

SOCIAL SUSTAINABILITY INITIATIVES IN COCOA SUPPLY CHAINS IN AFRICA: AN ANALYSIS OF SUSTAINABILITY REPORTING OF WORLD'S MAJOR CHOCOLATIERS

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This research paper focuses on the self-declared initiatives of the four largest chocolate companies to tackle social problems within the context of establishing a sustainable supply chain. After the literature review of sustainability, supply chain management, and cocoa farming, this paper gives an assessment of the extant practices of the chocolatiers and makes a comparative analysis based on Corporate Social Responsibility (CSR) and Sustainability Reports. This paper uses a case study approach based on secondary-data. A roadmap and benchmarking of social sustainability initiatives were conducted for the supply chain management activities of the world's four largest chocolatiers. This paper analyses the extant sustainability practices of the chocolatiers and offers a model framework for comparison of the measures taken. This paper is based on self-declared secondary data. There is a chance that some practices were not documented by the case companies; or that companies claim what they don't actually do. This paper provides a framework for agricultural businesses to compare their sustainability efforts and improve the performance of their supply chains. Originality and value of this research reside in terms of both literature and methodology. The framework for analysing the social sustainability aspects of agricultural supply chains is original and gives an up-to-date view of sustainability practices. The use of secondary data to compare self-declared initiatives is also a novel approach to business sustainability research.

Keywords: *corporate social responsibility, sustainability, agricultural products, sustainable supply chains, food products, supply chain ethics.*

Introduction

This paper aims at reviewing and comparing the measures taken by the four major chocolate manufacturers to tackle the social problems associated with cocoa cultivation in Ivory Coast and Ghana. As a result, this research has investigated the websites, sustainability and CSR reports of Nestlé, Mondelez, Ferrero, and Mars. These companies account for about half of the global chocolate retail sales. The research also provides a framework to analyse the social sustainability efforts in agricultural industries.

To persuade investors and key stakeholders of their corporate citizenship, companies list their main initiatives in CSR and sustainability reports. These are one of the key sources of publically-available information of self-declared initiatives. Being transparent and communicating Corporate Social Responsibility initiatives are essential tasks in modern sustainability management.

With the help of the growing global media services, the 'true' initiatives found in reports can be disseminated and lead to a positive impact on brand image. On the other hand, if there are inconsistencies or a deliberate misinformation in corporate sustainability reports (e.g. green washing), the media or other powerful stakeholder groups can shed light on the unethical social practices present in the global supply chain of multinational companies. Companies exposed to these risks can face consumer boycotts and serious supply chain disruptions (Gold et al, 2015).

Agricultural supply chains are particularly scrutinised as they are still the main source of modern slavery (Gold et al, 2015) and child labour (ILO, 2013). As a result, companies in the sector need to be extremely careful and prudent about their sustainability efforts (Porter & Kramer 2006). Nevertheless, implementing strategic CSR has been proven very complex in practice, including in the agricultural sector. Companies like Dole and Del Monte have recently shown little interest in signing global union agreements to provide further protection to plantation workers because there are uncertainties around the business rewards from adopting more ethical practices (The Economist, 2012). While implementation is complex; the lack of CSR practices in the supply chain may be too risky for the business bottom-line. Take for instance the rapid spread of Ebola in African countries. It can add high disruption risk and complexity in supply chain management, which will eventually reduce its socio-economic sustainability.

This work contributes to the sustainable supply chain literature. Although a large amount of literature has been developed on sustainable supply chains, the number of papers focusing on social issues are still relatively very low, which increases the relevance of this study (Seuring & Müller 2008).

The paper is structured as follows. This Introduction section is followed by a succinct review of the Corporate Social Responsibility/Sustainability literature. Next sections are as follows: sustainable supply chain management, research methodology, the background of the cocoa industry, findings and discussions, and finally, the conclusions section.

Literature Review

This section will present the relevant background on both CSR and Sustainable Supply Chain Management.

Corporate social responsibility (CSR)

The concept of Corporate Social Responsibility was introduced by Bowen (1953) in his book “Social Responsibilities of the Businessman”. Since then, there has been a great proliferation of definitions, theories, approaches and many terms (Corporate Responsibility, Corporate Accountability, Corporate Ethics, Corporate Citizenship, Corporate Sustainability, etc.) have been devised. Despite this, there is no consensus on the specific meaning of the term (Dilling, 2011; PIRNEA et al., 2011).

Fontaine & Rd (2013) asserts that the evolution of CSR and the idea of Corporate Sustainability have converged resulting in a similar objective of achieving the balance between economic prosperity, social integrity, and environmental responsibility. Also, an increasingly shared view is that CSR and sustainable development approaches should be an integral part of the economic strategy used by business, to ensure a balance between economic growth, natural resource reserves and social progress (PIRNEA et al. 2011).

Blaga (2013) affirms that businesses can gain competitive advantage by improving the communities in which they operate. It not only helps the business in differentiating its products and services but also in developing a brand reputation and consequently, it can help to increase its revenues. It is expected that a healthy society will nurture the demand for ethical businesses as human needs and aspirations grow. The success of a company doing business at the expense of the society in which it operates in, is illusory and short lived (Porter & Kramer 2006). Societies need companies to create jobs, wealth, and offer innovative ways to improve the standard of living and social conditions.

The analysis by Van Beurden & Gössling (2008) shows there exists a positive relation between the corporate social performance (CSP) and corporate financial performance (CFP) of a company. Dilling (2010) in his review confirms this; stating seventy percent of related studies have showed a positive and statistically relevant relationship between CSR and financial performance, however, points out the lack of unanimity on the conclusion.

As a natural extension of their responsibility in the production processes, companies now need to look at their supply chains to ensure ethical standards are maintained. Thus, focusing on supply chain is a logical step towards the wider adoption of sustainability (Ashby et al, 2012) as cited in Ahi & Searcy (2013).

Sustainable supply chain management

The triple bottom line approach suggests that a minimum performance needs to be achieved in the environmental, economic and social dimensions (Elkington 1999) if an organisation wants to grow sustainably within its operational context.

Seuring & Müller (2008) give one of the most comprehensive and widely cited definition of sustainable supply chain management, “*the management of materials, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental*

and social into account which are derived from customer and stakeholder requirements. In sustainable supply chains, environmental and social criteria need to be fulfilled by the members to remain within the supply chain, while it is expected that competitiveness would be maintained through meeting customer needs and related economic criteria.”

However, Ahi & Searcy (2013) affirm that this definition addresses only 8 of the 13 identified characteristics of business sustainability and supply chain management in their systematic literature review of the published definitions of Green Supply Chain Management and Sustainable Supply Chain Management. They have proposed a new definition, which includes all the identified characteristics, *“The creation of coordinated supply chains through the voluntary integration of economic, environmental, and social considerations with key inter-organizational business systems designed to efficiently and effectively manage the material, information, and capital flows associated with the procurement, production, and distribution of products or services in order to meet stakeholder requirements and improve the profitability, competitiveness, and resilience of the organization over the short- and long-term.”*

Thus, the fundamental difference between sustainable supply chain management and mainstream supply chain management, as stated by (Hall et al. 2012), is the recognition of stakeholders within and beyond the supply chain.

Rota et al. (2013) in their article implied that beyond the triple bottom line, sustainability in the supply chain context refers to making the actors more collaborative to create a win-win situation, to achieve synergy and provide the competitive advantage in the market place.

Social issues are evolving as the crucial constraint in sustainable supply chains as they involve several stakeholders with contrasting demands, goals and opinions which perceive the same situation from a different perspective (Matos & Hall 2007).

Sustainable development in supply chains is often reduced to environmental improvements (Seuring and Muller, 2008). They point out that sustainable development is comprehended in a very crude and one-dimensional way, which is based on the environment. They suggest that a more integrated perspective is needed, in which the significance of social issues is addressed and there needs to be additional research into the interrelation of the three dimensions, i.e. social, environmental and economic.

Seuring (2013) in his review of modelling approaches for sustainable supply chain found out that only 36 papers have applied qualitative models and out of those, 34 have addressed environmental issues and the remaining two have integrated the three dimensions of sustainability. None of the papers reviewed addressed social issues exclusively.

Thus, the one-dimensional perception of sustainability and the lack of papers on social issues in sustainable supply chains consolidate the significance of this research in the context of present literature.

Research Methodology

The research question that we address in this paper is:

RQ. How do chocolatiers respond to social issues to ensure a continuous supply of cocoa?

The research strategy employed for this paper is secondary-data case study, which is the process of building theory of a particular research topic within its context or within a

number of real life contexts. The use of secondary-data is of great importance for Operations and Supply Chain Management Research (Boyer and Swink, 2008). A case study strategy is relevant if the research aims to answer some social phenomenon or requires an in-depth and extensive insight into social phenomenon (Yin, 2003; Eisenhardt, 1989). The choice of using secondary-data was given because the majority of companies prefer not to get involved in projects where the issue of sustainability is extremely sensitive and in the past, has caused problems of bad reputation, allegations of unethical labour practices, etc.

Selection of cases and Rationale for Data Collection and Analysis

The selection of cases was based on two main criteria: (1) size of the organisation in terms of net sales; and (2) evidence of managing suppliers in Ghana and Ivory Coast. Table 1 shows the top 10 companies in 2014 according to the International Cocoa Organisation. We have analysed the companies to check for criteria (2) and then selected the top four because there were signs of replication of activities already. In addition to replication, the choice of only four companies kept the volume of information manageable for an in-depth analysis of reports and media news.

Table 2 – Top ten chocolatiers (country of origin) and net sales in 2014 (ICOO, 2015)

Company	Net Sales 2014 (US\$ millions)
Mars Inc (USA)	18,480
Mondelēz International (USA)	14,350
Ferrero Group (Luxembourg / Italy)	10,911
Nestlé SA (Switzerland)	10,466
Meiji Co Ltd (Japan)	9,818*
Hershey Foods Corp (USA)	7,485
Chocoladenfabriken Lindt & Sprüngli AG (Switzerland)	4,022
Arcor (Argentina)	3,500*
Ezaki Glico Co Ltd (Japan)	3,049*
August Storck KG (Germany)	2,272

Given the nature of our research question, secondary research was the best possible alternative within the timeframe of our research project. Lee et al (2008) suggest that pre-existing data can also be used for qualitative research enabling the achievement of reliable results. In this research, data were mainly collected from documentary sources like companies' websites, certification organisations' websites, other partner organisations' websites, newspapers and documentary films.

The main sources of secondary data for our paper were sustainability and CSR reports. Fonseca (2010) has shown that sustainability reports from mining companies have been seeking external assurance and as a result the reports became more consistent. The analysis of corporate reports is widely used and considered a valid form of research to explore and compare organisations. The use of corporate publicly available data for research is not particularly new. For example, (Levesey & Kearins 2002) analysed the corporate discourse about transparency and care in sustainability reports of Shell and Body Shop with regard to their text and corporate rationale for increasing stakeholder communication. More recently, Nunes and Bennett (2010) have investigated and benchmarked green operations practices of car manufacturers through environmental and sustainability reports.

Indeed, secondary data collection has been longed used in Business research, and indeed, it has its own advantages and disadvantages (Cowton, 1998). For instance, it requires far less time and money as compare to primary methods of data collection. Thus, it gives relatively more time to analyse and interpret data and think about other practical issues. In many cases, secondary data is of higher quality compared to self-collected primary data (Smith, 2006). It provides an unobtrusive measure and at times results in unforeseen or unplanned discoveries. Lastly, secondary data is more permanent in nature and can be verified easily by others, as it is available in a form that is open for others as well, which increases replicability and internal validity of the research (Harris, 2001).

The crucial drawback of secondary data is that part of secondary data might have been omitted, as the original researcher would have considered it unimportant (Saunders et al, 2012). However, in this paper, data collected from the company's website was intended to inform about their self-declared sustainability initiatives. These data are published every year; hence the problem of outdated data is eliminated as well. The companies might have skipped findings that would lower the efficiency of their sustainability efforts, which is why multiple sources were used.

After data collection, there is a need for data reduction, which is "the process of selecting, focusing, simplifying, abstracting and transforming the data" (Miles and Huberman, 1994). In this research, after collecting large number of reports and articles, they were all reviewed and reduced down to the fundamental ideas pertinent to the objectives through the method of coding for theme selection. Given the clarity and structure of the documents, a visual content analysis permitted us to easily identify the main themes, which based the construction of tables, process of data reduction, and benchmarking of initiatives. Such analysis is characterised by a more inductive approach. In our case, the comparative parameters were induced after reviewing all of the available data. These were then used as perspective to assess company initiatives and compare them.

Background of the Cocoa Industry

According to World Cocoa Foundation, more than 90% of the world's cocoa production comes from small family owned farms. Around 5-6 million farmers are involved in cocoa cultivation and nearly 40-50 million people depend on the crop for their livelihood (World Cocoa Foundation, 2013).

In 2011/12, the global harvest was 4,052,000 out of which 3,765,600 amounted for consumer beans. Ivory Coast and Ghana are the major cocoa producing nations of the world. In 2011/12, approximately 63% of the consumer beans' harvest came from these two regions (Lindt & Sprungli, 2013). Also, majority of the cocoa for the European market is sourced from these regions. Therefore, these are the focus of this research paper.

The European confectionary industry consumes around 50% of the world cocoa beans and in 2009, generated a turnover of 42.3 billion Euros with 190,000 employees in 5500 companies (Eurostat, 2009). However, the situation in the cocoa growing regions is very much in contradiction to these lucrative numbers.

Almost 30-40% of the crops are affected by pests and diseases. And the lack of knowledge and resources available to farmers has resulted in low productivity. These have compelled the younger generation to look for other occupations over cocoa farming. The repercussion of these problems is not limited to poverty but other social problems like child labour, child trafficking, etc. In 2010, Miki Mistrati, a Dutch journalist, exposed the problems of child labour and trafficking in the cocoa fields of Ivory Coast in his documentary, "The Dark Side of Chocolate". He discovered that children were traded for merely €230 from Mali, which is another African country struggling with poverty. The documentary revealed that farmers received only €1/kg out of the €2.5/kg given by the companies, i.e., only 40%, which is extremely less for the grower. The remaining amount was taken by the intermediaries.

The value chain of cocoa and its sustainability

The supply chain of the food industry recognises the increasing interest on the sustainability of food supply chains has amplified the pressure of different stakeholder groups (consumer organisations, environmental advocacy groups, policymakers, etc.) on food industries and retailers to assess and improve the environmental and social performance of their supply chains (Maloni & Brown 2006). Therefore, the creation of a sustainable food supply chain has become a necessity as well as an effective strategy for securing competitive advantage and securing the stakeholders approval in the future (Rota et al. 2013).

Figure 1 shows that the cocoa supply chain consists of a large network of actors, the majority of which are invisible to the casual consumer. Raw cocoa undergoes a lot of processing and changes many hands before being converted into a chocolate bar (Haynes et al. 2012). The concentrated production in the politically unstable West Africa coupled with the declining production in other regions was one of them. Low productivity, ageing farms and the incidence of pests and diseases fuelled concerns that a global ecological threshold for cocoa production was fast approaching (Neilson 2007). Most recently, Ebola epidemics are also putting cocoa supply under high risk as well as causing rapid price increase (Wexler and Jerving, 2014). These are discussed in detail later in the analysis part of the research.

The other problem was many NGO's, labour unions and the media started accusing the industry for child labour and child trafficking on cocoa plantations (Bitzer et al. 2012). Schrage and Ewing (2005) acknowledged that the association of global brands with child labour endangered their reputation and sales and subsequently, public-private partnerships emerged at the production level.

Long (2008) expressed that it is essential to work in partnership with the industry and other NGO's to establish a truly sustainable supply chain. The author has worked at Hershey's for nearly 22 years and was responsible for the global corporate social responsibility efforts of the company. In his article, he has reaffirmed the idea of contributing positively to the lives of millions of farmers growing cocoa and emphasised the necessity of responsible cocoa cultivation for consumers to buy it without apprehension.

Public/Private partnerships are critical for accomplishing sustainability and the most significant advantage is that they aim to create shared value and eventually, build trust rather than gaining competitive advantage over anyone (Shapiro & Rosenquist 2004).

It is clear from the literature that partnerships have been given immense importance when managing the business of making chocolate. Consequently, there have been many developments towards partnerships and certification for enhancing both quality (Mergenthaler et al, 2009) and sustainability (Hamprecht et al, 2005). The most relevant ones identified in our research are: World Cocoa Foundation, International Cocoa Initiative (ICI), ISEAL Alliance, and Fairtrade Certifications.

The retail sales value of Fairtrade production have increased by 5 times in the last eight years; also the sales of Fairtrade cocoa increased by 14% in 2011. The authors labelled the idea as valuable and worth popularising. Nevertheless, the certification system is not without challenges and drawbacks. Jaffee & Howard (2010) ascertained that large corporations have co-opted, captured and weakened the standards of certification. This includes eliminating rules, which are not in concordance with large-scale industrial practices, manipulating rules in favour of large-scale producers or simplifying standards or eroding premiums.

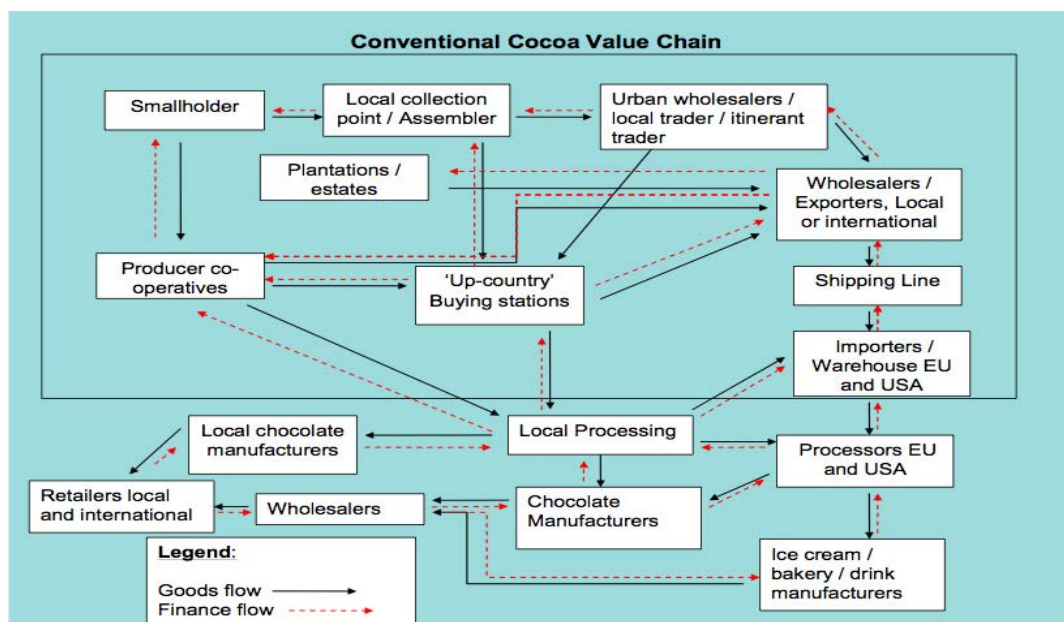


Figure 1 Value Chain of Cocoa

Source: Haynes et al (2012).

Despite the criticisms, certifications are the most popular method of approaching sustainability. Rainforest and UTZ are other popular certification organisations relevant to our research.

Findings and Discussion

This section will focus on the measures taken by the four multinational corporations, viz., Mondelez, Ferrero, Nestlé and Mars, to tackle these issues and establish a sustainable supply chain of cocoa. The cases vary in their length because there were deviations in the communication strategies of companies. The quality and quantity of data made available by the chocolatiers drastically differed as commented in case section.

Case 1: Ferrero

Ferrero is a multinational company originally established in Italy in 1946. The company identifies itself in “work, create and donate”, implying that it strongly believes in doing well for the society. The CSR efforts are described below:

The company is in partnership with Rainforest Alliance, Sourcetrust and UTZ certified to procure sustainable and traceable cocoa from the West African regions. Beyond these initiatives, the company engages in specific local partnerships to provide training and support to farmers, and pay them a premium for high quality cocoa beans with the prime objective of uplifting local economy and creating economic and social benefits. However, there was no information on the projects that already have been undertaken or are in progress. Ferrero aims to source 100% of the cocoa from certified sources by 2020 (Ferrero, 2013).

Ferrero is a member of the World Cocoa Foundation and the International Cocoa Initiative (Ferrero, 2013). It was among the many companies to sign the “Harken-Angel” protocol. It has also signed the Action Framework for the Application of the Protocol in 2010, which as the name suggests, is a framework designed to implement the protocol. The aim of the framework is to offer help and remediation to the children rescued from the worst forms of child labour. With the help of many stakeholders involved in the cocoa supply chain, it aims to provide education and vocational training, introduce measures to tackle issues of occupational health and safety, provide livelihood services to the families of children, establish a reliable and transparent monitoring system, and promote ethical labour standards in the Ghana and Ivory Coast (United States Department of Labour, 2010).

Ferrero has a supplier code of conduct. The code encompasses requirements like good quality, ethical production, prevention of child labour and trafficking, good working conditions, practicing business with integrity, etc. The company reserves the right to conduct unannounced inspections, with the assistance of third parties, of the compliance of this code. Discrepancies found during these inspections, will lead to the termination of business relationship with the respective supplier (Ferrero, 2013).

Case 2: Mars

Mars is one of the biggest world’s leading manufacturers of chocolate and is based in the United States and has twenty-nine brands under its belt. The company aims to make cocoa farming a reliable source of income, this will not only help in fighting poverty but also issues like child labour.

In 2009, the company set a goal to procure 100% of its cocoa from certified sources. By 2011, 10% of its total cocoa was obtained through such sources and they have set out a few targets to reach their goal. The company promises that 35% of its cocoa will be from certified sources by 2014 (Mars, 2013).

The company has laid out rigorous certification principles by which they select the certification organisations. The principles require the certification program to work towards the benefit of the cocoa growing community, establish a transparent price and quality system, be a member of the ISEAL alliance, etc. Currently, Mars is in partnership with Rainforest Alliance, UTZ Certified and Fairtrade.

Low income is one of the fundamental reasons that families including children work together on farms, whilst sacrificing their education. The company's Sustainable Cocoa Initiative is divided into three steps, viz., research, technology transfer and certification (Mars, 2013).

The company feels that the research in cocoa is under-resourced and believes that investment in programs will help in raising awareness as to enhancing the quality and yield of cocoa. It firmly believes in genetic research and in 2010, collaborated with the U.S. Department of Agriculture (USDA) and IBM for the sequencing and annotation of the cocoa genome. This would help the breeders in producing better cocoa plants in months, giving farmers high yielding and disease resistant crops (Mars, 2013). The initial findings of this research were disclosed publically and aren't patented as the company aims to help the industry as a whole and encourage other members to participate. With this research investment, the company intends to increase collaboration between cocoa producing and consuming nations lay out an effective common agenda for the industry to prioritise key issues, upsurge the support available to cocoa researchers and enhance the publication and dissemination of cocoa research.

Under the umbrella of technology transfer programmes, farmers are educated about better farming techniques and their benefits. The company has started Cocoa Development Centres (CDC), led by expert agronomists promote sustainable farming practices. These centres are strategically located in highly accessible areas like centre of cocoa growing communities. They plant cocoa trees in visible areas like roadsides to demonstrate the benefits of good farming practices and beside them, poorly maintained trees are planted to show the farmers the difference. The CDC's showcase methods for improved and sustainable farming and provide guidance to help increase the yield of an average farm. They are also used as a platform to test newly researched farming techniques in the local conditions (Mars, 2013).

The Village Cocoa Centres are extensions to CDC's, located within the villages. They are run as a business providing services such as grafting experts to rejuvenate farms, advice, etc. They also provide superior plant varieties, which are in turn supplied to them by the CDC. The CDC monitors the VCC in the context of the services being provided and giving it the required expertise. The goal is to make VCC's an independent business.

Case 3: Mondelez International

Mondelez is one of the world's largest multinational corporation and is Europe's largest chocolatier. Cadbury, Toblerone, Milka and Cote d'Or are some of the popular brands under its belt (Mondelez International, 2013). In the sustainability section of their website, the company has emphasised their aim of establishing a long-term sustainable supply of cocoa and work towards the welfare of cocoa farmers and their communities.

The company insists on sourcing cocoa from certified buyers as it is a means to ensure that the cocoa has been produced not only in an ethical way but also the communities are getting a fair price for the crop. Mondelez was the largest buyer of cocoa beans from Fairtrade and Rainforest Alliance certified farms. However, neither there is any mention of the exact percentage of certified cocoa in terms of the total purchase or of a target to buy the whole of cocoa from certified farms (Mondelez International, 2013).

Mondelez is a member of the World Cocoa Foundation (WCF) since its inception and actively supports all its programs. The five year partnership with the Bill & Melinda Gates Foundation was given emphasis on the website. The aim of this partnership is to support WCF's project of improving farmer livelihoods in West Africa. An investment of \$40m

will be made in the regions of Ivory Coast, Ghana, Nigeria, Cameroon and Liberia to improve the production and efficiency of 200,000 small cocoa farmers by 2014 (Mondelez International, 2013).

The company has also partnered with CARE to improve the agricultural capacity of 2500 farmers in the Ashanti region of Ghana in the next three years. CARE is a humanitarian organisation fighting against global poverty and working towards women empowerment (Care International, 2013). However, no details were mentioned about the start of the programme and the weblink including the details of the partnership didn't work (Mondelez International, 2013).

In addition, Mondelez was one of the founding members of International Cocoa Initiative (ICI) and supports the organisations fight against child labour. Again, the link for the details of this partnership didn't work impeding us to better understand the importance of the relationship with ICI and similar institutions for the company (Mondelez International, 2013)

A programme called Cocoa Life is portrayed as its biggest and the most complete sustainability effort until now. Under this programme, a massive investment of \$400m would be made in the cocoa growing regions of Ivory Coast, Ghana and other countries, helping around 200,000 farmers in the next 10 years. It aims to improve farmer yields and incomes, thus bettering their communities and making cocoa cultivation attractive to the younger generation. The programme will also strive to protect farming lands and ecosystem for the future generations. Reports summarising the progress or the impacts weren't found on the website (Mondelez International, 2013)

Case 4: Nestlé

Nestlé was founded in 1866 in Switzerland as a milk company. The company has been a part of the food industry and has launched many brands ranging from nutrition to pet care. Chocolate is one of the crucial and most popular segments of the company and forms a major part of the total sales. Nestlé's concept of social responsibility works on the idea of creating shared value. By this the company means that as a business it can address three things effectively, which are: (1) nutrition - providing healthy and good quality food to people, (2) water - preservation of the scarce water resources, and (3) rural development - development of farming communities to ensure a continuous supply of raw materials. These three were the pillars of the Nestlé Cocoa Plan developed in 2009. The plan brings together all the sustainability initiatives taken by the company, over many years, in a cohesive way. The plan is divided into three aspects i.e., profitable farms, social conditions, and sustainable chocolate (Nestlé, 2013).

In Nestlé's view, to alleviate poverty and to make cocoa farming attractive, it is necessary to make cocoa cultivation a profitable occupation. For this, the company is carrying out plant propagation. The company's research and development centre in Tours, France works in collaboration with the research and development centre in Abidjan, Ivory Coast. They work with a process called Accelerated Propagation under which the flower buds are kept in controlled and conducive environmental conditions in France and then are sent to Ivory Coast, where they grow into plantlets. These plantlets are matured in local nurseries and planted in farm fields after they are ready. Nestlé has been distributing thousands of these plantlets every year; 820,000 in 2011, 1,100,000 in 2012; and plans to distribute a minimum of one million every year from 2013 (Nestlé, 2013).

The trees bred in the development centres yield relatively a higher amount of cocoa as compared to the normal trees. These trees yield as much as two tons of cocoa per hectare against 300 to 500 kg. This variety of trees is more tolerant drought and has a robust structure, which makes pruning, spraying and harvesting more convenient and thus, is easier to maintain (Nestlé, 2013).

Under the same programme, 20 to 30 cocoa farmers gather at a local cocoa farm and are trained in many areas in collaboration with Anader, an NGO, in Ivory Coast,. The training provides lessons to increase the quality and quantity of harvest. Apart from being a training session, these sessions are used to make farmers aware about ethical work practices like child labour, child trafficking, significance of schooling for children, etc. A total of 27,000 farmers were trained in 2012 (Nestlé, 2013). Nestlé buys cocoa from these trained farmers and pays them a premium as well.

With regard to social conditions, Nestlé's primary aim is to tackle child labour and promote school attendance as the company has been a focus of many accusations, e.g., the BBC documentary showed that cocoa produced through unethical means was present in Nestlé's supply chain. In response to this, the company collaborated with the Fair Labour Association (FLA) in 2012 (Nestlé, 2013). FLA carried out an assessment of the supply chain in Ivory Coast with the help of independent experts. The experts visited seven suppliers, twenty co-ops, two co-ops unions and 87 farms and conducted over 500 interviews. These included the farms that were a part of the Nestlé Cocoa Plan, i.e. the farmer field schools, fairtrade certified co-ops, etc. and other non-certified farms. The team in its report affirmed the presence of child labour on cocoa farms. As a result, Nestlé in partnership with WCF invested US\$ 1.5m over a period of four years (2012-2015) in 20 communities to build 40 new schools and develop water and sanitation services. WCF would provide family support scholarships in these communities to pay for children's fees and support women's agricultural and livelihood training, thus encouraging female entrepreneurship. This programme would be beneficial for around 16,000 people (10,000 children and young people and 6,000 family members).

There is evidence of using certified products and fostering sustainable supply chain initiatives within Nestlé's reports and website. Moreover, sourcing cocoa from Fairtrade or UTZ certified cooperatives or cooperatives certified by the Nestlé Cocoa Plan would help in improving the social conditions. These together will result in a sustainable and long-term supply of cocoa. Nestlé aims to purchase majority of its cocoa from these traceable sources (Nestlé, 2013).

Out of all the four companies studied, Nestlé stood out in terms of the quality of the communication. There was a detailed description available for the measures the company has taken and planned for the future; the goals and targets that have been met and to be met. All the CSR reports were available on the website.

Comparative Analysis and Framework

The purpose of this framework is to act as a generic yardstick for sustainability efforts in the chocolate industry. It has been designed by scrutinising the social sustainability problems of the chocolate industry and the measures taken/being taken to tackle those.

Table 2 is a comparative analysis of the major European chocolatiers based on what they communicate on their reports and websites. On the left column, table 2 displays the parameters on which the comparison was grounded. These parameters were selected on the basis of the initiatives taken by these companies and their associates. A brief analysis is made based on the above table in the following section.

Certification: All of the companies are buying cocoa from certified sources. The top four seems to rely more on third-party certification processes instead of running their own verification programme. Certification of third party tends to be more respected and less vulnerable to company bias for traditional arenas of CSR such as fair trade.

Partnership with WCF: World Cocoa Foundation is a major organisation working for the betterment of cocoa farmers. It is important to remember that 80% of the companies are a part of this organisation including all our research case companies. However, not all the companies take part in the programmes initiated by the WCF. Therefore, as important as being a partner company is to integrate the programmes recommended by WCF in the company's CSR initiatives.

Partnership with ICI: The organisation fights against the worst forms of child labour and all of cases in our research became its members in 2001. When the issue of child labour came to light in the global media in early 2000's, chocolatiers had no option but to support such initiatives to preserve their brand image and customers.

Partnership with CARE: Mondelez was the only company associated with CARE. But, the link containing the details of the collaboration displayed that the page has either been moved or deleted. This can be either understood as a communication or technical problem on the website or the end of association with CARE. Regardless, it raises doubt over the level of transparency of the company not only with respect with CARE but also over the existence of other collaborations.

Supplier Code of Conduct: Out of the four cases, only three of them have an established supplier code mentioned on their website. The other two seem to rely on certified organisations. However, the problem is that not all of their cocoa comes through certified sources. In the case of Mars, until 2011, only 10% of the total requirement came through certified sources. This raises questions for the sources of the remaining 90%, as there is no code set to filter out the suppliers. Mars has a code for the selection of the certifying organisations though and aims to source 100% of its cocoa through them by 2020. Mondelez, on the other hand, didn't have any transparency even in terms of their statistics. Neither the current percentage nor the future aim of certified cocoa was mentioned on their website.

ECHOES: Empowering Cocoa Households with Opportunities and Education Solutions (ECHOES) is a programme initiated by the WCF with the help of some of its member companies in Ivory Coast and Ghana (World Cocoa Foundation, 2013). Mars, Mondelez, and Nestlé are amongst the contributing partners. The programme aims to provide education opportunities to the youth as well as adults to increase cocoa households' incomes and the overall development of their communities.

Cocoa Livelihood: Mars and Mondelez support WCF's programme along with a few other companies. The programme aims to increase the marketing efficiency of farmers, the quality of beans and the farmer competitiveness. It includes activities like, professionalising farming, accessibility to better farming materials and equipment, financial help, business training for farmers, etc. The programme is working in the Cameroon, Ghana, Ivory Coast, Liberia and Nigeria and aims to help around 200,000 farmers (World Cocoa Foundation, 2013). The initiative is a good sustainability move as it helps to keep the occupation attractive for younger generations and also enhances the farmers' quality of life. Nestlé has a very similar plan operating in its procurement regions. Ferrero had no evidence of involvement in any similar plan.

Table 2 Comparative Analysis and Framework

Generic Parameters for Agricultural Supply Chains	Specific Parameters for Cocoa Supply Chains	Companies			
		<i>Ferrero</i>	<i>Mars</i>	<i>Mondelez</i>	<i>Nestlé</i>
Certified Products	Certified Cocoa	✓	✓	✓	✓
Partnership with relevant associations	Partnership with WCF	✓	✓	✓	✓
	Partnership with ICI	✓	✓	✓	✓
	Partnership with CARE			✓	
Supplier Code of Conduct	Supplier Code of Conduct	✓			✓
Involvement in improvement initiatives	ECHOES		✓	✓	✓
	Cocoa Livelihood		✓	✓	
	African Cocoa Initiative	✓	✓	✓	✓
	Cocoa Link	No Evidence found			
Yield Improvement	Farmer Training		✓		✓
	Investments in Research and Development		✓		✓

African Cocoa Initiative (ACI): All the companies are the contributing partners in this public/private partnership. Under this, \$13.5 million would be invested in the regions of Cameroon, Ghana, Ivory Coast and Nigeria over a period of five years, 2011-2016. It aims to institutionalise public/private partnerships to develop a more sustainable and cohesive supply of cocoa. Measures include providing better planting material, promoting farm management practices in the national curricula, increasing the capacity of in-country training services, both public and private, etc. (World Cocoa Foundation, 2013). A few of these measure overlap with some of the above-mentioned initiatives. But the cocoa community is so scattered and enormous, that these initiatives are necessary. ACI aims to double the productivity of 100,000 cocoa household farms.

CocoaLink: None of the companies have an association with this programme; however, its effectiveness and practicality are worth observing. Hershey, world famous chocolate brand, along with WCF and COCOBOD has initiated this in Ghana. Farmers subscribed to

this, receive and share information related to cocoa farming with professionals and other farmers through SMS and voice messages. This has been possible because of the mobile infrastructure present in Ghana (McCORMICK 2012). The information shared range from agricultural practices to social practices. Messages are sent in English as well as the local language. All the communities under this have access to specialist agents and on-the-ground trainers. CocoaLink is in the pilot phase (2011-2013) targeting 100,000 farmers and aims to cover the whole of Ghana, approximately 700,000 cocoa farmers, in the coming years (World Cocoa Foundation, 2013).

Farmer Training: Though farmer training is a part of the initiatives described earlier, three of the four companies have taken initiatives on a company level to improve farming practices and promote ethical labour standards. Ferrero and Mondelez are involved only in the WCF initiatives, while Mars and Nestle have proactive measures as part of the sustainability aim.

Investments in Research & Development: Mars and Nestlé have invested in research and development of better quality seedlings to improve the yield of farms and fight against the problem of ageing cocoa trees. While Mars has invested in genetic research, Nestlé is against the idea of genetic engineering and has employed different research strategies. The other three companies didn't show any evidence of such investment.

Conclusion

The current paper has investigated the self-declared social sustainability initiatives of the chocolate industry and the measures taken by World's four largest chocolatiers. The increasing awareness of consumers, media, NGO's, etc. has made it imminent for companies to devise a sustainability strategy for its supply chains.

The companies studied as a part of this research have been working towards cocoa supply chain sustainability, which is hindered by the complex nature of its value chain. Lower yield, child labour and trafficking, and unethical working conditions are a few problems discovered. The case companies have implemented several initiatives, but the most prominent seems the reliance on certification. Certified procurement is said to be an effective strategy but not free of drawbacks. There are many loopholes in the system and can give rise to other serious issues like corruption. Other complementary measures are needed to make its impact more prevalent and effective. The partnerships with different associations are presented as efficient for companies as well as farmers. Improvements in the conditions of farmers are advocated as a key result. It is acknowledged that there's a long way to go in expanding the existing programmes because the supply network is immensely huge and complex.

A critical aspect of concern is that no company has shown a clear strategy for the problem of child trafficking. Awareness rising against child labour is, to an extent, relevant to restrain it, but it doesn't make any impact in the neighbouring regions from where children are trafficked. Poverty is one of the likely reasons why parents of those children send them to work in cross-border cocoa farms. It might not be economically feasible for cocoa companies to implement any measures in those countries, but working with the governments of cocoa countries to cease the influx of children at borders and track down the traffickers can help. Research and Development of seeds, farmer training, etc. are taken up as effective for increasing the yields. Sanitation facilities, schools, etc. are also built as

part of community development, which gives an interesting and holistic approach to tackle wider sustainability issues in rural areas.

A comparative analysis helped us to understand the different strategies employed by companies. As a positive remark, all companies seem to deal with social issues as part of their strategic agenda. Following Porter and Kramer's (2006) framework, the majority of the companies' CSR initiatives would either be considered as part of *value chain social impacts* or within *the organisation's competitive context*, being classified as *Strategic CSR*. Again, this is a highly complex and subjective issue. CSR Investments could be considered as a generic initiative, but under the severe risk of Ebola epidemics, health programmes and prevention campaigns would easily migrate toward value-chain or even strategic CSR because their direct impact on employee safety, hygiene, health, and productivity.

On the basis of the data available, Ferrero and Mondelez had the least proactive strategy of the four based on the information gathered. Ferrero only concentrated on certified cocoa but didn't present any specific aims and was part of one of the WCF initiative. No actions are disclosed about improving the farmers' yield. Mondelez, although was involved in WCF initiatives, didn't provide a supplier code of conduct or any targets for the procurement of certified cocoa. Like Ferrero, Mondelez did not inform any involvement with the improvement of farmers' yield. The remaining three companies were fairly equal in terms of the efforts taken. Mars and Nestlé took additional efforts by investing in R&D of seeds, which seems a differentiation aspect. Lastly, all the companies should look forward to CocoaLink initiative because of its practicality and invest resources either in the same programme or in a fresh one. CocoaLink will also look as a differentiating factor in the companies CSR strategy.

The current paper gives a review of the current efforts self-declared by the four major chocolatiers to ensure a sustainable supply of cocoa and improve the conditions of the cocoa farmers. The comparative table developed in this paper can be used as a framework to analyse the social sustainability of other agricultural products. This can be done with the help of the generic parameters listed in the table. These are the main contributions of the paper. In this way, the framework can be considered a guiding tool for the analysis of a particular company or agricultural industry's social sustainability efforts. Another aspect, which increases the importance of this work, is the lack of papers on social sustainability, as established in the literature review, particularly with cocoa supply chains in Africa.

Limitations & future research

The limitations associated with this research paper are mainly because of the data collection technique. The research team aimed at examining self-declared initiatives so we expected that all companies would reveal their main efforts. But as the only source of data was secondary, there are chances that some issues or efforts, particularly most recent ones, may have not been captured until the date of the release of the reports.

Furthermore, there is also the possibility that what companies do in 'real' life differ to what they say they do. Similarly, our sample selection is a limiting factor. It was based on size as the main criteria, so there might be smaller companies with different initiatives that we were not able to verify due to the theoretical sampling method. This could have impacted in the construction of the framework as different practices can impact the parameters, both generic and with-in the cocoa industry. These limitations however are not only acknowledged here but also seen as a clear path to conduct future research. Firstly, obtaining primary data from the companies through personal interviews with their employees would help in the improvement of the framework. Secondly, the framework can also be tested against other agricultural products like cotton, coffee, bananas, etc.

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