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## CHAPTER 14

# Sustainability of agri-food supply chains

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The agri-food system is the central and leading sector of every economy, both in developed and developing countries. Demand for food in the world is constantly growing and, accordingly, food chains are developing more and more, leaving behind negative consequences for the environment and society. For example, with regard to food production, the FAO (Sustainability Pathways<sup>[1]</sup> states that “*global food production must increase by 60% by 2050 to meet the demands of a growing world population.*” Consequently, global sustainability expectations in governments and policy makers have been developing sustainable development strategies and establishing frameworks for sustainable consumption and production, and consumers are also increasingly emphasizing the ethical and environmental values of the products they consume<sup>[2]</sup>.

Sustainable food production and distribution is one of the most important problems in developed and developing countries. Market regulation, the emergence of global companies and changing patterns of consumer behavior when buying and consuming food (e.g. demand for off-season products) are just some of the factors that significantly affect agri-food supply chains. Food supply chains from the primary farmer to the final consumer create a direct impact on the environment through the production, processing, transport, storage and preparation of food, generating significant amounts of food waste and food losses. AFSCs need to become not only more efficient and affordable, but also more sustainable and resilient. The long-term sustainability of this system requires the joint and integrated cooperation of all stakeholders in the food supply chain including economic, technological, organizational, social and environmental aspects in the strategic planning and design of sustainable AFSCs.

## 14.1 Sustainable agri-food supply chains

According to the definition given by Seuring and Müller<sup>[3]</sup>, Sustainable Supply Chain Management (SSCM) can be defined as “management of material, information and capital flows as well as cooperation between companies along the supply chain, while achieving objectives from all levels of sustainable development, i.e. economic, environmental and social, in accordance with the means”.

One of the most frequently cited definitions of sustainability is „*triple bottom line*“ (TBL) model, introduced by Elkington<sup>[4]</sup>, which divides sustainability into three basic points: a) economic prosperity; b) environmental quality; and c) social equality. All three basic points and their interaction must be taken into account when designing sustainable agri-food supply chains. The three dimensions of TBL can be further distinguished

with respect to financial and nonfinancial economic performance, environmental performance related to input and output performance, and internal and external social performance of SC (Table 1)<sup>[5, 6]</sup>.

*Table 1. Economic, environmental and social requirements of stakeholders in the sustainable supply chain of agri-food products*

<b>Gazdasági</b>	<b>Környezeti</b>	<b>Társadalmi</b>
Financial: – low operating costs – big income – high productivity – high yield – fair distribution of profits in the supply chain  Non-financial: – high level of service – high production efficiency – optimal distribution (distance reduction) – high quality products – fair purchasing processes (increasing the number and variety of suppliers) – support to chain partners (support and monitoring for the acquisition of sustainability certificates, knowledge and technology transfer, information exchange, etc.)	– solid waste reduction – small amount of wastewater – low energy consumption – reduction of air pollution – low greenhouse gas emissions (CO <sub>2</sub> , methane, etc.) – soil conservation – animal welfare – green processing, packaging and transport	External: – increase social welfare (volunteering, donations) – public health care – support for economic development in local communities – fair trade and transparency – high social protection and justice – easier access to financial and non-financial support – improved product quality and food safety  Interior: – better working conditions – employee health and safety – fair employment – elimination of illegal and child labor – staff training – fair wages

*Source: Author's work according to León-Bravo et al. and Rebs et al.<sup>[5, 6]</sup>*

Activities and processes of sustainable supply chain management include prevention and reduction of environmental impact, waste reduction, use of environmentally friendly materials wherever possible, recycling and reuse, cooperation with suppliers and other chain partners on sustainability, energy conservation, increasing transparency and traceability in the food supply chain, etc.

There are significant differences in the degree to which organizations and supply chain stakeholders are successfully involved in sustainable supply chain management projects. Certain types of organizations are more or less internally or externally motivated to engage in sustainable supply chain management. This often depends on both the values and the cultural context of the supply chain members. In the supply chain, there are usually companies that have more influence than other companies in the same supply chain and where determining the strategic importance of sustainability aspects can be directly related to competitive advantage. Such companies will make efforts to ensure that other members of the chain adopt sustainability strategies as an integral part of their business strategy. Retailers often play a central role in food supply chains by linking primary production and processing with consumers<sup>[7]</sup> and dictating market conditions that include sustainability elements such as quality standards, environmental management system, etc. In addition, retailers in collaboration with the food industry, for example, must be prepared to demonstrate responsible sustainable practices while offering more environmentally friendly products.

Sustainable patterns of consumption and production in a world of limited resources are an essential prerequisite for sustainable development, as recognized by experts at the World Summit on Sustainable Development, Rio + 20 (Rio Earth Summit). Achieving sustainable consumption and production patterns is not just an environmental issue; it is about maintaining natural capital, and thus the productivity and ability of our planet to meet human needs and sustain economic activities<sup>[8]</sup>. According to the United Nations Environment Program (UNEP), one of the most striking examples of consumption and production disfunction is the issue of food loss and waste.

Approximately one-third of all food produced in the world, worth about \$ 1 trillion, is lost or wasted in food production or consumption<sup>[9]</sup>. Almost half of the total food wasted, about 300 million tonnes a year, is due to the fact that producers, retailers and consumers reject food that is still fit for consumption. At the Rio + 20 conference in 2012, world leaders adopted a 10-year framework for programs to enhance inter-

national cooperation and support Sustainable Consumption and Production (SCP) initiatives in developed and developing countries. In this context, it was stated that in order to achieve sustainable development, the SCP must have a high priority. To achieve this, UNEP<sup>[10]</sup> presented eight Sustainable Development Goals (SDGs), some of which are:

- Implement the 10-year framework of the Sustainable Consumption and Production Program – all countries are taking action and developed countries are taking the lead, taking into account the development and capabilities of developing countries.
- Achieve sustainable management and efficient use of natural resources by 2030.
- By 2030, global food waste per capita should be halved at retail and consumer levels and food losses along production and supply chains, including post-harvest losses, reduced.
- Achieve environmentally sound management of chemicals and all waste during their life cycle by 2020 in accordance with agreed international frameworks and significantly reduce their release into the air, water and soil to reduce their harmful effects on human health, the environment.
- By 2030, significantly reduce waste generation through prevention, reduction, recycling and reuse.
- Companies, especially large and transnational ones, to adopt sustainable practices and integrate sustainability information into their reporting cycle.
- Promote public procurement practices that are sustainable in line with national policies and priorities.
- By 2030, ensure that people everywhere have relevant information and awareness for sustainable development and lifestyles in harmony with nature.

#### **14.1.1 Opportunities and obstacles to sustainable Agri-Food Supply Chains**

Organizations that want to sustainably manage the supply chain face internal and external barriers and opportunities<sup>[11]</sup>.

Internal obstacles are: lack of management involvement, high costs, measuring efficiency, company size (smaller companies), lack of education, lack of understanding of the matter and lack of processes in the company that would incorporate sustainable supply chain management.

External obstacles are: regulations by the state, competitive pressure, consumer pressure at the lowest possible prices, insufficient supplier engagement and media influence.

Internal opportunities are: commitment of management, positive engagement of employees, involvement of middle management, positive impact on company culture, competitive advantage of the company, sustainable image of the company and improving the quality of business.

External opportunities are: incentives from the state, competition, a positive image of the company in the eyes of consumers, an opportunity to improve relations with suppliers, positive reactions from investors.

According to Dania et al.<sup>[12]</sup>, 10 key behavioral factors have been identified that enable an effective cooperation system for sustainable agri-food supply chain management, namely: joint efforts, sharing activities, value of cooperation, adaptation, trust, commitment, fair distribution of power, continuous improvement, coordination and stability.

One of the key questions for the future of the food system will be “how to manage the transition to a sustainable system that can deliver the desired amount of food at the same time?” Accordingly, Ambler-Edwards et al.<sup>[13]</sup> identified four characteristics with increasing importance in the future food supply chain:

1. *Resilience* – a system that can ensure long-term availability in light of growing global insecurity
2. *Sustainability* – a system that can deliver safe, healthy food with positive social benefits and low environmental impact
3. *Competitiveness* – a system capable of delivering affordable food at potentially higher base costs
4. *Management of consumer expectations* – a system that is designed and meets the wishes of consumers in accordance with social needs

Indicators of how the current characteristics of the agri-food system should change were presented by Ambler-Edwards et al.<sup>[13]</sup>, citing some of the new sustainability requirements for all actors in the AFSC at the following levels:

1. *Agriculture system* – systems optimized with low input / high output; high level of experimentation and innovation; waste reuse; structural (instead of direct) support for investment, knowledge transfer and access to technology; competitiveness through horizontal models of cooperation; increasing the size of agricultural holdings together with the separation of ownership and production; optimizing resources in line with sustainable goals; minimizing losses throughout the system through horizontal production networks and vertical supply chain efficiencies.
2. *Supply process* – risk management based on the system; crisis management throughout the chain; common measurement systems based on cost competitiveness; compliance with public requirements for resilience and sustainability; resource efficiency; integration and management of waste streams with product streams.
3. *Products* – rationalization of products and preparation of choice, based on higher standards and consumer requirements; use of substitutes and alternative ingredients.
4. *Assets and structures* – more flexible use of assets; increased investment in smaller assets; new assets related to waste reuse leading to more horizontal cooperation, especially in producer networks; investment decisions based on total cost of ownership (including environmental costs); national models developed together with regional sources overlap with efficient distribution models; inefficient local models replaced by local solutions integrated with existing efficient distribution models.
5. *Supply chain relations* – better horizontal cooperation relations; better vertical cooperation; long-term supply contracts in which power is balanced; partnerships with other sectors/industries; connecting the entire chain, from farm to consumer; cooperation with all stakeholders in the chain.
6. *Strategies* – growth of competitiveness based on low environmental impacts.

In essence, cooperation is a key way to achieve a balance between all sustainability goals, by mitigating the individualistic and opportunistic behavior of stakeholders in the supply chain. Effective and quality cooperation for sustainable agri-food supply chains can facilitate farmers' access to resources, opportunities and benefits equal to those of other stakeholders in the supply chain<sup>[5, 12, 14]</sup>.

### 14.1.2 Measuring sustainability

Measuring the degree of sustainability of the food supply chain can be difficult to achieve because measuring economic performance, environmental and social responsibility is difficult to quantify, especially because multiple actors are involved in the chain<sup>[5]</sup>.

Using the TBL concept as a basis, sustainability measurement can be carried out in three areas<sup>[15]</sup>:

1. *Economic sustainability*: financial measures (cost-effectiveness, return on investment, etc.);
2. *Environmental sustainability*: measuring the impact of companies and processes (environmental footprint, carbon emissions, packaging waste, fuel consumption, energy consumption, eco-labeling, etc.);
3. *Social sustainability*: measures social impact (working conditions, wage scales, investment in community, fair and ethical prices, etc.).

Measuring efficiency can also be achieved on the basis of a balanced scorecard (BSC) which includes financial as well as non-financial aspects. It relies on four processes to link short-term activities with long-term goals: implementing the vision; communication and networking; business planning; feedback and learning. It aims to promote integration through business functions, supply chain partnerships, flexibility and continuous improvement<sup>[16]</sup>. The strategic objectives are formulated within four perspectives (with indicators or performance measures) with the aim of aligning between strategy, business capacity, accountability and financial success in sustainable supply chain management based on environmental protection<sup>[17]</sup>.

#### 1. Financial perspective

The indicators are: return on invested funds, capital investments, operating expenses, disposal costs, revenues from recycling, income from "green" products, fines, avoidance of costs due to environmental actions, etc.

### 2. *Perspective of internal processes*

Indicators are: percentage of recycled production and office supplies; authorized suppliers; accidents and disasters, internal audit assessment, energy consumption, percentage of certified facilities, percentage of processed products, energy use, greenhouse gas emissions, hazardous material output, etc.

### 3. *Learning and growth perspective*

Indicators are: percentage of trained employees, community complaints, use of renewable sources, violations reported by employees, employees with incentives related to environmental goals, functions with responsibilities for environmental protection, emergency response programs and the like.

### 4. *Customer perspective*

Indicators are: green products, product safety, recall, customer returns, unfavorable reporting in the press, the percentage of products returned after use, environmental performance of functional products, etc.

## 14.2 Ethical issues in Agri-Food Supply Chains

In the academic literature, sustainable supply chain management often includes ethical issues in agri-food supply chains and closely related areas such as corporate social responsibility (CSR), green supply chain management (GSCM), value chain management, ethical and environmental purchases, adherence to ethical standards in the use of labor (labor and human rights), the origin, quality and safety of food, and problems related to food loss and food waste.

The globalization of agri-food markets, together with free trade policy, has greatly improved the verification of food origin, quality, safety, nutritional and health properties, as well as the ethics followed to achieve sustainable food production<sup>[18]</sup>.

### 14.2.1 Food losses and food waste

In Europe and the world, there is a growing awareness of the issues related to food losses, food waste and irrational consumption of resources for food production, especially because it is not only about the environment but also about socio-economic and moral issues. A large number of countries, precisely in order to prevent the generation of food waste, have begun to collect more intensive data and information on this type of waste, define measures to prevent its generation and work on education and public information.

Food is wasted at all stages of the food supply chain from the initial stages of production to the final stage of consumption. Food waste in the initial stages is due to a lack of efficient physical infrastructure and technologies for post-harvest production, harvesting and processing, while food waste in the last stages of the food supply chain takes place through retail, catering and consumption<sup>[19]</sup>. Food waste creates environmental, social and economic costs<sup>[20]</sup>.

It is necessary to distinguish two basic concepts that occur with the problem of food waste. These are food loss and food waste.

*Food loss* is common in every food supply chain and occurs during the production, storage and processing stages. Food loss is a reduction in the amount of edible food in the supply chain intended for human consumption<sup>[21]</sup>. It is the amount of edible food that is available for human consumption but for some reason is not consumed. Knežević et al.<sup>[22]</sup> point out that food losses “occur in the stages of production, storage, processing and physical distribution as an unwanted consequence of business processes or technical constraints in storage, infrastructure, packaging or marketing activities.” More efficient application of measures to prevent losses in the initial part of the food supply chain means a reduction in the harmful impact on the environment, but also less food losses. Additional risks of spoilage occur during transport, preparation, distribution and consumption of food, which means that we can talk about the accumulation of negative environmental impacts and the risk of losses. The main drivers of food loss are infrastructure constraints, climatic and environmental factors, and the assessment of quality or safety standards<sup>[23]</sup>.

*Food waste* means food losses at the end of the food supply chain, i.e. in retail and final consumption. Food waste mainly occurs as a result of conscious behavior by both traders and consumers<sup>[21]</sup>. Food waste means food that is fit for consumption and has the appropriate quality, but has not been consumed due to some human factors. Food waste occurs when food that was originally produced for human consumption is either removed in vain or not consumed by humans. These include food that was spoiled before disposal and food that was still edible when discarded<sup>[24]</sup>. The consequence of not consuming such food is that food is thrown away before or after it spoils<sup>[25]</sup>.

Furthermore, according to the British charity *Waste & Resources Action Program (WRAP)*, there are three categories of food waste<sup>[26]</sup>:

5. *Avoidable food waste* – refers to food that has been discarded and that was fit for consumption before being discarded (eg bread, meat, apple, etc.).
6. *Food waste that may have been avoided* – food that some people consume and other people do not (eg crust of bread) or food that, depending on the preparation, may or may not be edible (eg potato peel, etc.).
7. *Food waste that cannot be avoided* – refers to waste generated during food preparation that is not edible or was edible (bones, egg shells, pineapple peel, tea bags, etc.).

Thus, the difference between these concepts is in the fact that food losses occur unintentionally and food loss is due to reduced food quality. On the other hand, food waste is generated intentionally, i.e. it occurs as a result of conscious food waste or irresponsible behavior of traders or consumers.

Some of the main causes of food loss and waste can be divided according to the phase in the AFSC<sup>[23, 27]</sup> (Table 2):

**Table 2.** *Main causes of food loss and waste*

<b>Loss phase in AFSC</b>	<b>Causes of food loss</b>
<b>On the farm</b>	<ul style="list-style-type: none"> <li>■ Excessive production</li> <li>■ Unharvested products remain in the field</li> <li>■ Bad prediction</li> <li>■ Strict demand for quality</li> <li>■ Demand for a certain size</li> <li>■ Poor infrastructure</li> <li>■ Lack of scientific techniques</li> <li>■ Poor breeding techniques</li> <li>■ Lower quality harvesting equipment</li> <li>■ Failure to meet quality standards set by other stakeholders</li> <li>■ Weather changes</li> </ul>
<b>Food processing</b>	<ul style="list-style-type: none"> <li>■ Lack of training / poor processing ability</li> <li>■ Product defects</li> <li>■ Poor packaging / Use of poor packaging</li> <li>■ Imposed standards</li> <li>■ Cosmetic defects</li> <li>■ Loss due to inefficient processing techniques</li> <li>■ Loss of crops / crops that are not visually aesthetic</li> <li>■ Improper handling techniques</li> </ul>
<b>Storing</b>	<ul style="list-style-type: none"> <li>■ Poor infrastructure / lack of storage space</li> <li>■ Inadequate cooling storage / lack of cold chain facilities</li> <li>■ Microbial infection</li> <li>■ Pest and mold attacks</li> </ul>

<b>Distribution and retail or wholesale</b>	<ul style="list-style-type: none"> <li>■ Logistic constraints</li> <li>■ Poor cold chain management</li> <li>■ Strict customer requirements regarding product size and quality</li> <li>■ Food safety</li> <li>■ Expiry date</li> <li>■ Excessive stock</li> <li>■ Lack of information exchange</li> <li>■ Bad prediction</li> <li>■ Incorrect ordering</li> <li>■ Low price offered to manufacturers</li> <li>■ Lack of refrigerators</li> <li>■ Damaged logistics infrastructure</li> <li>■ Long distance distribution</li> <li>■ Poor road infrastructure</li> <li>■ Low price offered to manufacturers</li> <li>■ Pathological loss</li> </ul>
<b>Hospitality / service industry (HoReCa)</b>	<ul style="list-style-type: none"> <li>■ Operational barriers</li> <li>■ Lack of staff</li> <li>■ Infrastructure</li> <li>■ Dining environment</li> <li>■ Lack of staff capacity</li> <li>■ Employees do not identify portion sizes</li> <li>■ Bad menu</li> </ul>
<b>Consumption</b>	<ul style="list-style-type: none"> <li>■ Growing prosperity</li> <li>■ Increasing employment</li> <li>■ Consumer preferences</li> <li>■ Strong focus on freshness</li> <li>■ Household behavior</li> <li>■ Incorrect purchase planning</li> <li>■ Lack of knowledge to reuse leftovers</li> </ul>

Source: Author's work according to Dora, M. et al. and Despoudi, S.<sup>[23, 27]</sup>

However, there are significant differences in the creation of food losses between developed and less developed countries. In developed countries, there is a large amount of food loss at the retail stage due to high quality standards, rejection of foods that are not in perfect shape or appearance or that exceed the expiration date, and due to inaccurate demand forecasts. At the consumer level, inefficient purchase planning, misinterpretation of expiration and expiration dates, cooking large meals and lack of later use contribute to large amounts of waste. They are associated with the careless attitude of some consumers who can afford to waste food. On the other hand, in less developed countries, food loss occurs mainly in the upstream stages of the food supply chain, ie in production, post-harvest handling, processing and storage due to lack of financial, technical and managerial resources. Poor harvesting techniques, lack of storage and refrigeration capacity, and inadequate infrastructure and packaging are the main causes of food loss in the least developed countries<sup>[23]</sup>.

In contrast, in the developed world, losses usually occur in further stages of the food supply chain due to cultural, social and economic decisions made by producers, traders and final consumers<sup>[23]</sup>.

The analysis<sup>[27]</sup> revealed five main categories of challenges in reducing food losses at the producer level, namely: lack of technology adoption, lack of understanding of changing market demands and changing regulations, lack of agricultural skills and the need for modern agricultural practices, cooperation issues and the impact of climate change. The impact of climate change as well as cooperation have been major challenges in reducing food losses.

Looking at the comprehensive issues related to food waste, the concept of preventing the generation of this type of waste and assessing its impact on the environment should be based on an approach that includes the entire life cycle of the product. The life cycle includes primary (agricultural) production, handling and storage after harvest, processing, distribution, consumption and completion of the life cycle, ie obtaining waste status.

Here is an example of food waste in five basic stages of the vegetable supply chain:

- *Agricultural production* – food waste due to mechanical damage / spoilage due to harvest, sorting after harvest
- *Storage and handling of goods after harvest* – includes disposal due to spoilage and handling, storage and transport errors between farm and distribution
- *Processing* – includes waste due to spoilage and errors in industrial or domestic processing (juice production, canning, meal preparation)
- *Distribution* – includes throws and losses in the market system (supermarkets, retailers, wholesale)
- *Consumption* – includes losses and waste of food by consumers when consumed at the household or catering level

### 14.2.2 Socially responsible behavior

The purpose of existence and the main goal of every company is successful business, and this largely depends on the adoption and application of good management practice<sup>[28]</sup>. The business of a company takes place in a certain community that has its own expectations and rules, within a limited natural environment, in a market affected by various factors, with employees who have their own aspirations and increased sensitivity of customers to social and environmental issues. Businesses can make a significant contribution to the progress of the economy, the environment and society, but they must also ensure the management of the adverse effects associated with their business.

Therefore, companies are increasingly applying good corporate social responsibility (CSR) practices. CSR definitions are listed, all of which include the principle of sustainability based on the three dimensions of TBL.

CSR is defined as “a concept by which companies integrate social and environmental issues into their business and interact with their stakeholders on a voluntary basis”<sup>[29]</sup>.

“CSR is defined as the management of stakeholder concerns about responsible and irresponsible acts related to environmental, ethical and social phenomena in a way that creates corporate benefit”<sup>[30]</sup>.

According to ISO 26000 CSR is defined as “. . . The organization’s responsibility for the effects of its decisions and activities on society and the environment, through transparent and ethical behavior that contributes to sustainable development, including health and well-being of society, takes into account stakeholder expectations, complies with applicable law and international standards of conduct that is integrated and practiced in the relations of the organization”<sup>1</sup>.

Although the concept of CSR can be considered voluntary at the organizational level, many aspects of CSR in the food supply chain relate to minimum legal compliance, for example, food safety, animal welfare, environmental protection and employment law, and employee health and safety<sup>[28]</sup>. Therefore, compliance with legislation as the basis of CSR is not enough in itself, but the essence of CSR is that in relation to the environment and society, it goes beyond what is prescribed by law, shaping the behavior of companies.

Corporate social responsibility is of great importance to AFSC stakeholders as this sector has a strong influence and high dependence on the economy, environment and society. Given the characteristics of the AFSC, the implementation of CSR practice becomes even more complex. Important issues and areas of CSR in the AFSC are<sup>[31]</sup>: animal welfare; biotechnology; environmental care; fair trade; health and safety; labor and human rights; threats to animals, humans and the environment through procurement and accountability to the community. In addition, issues of food safety and quality and food loss and waste can be added, especially in the retail phase<sup>[32]</sup>.

In the context of CSR, the food sector faces particular challenges, in particular for three reasons:

1. The food sector is highly influential and highly dependent on natural, human and physical resources<sup>[33]</sup>. This leads to a complex set of requirements for the food sector relating to the production of raw materials (animal welfare), the environment (eg energy and water use; waste) and social (working conditions) conditions along the whole value chain, as well as quality, health and safety product.

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<sup>1</sup> Guidance on social responsibility (ISO 26000: 2010). Berlin.



2. Food covers basic human needs, and consumers today have a strong attitude about what they eat. This is where the role of consumer ethics and purchasing behavior comes into play (eg consumers look at animal welfare and the impact of business on the environment in addition to food quality and safety). According to Rode et al<sup>[34]</sup>, consumers are willing to pay a premium for ethical products and therefore ethical producers will recoup higher production costs.
3. The food chain has a unique and multiple structure. As small and large enterprises differ in their approach to CSR, and this implies potential conflicts over the inclusion of CSR in the food supply chain. Spence and Bourlakis<sup>[35]</sup> even consider CSR “an inadequate concept for achieving the required level of social responsibility for the whole supply chain to be critical in today’s complex and integrated economic context” and suggest a new approach called “Supply Chain Responsibility” – SCR). They explain this by the fact that AFSC problems arise because the last member of the supply chain facing end customers does not have complete information about the behavior of their suppliers and subcontractors and is unable to control how they do business and how much they apply CSR principles. The threats and opportunities of CSR are increasingly shifting from the level of one company to food supply chains and the food network<sup>[36]</sup>.

The impact of CSR and corporate social responsibility of AFSC stakeholders affects consumer perception and behavior and is manifested through: the assessment and reputation of the company or brand; credibility of the company; consumer or customer loyalty; consumer confidence and satisfaction; the intention to purchase the product. In addition, CSR has been shown to be positively associated with the reputation of companies sought by employees, a sense of closeness and identification with the company, and the company’s attractiveness as an employer<sup>[36]</sup>.

Accordingly, CSR can be conceptually and empirically linked to at least three dimensions: intra-organizational, business-to-business B2B, and business-to-society B2S<sup>[30]</sup>.

The current global business environment motivates organizations to consider all the social and ethical impacts of their corporate activities and policies. Organizations capable of demonstrating a responsible approach to broader social and ethical issues will gain a significant competitive advantage and inspire the trust of stakeholders such as customers, investors, the local community and consumers.

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