</p> <p>Employees</p> <p>Fixed costs:</p> <p>Commercialization</p> <p>Store costs</p> <p>Administration</p> <p>Financial</p>		<p>Revenues</p> <p>Main revenue stream:</p> <p>In store customers.</p> <p>Franchises</p> <p>Secondary revenue stream:</p> <p>Coffee sold through none store channels</p>		

Figure 11. Starbucks's economic Canvas.

Societal Business Model Canvas: Stakeholder orientation of Starbucks

<p>Local communities Starbucks Funds projects in Mexico in collaboration with Conservation international to educate farmers on positive and sustainable practice. Operates 8 Farmer support centers in its coffee producing countries from Rwanda t Indonesia. Provides farmers with free access to companies agronomist research Community outreach programs in the US where stores are located</p>	<p>Governance Hierarchical governance structure. Limited transparency in reports to shareholders on decision making and breakdown of environmental emissions</p>	<p>Social Value Customers: Starbucks works hard to provide customers with quality, sustainable coffee, currently 99% of its coffee is ethically sourced. Space for social interaction in stores</p>	<p>Societal culture Embraces and incorporates culture of society in which it operates, e.g. China and chinses influences on offerings and interior design. Incorporates cultural elements in its advertising and community programs in the US</p>	<p>End-user health Starbucks takes into consideration customers health thus it provides quality, 99% ethical coffee. Was voted best customer experience. Builds a relationship with customers through online social media campaign's and online reward schemes improving customer loyalty.</p>
<p>Employees Employee satisfaction is integral. In the US it provides access to Starbucks Collage Achievement plan for employees Employees troubled youth, over 10,000 Veterans & spouses. Aims to employ 10,000 refugees over next 5 years. Focused on diversity in the workplace Inclusion Council</p>	<p>Farmers: Building and strengthening relationships by provides education and support through programs such as Coffee and Farmer Equity (C.A.F.E) and access to loans. One Tree for Every Bag commitment helping farmers secure their economic future</p>	<p>Scale of Outreach In 70 countries with over 24,000 stores. Farmers fund since 2014 gives loans to farmers Global month of service since 2016 community service. Green Aprons program to educate employees on sustainability</p>	<p>Provides an experience not just through its coffee but through its store design and ambiance. Provides workspaces in store for those who seek to spend longer in store to work, as well as a comfortable socializing space, with all store offering Wi-Fi</p>	
<p>Social costs Potential displacement of traditional farming techniques and cultures due to the introduction of new sustainable programs introduced by the firm. Possible Caffeine addictions due to the coffee products being sold</p>		<p>Social benefits Creation of employment for community members e.g. refugees, troubled youth, veterans and military spouses. Strengthening of global specialist coffee supply industry through the sharing of the firms Agronomy research and successful practices to achieve 99% ethically sourced coffee Sustenance of coffee growing communities through funding, education on ethically and sustainable farming as well as other programs such as the One tree for every bag program</p>		

Figure 12. Starbucks's Social Canvas.

Environmental Business Model Canvas: Life-cycle sphere of Starbucks

<p>Supplies & Out-sourcing Starbucks number 1 purchaser of renewable energy electricity in its sector on the EPA'S Green Power Partnership National Top 100 list. it aims to run all its store in the US and Europe on renewable energy sources. focused on water and energy conservation in its company owned stores</p>	<p>Production Corporate footprint Production process produces 1,342,419 metric tons of carbon dioxide from their retail stores and manufacturing operations. In 2015 direct emissions equated to 24.5% and 75.3% to electricity. Direct emissions = manufacturing plants, store operations, and company owned vehicles and aircrafts. Indirect= Purchased electricity consumed by the company</p>	<p>Functional value Starbucks beverages account for up to 4 billion cups used in 2015 around the world in Starbucks stores. (This is a compilation of its coffee based offerings as well tea based products.)</p>	<p>End of life Starbucks Takeaway cups are currently not made of fully recyclable. The firms aim for 100% front of store recycling in US and Canadian stores by 2015 has not been fully met, by 2015 it had only achieved 59%. Limited amount of information in company reports on recycling/end of life process of used takeaway cup and the firms exact recycling or disposal practices.</p>	<p>Use Phase Water and energy used to make coffee and drinks Aims have been made to reduce water and energy consumption in company owned stores. Energy consumption aim= 25% decrease by 2015, achievement 4.3%. Water consumption aim= 25% decrease by 2015 achievement 26.5% goal exceeded Coffee used is 99% ethically sourced</p>
<p>Environmental cost Carbon footprint of the Takeaway cups as they are not 100% recyclable. Recycling strategies have not been fully engaged in all stores due to local community recycling infrastructure. Amount of emissions attributed to different part of the production process are not specified. E.g. transport, manufacturing, etc.</p>		<p>Environmental benefits Use of renewable energy in retail store and manufacturing plants. Steps taken towards water and energy conservation. The use of ethical farming practices through various programs such as Coffee and Farming Equity (C.A.F.E). Planting of more coffee trees through the One Tree for Every Bag commitment</p>		

Figure 13. Starbucks's Environmental Canvas.

In the following chapter, an analysis of the above case studies shall be carried out. This analysis shall firstly cover the cases individually after which it will do a cross comparison of the findings from the two cases analysed.

ANALYSIS OF CASE STUDY: DISCUSSION

The aim of this sixth chapter is to analyse, first, the horizontal coherence of the economic, environmental and social layers of Nespresso and Starbucks Business Model Canvas. By assessing each one of the layers individually, we will identify structural weaknesses and problems and, thus, areas for improvements and innovation. Following this, we will evaluate the vertical coherence of the three layers by interrelating strategically selected building blocks to explain how they interact and the reasons for their structural weaknesses. Lastly, we will compare Nespresso and Starbucks in order to identify differences and similarities. And, we shall make inferences in relation to the extent to which the selected firms are sustainability centred.

Analyzing Nespresso's horizontal coherence of TLBMC

The horizontal analysis enables the evaluation of each of the three layers of business model Canvas. Such assessment results in the identification of current sources of value creation as well as the identification of structural weaknesses for new value creation opportunities. If weaknesses are tackled and transformed into strengths, opportunities for new value creation could potentially be exploited (Joyce & Paquin, 2016).

Analyzing the horizontal coherence of the economic layer of Nespresso

Since 1986, Nespresso has based its business model on the “razor and blades” archetype (Joyce & Paquin, 2016, The Guardian, 2015). To date, little has changed on this specific issue. The firm has used since its inception, a revenue model based on two vectors:
Vector 1: Selling of machines to B2C and B2B customers produced by its partners. These machines are sold at a reasonable and convenient price.

Vector 2: Selling of single-serve aluminium coffee pods at a premium price. Between 1986 and 2006, Nespresso enjoyed a customer lock-in competitor advantage. However, due to patent-loss, competing firms began producing better and cheaper pods compatible with Nespresso Machines at a lower price (Financial Times, 2014; Joyce & Paquin, 2016).

At the economic level, most innovations have been focused on new product development R&D resulting in incremental improvements and, hence, new incremental machines and Grand Cru flavours (Nespresso, 2014). The firm improved marketing as well as branding

efforts to boost brand awareness and customer loyalty through the use of George Clooney as brand ambassador and the creation of a VIP customer loyalty club (Nespresso, 2016a). According to Chandler and Werther (2015) brands are a source of competitive advantage and difficult to copy by competitors. However, as effective as such efforts might have been, they did not prevent competing firms from copying and capturing Nespresso's market share and revenues. Hart and Milstein (2003) say that incremental improvements only result in greening and not in the creative destruction of industries. In conclusion, transforming a business model into a sustainability-centred one cannot be done incrementally but rather requires radical change (Lubin & Esty, 2010, Hart & Milstein, 2003). Thus, sustainability pressures on Nespresso's value chain or business model, supply chain and customers, resulted in Nespresso deciding to invest heavily in the AAA program to move towards a more sustainability-centred business model.

Analysing the horizontal coherence of the environmental layer of Nespresso

Undeniably, Nespresso is a firm that has been moving towards becoming more and more sustainability-centred. The previously described initiatives ranging from the AAA program to The Positive Cup, show the level of commitment of the firm towards sustainability. Nonetheless, there are three key structural weaknesses in both the firm's sustainability programs and goals as well as in the reporting of the results.

Problem 1: If we look at the "supplies and outsourcing" block, Nespresso fails at measuring and internalizing the carbon footprint generated by its partnering firms responsible for producing Nespresso's machines (Joyce & Paquin, 2016; Nespresso, ecolaboration, 2014).

Problem 2: Another major issue not effectively addressed, it is the 46,6% carbon footprint produced in the "use phase". We argue that the most worrying are the misleading actions and reporting concerning "end of life or recycling" of both the firm's machines and aluminium single-serve coffee pods. According to The Guardian (2015), Nestle will not say how many of the aluminium pods are actually being recycled. By email, a Nespresso spokeswoman explained: "Given multiple recycling options, any estimate of consumer recycling rates would be inaccurate, so we focus on recycling capacity as a concrete measurement of our progress" (The Guardian, 2015; Nespresso, 2015). The problem with focusing on "recycling capacity" is the fact that though a firm could have 100% capacity to recycle waste, it is not possible to know how much of that capacity is actually used. There

is a significant difference between recycling capacity and the actual number of recycled pods. Today, Nespresso has collection and recycling stations in roughly 30 countries of 64. Thus, most of the remaining aluminium ends up in landfills. This issue says something relevant about Nespresso, which is that its recycling efforts, however well-intentioned, are failing. This is a major issue that any responsible company committed to sustainability must admit, and address (Joyce & Paquin, 2016; The Guardian, 2015; BBC, 2016). To date there is just one company in the world producing biodegradable pods, The Roger Family coffee house, something Nespresso should have already accomplished.

Problem 3: If we analyse the “Materials” block, we discover that only 30% of the coffee used by Nespresso is certified Rainforest Alliance (Nespresso, 2016a; Nespresso, 2014). Nespresso admits indirectly that 70% of its coffee is not organic meaning that the firm uses pesticides that harm both the flora and fauna of the locations where Arabica and Robusta coffee are grown. This is unwelcomed for a firm that defines itself as sustainability-oriented. Given the risk of extinction posed on the Arabica coffee bean, it would be advised that firm must abandon all unsustainable farming practices. And, as a result 100% of its coffee should be, by now, organic and certified Rainforest Alliance. However, according to Tensie Whelan of Rainforest Alliance “If we only worked with perfect companies, we wouldn’t get anything done.” (The Guardian, 2015). This statement is in reference to the strategic and important decision by Nespresso to explicitly acknowledge some of its structural weaknesses. Nespresso has a long way to go before it can be called a “global sustainable coffee leading organization” (Nespresso, 2016a). Last but not least, the usage of aluminium as a core material for its pods is not environmentally friendly. The German city of Hamburg has stopped using Nespresso machines and aluminium pods since the spokesman argued that “portion packs cause unnecessary resource consumption and waste generation, and often contain polluting aluminium”, according to the BBC (2016). We however argue that with Nespresso experience in the industry, it should have been the first firm to move from aluminium to biodegradable materials in a bid to secure its market leadership.

To conclude, all the previously mentioned problems if tackled, they can represent a key chance for Nespresso for creating new environmental and economic value.

Analysing the horizontal coherence of the social layer of Nespresso

According to Joyce and Paquin (2016) and Nespresso itself (2014; 2016a) the firm works actively with local small-scale farmers and suppliers, but the firm says little about the impact of its value proposition on consumers. Although this is true, we have identified a number of irregularities in the AAA program.

Problem 1: As far as the “local community” block is concerned, though 84% of the coffee was sourced by 62.000 small coffee farmers, the 35-40% premium pay given to them is not large enough to reduce the gap between the price that Nespresso charges to its customers and the price paid to farmers. Another issue is the commodity-price volatility. As much as the market floor is protecting farmers from radical market shocks, the floor is too low (Fairtrade, 2016). According to Fairtrade (2016), small scale farmers often end in a circle of debt and financial struggle to make a decent living due to this pay gap. More needs to be done if real tangible social value is to be created.

Problem 2: Another social layer issue faced by Nespresso is the fact that the corporate “governance” block of the Nespresso business unit is not completely transparent. Neither revenues or earnings are disclosed by Nespresso or Nestle, according to The Guardian (2015). This is supported by the 2015 annual review of Nestle. We believe that reporting should be more transparent in order to increase understanding about the challenges and threats posed to the firm’s stakeholders to enable them to respond and act accordingly. According to Lovins et al. (1999) and Chandler and Werther (2015), sustainability is vital to a company’s success in today’s business environment. Moreover, Eccles & Serafeim (2013) argue that simply putting together a combination of sustainable initiatives and tactics does not equate to a sustainable strategy. Sustainability requires transparent communication to stakeholders (Chandler & Werther, 2015).

Problem 3: Impact on consumer’s health. The focus is on “end-user health”. There is little said by Nespresso about the negative effect of caffeine on human health.

The previously stated problems represent a unique opportunity for the firm to push for innovations aimed at creating and delivering increased social value, boosting customer loyalty as well as the brand’s positioning.

Analysing Nespresso's vertical coherence of TLBMC

The purpose of the vertical analysis is to link the different building blocks of the three layers of the Nespresso's business model. We shall connect and assess the vertical coherence of 12 key building blocks because of their inherent structural weaknesses and potential for improvement:

Vertical coherence 1: Partners, supplies and outsourcing, and local communities.

Key partners are deemed as strategic for Nespresso. Key partners range from leading electronic household equipment manufacturers to small-scale coffee farmers and aluminium suppliers. Yet, on an environmental level, Nespresso fails at internalizing and measuring the carbon footprint from its machine producing / outsourcing partners. Only 84% of the firm's coffee is sourced sustainably, however it is unclear how high the sustainability standards of Nespresso's AAA certification areas as only 30% of its 84% sustainably sourced coffee is certified by Rainforest Alliance. Also, with the main material used in the production of coffee pod being aluminium, a large pollutant when processed, the sustainability of the firm's overall value chain can be called into question. At this level, innovations regarding the replacement of aluminium for biodegradable materials could be a radical way of creating not only new environmental but also economic value. Nespresso could capture new revenue streams while expanding its market share. Moreover, if 100% of the sourced coffee was certified Rainforest Alliance, the coffee would be 100% free from pesticides resulting in a clear differentiating factor. Finally, at a social level, small-scale farmers if able to focus completely on sustainable farming and paid a fairer price, social wellbeing could be boosted and the future generations could pave the way towards '100%' sustainable farming preventing the extinction of the Arabica coffee bean. Ultimately, with better pay farmers would have more financial resources available to reinvest in the community resulting in the improved lives of many without having to rely extensively on outside support. As a result of carrying out these steps, Nespresso could become a pioneer firm in the promotion of organic sustainable farming as opposed to just sustainable farming while tackling social inequality.

Vertical coherence 2: Customer segments, use-phase, and end-user.

According to Peter Drucker (1955), customers are the lifeblood of a firm. A firm

exists because of a customer (Drucker, 1955). Nespresso has been losing customers in light of increasingly fierce competition and patent-loss as addressed by The Guardian (2015). But, more importantly, it has lost customers because of its own inability to pursue more radical innovation. Hart & Milstein (2003) and Schumpeter (1954) argued that real radical innovation can establish the creative destruction of an industry. While companies like The Roger Family Coffee develops biodegradable coffee pods, Nespresso continues delivering the same aluminium polluting pods since it was first launched in 1986. As result of that, both B2B and B2C customers have been replacing Nespresso with more eco-friendly coffee pods. Within the use phase block, Nespresso possesses gap in which it can create environmental value if it takes steps towards innovating an eco-friendlier use phase process reducing the 46,6% carbon footprint it currently produces. The firm must find a way to clearly convey the inherent benefits and risks involved in drinking more than the recommended daily amount of coffee. Caffeine is regarded to be as addictive as any other abusive substance (Preedy, 2016). However, there is little mention of the health risks concerning an over consumption of Nespresso coffee with its public information.

Vertical coherence 3: Resources, materials, and governance instead of employees.

In the analysis of this particular column, we have not found any particular issues with respect to employees. Thus, employees have been replaced by governance for analytical purposes. Within Joyce and Paquin's (2016) TLBMC, building blocks can be cross-compared, which is a novelty in the vertical assessment of TLBMC.

In the economic layer of Nespresso's BMC, we have identified a number of key resources such as the firm's brand, patents, factories, distribution channels. coffee and aluminium.

According to Chandler & Milstein (2015), brands can be boosted and protected when firms act responsibly and ethically. Corporate scandals can damage a brand and even put a company out of business (Koller et al. 2010). If Nespresso decided to replace aluminium for biodegradable pods, this would enable the firm to reduce both its carbon footprint and risk of losing customers. Moreover, it would enable the firm to become a real global sustainable coffee leader while charging a premium price for its new 100% biodegradable pod. Also, if the pod would be filled with 100% organic coffee, the material used would not only be eco-friendly but also create direct health-related benefits. According to pesticide action network (PAN, 2017), pesticides in food causes cancer. Only 30% of the Nespresso coffee is certified Rainforest Alliance, bringing it questions the firms' pesticide use in its remaining

coffee supply. With improvement in these areas, the Nespresso brand could be positioned as a leading sustainable coffee brand. Last but not least, improving transparency could also have a direct positive impact on the Nespresso brand. Ultimately, brand value is one of the most valuable assets and key differentiating factor with the ability to secure price-premium payments from customers (Chandler & Milstein, 2015; Koller et al. 2015)

Vertical coherence 4: Customer relationship, end-of-life, and societal culture.

In the economic layer of Nespresso's business model, it is possible to see how the firm actively works with customer loyalty programs in order to secure durable customer relationships. However, as addressed by The Guardian (2015), as time went by, Nespresso capsules became a grocery store commodity. On the environmental level, it is hard to understand how a leading firm like Nespresso would fall into greenwashing when dealing with the end-of-life of its aluminium pods. The firm does not unveil the actual percentage of aluminium pods recycled worldwide but instead decides to unveil its collection and recycling capacity. The capacity of doing something does not determine whether that capacity is used fully. The firm has recycling programs in 30 countries of 64 meaning that millions if not billions of aluminium polluting pods end in landfills.

All the previously described vertical interactions within the selected building blocks of Nespresso's TLBMC presents worrying structural interdependent issues. Those issues, however, if tackled, can potentially result in sustainability-centred innovations. Consequently, increasingly higher economic, environmental and social value could be created.

Analysing Starbucks's horizontal coherence of TLBMC

Horizontal coherence of Starbucks economic layer

Within the economic layer of Starbucks business model, the firm has made an emphasis on building its key activities such as brand awareness and recognisability. This has been accomplished by maximising its customer relations through connecting with customers in store providing friendly personalised customer service. Starbucks was also one of the first firms in its industry to begin an online presence starting in 2008 with its first online community 'My Starbucks idea' alongside social media pages on Facebook, and

twitter, fostering customer loyalty (Starbucks, 2017e; Lauchlan, 2010). Starbucks has been able to maximise its value proposition by delivering an overall coffee experience to its customers. An experience including, quality coffee, a relaxing warm and welcoming atmosphere as well as friendly customer service (Starbucks, 2017a; National Business Research Institute, n.d). By maximising the elements within its economic layer such as, key activities, key resources and customer relations, it has been able to create a business model and value proposition that differentiates it from its competitors.

As well as creating a memorable brand, Starbucks has focused on increasing its market presence through the use of channels. This has been achieved through two main methods. Firstly, by opening multiple company owned stores within an area, as well using the growth tool of franchising. This aggressive growth strategy has enabled the firm to grow steadily allowing it to largely saturate the US market while still making strides internationally. Starbucks saw steady growth in both international and national stores from 7225 in the year 2003 to 16680 in 2008 (Starbucks Annual Report, 2016). However as discussed in the company backgrounded, in 2008 the firm saw the detriment of this strategy as it closed 600 underperforming stores in light of the global economic crisis (Starbucks Annual Report, 2008, p3). Having learnt from this situation, Starbucks has returned to its growth strategy but is adamant to ensure that future growth is sustainable, focusing its new growth and expansion within countries it already holds operations (Starbucks Annual Report, 2009). To date Starbucks operates more than 24,000 stores in 70 countries (Starbucks, 2017b) with aims to expand further however emphasizing on drive-through and express stores over its traditional sit-down model (Forbs, 2016). As can be seen, each block of Starbucks economic layer has been able to work together efficiently, with each one empowering the other. Through effective use of its key resources and activities it has been able to maximise its channels as well as customer relations and value proposition, strengthening the firm overall. This has been a strength of Starbucks since its conception. Despite challenges caused by the recession and a period of complacency within the firm's management in the mid 2000's, Starbucks has been able to recover from this and achieve sustained economic growth.

Horizontal analysis of the social layer of Starbucks

By using Joyce and Paquin (2016) three-layer business model canvas, each layer allows a level of depth and understanding into the different value creators established by the sustainability centred actions carried out by the firm. When evaluating the horizontal coherence of Starbucks society layer, we can see that three key value propositions, have been addressed, farmers/coffee suppliers, employees and customers. In this coherence, we see that Starbucks has taken several steps to ensure that its key partners, in particular, coffee suppliers are well educated and supported in ethical coffee practices. This has been done through various programs such as Coffee and Farmer Equity (C.A.F.E) which provides farmer support centres, loans and educational programs (Starbucks, 2017c; SCS global services, 2017; Starbucks, 2016 a, p.5; Giammona, 2015). This has allowed Starbucks to reach out to local communities creating a culture of ethical farming practices as well as providing the tools and resources required to ensure their economic longevity and shared value creation (Porter & Kramer, 2001). By equipping farmers with the skills to farm ethically in an environmentally friendly manner, Starbucks customers have gained intrinsic benefits. Firstly, the firm is able to offer customers high quality 99% ethically sourced coffee, as well as the opportunity to contribute to the sustenance of farming communities by purchasing from Starbucks (Conservation International, 2017a; Starbucks, 2016a, p.5; Starbucks, 2017c). We question, however, what ethically sourced actually means. Small-scale farmers though receiving a premium of about 40% over the real market price value for their coffee beans, the marginal contribution gap between them and Starbucks is enormous. In addition, as much as the market floor is protecting farmers from radical market shocks, the floor is too low (Fairtrade, 2017). According to Fairtrade (2016), small scale farmers often end in a circle of debt and financial struggle to make a decent leaving. More needs to be done if real tangible social value is to be created. This is one of the greatest structural weakness in Starbucks social sphere.

Alongside helping local farming communities, Starbucks has taken several steps to contribute to local communities surround its stores. Steps such as community outreach programs in the US where store workers set up community projects (Starbucks, 2016a, p. 15) As well as launching a global month of service reaching out to its international customers and community, (The Holmes Report, 2012). Within the social coherence, we also gain insights into the lengths to which Starbucks goes to ensure that its partners

(Employees) feel valued and included. This is achieved through support infrastructures within the firm such as access to health care services, educational programs, and an inclusive work environment (Starbucks, 2016a).

However, in areas such as governance concerns are raised. In regards to Starbucks governance and transparency there are areas within the firm's environmental layer in which information is not made readily available. For those seeking to enquire about issues such as, the firms broken down environmental footprint or detailed recycling processes this information is not publically available. The lack of transparency in these areas does not reflect well on the firm's governance in relation to sustainability. It brings into question the reliability of the information being presented to stakeholders and the wider community. In Starbucks 2009 Global Responsibility report, it made a public commitment to openly report on their performance in aims of inspiring customers and stakeholders towards sustainability (Starbucks, 2009). Unfortunately, this has not been fully achieved. According to Hart and Milstein (2003) and Chandler and Werther (2015), transparency in a firm is vital in order to achieve sustainability.

Within this layer, Starbucks has achieved several goals in meeting societal needs, contributing to the overall sustainability of the firm. "Business cannot succeed when society fails" (Laszlo, 2008). Starbucks understands this and thus has taken steps to heavily invest in its local communities, employees and end users, however improvements still need to be made in relation to its governance and transparency.

Environmental Horizontal coherence of Starbucks

In Starbucks environmental layer, the firm has focused its environmental effort in three main areas. The ethical sourcing of its coffee supply, followed by water and energy conservation, (Starbucks, 2017h; Starbucks, 2016a). As a firm, it has made great strides in its aim to achieve 100% ethically sourced coffee having achieved 99% of that goal in 2016 (Conservation International, 2017; Starbucks, 2016a, p.5). However, it should be acknowledged that the certification of Starbuck coffee is carried out by third party organisations trained by SCS Global services. This is an organisation that Starbucks and Conservation International have collaborated with in regards to the certification of their C.A.F.E practices since 2008 (Semroc, Baer, Castillejos, 2011). The fact that verification of

the C.A.F.E practices is carried out by third party organisations brings into question various issues. Firstly, the issue of, the validity and reliability of the certification once it is made the responsibility of the third party. Secondly the possible issue of agency theory (Tricker, 2015) in which the certifying third party proceeds to put their own interests before those of the company they are licenced to work for. This can bring into question both the quality of the coffee as well as its certification. Another factor that can call into question the quality and environmentally friendly nature of Starbucks core material is the use of pesticides. Under its C.A.F.E certification farmers are not allowed to use the 'most harmful pesticides' (Semroc, Baer, Castillejos, 2011). However, the use of pesticides in general is permitted despite the connection between pesticides and their negative effect of biodiversity in nature (Geiger, Bengtsson, Berendse, Weisser, Emmerson, Morales, Ceryngier, Liira, Tschardtke, Winqvist, Eggers, Bommarco, Pärt, Bretagnolle, Plantegenest, Clement, Dennis, Palmer, Oñate, Guerrero, Hawro, Aavik, Thies, Flohre, Hänke, Fischer, Goedhart, & Inchausti, 2010). Despite this, it should be pointed out that the use of pesticides is an issue also faced under Fairtrade Certification as well (Montanez, 2014), bringing into question the progress that needs to be made in the areas of environmentally friendly farming and pesticide use in the industry overall. However, according to Julie Craves a University of Michigan ecologist and natural history and science author, Starbucks C.A.F.E practices present coffee that is grown in higher ecologically friendly conditions in comparison to coffee only certified by a Fair-Trade initiative as their criteria is based on more general environmental standards. With Bird-Friendly certified coffee holding the most biodiversity friendly coffee farming methods (Julie Craves, 2015).

Another problem that can be seen throughout Starbucks environmental layer is the lack of transparent or rather detailed information related to various blocks such as materials, end of life cycle and distribution. The main issue is the lack of transparency in relation to the firm's emissions production within these blocks. Starbucks classifies its emissions production in two categories, scope 1 (Emissions from sources that are owned by/controlled by the firm) and 2 (indirect emissions generated by purchased electricity consumed by the company). Starbucks scope 1 emissions are accredited to manufacturing plants, store operations, and company owned vehicles and aircrafts. In 2015, direct emissions (scope 1) equated to 24.5% and 75.5% to electricity (scope 2) (Starbucks, 2017f). Despite presenting the overall figure of emissions produced in the year of 2015, there is no breakdown classifying the

percentage contributed by specific functions of scope 1. The lack of clarity in these areas makes it difficult for outsiders and stakeholders to evaluate the degree to which each element is contributing to the firm's environmental impact.

Lastly, the lack of information concerning Starbucks recycling/end of life procedures, brings into question similar issues as those raised regarding its emissions breakdown. Without a clear description of the firm's waste disposal practices, the firm's sustainability claims in this area can be called into question. Starbucks waste and recycling web page, explains the steps being taken to increase recycling facilities in storefronts, as well as the difficulties being faced in regard to cup recycling in store locations. This is due to the fact that, recycling is managed in many of their stores by landlords or municipalities that do not possess the appropriate infrastructure to recycle the takeaway cups (Starbucks, 2015 P6). The cups used for takeaway drinks are coated with a material called polyethylene, making them waterproof. This chemical is unrecyclable in standard municipality recycling mills and the cups themselves are not made of fully recyclable material (BBC News, 2016). Taking this into consideration, Starbucks is taking steps to create a new flexible recycling program that landlords and municipalities can use; however, no concrete agreements have been made (Starbucks, 2015, p.6). According to the BBC more steps need to be taken in regards to the recycling of takeaway cups of all coffee companies. In the UK alone about 2.5 billion cups are used of which almost all end up in landfills, as only 1 in 400 are recyclable. (BBC News, 2016). Despite the steps being taken by Starbucks to battle their takeaway cups ending up in landfills such as collaborations with scientist and engineers to develop fully recyclable cups, more progress needs to be made. (Starbucks, 2016b, Smithers,2011).

From Starbucks environmental layer, it is clear that this layer is facing some severe problems. Keeping in mind the functional value of a Starbucks drink taken in a disposable cup, the lack of clarity on the waste disposal and recycling of these cups calls into question the firm's sustainability. The issue of emissions clarity is also one in which the firm needs to undergo vast improvement in relation to its documentation.

Analysing Starbucks's Vertical coherence of TLBMC

Vertical coherence 1: Key resources, Employees, Materials

Within the blocks of Key resources, employees and materials, Starbucks has been able to function successfully empowering this vital column of its business model. By having a clear understanding of the firm's key resources and elements that allow it to capture value, Starbucks has been able to leverage its brand effectively. According to Chandler and Werther (2015), the ability to harness brand value is a key asset to firms. Starbucks has been successful at this, presenting itself not only as a coffee shop that is atmospheric and inviting, but also a leading environmentally friendly brand recognized by industry actors and peers (Starbucks, 2017a; National Business Research Institute, n.d). As found in business insider "Starbucks Corporation's environmental rating is around the 90th percentile when compared to U.S., Global, and Industry Peers," (Lubin, 2014), a statement made by GMI senior research analyst Greg Ruel. By successfully leveraging key resources such as its brand in this manner, Starbucks has been able to set itself apart from other companies in its industry. Focusing on the firm's environmental goal of achieving 100% ethically sourced coffee and meeting 99% of this goal (Starbucks, 2017c; Conservation International, 2017) has strengthen the brand and its mission to not only be a coffee company, but one with the ability to "inspire and nurture the human spirit—one person, one cup and one neighbourhood at a time" (Starbucks Annual Report, 2009, p3). This is a concept the firm has come to understand involves meeting the customer's need for sustainable coffee (Starbucks Annual Report, 2008).

Lastly within the social layer of this column's coherence, employees have received various benefits. Starbucks has succeeded in taking several steps to diversify the employees it hires as well as increasing job creation. It has been able to introduce new education achievement programs for eligible employees seeking to achieve a bachelor's degree, as well as health care coverage (Starbucks, 2017d). As a whole, this column portrays the successful functionality of the business layers in unison.

Vertical coherence 2: Key activities, Governance, Production and corporate footprint

Within this vertical column, one can see that Starbucks has been able to carry out its

key activities successfully over the years, maintaining the smooth running of its production process, branding and finance. This can be concluded from the firm's steady growth in net revenues from 13.3 billion USD in 2012 to 21.3 Billion USD in 2016 (Starbucks, Annual Report, 2016 p 1). However, despite their success in key activities, the firm's governance within the social layer calls into question their degree of transparency. This is due to the fact that the firm does not explicitly state certain information such as, its waste management techniques or the percentage of emissions accredited to the different elements of its production manufacturing and store activities. This is a problem that highlights itself within the firms' production and corporate footprint block in its environmental layer. Based on the information available there is no way to breakdown the firms CO2 emissions within its production and store processes. Lack of transparency in these areas brings into question the firm's transparency in other areas, an issue that is discussed in the environmental horizontal coherence of this firm. We see this as an issue because, the shift towards sustainable coffee production is one that Starbucks stakeholders have been openly passionate about. This led the firm to start, its platform, Shared Planet in 2008 enabling it to keep customers upraised of the various ethical sourcing and environmental commitments it was pursuing (Starbucks Annual Report, 2008, p4). Considering this, for the firm to not be transparent in environmental and sustainability it is a disservice to its 2008 goal of being open and transparent in these precise areas to stakeholders.

As stated by Samper & Quinones-Ruiz, (2017) despite firms putting out information about their different sustainability achievements, without the consumer's trust, these efforts and information stop being a positive and differentiating attribute to the firm (Samper & Quiñones-Ruiz, 2017). The issue of governance has continued to affect the social and environmental layers of the firm's business model leading to the instability of this coherence column and others.

Vertical coherence 3: Customer relations, Social culture, End of life

In this third coherence, Starbucks has been able to maximise its customer relations within its economic layer. It has fostered strong relationships with its customers both in person and online via social media. This has strengthened its customer loyalty and brand awareness (Lauchlan, 2010; Starbucks Annual Report, 2016). As stated by Joyce and Paquin (2016) the greater the firm's ability to exceed expectation the greater the customer's

loyalty relationship (Joyce & Paquin, 2016), this is an area in which Starbucks is well equipped. As the firm makes it a point to connect with its customers both online and in store, the same effort is made within its societal culture block in the social layer of its canvas. Within social culture, Starbucks has been able to embrace the cultures of the communities in which it operates embedding them in its organisation in diverse ways. In China, Starbucks has infused Chinese culture into both its store infrastructure as and customer offerings, infusing Chinese ingredients into existing offers, a sign of the firms' acknowledgment and respect of the culture (Wang, 2012, Starbucks, 2017 g). However, despite Starbucks success in the first two blocks of this three-layer vertical coherence, it can be said that Starbucks is still struggling to be fully sustainable within its end of life block, found in its environmental layer. Because to the lack of information available on the firm's recycling practices in relation to its takeaway cups as pointed out previously, one cannot evaluate its end of life practices or accredit them as sustainable.

Overall Starbucks has been able to successfully introduce sustainability practices into some of its vertical coherences, but is greatly lacking in others.

Comparison analysis of the selected firms: Nespresso and Starbucks

Within the analysis it is clear that, Nespresso and Starbucks have managed to incorporate “the triple bottom line approach” into their business models to varying degrees. Actively working with sustainability has become essential to Nespresso and Starbucks, because today's business environment calls for more than earning money in the short term. Firms today must be aware of their impact on the world around them (Kates, Parris, & Leiserowitz, 2005; Hart & Milstein, 2003; Kerekes, Csutora, & Szekely, 2011). Issues such as a firm's carbon footprint, social impact and waste product are not only on the minds of governments and NGO's but on those of customers and other stakeholders alike (Hart & Milstein, 2003).

Nespresso and Starbucks have developed a number of strategic partnerships with both regulatory bodies as well as NGOs. Nespresso works actively with Rainforest Alliance and Starbucks with Conservation International. Both firms have incorporated the life-cycle and stakeholder perspective in aims of creating new environmental and social value.

The empirical data presented in the case-study TLBMC analysis, illustrates the ways in which Nespresso and Starbucks have tackled the triple bottom line. The firms have attempted to create a competitive advantage able to deliver increased economic, social and environmental value linked to their core business. When analysing Nespresso and Starbucks, we have identified positive and negative factors they share in common and those they differ on. Below, we shall present the points of social and environmental differences and similarities between the firms.

Social and environmental differences between Nespresso and Starbucks

The social layer of Starbucks TLBMC, is an area in which Starbucks excels. It has been able to cultivate employee satisfaction, through inclusion and employee benefits. However, despite employee satisfaction at Nespresso being deemed as high, there is little evidence of the firm's employee considerations or inclusion in the firm's reporting and stakeholder material.

In and around its retail stores, Starbucks been able to empower communities and neighbourhoods through community service, both nationally and globally. However, Nespresso has neglected this sector of its social sphere for reasons that could be accredited to the premium perception of its brand and products as well as they type of customers it targets. Instead, Nespresso focuses more on social development related to its core business, e.g. helping small-scale coffee farmers, an area in which Starbucks strives as well.

As a firm, Nespresso has been able to establish clear communication and reporting practices between itself and its stakeholders on vital issues such as emissions breakdowns. Whereas Starbucks is still struggling, in this area unable to provide a break down carbon footprint figures as clearly as Nespresso's.

Regarding the issues for environmental differences, while Nespresso's aluminium cup is 100% recyclable, the Starbucks takeaway cups are not. Ideally, both the Nespresso pods and takeaways cups should be made of 100% biodegradable materials in order for the firms to move towards being more sustainable over all. This is a key issue that should drive eco-friendly product development within these firms to create environmental value while capturing economic value in return.

The largest carbon footprint for Nespresso comes from the use-phase (46,6%) whereas that of Starbucks comes from purchased electricity (75.5%). Incremental innovations have hindered the both firms' ability to pursue more radical innovation. This is a clear sign that while Nespresso should invest more heavily in developing a coffee machine that reduces the current carbon footprint, while Starbucks should do the same and ensure that all its stores are powered through solar panels and, hence, renewable energy.

Social and environmental similarities between Nespresso and Starbucks

Undoubtedly, the most interesting social value creation factor that Nespresso and Starbucks have in common, are their sustainability programs. Both, Nespresso AAA and Starbucks C.A.F.E programs aim at providing social benefits to small-scale farmers. The focus is on empowering farming communities through education, loans, and resources. However, a social weakness they both share is the fact that, neither Nespresso nor Starbucks clearly express the downside of drinking too much coffee and its possibility of being addictive and harmful to the human body if consumed irresponsibly.

The environmental similarities between Nespresso and Starbucks are very interesting. Nespresso has managed to make great environmental changes. It has reduced their carbon footprint by 21% in a 4-year period (Nestle, 2014). In Europe, they have moved from trucks to trains in regards to transportation, and they have ambitious goals when it comes to sustainability in relation to the positive cup. Starbucks is no exception; the firm has also made great environmental strides. Its focus on water and energy conservation in its US company owned stores, has resulted in incredible reductions of water consumption and improvements in relation to energy consumption. It has taken great steps towards using and purchasing renewable energy, and they too have high goals for improvements in these areas.

Just as can be seen in the two firms' social similarities, the environmental sphere also presents shared weaknesses.

Of the 84% coffee sourced by Nespresso's AAA program, only 30% is organic or Rainforest Alliance certified. Hence, 54% of the coffee used and sold to consumers is not organic and has pesticides. Unfortunately, Starbucks faces a similar problem.

Within both firm, the end-of-life and waste management practices used are not fully transparent and/or efficient. Nespresso does not disclose the actual number of pods recycled from those ending in landfills. The firm only talks about recycling capacity, which today stands at 80%, present in 30 countries of 64. It is assumed that a large amount of polluting aluminium ends in landfills. Similarly, Starbucks does not disclose its waste management of takeaway cups, which is a matter of concern as they are not 100% recyclable. Also, to date, there is no Nespresso recycling program for their coffee machines.

The previously described facts present a strong and solid foundation for concluding that as much as the selected firms argue to be sustainable, their programs and sustainability efforts present interdependent structural weaknesses. Thus, Nespresso and Starbucks have to learn from each other's weaknesses and strengths in order to further improve their sustainability programs. They should understand that as long as they approach sustainability in an incremental manner, and fail at tackling all the previously described structural weaknesses, they will undermine their prospects of being considered sustainability-centred firms.

CONCLUSION

Today's coffee industry is characterized by growing environmental, social and economic pressure (Fairtrade, 2017; World Coffee Research, 2017; Rainforest Alliance, 2017). As a result, the value chains of Nespresso and Starbucks have begun to experience these pressures. Their business models are no exception. Undeniably, sustainability is no longer an option but a necessary condition for corporate renewal, longevity and future success (Broman & Robert, 2017; Joyce and Paquin, 2016; Franca et al. 2017) Especially in this industry.

Nespresso and Starbucks have realized that incorporating sustainability is vital. Moreover, they are aware that it represents a source of competitive advantage. Thus, they have not only formulated integral sustainability programs, but also implemented them achieving outstanding results. At a social level, they have eased the economic and financial pressures on small-local farmers. At an environmental level, they have started sourcing their coffee sustainably. And, at an economic level, their focus on quality, continue delivering increased customer value allowing them to capture economic value in return.

Consequently, the firms have improved their prospects for their longevity and future success. This conclusion has been possible to attain through the usage of the TLBMC framework developed by Joyce and Paquin (2016). This new theoretical model enables academics and practitioners to assess how firms actually incorporate the triple bottom line into their business models. As a result of the implementation of the TLBMC to the business models of Nespresso and Starbucks, we are in the position to argue that there is evidence that they have to an extent incorporated the triple bottom line, which is economic, social and environmental value creation. We argue, however, that the extent to which the selected firms have incorporated sustainability, can be questioned.

Whether Nespresso's AAA program or Starbucks C.A.F.E program, they have one single purpose in common, pave the way to a more sustainable future for coffee firms. One that creates the conditions for small-scale farmers to adopt sustainable farming practices and prevent the future decline and even extinction of a key resource that sustains the entire industry, the Arabica plant and coffee bean. In addition to that, the strong focus on social value creation has not only resulted in the development of local communities of small-scale

farmers, but also improved the communities where they perform their business activities in the case of Starbucks.

However, as much as the previously stated facts are true, Nespresso as well as Starbucks are faced with major interdependent challenges. Both companies present worrying structural weaknesses when assessing their business model layers with respect to the environment and society. While both companies argue to be sustainable in the environmental sphere, we have identified critical issues regarding “end-of-life, materials and use-phase” building blocks. Nespresso unveils only its recycling capacity without transparently informing the actual percentage of recycled single-served aluminium pods. Thus, one can conclude that a large number of polluting aluminium pods end in landfills. Similarly, Starbucks does not possess a consistent recycling program able to recycle its coffee-cups that are currently made of materials that are not fully recyclable. All these issues contributing to the pressure on our world's' oceans and nature is vast. Also, when analysing the social sphere linked to the stakeholder perspective, we have identified a number of flaws being the most critical “Governance”. With Governance and reporting in both firms lacking in several areas.

We can conclude that as comprehensive as the sustainability efforts developed and implemented by Nespresso and Starbucks are, they are not radical enough for tackling the sustainability imperative of the 21st century. Lubin & Esty (2010) argue that transforming business models from traditional to sustainability centred ones, execution is key for success. So, far Nespresso and Starbucks have been incrementally improving their business models. Thus, it could be argued that the analysed firms' business models are more sustainable today than they were before. Their business models, however, are not 100% sustainability-centred. This is a goal we believe these firms should striving towards because, as stated earlier if firms fail at becoming 100% sustainable, there is a mathematical probability that the Arabica coffee bean could face a 90% reduction by 2080, threatening the industry as a whole (The Guardian, 2015; World Coffee Research, 2017).

Simply putting together, a combination of sustainable initiatives and tactics does not equate to a sustainable strategy. This is something, Nespresso and Starbucks are going to have to address when considering themselves to be sustainability focused. The transformation of a business model into a sustainability-centred one cannot be done incrementally but rather

requires radically steps (Lubin & Esty, 2010, Hart & Milstein, 2003).

We strongly argue that harnessing sustainability-centred business model innovation cannot be done incrementally. To achieve sustainable value firms in the coffee industry should reduce material consumption and pollution related to industrialisation meeting environmental needs. They should operate at a high level of transparency aiding civil society. Then, they need to develop new disruptive technology with the potential of shrinking the human footprint, a step that would also aid the environment. Lastly, they need to meet the needs of those at the bottom of the economic pyramid that farm their coffee, in ways that enable inclusive wealth creation and distribution (Hart & Milstein, 2003). Firms that are able to manage and harness the power of sustainability centred business model innovation, have the potential of transforming their industry and becoming the new leaders.

Contributions

The present thesis project can be said to make a contribution to current research concerning the use of frameworks in relation to sustainability centred business model innovation with a focus on Joyce and Paquin's (2016) TLBMC. Joyce and Paquin's (2016) TLBMC is considered a new model for assessing business models of firms in relation to sustainability and their incorporation of a triple bottom line perspective. As this is a recent model, we believe our use of this model has allowed us to make a contribution to the way in which it can be used in a study, as well as how blocks within the model can be cross analysed. Within our use of the TLBMC, one is not limited to the linear vertical coherence analysis of building blocks belonging to the same category, but rather one cross analyse different blocks within the vertical coherence as is appropriate.

The theoretical contributions of this thesis paper are limited especially due to the fact that the theoretical framework used was that of Joyce and Paquin (2016). However, within our analysis of the issues faced by the coffee industry, we were able to develop a figure that could be useful to others in future. This figure displays the issues faced in the coffee farming industry underneath the appropriate triple bottom line actors as can be seen on page 45 "Triple bottom line approach towards the coffee industry". This diagram may help those seeking to understand the issues of sustainability within the coffee farming industry and the way in which they correlation with the triple bottom line.

Limits and future research

Having evaluated this research paper and the process undergone to derive its conclusions, the two main limitations surrounding this thesis would be the issue of time and resources. As we chose to use secondary research to aid our analysis, it restricted the range of information available to us and thus the level of depth achievable. However, despite this limitation, this thesis has been able to answer the research questions effectively as well as highlight interesting insights into the sustainability practices of Nespresso and Starbucks within their business models. In relation to the limitation of time, we believe the ten-week period posed a challenge to us, however, we were still successful in achieving our research goals and believe this limitation was overcome.

Future Research

In light of the limitations raised. We believe there is room for future research on the topic of sustainability and its effects on the business models of coffee firms. As our study was based on secondary data, there is room for further research in this field using both primary research, and a larger number of case companies to aid with generalizability.

Through our research, we have been able to identify crucial sectors specific to our analysed coffee companies, that need to be addressed and improved such as transparency within governance and innovation within recycling and end of life management. However, there is room for further research into the concept of sustainability within the business models of coffee companies. Sustainability has come to be seen as a catalyst for creative destruction (Hart and Milstein, 1999) and we believe business model innovation is the tool set to harness that powerful transformational force. Thus, we believe that more research should be carried out in the field of sustainability centred business model innovation.

Acknowledgements

We would like to thank our families and friends for their support during this process. It has been invaluable.

APPENDIX

Figure 1:

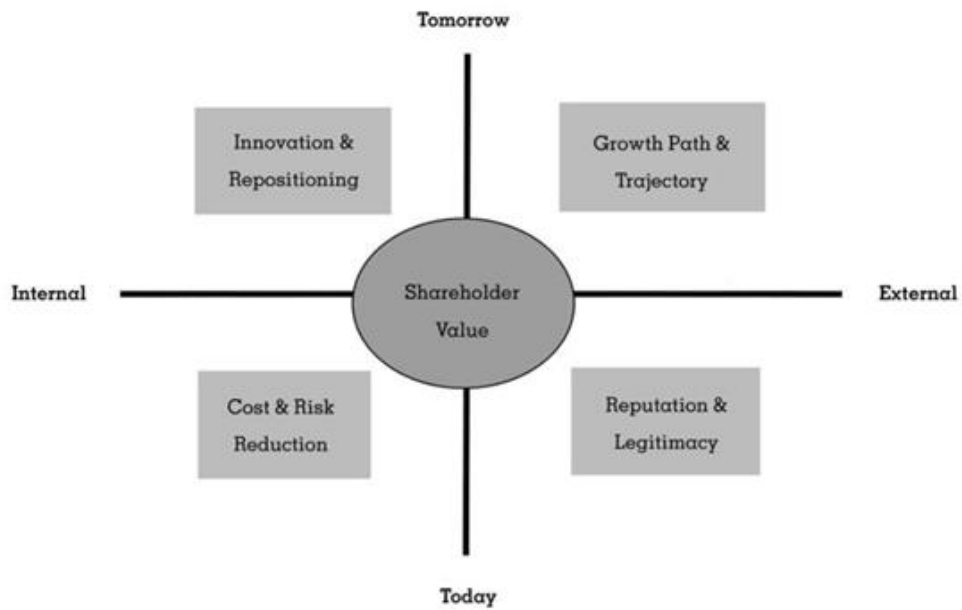


FIGURE 1
Key Dimensions of Shareholder Value

Source: Hart & Milstein (2003)

Figure 2:

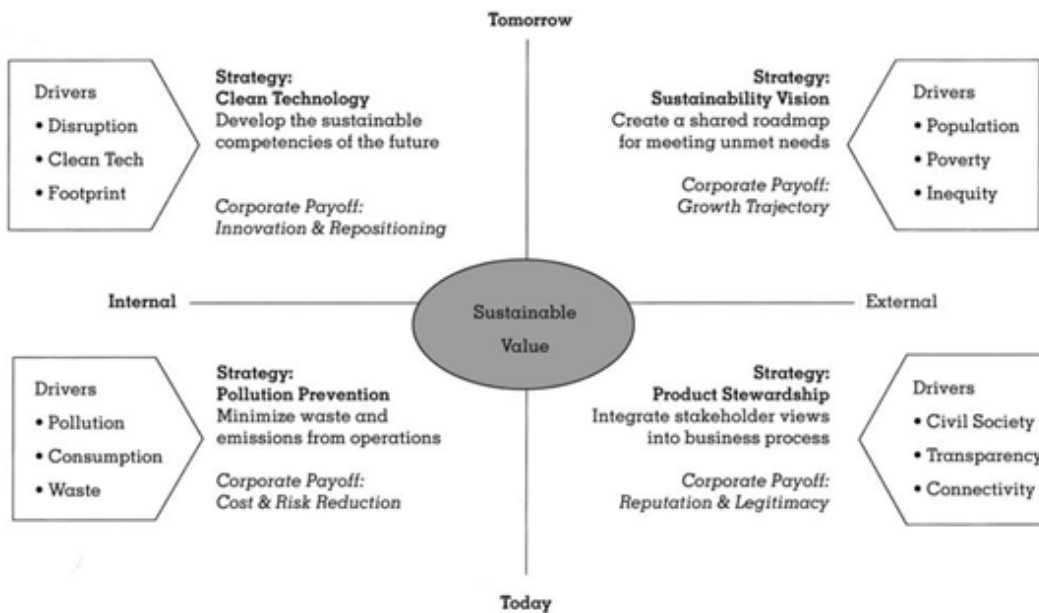
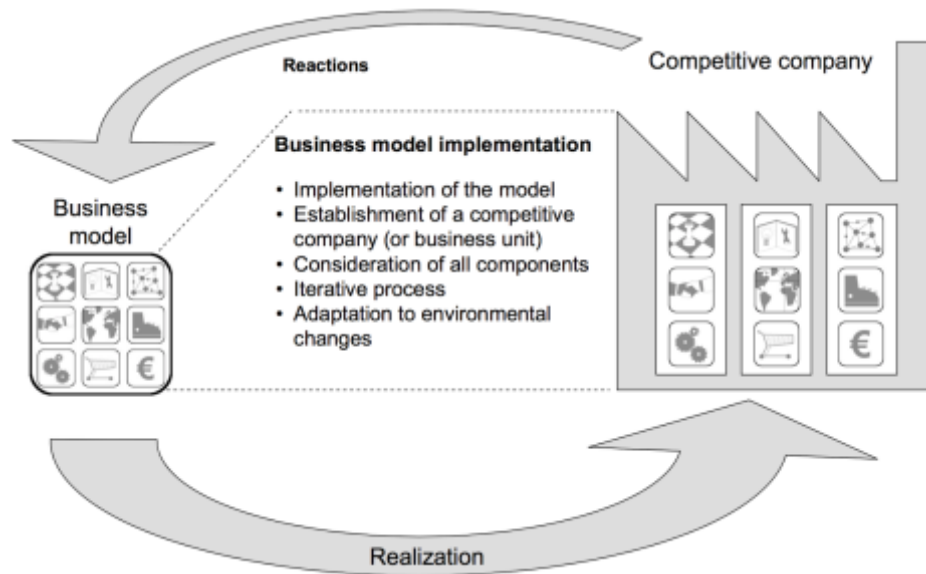


FIGURE 2
Sustainable Value Framework

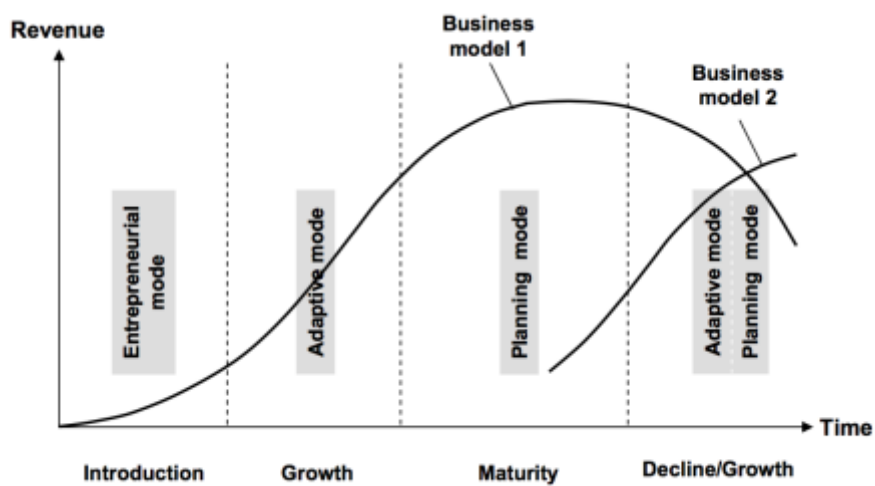
Source: Hart & Milstein (2003)

Implementation of business models: Figure 3



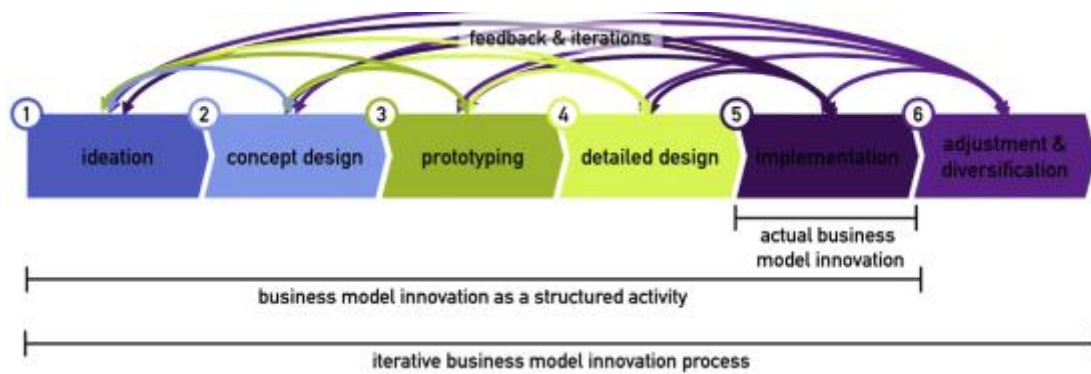
Source: Wirtz (pp, 221, 2011)

Business model life-cycle: Figure 4.



Source: Wirtz (2011)

Business model process innovation: Figure 5.



Source: Schallmo, (2013).

Horizontal and vertical coherence TLBMC: Figure 6

Horizontal coherence



Vertical coherence

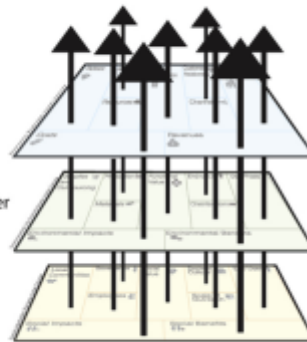


Fig. 4. The triple layered business model canvas creates two new dynamics: horizontal and vertical coherence.

Source: Joyce et al. (figure 4, 2016)

Business model design Canvas: Figure 7

Pillar	Business Model Building Block	Description
Product	Value Proposition	Gives an overall view of a company's bundle of products and services.
Customer Interface	Target Customer	Describes the segments of customers a company wants to offer value to.
	Distribution Channel	Describes the various means of the company to get in touch with its customers.
	Relationship	Explains the kind of links a company establishes between itself and its different customer segments.
Infrastructure Management	Value Configuration	Describes the arrangement of activities and resources.
	Core Competency	Outlines the competencies necessary to execute the company's business model.
	Partner Network	Portrays the network of cooperative agreements with other companies necessary to efficiently offer and commercialize value.
Financial Aspects	Cost Structure	Sums up the monetary consequences of the means employed in the business model.
	Revenue Model	Describes the way a company makes money through a variety of revenue flows.

Clarifying Business Models: Origins, Present, and Future of the Concept by A. Osterwalder, Y. Pigneur, and C.L. Tucci

Source: Osterwalder & Pigneur (2005)

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