

Does Corporate Responsibility Pay Off?

Exploring the links
between CSR and competitiveness
in Europe's industrial sectors

André Martinuzzi, Sabine Gisch-Boie, Adele Wiman
Research Institute for Managing Sustainability
on behalf of the European Commission,
Directorate-General for Enterprise and Industry



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Executive Summary

Background: “why, what and what for”

What policy background motivated this study?

In a globalized economy, CSR is often claimed as a unique proposition of Europe’s businesses to gain and sustain competitive advantages. If it could be proven that responsibility pays off, a strong push for dissemination of good CSR practices could be expected and CSR policies that focus on voluntary instead of command and control would be encouraged.

What corporate background shaped this study?

As other studies have shown, many CSR measures are not well connected to the main strategic decisions of a company and do not address its main societal and environmental impacts. Linking CSR with competitiveness could foster the dissemination of a more strategic approach to CSR.

Which research questions guided this study?

While in many publications a positive effect of CSR on competitiveness is assumed, there is no empirically proven evidence that this positive effect always exists. Scientific findings are diverse and sometimes contradicting. The key objective of this study was to find and describe the links between CSR and competitiveness in the chemical, textile¹ and construction sectors and to draw conclusions for public CSR policies and sectoral CSR initiatives.

Which research methodology has been applied?

Whilst many other studies are based on CSR reports, sustainability indexes or case studies, this study exploits the knowledge of sectoral experts from trade unions and business associations across Europe. As the links between CSR and competitiveness were not well-known in advance, we followed an approach of hypothesis generating, conducted 45 telephone interviews and accompanied three sector-specific CSR initiatives during a two-year-period of research.

Findings: “Similarities, differences and problems faced”

What drives and shapes responsible competitiveness?

At first sight, a number of similarities between the three sectors could be found: high importance of low production costs and, on the other hand, niche market strategies for high end products. However, the driving forces of competitiveness strongly differ from sector to sector. The chemical industry is driven by innovation and the challenges of responsibly handling dangerous substances. The constructions sector has to balance an enormous pressure for low costs on the one hand and societal demands on the other. The textile sector is shaped by global competition, leaving two main market niches for European manufacturers: industrial textiles and high-end fashion.

In designing and implementing future CSR initiatives, a sector specific approach should take the different “rules of the game” into account and address the different competitiveness issues and societal demands regarding the respective sector.

¹ We included the textile and clothing sector, for better readability we refer to this sector as the textile sector.

Are the links of CSR and competitiveness sector-specific?

Linking CSR and competitiveness can work out well on the level of an individual company, for example by increasing (eco-)efficiency, by market differentiation and creation, by addressing stakeholder demands, and by increasing the capacity for organizational learning. Applying this idea to the level of sectors turned out to be much more complex than expected, as other factors besides the sector of operation also play an important role: the size of the company (SMEs versus MNCs), country (culture, institutional and legal framework), ownership (family business or capital market) and the characteristics of sub-sectors. This study has shown significant differences in the characteristics of sub-sectors (basic versus consumer chemicals, industrial textiles versus apparel).

Competitiveness, CSR and their interlinkages are not just sector-specific. Promoting CSR often needs to be done at sub-sector level to be relevant.

Who is “the competitor”?

Competition takes place in different places: In the chemical industry, competition takes place mainly within Europe and competition from outside Europe is only relevant for basic chemicals. Construction, by and large, remains a local industry with a majority of small and medium sized enterprises, and the competition with companies outside Europe is negligible. By contrast, for the European textile sector, competition with manufacturers from Asia is the driving force.

Where the European industrial sectors are in global competition with actors outside the EU, the promotion of CSR in order to support the global competitiveness of EU industry makes sense. In sectors where the competition is mainly between European enterprises, linking CSR to competitiveness only makes sense on the level of an individual company, but not on the level of a whole sector.

From “Responsible Competitiveness” to “CSR Business Excellence”

Linking CSR and competitiveness is a promise: towards companies as it motivates them to implement CSR measures while hoping to gain a better competitive position in return; towards policy makers as it promises coherent environmental, social and economic policies; towards society as it should prove that voluntary measures are as efficient and effective as other policy instruments. However, from a more general point of view, the two concepts may contradict each other: the strategic success factors of a company should be designed in a way that they cannot be imitated by competitors, so building up a unique position and gaining higher revenues. Developing and protecting strategic success factors is, therefore, about monopolizing them. In contrast, sustainable development requires a quick dissemination of new ideas, technologies and practices to achieve environmental improvements and societal progress.

For future studies and initiatives in the field of CSR, we recommend to consider the concept of “business excellence” instead of competitiveness as this approach shows greater coherence with the main ideas of CSR.

Taking Action: “Public CSR policies & sectoral CSR initiatives”

Towards a (sub-)sector specific approach to CSR

The links between CSR and competitiveness are sector and even sub-sector specific. A (sub-)sectoral approach to the promotion of CSR is, therefore, likely to be more effective than a general approach, especially if promoting CSR is to help companies to be more competitive. This can be achieved with the help of sectoral initiatives and sector-based business associations, as well as by implementing public CSR policies on the national and EU level.

Towards a broader understanding of public CSR policies

Public policies show a great variety in linking CSR and competitiveness: they can trigger corporate investment decisions by financial stimuli (e.g. through subsidies, emission trading) or by R&D programs leading to new technologies. As far as the consumer dimension is concerned, public CSR policies serve to raise consumers' awareness (e.g. through information campaigns), ensure credibility (e.g. through eco-labels) or influence prices (e.g. taxes or tax reductions). If public CSR policies seek to influence the decisions of other stakeholders, they can either focus on the state's own activities (e.g. by sustainable public procurement, by obligatory criteria for public pension funds) or try to improve transparency and disclosure (e.g. by promoting or requiring CSR reporting). When focussing on companies' capacities for organizational learning, hybrid instruments such as multi-stakeholder dialogues or Public Private Partnerships can be promoted.

Public CSR policies fostering responsible CSR and competitiveness have to address the driving forces of competition in specific industrial sectors, take the key actors involved into account and aim at triggering their decisions.

Sector-wide CSR challenges need joint action

CSR issues are highly sector specific. Therefore a series of sector specific agenda-setting processes is recommended to support the integration of CSR into the strategic decisions of companies and to avoid consumers' impression that a company can pick and choose CSR activities and ignore the areas where the most societal or environmental concerns are evident. Involving stakeholders and communicating strengths and weaknesses, threats and opportunities of the respective sector would ensure transparency and help to gain trust of the general public. Sector specific research activities could contribute to this evidence based agenda-setting. Individual companies could develop and implement their CSR strategies with reference to a sector specific CSR agenda. Corporate CSR measures could more easily be evaluated if they are in line with the sector agenda and contribute to solving sector specific societal and environmental problems.

To make CSR concrete and targeted in each sector, leading companies, business associations, trade unions and NGOs should jointly develop a common agenda for respective industry sectors. The European Commission could play a strong convening role in promoting this agenda-setting.

Chemical: “Responsibly handling dangerous substances”

What drives competitiveness in the chemical sector?

The main driver of competitiveness of Europe’s chemical sector is innovation (of products and production processes) on the one hand, and availability and low prices of raw material and energy on the other. Competition takes place mainly within Europe and competition from outside Europe is only relevant for basic chemicals. As only 11% of the chemical sector produces consumer goods, loyalty of consumers is not an important success factor.

What CSR issues are important for the chemical sector?

Health, safety and environmental protection are the main societal concerns as the chemical industry is highly resource intensive, its products have multiple and long-term effects on human health, and it deals with dangerous production processes. Some fatal accidents in the late 1980s pushed chemical companies to new ways of rebuilding trust. The implementation of the ‘Responsible Care’ programme helped deal with stakeholder pressure and prepare for anticipated stricter environmental regulation.

Which links between CSR and competitiveness could be found?

The chemical sector shows a huge potential for linking CSR and competitiveness as innovation, resource availability, trust, and the license to operate are located in the very core of firms’ economic success:

- **Innovation** requires financial and highly skilled human resources as an input and leads to more efficient technologies, having the potential to link environmental protection and competitiveness.
- The **life cycle approach** addresses scarcity and increasing prices of raw materials and is therefore another way of linking CSR and competitiveness by tracing areas for product and service improvement, and by improving supply chain efficiency. In both areas, a circular dynamic was identified by our interview partners, as CSR can most often be fully exercised and bring most benefits to companies that are already successful and competitive.
- Issues of **health and safety** that traditionally fall under the scope of CSR have evolved to become an indispensable part of doing business in the chemical industry, and are now essential to the company’s survival or at least have become inseparable from good risk management.

What public CSR policies are reasonable?

Public CSR policies in the chemical sector should focus on **supporting and promoting innovation**, on implementing **health and safety standards** and ensuring high **(eco-)efficiency**.

Construction: “Trade-offs between low costs and societal demands”

What drives competitiveness in the construction sector?

The construction sector is characterized by the temporal character of a construction site (and the high number and diversity of companies involved), by fierce price competition, by high labour intensity (with short-term labour contracts, seasonal work and wage dumping), by the prominent role of public procurement, and by the long lifetime of the end product (with the respective effects on energy consumption, health of residents, etc.). As construction remains primarily a local industry with a majority of small and medium sized enterprises, the competition with companies outside Europe is negligible.

What CSR issues are important for the construction sector?

Three actors play a prominent role in shaping the environmental and societal impacts of construction on the one hand, and deciding on its costs structure on the other: the property developer, the general contractor and the future user. Only if at least one of these key actors requires them, CSR measures are implemented. If none of them perceives CSR measures are essential, societal responsibility is seen in contradiction to the high pressure for low costs, which are the most decisive factor for competitiveness in the construction sector.

Which links between CSR and competitiveness could be found?

This tension is mirrored in all three areas of responsible competitiveness that we focused on in the construction sector:

- CSR measures **for occupational health, security and safety** can prevent interruption of work and help to meet deadlines, and therefore improve efficiency. However, respective measures are often poorly controlled on all levels of the subcontracting chain and safety standards are often not implemented.
- **Anti corruption measures** positively affect companies' reputation, reduce the risk of being banned from future tendering processes and increase efficiency through improved cost transparency. However, companies that commit themselves to compete fairly can lose out on their competitiveness when corruption is “part of the game”.
- As long as **sustainable construction** and accordingly **eco-compatible buildings** are not the norm, it is a good opportunity for product differentiation in high price market segments. Life-cycle costing is an innovative approach to take future costs (e.g. energy, maintenance and repair) into consideration.

What public CSR policies are reasonable?

Public CSR policies in the construction sector should lead by example in **public procurement** processes, establish **standards** (e.g. for energy consumption), enforce the **implementation of existing norms and regulations** (e.g. occupational health and safety), and **combat corruption**.

Textile: “How to safeguard a high price market segment”

What drives competitiveness in the textile sector?

The European textile industry has been facing a long period of decline, rising global competition and relocation to low income countries. Compared to China and India, the European textile industry is disadvantaged due to high labour costs and higher environmental standards. Therefore, a strategy of cost leadership is impossible. To survive in this difficult situation, the European textile manufacturers specialize either in high-tech industrial textiles or in high-end fashion markets.

What CSR issues are important for the textile sector?

For the sub-sector of **industrial textiles**, cradle-to-cradle and energy-efficient production are the two most important types of eco-innovation and therefore of CSR. Examples are recycling of textile products, minimisation of toxic substances, alternatives for existing raw materials, waste reduction, reduction of energy usage, renewable energy, and considering the product life cycle.

In **high end fashion**, a few manufacturers of branded goods play a central role by setting trends and investing substantial amounts in PR and communication. They have the economic potential and the credibility to communicate CSR issues to consumers, to create and establish market niches for manufacturers, and to integrate CSR issues into the common practice of the sector. In so doing, eco-labels could play a crucial role.

Which links between CSR and competitiveness could be found?

- Linking CSR and competitiveness in the area of industrial textiles, shows certain similarities to the situation of the chemical industry, as **innovation is a strategic success factor**. To gain competitive advantages, investments in R&D are necessary, requiring financial resources and skilled staff. As a result, the production costs are expected to decrease, the product quality should improve and the environmental impact be reduced. As industrial textiles are sold only business-to-business, the companies' image is not a highly important driver of CSR.
- In the market segment of high-end fashion **eco-friendly products and eco-labels** are perceived as opportunities for niche market strategies, but recently not for mass markets as high social and environmental standards lead to higher production costs. However, there is a certain ambiguity as consumers expect more eco-friendly and socially responsible products, but are often not willing to pay more for them. In addition, some labels confuse consumers and undermine consumer confidence in CSR in the textile sector.

What public CSR policies are reasonable?

Experts see a need for clear standards and public communication initiatives to increase the positive effects of eco-labels on competitiveness in the textile sector. Therefore, public CSR policies have to care for **quality control and ensuring credibility**.

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1. Introduction

This study is a sector-specific analysis of how corporate social responsibility (CSR) might contribute to competitiveness. It builds on the findings of the European Competitiveness Report 2008 and the respective communication of the European Commission (SEC (2008) 2853), and is designed to contribute to the new policy initiative on CSR of the European Commission which is foreseen in the 2010 Communication on Industrial Policy.

The study focuses on three sectors (construction, textile and the chemical industry)² and was carried out in parallel to three sector initiatives, selected and co-funded by DG Enterprise and Industry.³ The research objectives are:

- Explore the effects of CSR on competitiveness on a sector-basis.
- Highlight driving and restraining forces of CSR for competitiveness on a sector-basis.
- Draw relevant conclusions for the EU and other key actors of the respective sectors.

This report provides

- a summary of scientific approaches to CSR and competitiveness;
- the final survey results on CSR and Competitiveness for the three sectors;
- the lessons learned of the three sector-specific co-funded projects;
- concluding remarks and recommendations;
- information on further readings and the methodology applied in the annexes.

² For the purpose of this report the terms sector and industry are used interchangeably

³ Chemical: PRISME2 - Promoting Responsibility in SMEs;
Construction: BRC - Building Responsible Competitiveness;
Textile: Cosmic - CSR Oriented Supply-chain Management to Improve Competitiveness.

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2. Scientific approaches to CSR and competitiveness

In order to see the background for exploring the links between CSR and competitiveness on a sector level, it is necessary to analyse both concepts in more detail. Therefore the relevant academic debates on CSR and competitiveness⁴ are first explored separately and are then brought together in order to examine the links between these two concepts.

1.1 Competitiveness and strategic success factors

As stated in the Lisbon Strategy in 2000, the European Union has committed itself to transform the European economy into 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment by 2010' (European Council, 2000 para 5). After a mid-term review in 2004 (European Communities, 2004), the Lisbon Strategy was re-launched in 2005 as "A Partnership for Growth and Employment". The three vital strands of the re-launch were: knowledge and innovation for growth, making Europe a more attractive place to invest and work; and creating more and better jobs. In late November 2008, the European Commission issued the "European Economic Recovery Plan" as a response to the economic and financial crisis (European Commission 2008a). The "Europe 2020" strategy was published on 3rd March 2010 and is the successor of the Lisbon Strategy. It is based on three priorities and accompanying seven 'flagship initiatives' which define actions at the EU and Member State levels (European Commission, 2010a):

- Smart growth refers to strengthening knowledge and innovation as drivers for future growth. The strategy points out that the EU should be particularly active in three areas: innovation, education and training, and digital society.
- Sustainable growth aims at "building a resource efficient, sustainable and competitive economy, exploiting Europe's leadership in the race to develop new processes and technologies (...) and reinforcing the competitive advantages of our businesses" (European Commission, 2010a, 12). Two areas are considered of main importance in this priority: improving competitiveness as well as climate change and energy. An initiative under this priority will be taken to renew EU strategy to promote CSR "as a key element in ensuring long term employee and consumer trust" (European Commission 2010a, 15).
- Inclusive growth aims at empowering people through high levels of employment, increased skills, fighting poverty and modernising labour markets for which CSR is also foreseen to play a part.

⁴ In this report we distinguish between "Competitiveness" (as a general characteristic of a firm or a whole sector), and "Success Factor" (as a single factor or competence that is of utmost importance for a firm or a sector to be competitive).

Levels of competition: The concept of competition can be analysed from the point of micro and macro levels (European Commission, 2008b; Herciu et al., 2008). The micro level comprises competition on firm level. The macro level refers to national, regional and sectoral competition. At the national level competitiveness embraces the profitability of a nation's economy, which highly depends on the performance of its industries. At the sector level, competitiveness refers to sector specific success factors and sectors' potential for innovation. Competitiveness on the firm level depends on the productivity at which companies can use labour, capital, and natural resources to produce high quality goods and services (Porter et al., 2002). We particularly turn our attention to the significance of sector competitiveness. Therefore, we first distinguish it from the company level, and elaborate on the general importance of sector-based competitiveness.

- Company Level: Given, that companies are the business units, which essentially drive the wider economic performance, it is important to take a look at the company level. Firm competitiveness refers to its ability to produce high quality goods and services in an efficient and innovative way and by that to outpace its competitors. Firm competition is mainly defined in terms of price or quality. Therefore, companies can either gain competitive advantage through offering their products and services at lower prices than competitors, or through offering products and services at comparable cost but in unique quality creating a greater buyer value. Product innovation is, therefore, a key source of competitiveness at company level. However, greater economic performance is not driven by multinational enterprises alone. The European Competitiveness Report 2008 and the Communication from the Commission highlight it is mainly small and medium-sized enterprises (SMEs), which act as key drivers for productivity growth and, therefore, account to be the most significant segment of the economy (European Commission, 2008c). This is particularly valid for the services sector, as the EU industrial structure 2007 shows (European Commission, 2007a).
- Competitiveness on sector level: When looking at competitiveness from a sector level perspective, the concept acquires a different connotation. Sector competitiveness is measured by its capacity to grow, to innovate and produce more and higher-quality goods and services, as well as by its ability to keep or gain market shares in international and domestic markets. Apart from competition with other industries for consumer interest, competition at industry level takes place within industries of the same kind, but which are operating in different countries or regions. The accompanying document to the Communication from the Commission on the European Competitiveness Report (European Commission 2008b) highlights this fact and builds upon the analysis of Michael Porter (Porter, 1986).
- Competitiveness on national or regional level: The concept of industrial competitiveness is widely accepted to be the source of national or regional competition and therefore industry serves as a useful unit of analysis especially when examining competitiveness of different nations and economic

regions. Given that no nation can be competitive in all or nearly all industries, a nation's economic success refers to only particular industries (Porter, 2008). Industry competitiveness analyses often incorporate studies that compare productivity growth between different industries – performance comparability studies. Through best performing sectors analysis the European Union (EU) can, for example, evaluate its global position and compare itself to other fast accelerating regions and identify potential needs for performance improvement (O'Mahony et al, 2004). This becomes more and more important in the light of on-going globalisation; Europe is facing increased global competition from its traditional competitors - the USA and Japan, as well as from emerging economic powers, particularly China and India (AccountAbility; 2006, European Commission, 2008b). The EU has to secure its global market position by integrating itself with other regions, while at the same time building competitiveness within the Union. One opportunity for the EU to strengthen and enhance its global competitiveness would, therefore, be taking advantage of emerging developments in global markets, namely increased awareness for social and environmental factors as a key source of economic value and competitive advantage, and by that further promoting responsible competitiveness strategies (AccountAbility, 2006).

However, some challenges in aligning responsibility and competitiveness are sector-specific and therefore need to be addressed through a sector as a whole (AccountAbility, 2006; Draper, 2006). Several CSR initiatives carried out by intra-sector alliances already exist. These sectors also report increased competitive advantage they believe to have gained through close collaboration.⁵ Moreover the European Parliament' argues in its resolution on Corporate Social Responsibility (European Parliament, 2007) that a sector based partnership between businesses and various stakeholders is the only way to develop the concept of CSR further and use it as a tool of increasing competitiveness on both, micro and macro levels.

Competitiveness from a strategic point of view: From a strategic management perspective, competitiveness can mainly be linked to three significant theories, the market-based view, the resource-based view and the relational view. Each of them focuses on different strategic success factors.

- ° In the market-based view the competitive advantage of an organisation is related to the company's environment and its ability to establish entry barriers to potential competitors. Such entry barriers might occur in terms of price, quality and/or focus. Examples of price barriers are low production costs and economies of scales. Quality barriers are, for example, reputation, quality characteristics and strong brand names. When it comes to focus, entry barriers are evident in cases where a company follows a niche market strategy and concentrates on specific product lines or targeted customer segments. Consequently, competitive advantage can either be gained through cost leadership, quality leadership and/or focus.

⁵ e.g. The Cement Sustainability Initiative or the "Vinyl 2010" initiative (Chemical Sector)

- The resource-based view links the strategic advantages of an organisation to its resources (Barney, 1991), which are characterized by their strategic importance and the ability of organizations to use them more efficiently than competitors. Sustainable competitive advantage can only be generated through resources, which provide added value to an organization, are rare or unique, imperfectly imitable, and not substitutable. Among the most important, according to this view, are financial, physical, human and organisational resources.
- The relational view takes the concept of strategic resources one step further and adds a network focus. This approach focuses on the competitive advantages of inter-organisational relationships and networks, it emphasises that critical resources of a company might exceed its boundaries and therefore are often embedded in inter-firm networks (Dyer et al. 1998).

In order to get a profound idea of the competitiveness concept we developed an overview of strategic success factors, based on the three theories of competition (see table below). Additional key success factors have been derived from further literature research on strategic management (i. a. Grant, 2005).

Market Based View	Resource Based View	Relational View
<ul style="list-style-type: none"> • Market entry barriers • High product quality • Cost leadership strategies • Low production costs and low labour costs • Brand value and reputation • Good value for money • Differentiation strategy • Niche market strategies • Flexibility and fast response to market changes 	<ul style="list-style-type: none"> • Financial resources • Human resources and organizational culture • Efficient processes • Technologies and machines • Research & Development • Access to raw materials • Location • Information, control systems, and effective risk management 	<ul style="list-style-type: none"> • Strategic alliances and networks • Efficient supply chain management • Free-trade areas • Good relations to policy makers and stakeholder groups • Customer relations • Excellent customer service

Table 1: List of generic success factors used in the 1st and 2nd round of interviews

1.2 Corporate Social Responsibility (CSR)

The concept of CSR is widely regarded as a voluntary business contribution to the societal guiding model of sustainable development and an active corporate engagement (e.g. European Commission 2001, 2002) that goes beyond legal compliance (European Commission 2008b). Resulting from increased awareness of potentially unsustainable side-effects of economic success (Zadek, 2006) and growing pressure for more active engagement in CSR from various stakeholders, the importance of acting beyond corporate philanthropy and incorporating social and environmental issues into business operations becomes more and more evident (Loew, 2005). To date, CSR and sustainability have become cross-cutting issues within an increasing number of companies. Although the concept of CSR gained particular prominence within multinational enterprises (MNEs), due to the powerful position they take in the economy, the responsible behaviour of small and medium-sized enterprises (SMEs) is just as important, due to their large contribution to the economy and employment. Furthermore, CSR is gradually

more pushed beyond these organisational borders towards a sector-wide approach (Draper, 2006).

CSR overview: CSR is very diverse and complex and can take many forms and foci. Following the three pillars approach, CSR can include economic issues, social issues, environmental issues or a combination of these three pillars (Garriga et al. 2004). High complexity of the topic becomes particularly evident when looking at the numerous instruments (e.g. international documents, standards and indices) and attempting to conceptualize CSR. However, most of these instruments focus on different key subjects of CSR consequently covering a wide range of sub-issues. Analogically to the general overview of strategic success factors previously outlined, we developed an overview of CSR topics⁶, in order to include the wide range of topics covered by the term "CSR". The overview presented in the table below is derived from key subjects covered in most commonly applied CSR guidance documents, e.g. OECD Guidelines for Multi-National Enterprises, Global Reporting Initiative (GRI), UN Global Compact, ISO 26000, SA 8000, UN Human Rights Norms for Business, ILO Declarations, and the like.

<p>CSR – Economic topics:</p> <ul style="list-style-type: none"> • Pursue sound corporate governance practices • Ensure transparency through economic, social & environmental reporting • Engage in fair competition • Foster innovation • Combat bribery & corruption • Employ Socially Responsible Investment • Protect intellectual property rights • Offer safe and high-quality products/services • Foster sustainable consumption & production • Implement sound risk management systems 	<p>CSR – Environmental topics</p> <ul style="list-style-type: none"> • Support the protection of air and water, land biodiversity • Minimize the amount of toxic substances, emissions, sewage and waste • Conserve natural resources, apply renewable energy & avoid the usage of raw materials • Engage in climate protection • Boost innovation for improvement in efficiency • Consider the whole product life-cycle, facilitate reusability & recyclability of products
<p>CSR – Social topics</p> <ul style="list-style-type: none"> • Engage in fair and efficient Human Resource Management • Guarantee safety, occupational health & security • Respect freedom of association • Abandon discrimination & encourage diversity • Respect consumer interests 	<p>CSR – Global topics</p> <ul style="list-style-type: none"> • Raise stakeholders awareness for social & environmental topics • Practice sound stakeholder management • Facilitate sustainable supply chains • Respect Human Rights • Engage in poverty reduction • Involve in the development of public policies

Table 2: List of generic CSR topics used in the 1st and 2nd round of interviews

⁶ In the first two interview rounds the above list served as the basis for the determination of key sector-specific CSR topics. Experts were asked to rate CSR topics according to their relevance for the particular sector.

1.3 Scientific findings on CSR and competitiveness

A comprehensive literature review has shown that various publications examine the competitive advantage of CSR on a corporate level (e.g. Lankoski, 2008; Smith, 2007; Wade, 2005). The so-called “business case for CSR” analyses CSR on the corporate level and discusses added value companies might gain through responsible behaviour (Garriga et al., 2004). According to this concept, companies view the possibility of furthering their economic success (Branco, 2006) for example through added shareholder value, enhanced market share, reputation and image gains, increased customer loyalty and trust, staff motivation and retention, increased share prices (Beckmann et al., 2006; Hansen et al., 2005). Additionally, the business case perceives CSR engagement as a source of opportunity, innovation and competitive advantage (Porter et al., 2006) as a focus on societal issues and interaction with external stakeholders leads to the development of new products, services and business models. Competitive differentiation is among the core drivers of responsible competitiveness at the company level. Companies need to align CSR with their operations in a way that allows them to operate in a cost-efficient and competitive manner in order to secure their position in the face of augmented global competition. Positive impact of CSR seems to be particularly evident with regards to human resources, risk and reputation management and innovation.

When analysing responsible competitiveness on a sector level, CSR no longer acts as the key driver for of competitive advantage of a single company, but of a whole industry sector. Gains in innovation, image and reputation and in performance come about for a sector as a whole, and, as a result it might improve competitiveness of those sectors, that compete with other, different sectors. Moreover, it might as well affect the competition between sectors of the same kind, but which are operating in different countries or regions. Nevertheless, in order to gain common benefits from CSR engagement, companies from the same sector have to collaborate. By working together an industry can raise standards, share both, developmental costs and risks, and benefits or opportunities of improving corporate responsibility standards. Efficiency of collaboration can be further improved, if additional stakeholders are involved. In practice, many examples exist that illustrate how two or more competing organisations cooperate to create mutually beneficial exchanges and added value⁷. Although sector-wide CSR bears the risk of diluting the reward of competitive advantage of a company, it has the potential to deliver competitiveness by creating a platform for innovation and thus further lead to differentiation around CSR, attracting consumer interest and employees, improving the competitiveness geographically, etc. (Draper, 2006). Although, in practice, cooperation between competitors is becoming more and more common and deals with economic, social and environmental aspects, further analysis into the extent to which collaboration at sectoral level has the potential to build responsible competitiveness is necessary (AccountAbility, 2006).

⁷ E.g. The Cement Sustainability Initiative (Klee et al., 2004); “Vynil 2010” initiative of the Chemical Industry (www.vynil2010.org)

3. Responsible competitiveness in the chemical sector

3.1. Facts and findings

For the purpose of this study the term *chemical sector* refers to European chemical manufacturing industry that includes the sub-sectors shown in the table below⁸:

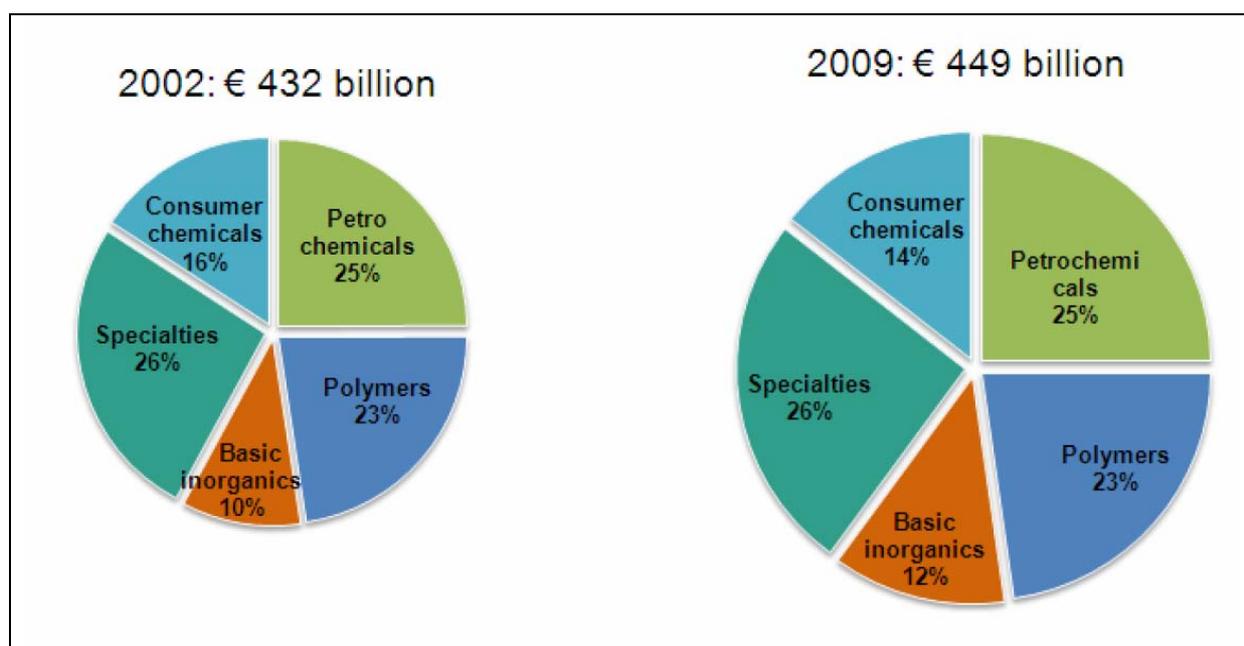


Figure 1: Chemical industry sub-sectors
Source: CEFIC, 2010, p.7

European chemical industry accounts for 1.2% of the EU GDP (CEFIC 2009a, p.13). Most of the enterprises are small to medium sized, however, their production accounts for only under a third of EU chemical sales and over a third of chemical industry's employment. The table below summarizes these facts.

Chemical sector	
%EU GDP	1.2% (1.9% with pharmaceuticals)
No. of enterprises in the EU	29,000
Percentage of SMEs	96% (they account for 28% sales and 35% employment)
% of Europe's total employment	1.84 m (with pharmaceuticals)
% of Europe's industrial employment	6%

Table 3: Overview of EU chemical industry statistics
Source: CEFIC, 2009a, p.13

⁸ Pharmaceutical industry due to its specificity is not part of this study.

The European chemical industry is facing a rising competition from the Middle East and Asia (KPMG, 2010). During the fourth quarter of 2008 production of chemicals dropped by 14.5%, overall capacity utilization dropped by 70-75 % (CEFIC, 2009b, p.2). The declines have not been as drastic towards the second half of 2009, however, no major improvement is predicted before 2011 (CEFIC, 2009b, p.3). Most of the chemical industry sales are to other downstream users (metals, mechanical and electrical industries, textiles and clothing, automotive industry, paper and printing products), except for consumer chemicals that sell directly to the end user. Consequently, the effects of the global economic crisis have affected mostly the base chemicals industry mainly due to the negative development in the automotive and construction industries followed by specialty and consumer chemicals. Despite the decline, Europe is still on a leading position of global chemical sales; however, it has lost its first place to Asia in 2007. Biggest EU producers remain Germany, France, Italy and the UK (CEFIC, 2009a, p.5). There is little intra-European competition within the European chemical industry. It is, however, in some cases in competition with other industries: for talent with the IT sector, in some countries (e.g. Spain) with tourism for land where to build chemical plants. In terms of market share, the greatest outside competition for the European Chemical industry comes from the Middle East and the Gulf region as well as China and India, experts also suggested that the competition is due to grow in the future.

3.2. Literature analysis

The following section provides an overview of competitiveness and the most challenging CSR issues derived from literature analysis as well as from the final report of the European Commission High Level Group on the Future of Chemicals and other Chemical industry organizations (European Commission, 2009c).

Competitiveness: The table below summarizes the literature on critical success factors for the chemical industry.

Focus	Source	Year
Political environment, new markets, technology, human resources, low-costs, R&D, contracting SMEs, service orientation	Simon	1995
Technological & business innovation, cleaner production	Eder	2003
Technologies in R&D, responsible care activity	Kawachi	2004
Innovation, technology, market understanding, corporate culture, reputation	O'Driscoll	2004
Entering niche markets through custom chemicals manufacturing, relationships with suppliers, formation of strategic partnerships, adaptation of advanced technology/research, emergence of "virtual" firms	Guisinger et al.	2004
Innovation, research & development, international trade regulations, energy, collaboration, strategic alliances, technology	European Commission	2005a
Bio-based economy (industrial biotechnology & knowledge based bioeconomy), Information and Communication Technologies, Nanotechnology	SusChem	2006

Table 4: Literature on competitiveness and success factors of the chemical sector

Most articles on competitiveness of the chemical industry focus on specific case studies, or analysis of one factor and its effects on e.g. company's economic performance, some homogeneity can be observed. Most importantly all studies mention technological progress and innovation as a very important factor for chemical industry's success.

Eder (2003) especially has highlighted the importance of innovation as a key driver for chemical industry and company competitiveness and the opportunities that innovation for cleaner production and eco-efficiency present for the chemical industry. While Kawachi (2004) analyses it from the perspective of one case study on Sumitomo Chemical, Simon et al. determines technological development as one of the main factors that will improve South African chemical industries competitiveness in the light of increase competition. The importance of reputation is further discussed by O'Driscoll (2004).

Furthermore, environmental responsibility is another factor that has been identified by Kawachi (2004) and Eder (2003) as not only important to the chemical industry or company competitiveness, but also as an indispensable part of doing business in the chemical industry. Kawachi in his case study of Sumitomo Chemical has furthered this claim by arguing that engagement in programmes like Responsible Care has an added value to the company by increasing the trust in the company as well as having a positive effect on the quality of its products. Simon (1995), Guisinger et al. (2004) and the European Commission in its staff working document "European Industry: A Sectoral Overview" (European Commission 2005a) mention the importance of the supply chain relationships.

The High Level Group set up by the European Commission in 2007 has been conducting sound analysis of the competitive position of the European chemicals industry until 2009, when it published its final report with some 40 recommendations for policy and industry. Among those, the High Level Group highlighted three main areas: innovation and research, responsible use of natural resources and open markets with fair competition, as being key for securing the future leading competitive position of the European chemical industry. The report has also emphasised that the provided recommendations have not only been identified as helping the chemical industry get through the effects of the global economic crisis, but also as the key areas that can secure the chemical industry's future. The recommendations are far reaching and cover a wide range of areas that have also been the focus of this study. These include the need for attracting talent, dependency on the cost of raw materials, increasing stakeholder trust and improving energy efficiency, as measures that would help the industry in responding to the increasing global challenges it faces (European Commission, 2009c).

CSR issues: The table below summarises the literature on the most important CSR issues for the chemical industry.

Focus	Source	Year
Energy, healthcare, sustainable quality of life, sustainable product and process design, transport	SusChem	2006
Environment, health & safety, risk communication strategies	Capriotti	2007
Environment (emissions), health & safety	European Commission	2007b
Environment (emissions), safety (hazardous substances)	Berland et al.	2008
Ecological and social dimensions of sustainability in supply chain management	Foerstl et al.	2010
Chemicals risk management, consumer safety and environmental health.	Kallenberg	2009
Environmental pollution, toxic waste, human health and community dialogue	Acutt et.al	2004
Environmental, worker health and overall safety (EHS) issues	Conzelmann	2010

Table 5: Literature on CSR issues in the chemical sector

Most of the literature on CSR issues in the chemical industry focuses on environmental protection, especially in terms of emissions (European Commission 2007b, Berland et al. , 2008) and health and safety (Capriotti 2007, Kallenberg 2009, Conzelmann 2010) as prime CSR concerns for the chemical sector, while SusChem (2006) expands this view by considering the issues faced by chemical distribution, namely transport and, consequently, fuel efficiency and Froestl et al. (2010) focuses specifically on sustainable supply chain issues in the chemical industry.

In addition Froestl et al. (2010) analyses a number of companies that have experienced environmental or social incidents and the relation of their performance in sustainable purchasing and sustainable supply management to competitiveness. The study concludes that sustainable supply chain management could be a source of competitive advantage in terms of reputation risk management and operational performance; however there exists a “first mover” advantage.

Acutt et.al (2004) and Conzelmann (2010) analyse CSR in the chemical industry from the perspective of the Responsible Care initiative. In their analysis on Mexican and South African chemical companies they Acutt et al. (2004) conclude that the chemical industry mainly focuses on environmental issues covered by Responsible Care initiative, while social issues are often limited to community dialogue. Moreover, the study also identifies the key challenges for the chemical industry in taking CSR further: credibility, stakeholder engagement, value-chain accountability, disclosure and transparency. Conzelmann (2010) analyses the

Responsible Care initiative from the point of view of its development to serve the main purpose: “to deflect public criticisms and potential government regulation” (Conzelmann 2010, 8). He suggests that initiatives like Responsible Care can help “operationalize” the diverse CSR issues that are dominating the debate down to firm level, as well as act as a platform to share experiences, and monitor each member’s performance. This is also in line with the study of Swedish chemical companies conducted by Kallenberg (2010), identifying that environmental issues and consumer safety have been the most addressed issues in the Swedish chemical industry mainly because of stakeholder pressure, regulatory burden and PR considerations.

3.3. Interview results

The following sections analyse the findings on sector specific success factors and CSR issues in the chemical industry derived from 15 interviews conducted during the course of the project with EU Sector Unit, national and European Trade Associations and Trade Unions.

3.3.1. Competitiveness and strategic success factors of the chemical sector

Chemical industry at large is quite homogenous in terms of success factors. However, the success factors largely differ between SMEs and larger companies, while some variation can also be observed between the sub-sectors in terms of success factors of lower importance. For example, cost leadership is of much higher importance to basic chemicals, but of low importance to specialty chemicals (customers tend to buy specialities at any price), while brand value is of most importance to consumer chemicals. Moreover, experts agreed that the chemical industry perceives raw materials and energy pricing as being of very high importance for the chemical industry. This is due to its very high energy intensity and its dependability on raw materials’ availability. Consequently, reduction of raw materials and energy use can remain the single success factor in the future.

Experts rated the following **seven success factors**⁹ as most important for the chemical sector. These are also perceived as being strongly interlinked:

- Financial resources
- HR and organizational culture
- Technologies and machines
- Efficient supply chain management
- Flexibility and fast response to market changes
- Customer relations and excellent customer service
- High product quality

These success factors of the chemical industry are described in more detail bellow:

⁹ For the complete ranking of success factors of the chemical sector see Annex III, Table 29

Financial resources: The very backbone of the chemical industry is innovation; consequently, high levels of financial resources for innovation are needed. Moreover, the chemical industry is ever more pressed to be more environmentally sustainable. However, according to interview partners, given the specifications of the industry, conforming to this pressure requires innovation; especially in terms of sustainable energy and reducing the use of raw materials. Responding to these pressures should not jeopardize the high quality of products, thus, environmentally sustainable materials and energies have to be economically competitive and be at least of the same or higher quality than the unsustainable ones; this requires high investments in R&D and innovation.

Human resources and organisational culture: As in any other industry experts almost unanimously agreed that the success of the industry depends on their human resources. They have grounded this view on the fact that the availability and level of technological capital varies only slightly between different companies. Thus, in order to maintain efficiency and high product quality human resources are key. Moreover, interview partners have emphasised that it has been difficult for the industry to find new skilled talent, and once found it is important to maintain the workforce in order to retain the knowledge and behaviour within the company. However, given the recent economic developments experts have suggested that the importance of human resources as a success factor is declining.

Technologies and machines: In order to remain competitive as mentioned above the chemical industry has to face pressures to become increasingly environmentally sustainable. Good technologies and technological innovation is thus an important factor for competitiveness.

Efficient supply chain management: Unlike other industries chemical industry covers a very long value chain from raw materials to final products and sometimes extends even to disposal. The industry is also very sensitive to overall economic situation and is currently facing financial constraints. Therefore, efficient supply chain is crucial in order to reduce overall costs and ensure reliable and sustained supply of materials¹⁰.

Flexibility and fast responses to market changes: Many experts agree that chemical industry will have to undergo certain transformation in order to remain competitive. Delocalisation due to globalisation as well as sensitivity to overall economy and sky-rocketing raw material prices are all to blame, forcing the chemical industry to be flexible and proactive in responding to anticipated challenges.

Customer relations and excellent customer service: Competition from low environmental protection regions in terms of production cost is a pressing issue for the chemical industry. Consequently, maintaining its customer base is one of the ways the chemical industry tries to tackle the challenges globalisation brings. Moreover, understanding the needs of the customer can help the industry make

¹⁰ See also McTiffin, 2008.

informed decisions about pricing, changing its portfolio and better responding to the changing demand¹¹.

High product quality: Experts agreed that the main factor for the chemical industry is the ability to provide a high quality product. Some have argued that high quality product starts entailing it being environmentally safe too. This is a potential challenge for the industry: in certain cases changing the materials used in production of the product to more sustainable or less toxic ones may reduce the products effectiveness and, thus, quality. In the future only the enterprises that will be able to innovate in the direction of tackling this risk will remain competitive.

3.3.2. Corporate Social Responsibility in the chemical sector

Chemical industry has been under high scrutiny in terms of environmental protection and safety regulations for over 20 years. Consequently, the industry has responded to these issues with a global voluntary initiative Responsible Care. According to the interview partners one of the main drivers for the whole industry to engage in such an initiative improving health, safety and environmental performance was **increased pressure from stakeholders** as well as the need to proactively prepare the industry for future environmental pressures, or anticipated environmental legislation. Another important factor is the pursuit for **improving the reputation** of the industry, the Responsible Care initiative has well served that purpose during its development into a mainstream industry initiative during the past 20 years, however experts suggested that there is still room for improvement of industry's reputation.

Moreover, experts underlined that the Responsible Care initiative has also been a useful tool in engaging SMEs in CSR, since chemical industry **SMEs** often lack the know-how and the resources to implement CSR strategies. Interview partners also pointed out that the chemical industry has realised that engagement in CSR can also increase shareholder value, e.g. through improved health of employees, fewer leakages, fewer incidents, better risk management, these benefits are especially apparent for SMEs. However, one of the obstacles for a wider spread of CSR engagement is the appreciation of these operational benefits and commitment of the **top management**.

In terms of the CSR issues that are of highest relevance for the chemical industry's sub-sectors, **high homogeneity** is observed. However, the extent to which the industry is pressed to and has resources to engage in CSR differs between them: experts indicated that CSR is more important to basic chemicals and consumer chemicals than for specialty chemicals. The latter's customer is more likely to buy a product no matter what its CSR ratings are if this product is of need. Basic chemicals face a high risk of delocalisation, experience lower profit margins and more challenges and thus have higher pressure for CSR. While

¹¹ See also Knickle, 2009.

consumer chemicals are pressed by the consumer itself to respond to their wish for natural and safe products.

Experts have often mentioned that certain CSR measures are becoming part of the industry's basic business or success, causing the relationship between CSR and sector competitiveness to follow a **circular dynamic**; notably CSR topics 'minimize the amount of toxic substances and waste' and 'offer safe and high quality products'. According to the interview partners, offering safe and high quality products is no longer a CSR concern but rather a pillar of risk management. A company that fails to deliver on this issue risks being pushed out of the market. With regards to minimising the amount of toxic substances and waste, experts also suggested that it is not a matter of company ethics, but has become the integral part of business, thus is essential for company survival.

Due to the **economic crisis**, some experts said the importance of **stakeholder dialogue** has increased especially when the industry is developing new plants. Furthermore, experts agreed that the companies rather identify key areas of action and engage in specific CSR activities without branding it CSR, they are more responsive to a **holistic approach** to CSR.

During the first two interview rounds experts have rated environmental issues and health and safety as being most important in the chemical industry, also the need for innovation was mentioned repeatedly.¹² In agreement with DG Enterprise and Industry we have set up three hypotheses in order to analyse the effects of specific CSR measures on chemical industry's competitiveness, i.e. effects of new environmental technologies, of socially responsible human resource management and organizational culture and of a life cycle approach.

3.3.3. Linking CSR and competitiveness in the European chemical industry: The case of new environmental technologies for increasing environmental protection

Experts have mentioned that the most important new technologies for environmental protection are two fold: (1) new technologies that would improve the environmental protection within the chemical industry and (2) new technologies with which the chemical industry could provide solutions for other industries and, consequently, penetrate new markets. With regards to the former, experts suggested integrated environmental protection technologies (integrating environmental concerns in all production processes), technologies reducing the consumption of energy and raw materials (e.g breaking down the materials back into their constituents) and emissions capture in the chemical production processes. Some of these could also serve as a new market for the chemical industry along with innovations for energy storage technologies and the like. Given the challenge of energy and raw material pricing, these technologies could help the industry to remain competitive by capping its production costs; at the same time it is an opportunity for a new niche. Some of the drivers for

¹² For the complete ranking of CSR issues in the chemical sector see Annex III, Table 30

pursuing new technologies for environmental protection have been very often defined as top management decisions and commitment to change as well as the business case driven by raw material and energy pricing. The latter has gained more importance during the economic crisis, when companies aim for cost reduction in order to survive in the market. While lack of financing or access to credit has been the major obstacle for the chemical industry, especially SMEs. The table below shows the detail view on how new technologies for environmental protection affect chemical industry's competitiveness:

Success factors	Expected effects of CSR measures on Success Factors	
Technologies and machines	Very positive	Introducing new environmentally more sound technologies would self evidently have a positive effect on technologies and machines..
Flexibility and fast responses to market changes	From very positive to neutral, mainly positive	More innovation than new technologies enable the company to be more flexible and responsive to changing demands or situations.
High product quality	From very positive to neutral, mainly positive	High product quality is incremental to the chemical industry with little room for advancement. However it can have a positive effect on this success factor if improving product environmental impact would embrace improving high quality.
Efficient supply chain management	Positive to neutral	Often affect production processes and thus can positively affect supply chain .
Human resources and organizational culture	Positive to neutral	Introducing new technologies often require extra training for the employees. Other experts rated it as neutral since this effect is not a first round effect and they could not say there is enough evidence for a positive impact.
Customer relations and excellent customer service	Positive to neutral	New environmental technologies could possibly have a positive effect on relations with environmentally conscious customers, or no effect at all
Financial resources	Varied from positive to neutral to negative	A business that is promising to be profitable in the future and taking sustainability into account is an attractive investment opportunity. Experts agreed that it is a circular relationship – new technologies require R&D for which investment is needed and while investment in new technologies for environmental protection can in turn attract new investment with a hope that they will become economically viable in the future.

Table 6: Effects of new environmental technologies on the competitiveness of the chemical sector

3.3.4. Linking CSR and competitiveness in the European chemical industry: The case of socially responsible human resource management and organisational culture

Experts mentioned various measures that improve both human resources and company's competitiveness. Some of the specific ones focused on communication measures between the employees and the management; a mutual dialogue about the goals and future directions of the company help both: employees feel more engaged and thus committed, while at the same time committed to the agreed direction of the company. Moreover, continuous skills development was mentioned, as a measure that could benefit both the employees and company competitiveness.

More general examples focused mainly on industry leadership as being the most important factor for improving both, competitiveness and human resources. Through leadership on health and safety the company not only builds up trust and motivation among existing employees and new ones, but also among the customers. Customers appreciate the reassurance that the product they buy is safe and will remain safe within the years. Moreover, given that the chemical industry has been improving its safety in the workplace (consequently of their products) for some time, experts have agreed that the main effect of responsible human resource management and organisational culture is on brand value and reputation. This improves all: existing human resources, attracting new talented workers, attracting new customers and the company's relationship with the community. It is intrinsic values which can help the company build an image of a reputable responsible organisation which in turn very positively affects its success.

However, experts have agreed that engagement in these measures requires certain organisational culture and management commitment. Since the positive effects of the above measures are mainly witnessed in the long run, while in the short run they do require allocation of resources (both financial and operational) some companies do not deliver on these measures.

When it comes to the difference between SMEs and big multinational companies, the forces that facilitate and challenge their engagement in this measure are mixed. SMEs usually have shorter information loops and the management tends to be closer to the workers, however they do not usually have the necessary resources for good programmes. The big multinationals do have the resources but often operate over many countries thus implementation of such holistic measures is more difficult.

Moreover, experts have mentioned that the economic crisis has affected this area of CSR engagement and the importance or commitment to socially responsible human resource management has in some cases been traded for the need to cut cost in fight for economic survival.

The table below shows the detailed view on how socially responsible human resource management affects chemical industry's competitiveness focusing on the most important success factors for the chemical industry:

Success factors	Expected effects of CSR measures on Success Factors	
Human resources and organizational culture	Very positive	Improves employee satisfaction and motivation. It is a circular relationship between human resources as a success factor and human resources as a CSR focus.
Flexibility and fast responses to market changes	Positive to very positive.	Companies that adapt a responsible approach to its human resources as a rule tend to be more flexible , dynamic and responsive to changing customer needs.
High product quality	From very positive to neutral, mainly positive	High product quality is a given however motivated and satisfied employees are more likely to take extra care for ensuring product quality and integrity.
Customer relations and excellent customer service	Positive to neutral, mainly positive	Motivated and trained employees tend to work better with customers.
Efficient supply chain management	Positive to neutral, mainly positive.	Moving chemicals demand for knowledge at every step of the supply chain. Investing in training directly contributes to efficient and safe supply chain management.
Financial resources	Either neutral or unknown.	Interview partners had difficulties determining the effect socially responsible human resource management has on company's financial resources.
Technologies and machines	Neutral to negative, mainly neutral.	Experts viewed it either neutral or negative due to the existing trade-off between machinery and human labour.

Table 7: Effects of socially responsible human resource management on competitiveness of the chemical sector

3.3.5. Linking CSR and competitiveness in the European chemical industry: The case of a life cycle approach

Experts have agreed that the life cycle approach is the most effective way to deal with the current times of scarcity of resources due to its emphasis on the use of energy and raw materials in manufacturing to transport, safe use and disposal. However, the industry faces a challenge in adopting the lifecycle approach in terms of controlling the parts of the cycle that have not been under control before, notably distribution and disposal. Some have mentioned that a defined timeline has to be agreed upon. In terms of the effects of the lifecycle approach on the competitiveness of the industry, experts have mentioned that these can be mainly witnessed in terms of positive effects on the reputation of the company, as the main operational benefits have already been exhausted. Others mentioned that the life cycle approach can be a useful tool for tracing the areas of product and service improvement. Moreover, customers are increasingly becoming more aware and responsive to the life cycle approach; public procurement is the major driver for industries commitment to it as well.

However, out of all CSR measures under discussion in this report, the life cycle approach witnesses the biggest difference in terms of SMEs and bigger companies. Experts agreed that SMEs usually badly lack resources to handle the life cycle approach to their products.

The table below shows the detail view on how a life cycle approach affects chemical industry's competitiveness focusing on the most important success factors for the chemical industry:

Success factors	Expected effects of CSR measures on Success Factors	
Efficient supply chain management	From very positive to positive	The milestones of the lifecycle approach are not under the control of a company, it is a matter of good communication with the partners which also positively affects efficient supply chain.
Customer relations and excellent customer service	From positive to very positive. Mainly positive	Lifecycle approach demands to follow up on the product down to downstream users consequently improving communications systems . Some customers , especially in public procurement very positively respond to company's life cycle approach to their products.
High product quality	Positive to very positive. Mainly positive	Life cycle approach facilitates a more holistic view on the product. Product improvement is to be expected life cycle approach facilitates detection of areas for improvement and influencing them more quickly.
Technologies and machines	Varied from. very positive to neutral and don't know	Technologies are needed for the integration of the life cycle approach.
Flexibility and fast responses to market changes	Positive to neutral	Positive effect on company's responsiveness to changing customer demands. However, a negative impact on the flexibility in terms of dealing with external economic fluctuations.
Financial resources	Positive to neutral. Mainly positive	Adopting life cycle approach signals business sustainability to potential investors. However, adopting it also requires investment
Human resources and organizational culture	Varied from neutral to positive to don't know	Lifecycle approach is an operational and managerial decision. Operationally, the firms work better when systems are in place, life cycle approach is an example of such a system that could improve the efficiency of a company. Moreover, lifecycle approach could improve employees' motivation. However, both are indirect, second round and theoretical effects with little practical evidence.

Table 8: Effects of life cycle approach on the competitiveness of the chemical sector

3.3.6. Perspectives to further increase Responsible Competitiveness in the chemical sector

The table below summarises the driving and restricting forces affecting the Chemical industry's CSR engagement according to the experts' opinion.

Driving forces	Description
Environmental pressure	Chemical sector is highly energy intensive and a prime user of raw materials. Therefore energy and raw material pricing are important driving forces.
Regulations	Regulatory anticipation drives the industry to prepare for future requirements by engaging in issues like energy efficiency, reduction of waste or raw material usage in advance through voluntary programmes. However, interviewees have expressed concerns that regulatory pressure can have an opposite effect causing resources being shifted to compliance activities and reducing the availability of resources for innovation or other CSR measures.
Risk management	Increasing safety, security and occupational health hence preventing accidents benefits a risk free management system.
Pursue of industry credibility	Having a reputation of being a responsible company or industry helps e.g. compete in bidding for land or location for new plants while transparency, improves community relations and brand value . However according to some interview partners voluntary programmes sometimes do not increase industry credibility enough.
Competition for talent	Engagement in CSR activities such as not only socially responsible human resource management but also investment in sustainable technical solutions for facing the future challenges increases the motivation of employees. People tend to want to be associated with reputable organisations.
Ambivalent factors	Description
Pressure to reduce costs because of the crisis	Companies often see engagement in CSR as a trade-off between being more responsible or more competitive. Many companies shifted their priorities to reducing costs , hence, cutting on training programmes and reducing the number of employees. However, this applies only to CSR measures that do not contribute to reducing operational costs as in the case of energy efficiency or waste minimisation.
Lack of financing	Companies with less access to financial resources have difficulties to engage in certain measures for environmental protection as e.g. innovation; especially problematic for SMEs. On a larger scale, experts expressed concern over the lack of access to credit for innovation due to the crisis.
Company size	SMEs often lack resources to tackle or engage in CSR activities but are flexible to adapt, enjoy more innovative environments and have shorter information loop than MNEs. While MNEs tend to work over different countries and due to their large size, communication about a shift in company priorities takes longer.
"Business case"	CSR often requires investment in the short run , with potential benefits in the long run . However, experts noted that the assumption about long term benefits is often seen as a theoretical concept with little practical evidence . However, most did agree that CSR can potentially contribute to company's long term success: workers want to work for, customers want to buy from and other companies want to engage with successful respected companies.

Table 9: Driving and restricting forces affecting the chemical sector's CSR engagement

Most of the experts have agreed on the promotion of a voluntary nature of CSR, however advocated for shift to incentives for businesses to engage in CSR. This shift has mainly been caused by the financial crisis and experts suggested companies would very positively respond to financial incentives, or information on financial benefits (possibilities of financing) of CSR rather than information on the operational benefits of CSR. Moreover, it was suggested that a change from punishment and pressure approach to recognition and reward could also improve CSR uptake. These recommendations are summarised in the table below:

Level	Measures suggested by interview partners
EC and national governments	<ul style="list-style-type: none"> • Balance pressure and rewarding mechanisms – recognising the companies that have implemented successful CSR programmes • Providing financial incentives to engage in CSR (audit burden reduction, tax reduction etc.) • Providing special assistance for SMEs who engage in CSR (e.g. through tax breaks) • Fostering education on CSR issues to root it into all business practices
Chemical sector	<ul style="list-style-type: none"> • Providing more information on the benefits of engagement in certain CSR programmes (not operational as much as financial) • Disseminating information on successful programmes from SMEs, rather than big multinationals, to increase the relevance of CSR for SMEs • Fostering education on CSR issues to root it into all business practices

Table 10: Measures suggested to further increase Responsible Competitiveness in the chemical sector

3.4. Aims and findings of the PRISME2 project

Project:

- PRISME2 - Promoting Responsibility in SMEs

Co-ordinator:

- Conseil Européen de l'industrie Chimique (Cefic), Belgium

Partner organisations:

- The Centre for Tomorrow's Company, United Kingdom
- European Mine, Chemical and Energy Worker' Federation (EMCEF), Belgium

The aim of the PRISME2 project was to initiate a networking programme dedicated to build capacity in SMEs within the chemical industry. It enabled to continuously improve health, safety and environmental performance, with the industry sector's unique global Responsible Care® initiative being the foundation for this. Performance leaders amongst the European Chemical Industry Council (Cefic) membership together with other partners became mentors providing SMEs with training and expertise in issues of Responsible Care, in particular in health and safety. Pro bono trainings were initiated for participating companies, in combination with on-site assessments especially on occupational health and safety and additional activities, making participation in the scheme attractive to SMEs. These trainings were initially be piloted in selected countries involving a solid foundation or relevant stakeholders before being rolled-out across Europe.

The project was carried out in four development stages:

1. Initiation: Development of the service; development and offering of a lean but targeted service to SMEs; substantiating the criteria in order to measure the success of the project.
2. Pilot Project: Testing and evaluating the project outline by conducting three B2B workshops for representatives of SMEs in the selected countries.
3. Evaluation: Review of the pilot projects by organising a one-day workshop with all the trainers, assessing the overall results and presentation of the results by a steering committee.
4. Roll-Out: Broadening the base of the project and strengthening the groundwork for an enduring project structure.

The main findings of the PRISME2 project as summarized by the project coordinator:

- SME involvement was difficult to establish at European level. In PRISME2 the cooperation with National Associations as a transmitting level was indispensable to reach out to SMEs
- The needs of SMEs in different countries seem to be different: While the German and Spanish associations' focus was more specifically on CSR, Greece, the Slovak Republic and the Czech Republic achieved business value through capacity building on more basic EHS management issues
- In the chemical sector, Responsible Care serves as a well established platform for SMEs to build their individual CSR strategies on (long standing existence of the programme, practical and proven to be useful management tools, etc.
- CSR terminology can be an obstacle for SMEs to get involved
- The added business value for an SME is an absolute priority. If the added value of e.g. a seminar is unclear (which can be the case if using CSR terminology) a SME may decide that the time would not be well invested
- Time is precious for SMEs (much more than for large companies). Workshop participation by an SME is only achievable if the direct added value to business is clear (time is a factor even more important than financial resources)
- The availability of validated guidance tools (PRISME2 toolbox) is an added value especially when the guidance had been introduced during a workshop (e.g. in Greece)
- Compliance with regulation is the top priority for an SME. In the chemical sector there are a number of new laws on which exchange of experience and capacity building is useful (e.g. REACH and CLP regulations); capacity building on CSR related issues should therefore not be separated from the 'real' issues of concern but rather included

3.5. Summarizing responsible competitiveness in the chemical sector

The main driver of competitiveness of Europe's chemical sector is innovation (of products and production processes) on the one hand, and availability and low prices of raw material and energy on the other. Competition takes place mainly within Europe and competition from outside Europe is only relevant for basic chemicals. As only 11% of the chemical sector produces consumer goods, loyalty of consumers is not an important success factor.

Health, safety and environmental protection are the main societal concerns as the chemical industry is highly resource intensive, its products have multiple and long-term effects on human health, and it deals with dangerous production processes. Some fatal accidents in the late 1980s pushed chemical companies to new ways of rebuilding trust. The implementation of the 'Responsible Care' programme helped deal with stakeholder pressure and prepare for anticipated stricter environmental regulation.

The chemical sector shows a huge potential for linking CSR and competitiveness as innovation, resource availability, trust, and the license to operate are located in the very core of firms' economic success:

- **Innovation** requires financial and highly skilled human resources as an input and leads to more efficient technologies, having the potential to link environmental protection and competitiveness.
- The **life cycle approach** addresses scarcity and increasing prices of raw materials and is therefore another way of linking CSR and competitiveness by tracing areas for product and service improvement, and by improving supply chain efficiency. In both areas, a circular dynamic was identified by our interview partners, as CSR can most often be fully exercised and bring most benefits to companies that are already successful and competitive.
- Issues of **health and safety** that traditionally fall under the scope of CSR have evolved to being an indispensable part of doing business in the chemical industry, and are now essential to the company's survival or at least have become inseparable from good risk management.

In a nutshell, the chemical sector shows a huge potential for linking CSR and competitiveness as innovation, resource availability and the license to operate that are located in the very core of firms' economic success. CSR policies in this sector should therefore focus on supporting and promoting innovation, on implementing health and safety standards and ensuring high (eco-)efficiency.

4. Responsible competitiveness in the construction sector

4.1. Facts and figures

In this study the definition of the construction sector is based on NACE¹³ code and thus includes the sub-sectors presented in the table below:

Construction sub-sectors in Europe according to NACE Section F	Share of sector employment (2006)	Share of sector value added (2006)
Site preparation: demolition and wrecking of buildings, test drilling	3,1 %	3,4 %
General construction: construction of complete buildings (or parts of thereof) and civil engineering , construction of highways, airfields, sport facilities, construction of water projects	55 %	58,8 %
Building installation: installation of electrical wiring and fittings, insulation work activities, plumbing and other building installation	23,6 %	22,%
Building completion: plastering, joinery installation, floor and wall covering, painting and other building completion	17,7 %	14,9 %
Renting of construction or demolition equipment with an operator	0,6 %	0,8 %

Table 11: Construction sector: Importance of sub-sectors based on NACE
Source: Eurostat, 2009, p.346

General construction, building installation and building completion are the most important sub-sectors in terms of the share of sector employment and the share of sector value added. In this study architectural work, real estate, production and trade of building materials were excluded as they are considered not being part of the construction sector in the strict sense.

European Construction industry is one of the largest industries in Europe. Its significance lies in providing the infrastructure for other sectors - for this reason the sector is often used as an indicator of overall state of economy. Small and medium sized enterprises make up the largest number of construction companies, while the sector is characterised by high labour intensity and remains the largest industrial employer in Europe. According to the European Construction Industry Federation (FIEC, 2009, p.3) the construction sector accounts for 10.4 % of the GDP in 2008. With 16.3 million operatives the construction sector is responsible for 7.6 % of Europe's total employment and is thus the biggest industrial employer in Europe (FIEC, 2009, p.3). Three million enterprises are part of the construction sector, whereby 95% are SMEs with fewer than 20 operatives (FIEC, 2009, p.3). In comparison to other sectors

¹³ http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

public procurement is very important for the construction sector and public investment has a major influence on the cyclical stabilisation of the sector.

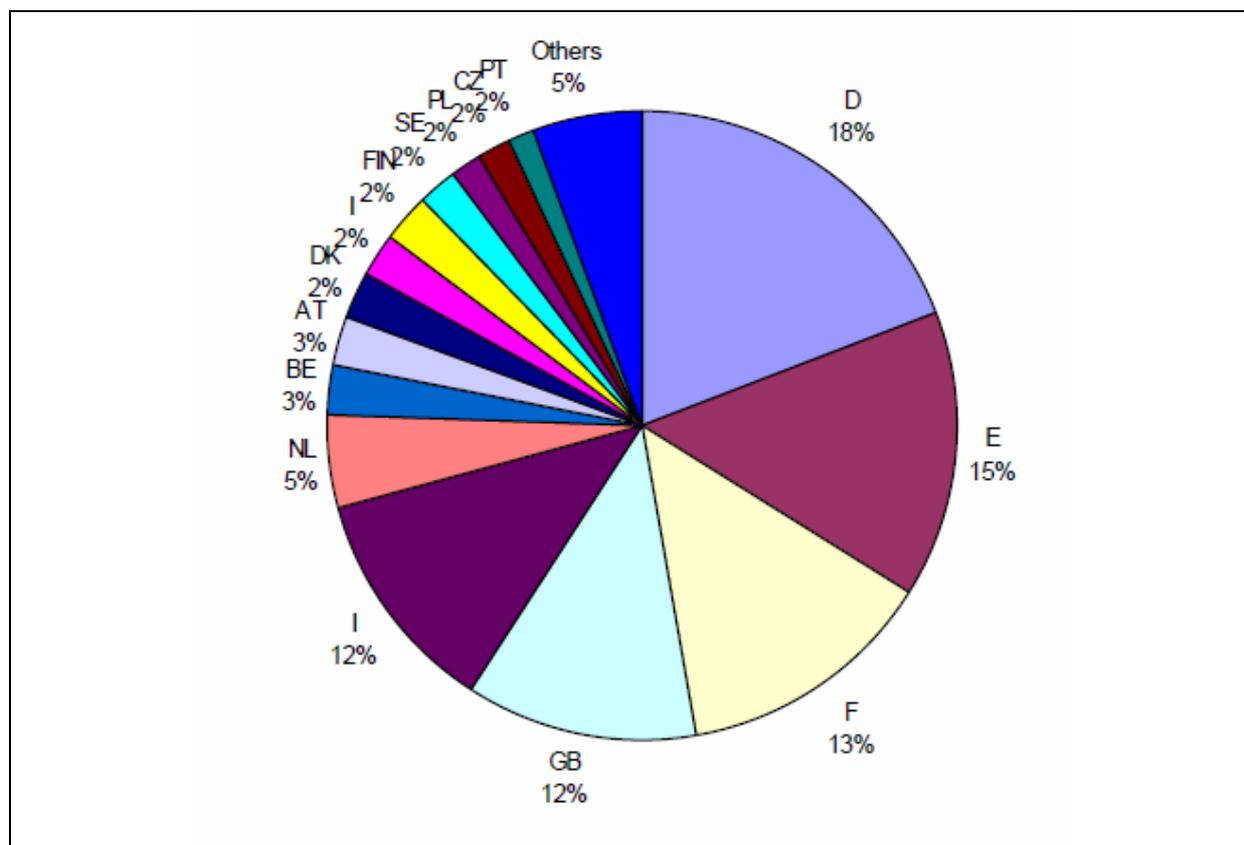


Figure 2: Country share % of total European construction companies' turnover. 2008

Source: FIEC 2009

In terms of international competition the largest market for the European construction industry remains Europe followed by North America (EIC 2008a).

	Turnover (in Mio Euro) 2008	Percentage total international turnover 2008 (approx)¹⁴
Europe	78.798	53%
North America	21.151	14%
America	5.570	4%
Oceania/Australia	17.200	11%
Asia		
Africa	12.315	8%
Middle East	14.614	10%
Total international	149.640	100%

Table 12: European construction company's international turnover generated by region in 2008

Source: EIC 2008a

¹⁴ Author's calculations.

According to the European International Contractors, construction tends to be a local industry and most contracts are carried out by companies owned locally. On a global scale only 3.5 % of output is generated internationally. However internationalisation has been on the rise – according to latest available data in 2007 European construction companies' international revenues have gone up by 14.7% compared to 2006.¹⁵ Dominant country in cross border construction work is France - 24%, Austria - 17%, Sweden - 15% and Netherlands – 11% of total European international construction workload (EIC 2008b).

As a result of the financial crisis, the European construction sector experiences stagnation: residential buildings (47 % of the construction market volume, 2007) are expected to decrease, for non-residential buildings (32 % of the construction market volume, 2007) and for civil engineering (21 % of the construction market volume, 2007) a slight increase is expected (ifo Schnelldienst, 2008, p.27). The views on possible recovery remain rather pessimistic (European Commission, 2010d).

Compared with July 2008, output in July 2009 dropped by 10.8% in the euro area and by 11.1% in the EU27 (Eurostat 2009). The situation varies significantly between one country and another and one sub sector and another for example Eastern European countries have been less impacted by the crisis in 2008, while western countries like Spain, Ireland and UK have been hit the worst. Moreover, the crisis has especially affected SMEs due to their very heavy reliance on bank lending and being more exposed to late payments by clients. In terms of sub-sectors according to FIEC classification, house building even deepening, non-residential building influenced by business climate however is now mainly sustained by public building investment, same goes for engineering works, while private non residential is suffering more. The only sub sector according to FIEC that is remained on a positive growth rate is rehabilitation and maintenance works (FIEC 2009).

4.2. Literature analysis

The following section provides an overview about the critical success factors and most challenging CSR issues derived from literature analysis and the European Commission. Sector specific studies on generic CSR issues and generic success factors are scarce.

¹⁵ For full 2002-2007 comparison see http://www.eicontractors.de/doc/fc/eic_document_fc_0047.pdf

Competitiveness: The table below summarizes the literature on competitiveness in the construction sector

Focus	Source	Year
Timely completion, profit, programme/planning, cash flow, management level leadership	Ng et al.	2009
Business management, financial conditions, quality of work and workmanship, sales and marketing, use of technology, market selection and owner-manager characteristics.	Arslan et al.	2008
Integration of standards-based management systems, health standards, environmental management	Griffith et al.	2008
Market position; equipment-related factors; human resources; earnings; managerial ability to adapt to changes; project success	Ng et al.	2008
Comprehension, competence, commitment, and communication	Toor et al.	2008
Partnering: collaborative team culture, a long-term quality focus, consistent objectives, resource-sharing	Chen et al.	2007
Development of partnerships with sub-contractors, efficient supply chain management, quality, cost, service, concurrent engineering	Errasti et al.	2006
Adoption of computer technology	Rowlinson et al.	2006
Cost, schedule, quality and relationship	Jin et al.	2005
Innovation, good contract negotiations	Egbu	2004
Introducing new technologies, competence development	Andersen	2002
Organizational structure, technology, workforce, market conditions	Lester	2002

Table 13: Literature on competitiveness and success factors of the construction sector

Most of the literature and studies conducted on critical success factors in construction industry focus on either the critical success factors in construction projects from the point of view of project management (Jin et al. 2004, Toor et al. 2008) where cost, time and quality play the major role. Other studies have picked to analyse the success factors in sub-contracting relationships (Errasti et al. 2006, Ng et al. 2008, Ng et al. 2009) or of construction sub-contracting firms themselves (Ng et al. 2008, Ng et al. 2009).

Toor et al. (2008) and Arslan (2008) are among the few who have focused on the critical success factors of construction companies as a whole. Toor et al. identified relationships with stakeholders as being key, while Arslan et al took a much broader view and determined critical success factors in an empirical analysis of 40 Turkish construction firms where again planning and organisation was perceived as the most important success factor in construction.

Griffiths et al. (2008) in a study based on UK has expanded the debate in arguing that it has become essential for construction contractors to consider environmental aspect of their business to remain competitive. They did, however, acknowledge that the construction company's competitiveness remains reliant on cost of building rather than environmental performance.

The European Commission has expressed its commitment to developing an ongoing competitiveness strategy for the construction sector. It states that the competitiveness of the European Construction sector relies on the following factors:

- the commitment of the market operators towards a better quality policy;
- sustainability development objectives;
- research and innovation activities;
- improved skills and qualifications of its workforce and management. (European Commission, 2009d)

In terms of specific actions, the European Construction Technology Platform (ECTP), launched in 2004, is one of the main initiatives taken by the European Commission to maintain construction industry's competitiveness. It focuses on analysing the major challenges faced by the sector in terms of societal, economical and environmental developments and developing research and innovation strategies for the sector to deal with these issues. Moreover, sustainable construction is one of the EU LEAD market initiatives, with the aim to foster innovation and sustainable construction by providing a coherent basis of regulations, standardisation, and public procurement as well as upgrading of skills of construction workers. Thereby a transformation of consumers' preference towards sustainable construction as well as of supply chains is expected. Furthermore, companies have to follow the new EU regulations on public procurement (Directive 2004/17/EC and 2004/18/EC), which highlights transparency and includes an improved consideration of environmental and social factors for the contract awarding procedure and public private partnerships.

CSR issues: The table below summarises the most relevant CSR issues derived from literature analysis:

Focus	Source	Year
Feasibility studies and environmental and social performance	Shen et al	2010
Environment (pollution of air & water, traffic), health & safety (disruption of life-quality), security, community engagement	Glass et al.	2007
Health & safety (site-based work-family conflict, emotional exhaustion, burnout), fair working hours & adequate compensation (long work hours)	Lingard et al.	2007
Training & education (no sufficient trainings due to a high number of self employed workers, skills shortage), gender equality, health & safety, environment (waste, pollution, energy, use of natural resources), sustainable supply chains	Jones et al.	2006
Bribery & corruption (shadow bookkeeping, illegal price agreements, evasion of taxes, development of cartels), sustainable supply chains, stakeholder management	Kolk et al.	2006
Environment (Energy & Waste), safety, ISO 14001	Wenblad	2001

Table 14: Literature on CSR issues of the construction sector

The studies in the table above do not show a great deal of homogeneity. However, two issues are quite prevalent; namely **environmental** and **health and safety** issues (Wenbald 2001, Jones et al. 2006, Glass et al. 2007, Shen 2010).

Kolk et al. (2006) and Glass et.al (2007) focus specifically on **stakeholder management** and **community relations** practices respectively within the construction industry through case studies. The latter has identified that often the employees of construction companies lack knowledge and training when dealing with the community. While Lingard et al. (2007) in their study have analysed one specific issue of ethical human resource management from the point of view of the employees.

A case study of the UK construction industry conducted by Jones et.al (2006) indicates that the consideration of CSR can help to reduce costs by reducing energy use, water use and by applying health and safety measures and training of workers in order to complete contracts on time and to budget. Nevertheless, it is pointed out that due to the fierce competition in the construction industry, companies need to balance CSR commitments with their commercial goals.

4.3. Interview results

The following sections present the findings on sector specific success factors and CSR issues in the construction industry, derived from 15 interviews conducted during the course of the project with EU Sector Unit, national and European Trade Associations and Trade Unions.

4.3.1. Competitiveness and strategic success factors of the construction sector

Experts agreed that the construction sector is mainly a local business, as the majority of construction projects are on-site and the product as such is not moveable. For the majority of companies (particularly SMEs) competition takes place on a local/regional level. One expert pointed out that the construction industry in Europe is very diverse and has no "European", but rather a national or regional identity. Only MNEs work internationally, to which joint ventures in terms of manpower, legal aspects and health services were regarded as important. For civil engineering projects competition for know-how and expertise from outside Europe is expected to increase, while work will remain local.

Most interview partners emphasised that competition among companies is strong and that costs are the most decisive factor. Since construction industry is very labour intensive, in order to be competitive companies often try to cut labour costs by employing migrant workers from neighbouring low-wage countries, some even engage undeclared workers.

A number of experts emphasised that European and national policies and regulations on industry environmental performance are already affecting and will further change the construction sector, e.g. legislation on energy performance of buildings, legislation on construction products, legislation on energy efficiency, higher level of recycling of construction and demolition waste, public procurement etc. Nevertheless, experts emphasised that huge differences between countries remain.

Experts emphasised the following most important future **trends** for the construction industry:

- Change in technologies: BIM (Building Information Modelling) in terms of generating and managing building data during the whole building life-cycle.
- New, more environmentally friendly materials emerging.
- Increased international competition for building materials, which might have a positive effect on reducing costs.
- Industrialisation of construction processes - off-site construction.
- Demographic changes, e.g. single households, ageing society.
- Potential concentration process of construction companies to form strategic alliances in order to offer the entire product range.

In terms of **sector success factors' homogeneity**, most interview partners agreed that success factors are not equally important throughout the construction sector. According to the interview partners the success factors as well as the CSR engagement to a large extent depends on the size of companies (SMEs and MNEs), on the clients (e.g. private or public procurement), and on the type of projects (e.g. civil engineering, residential and non-residential buildings). Furthermore, it was stated that success factors differ between countries, as there are different laws and regulations and different ways the construction business has developed in, different 'rules of the game'.

Experts rated the **following six success factors**¹⁶ as most important for the construction sector, while these success factors were perceived as interlinked to some extent:

- HR and organizational culture
- Efficient processes
- High product quality
- Financial resources
- Customer relations/excellent customer service/good value for money
- Brand value and reputation

Differences in terms of the importance of the success factors were highlighted as follows: For infrastructure and public private partnership projects financial resources, technology, R&D, low production costs and low labour costs, alliances

¹⁶ For the complete ranking of success factors in the construction sector see Annex III, Table 31

and networks are key. For utilities projects, where long-term maintenance is needed (e.g. hospital, airports), excellent customer service and excellent quality are essential, while SMEs have to focus on niche market strategies and differentiation in order to be competitive. The success factors are described below as follows:

Human resources and organisational culture: Since the construction sector is very labour intensive, labour is an important success and cost factor. Experts noted that the construction sector is characterised by short term labour contracts, seasonal work and wage dumping. Interview partners stated that the construction industry faces the highest risk of accidents in the European Union, which is a huge financial burden for SMEs especially. Consequently, the importance of primary and continuous training for the construction sector was emphasised. A skilled workforce is of particular importance in new areas, such as sustainable and energy efficient construction.

Efficient processes: Access to new technologies, R&D, innovation and use of ICT will become very relevant for improving efficiency in the sector and thus remaining competitive. Interview partners suggested that the suppliers and partners will need to cooperate in the form of partnerships in order to operate in an increasingly efficient and cost-effective manner. In some countries it is expected that part of the construction process will partly shift to industrial plants. Companies are thus expected to experience more regular and less seasonal activities which will positively affect efficient processes.

High product quality: Construction projects have to meet various national and EU regulations and standards while satisfying customers' preferences and expectations, such as sustainable construction, good value for money, cost-transparency, product-life-cycle costing, visualisation already in the planning process, high quality materials used, skilled workers and expertise.

Financial resources: In public procurement and especially for Public Private Partnership projects companies need to have substantial financial resources in order to be eligible to bid for a contract. Moreover, financial resources are the basis for investing in workers' skills, occupational security and health, new technologies, and efficient processes. Experts emphasised that the economic crisis has challenged companies' investments in these areas.

Customer relations / Excellent customer service / Good value for money: It is the way of how a construction company manages its interactions with customers and potential customers and is closely linked with high product quality, organisational culture, skilled workers and efficient processes. Experts stated that customers do not only evaluate the product as such, but also expect excellent customer service, through services like visualisation in the planning and during the construction process, being made aware of the life-cycle costs, getting advise on different energy-efficient construction ways and construction materials. Good customer relations are considered as a decisive factor for the reputation of a company.

Brand value and reputation: Trust is crucial when customers hire a construction company. The majority of interview partners stated that the reputation of the construction sector is negatively affected by corruption incidences and illegal work issues.

4.3.2. Corporate Social Responsibility in the construction sector

Experts had a very diverse opinion on CSR in the construction sector. On the one hand it was considered as an opportunity in terms of strategic positioning of a company, while on the other hand, it was seen as a bureaucratic exercise to meet various CSR standards without a potential benefit - especially when it comes to SMEs. Some interview partners suggested that global companies are very involved in CSR whereas the smaller the company the less it engages in CSR. A number of interview partners stated that CSR has to be driven by competition and the following drivers for CSR engagement were identified: customer demands, economic advantage, and regulations as well as incentives from governments. Experts, who perceived CSR as a bureaucratic exercise, named fierce competition and financial restrictions due to the current economic situation as obstacles for engagement in CSR.

During the first two interview rounds experts have rated environmental issues health and safety and corruption as being most important CSR issues for the construction industry.¹⁷ In agreement with DG Enterprise and Industry we have set up three hypotheses in order to analyse the effects specific CSR measures on construction industry's competitiveness, i.e. effects of sustainable construction, of occupational health and security and increased safety measures and of anti-corruption measures.

¹⁷ For the complete ranking of CSR issues in the construction sector see Annex III, Table 32

4.3.3. Linking CSR and competitiveness in the European construction sector: The case of sustainable construction

The experts' rating of the effects of sustainable construction on the competitiveness of the European construction industry is shown in the table below. Interview partners agreed that the impact of sustainable construction to an extent depends on the context and thus general conclusions are difficult to draw. One interview partner mentioned that sustainable construction will be the way of doing business in the future and that the construction industry is in a process of change, thus it cannot be related to competition at all. Contrary to this view, many other interview partners expressed uncertainty about how sustainable construction will develop and to what extent. It was mentioned that there are various opinions about the trade-offs between considering social or environmental issues in lieu of economic profit. Despite that, sustainable construction remains to be seen as a good opportunity for niche market/product differentiation strategies. Experts mentioned the following diverse aspects of sustainable construction as being most important: energy efficiency, updated technologies, R&D in new materials, innovation on a sustainable base, insulation, cradle to cradle recycling and product life cycle considerations.

Success factors	Expected effects of CSR measures on Success Factors	
Brand value and reputation	Mainly very positive	The strongest positive impact is on the brand value and reputation, on both on company and sector level. Nevertheless, some experts considered it as neutral.
Customer relations	From very positive to negative	In some countries customers are increasingly demanding sustainable construction (e.g. in terms of energy efficiency, life-cycle costing) and thus if a company meets those expectations, it will improve customer relations. In terms of customers, who demand the lowest possible price, the effect of sustainable construction on customer relations was rated rather negatively.
Human resources & Organizational culture	Mainly positive to neutral	It was largely agreed that at first workers need constant training , which can then have a positive effect on the quality of workforce.
Efficient processes	Positive to no relation at all	In general it was considered to have a positive effect on efficient processes. Few experts did not see a link at all.
High product quality	Mainly positive	In general it was considered to have a positive effect on product quality.
Financial resources	Positive to negative	In the short term it was perceived as negative, as it needs investment. In the long run it was widely perceived as positive to neutral.

Table 15: Effects of sustainable construction on the competitiveness of the Construction sector:

4.3.4. Linking CSR and competitiveness in the European construction sector: The case of increased occupational health, security safety measures

The majority of experts emphasised that this topic should be worthwhile in itself without considering its effects on competitiveness. Every company should do its best to ensure health and safety and it is not something that should entail competition. It was noted that a safety culture within companies is needed, while improving labelling of materials which are of concern for the health of the workers, improving the safety of equipment and, most importantly, setting clear safety standards, training workers and control. Moreover, experts pointed out that safety also needs to be guaranteed when engaging sub-contractors, this is a particular problem for construction due to its long sub-contracting chain. One expert mentioned that with increased competition safety issues might get worse. Expert rating of the effects of occupational health and security and increased safety measures on the competitiveness of the European construction industry is summarised in the table below.

Success factors	Expected effects of CSR measures on Success Factors	
Human resources and organizational culture	Very positive	Experts emphasised that ensuring safety requires continuous training for each company to internalise safety and security.
Brand value and reputation	Very positive to positive	Companies with a lot of accidents tend to have a bad reputation or are regarded as not trustworthy, thus measures for safety, occupational health and security may have a positive effect on brand value and reputation .
Efficient processes	Mainly positive	Less work accidents can lead to more efficient processes (e.g. no delays etc.).
Customer relations	Positive to neutral	It is expected to improve customer relations.
Financial resources	From very positive to negative	In the short run it was perceived as negative, as it needs investments. In the long run it was widely perceived as positive to neutral.
High product quality	Neutral	In general the impact on product quality was considered to be neutral or to have no relation at all.

Table 16: Effects of measures for increased safety, occupational health and security on the competitiveness of the construction sector

4.3.5. Linking CSR and competitiveness in the European construction sector: The case of anti-corruption measures

Experts mentioned fair and explicit tendering processes, supervising bodies, avoidance of social wage dumping, preventing the use of illegal work, better management practices, monitoring agencies and joint sector efforts as most important types of anti-corruption efforts. Moreover, most experts agreed that corruption in construction cannot be solved at the company level, but needs joint efforts while the extent of corruption and its practices vary across Europe. Corruption was considered as an inefficient functioning of the market. Sector-experts' rating on the effects of anti-corruption measures on the competitiveness of the European construction industry is presented in the table below:

Success factors	Expected effects of CSR measures on Success Factors	
Customer relations	Very positive to positive	Anti-corruption measures were considered to have a positive to very positive impact on customer relations and brand value and reputation, not only for a single company but for the entire sector as well. Corruption practices are very dangerous not only for the particular company, that risks being banned from future tendering processes, but also for the reputation of the construction industry of a given country.
Brand value and reputation		
Human resources and organisational culture	Positive	It largely depends on the owner/top management , whether a company is engaged in corrupt practices or not. It needs clear rules within a company, which are communicated to workers as well.
Efficient processes	Positive to neutral	Anti-corruption measures should lead to higher transparency and thus the visibility of costs and processes is expected to increase and in turn lead to more efficient processes within companies and within the sector as a whole.
High product quality	Positive to no relation at all	Some experts stated that companies that do not have a track record of corruption are believed to produce good quality products . Nevertheless, other experts did not see a link at all.
Financial resources	From positive to negative	If competitors in a given market are engaging in corrupt practices, a company that chooses not to do that could have financial disadvantages in the short run . In the long run it is expected to have a positive effect. Experts agreed that this is a sector-wide issue and should be addressed on the sector level.

Table 17: Effects of anti-corruption measures on the competitiveness of the construction sector

4.3.6. Perspectives to further increase Responsible Competitiveness in the construction sector

The table below summarises the driving and restricting forces affecting the construction industry's CSR engagement according to experts' opinion:

Driving forces	Description
Regulations and incentives from governments	Incentives from the public sector (e.g. governments financially support customers, who choose energy efficient construction) are very important for implementing CSR in the construction sector. The Directive on Energy Efficiency and national regulations (e.g. upgrading houses on sustainable basis) is considered as very helpful for the development of sustainable construction.
Consumer demand for sustainable construction	In some countries consumers are increasingly demanding sustainability considerations in construction, and are willing to invest into sustainable construction considering the product life cycle cost. Private consumers are aware of climate change and are more conscious regarding energy-efficiency and sustainability . Interviewees observed that consumers are increasingly demanding transparency in terms of life-cycle costing , but expect good value for money at the same time. Furthermore, the public sector steers the preferences of private customers, as governments provide incentives to certain types of buildings (e.g. low energy houses, passive houses).
Public and private procurement rules	The new EU Directive on Public Procurement was welcomed by most of the experts emphasising that social and environmental criteria should become an integral part of both, private and public procurement .
Restraining forces	Description
Rules of the game & cost pressure	<i>Safety/occupational health/security:</i> Experts expressed there are health and security standards , but they are often not adhered to . A lack of control, responsibility, cost pressure, the type of contracts with employees (often short-term) were named as the factors inhibiting better health and security standards. <i>Corruption practices:</i> Interview partners mentioned corruption as a real challenge for the construction sector as it distorts open and fair competition . Especially infrastructure projects are prone to corruption as the projects are unique and very complex. It was emphasised that more control is needed and that more transparency cannot be achieved by companies .
Lack of expertise in sustainable construction	Sustainable construction is still at the initial stages of development thus more research into it and especially training of workers is needed.
Lack of sustainable materials	Some experts suggested, that there is a lack of sustainable materials, their accreditation takes too long or their labelling lacks comprehensive information on their sustainability performance and thus makes construction with eco-friendly products difficult.
Economic crisis	Due to the economic crisis and increased competition some experts mentioned that companies do not invest too much in the safety and training of their workers and are cautious in investing in new technologies , which are necessary for sustainable construction.
CSR as buzzword	Most interview partners agreed that especially SMEs have difficulties to engage in CSR, which is often considered as a buzz word and a formal exercise with no real benefit. Experts suggested defining the main challenges of the construction industry and then tackling these specific issues jointly.

Table 18: Driving and restricting forces affecting the construction sector's CSR engagement

Experts have suggested the following measures to be pursued in order to strengthen the positive link between CSR and increased competitiveness (please see the table below):

Level	Measures suggested by interview partners
EU and national governments	<ul style="list-style-type: none"> • Same level of health and safety standards' implementation for the construction industry across Europe. • EU financial support for national incentives and prioritisation of sustainable building • Stronger inclusion of ecological and social criteria in public procurement and stronger and more effective control thereof. • Incentives for sustainable construction either directly to companies or indirectly to customers • Tax incentives for companies engaging in sustainable construction. • Stronger and more effective control mechanisms on workers' safety and concerning corruption. • Sustainable construction legislation
Construction sector	<p>Sector level</p> <ul style="list-style-type: none"> • Transparent behaviour and anti-corruption measures on sector and firm level. • Sector-wide health and safety standards and their control. • More knowledge sharing and access to R&D for SMEs in order to foster sustainable construction. • Identification of sector-wide specific CSR topics and training especially for SMEs. Especially SMEs are in need of practical CSR tools e.g. safety trainings, continuous training on sustainable construction. • CSR in its concrete forms should be part of education of construction industry workers. <p>Cross sector level</p> <ul style="list-style-type: none"> • Cross-sectoral cooperation with architects, consultants, material providers etc. on sustainable construction. • Better and simplified labelling and accreditation of construction materials in terms of their sustainability performance and safety.

Table 19: Measures suggested to further increase Responsible Competitiveness in the construction sector

4.4. Aims and findings of the BRC project

Project:

- BRC - Building Responsible Competitiveness

Co-ordinator:

- Impronta Etica, Italy

Partner organisations:

- Associação Portuguesa Para a Responsabilidade social das Empresas, Portugal;
- Foro para la Evaluación de la Gestión Ética, Spain;
- CSR Europe (The European Network for Corporate Social Responsibility), Belgium;
- Követ-Inem Hungária (Hungarian Association for Environmentally Aware Management), Hungary;
- respAct (Austrian Business council for sustainable development), Austria;
- Nuova Quasco (Qualità degli Appalti e Sostenibilità del Costruire, Italy);
- Alma Mater Studiorum, Università di Bologna, Italy;
- Istituto Ricerche Economiche e Sociali, Italy;
- Cooperative di Produzione e Lavoro associazione nazionale, Italy

The BRC project aimed at verifying and demonstrating that socially responsible actions enhance the competitiveness of the business in the construction sector in comparison with the adoption of social dumping behaviours. Being aware that this is an extremely broad scope of analysis, the project partners had decided to condense the field of research to the following four CSR areas: health and safety, responsible management of the supply chain, eco-compatibility and equal opportunities. The project was carried out in five development stages:

1. Research and Analysis: Elaborating an overview of the relevant context for the analysis, within which it will be defined and tested the set of indicators.
2. Building the tools for the analysis: Identification of proper performance indicators of sustainability and market competitiveness.
3. Pilot experimentation: Analysis of best practices for each of the main CSR dimensions identified for the construction sector. Impact analysis of considered best practices according to the identified CSR and competitiveness indicators.
4. Elaboration and deliverables: Elaboration of finalized set of indicators and elaboration of CSR Guidelines addressed to construction companies.
5. Dissemination: Dissemination of project results and deliverables

The main findings of the BRC project as summarized by the project coordinator:

- The construction industry is characterized by a general lack of awareness about the environmental impact produced and of knowledge about best practices already at hand; a high rate of work-related injuries, high incidence of work-related diseases; wide presence of immigrant workers, with consequent risk of discriminatory behaviours; frequent use of sub-contractors that result in long and fragmented supply chains.
- Eco-compatibility¹⁸ is perceived rather as an opportunity (whereas safety and supply chain control are perceived as urgent), in particular linked to its propensity for innovation (in terms of planning and design, as well as materials) and identification of new market niches. The propensity for the saving and correct use of resources (energy, water,...) is the lever that currently speeds this phenomenon throughout the whole supply chain. It remains however quite slow compared to other sectors mainly because companies tend not to anticipate the requests of the market but instead wait for big contractors to change their criteria for procurement. Therefore, the competitive potential seems generally higher in the case of real estate, compared with the private and public markets. Eco-compatibility encompasses a very wide range of topics and its relevance for competitiveness varied within the different countries involved in the project.
- Health and safety is perceived as one of the most important and urgent themes and reflects a high level of political attention and regulation. Being able to anticipate the future evolution of laws bears potential for competitive advantage. Measures to improve health and safety conditions reduce the risks of accidents and injuries and their seriousness, prevent the consequent slowdown of the production cycle, and could therefore guarantee the respect of foreseen deadlines, the operational performance of the company may increase, due to a minor absenteeism and minor insurance expenses. Virtuous companies tend to feel that there is a lack of valorisation of the adoption of CSR behaviours by general contractors. As a consequence, they might perceive their commitment more as a burden or a cost to face, compared to other companies that tend to save money on those costs but continue to be considered as reliable partners for the granting of works by general contractors.
- The construction sector in the various countries involved tends to be highly discriminating with regards to the issue of equal opportunities. However, the situation is not perceived as such and the issue of equal opportunities and the social dynamics that are linked to it are highly under-evaluated. However, considering undergoing demographic changes, which will be more and more visible in Europe in coming years, women will more and more represent an added value for the competitiveness of a company.

¹⁸ In the BRC project "Eco-compatibility" was used for the same set of measures this report refers to as "Sustainable construction".

- The construction sector is characterized by a multitude of actors that contribute to the production process. Here, the complex supply chain composition of individual construction companies as well as the importance of sub-contracting reflects the significance of responsible supply chain management in the sector in order to ensure compliance with social, environmental but also qualitative standards along the production process, thereby increasing competitiveness. This link of CSR and competitiveness is perceived by nearly all actors of the sector. Moreover, the difficulties in effectively managing supply chains in the construction sector, directly affect the aforementioned issues of health & safety and eco-compatibility. Inefficiencies within the supply chain tend to reduce the competitive potential of the general contractor. Therefore the management of the buyer-supplier relationship represents a critical aspect for construction companies in terms of reduced company competitiveness.
- The themes of corruption and training emerged as important issues as far as competitiveness is concerned. Corruption and bribery were perceived as an important competitive feature for “capital acquirement” benefit. Besides, training can represent a competitive advantage as it can determine a higher work quality and a higher professionalism (ensuring for instance more safety on the workplace)
- The role of general contractors (public and private) is central. Indeed, as general contractors, they have a major influence on the project of the works and the definition of their characteristics. Therefore, they should take more responsibility towards the promotion of CSR. In particular they should adopt coherent attitudes with regards to the definition of criteria for procurements, making sure that those criteria are coherent to CSR issues. In particular, local and/or national public authorities may play an important role in fostering the emergence of a culture of sustainability and responsibility, giving increased attention to issues of CSR and implementing systems of assessment and scoring in public tenders that take into account CSR indicators. It would be important to review the mechanisms of procurement, based on cost pressure, and to introduce the centrality of planning, in order to allow the introduction in the projects of increased CSR values and their valorisation in the selection procedures, so as to ensure the competitiveness of companies that foster CSR issues.

4.5. Summarizing responsible competitiveness in the construction sector

The construction sector is characterized by the temporal character of a construction site (and the high number and diversity of companies involved), by fierce price competition, by high labour intensity (with short-term labour contracts, seasonal work and wage dumping), by the outstanding role of public procurement, and by the long lifetime of the end product (with the respective effects on energy consumption, health of residents, etc.). As construction remains primarily a local industry with a majority of small and medium sized enterprises, the competition with companies outside Europe is negligible.

Three actors play a prominent role in shaping the environmental and societal impacts of construction on the one hand, and deciding on its costs structure on the other: the property developer, the general contractor and the future user. Only if at least one of these key actors requires them, CSR measures are implemented. If none of them perceives CSR measures are essential, societal responsibility is seen in contradiction to the high pressure for low costs, which are the most decisive factor for competitiveness in the construction sector.

This tension is mirrored in all three areas of responsible competitiveness that we focused on in the construction sector:

- CSR measures **for occupational health, security and safety** can prevent interruption of work and help to meet deadlines, and therefore improve efficiency. However, respective measures are often poorly controlled on all levels of the subcontracting chain and safety standards are often not implemented.
- **Anti corruption measures** positively affect companies' reputation, reduce the risk of being banned from future tendering processes and increase efficiency through improved cost transparency. However, companies that commit themselves to compete fairly can lose out on their competitiveness when corruption is "part of the game".
- As long as **sustainable construction** and accordingly **eco-compatible buildings** are not the norm, it is a good opportunity for product differentiation in high price market segments. Life-cycle costing is an innovative approach to take future costs (e.g. energy, maintenance and repair) into consideration.

In a nutshell, CSR measures will be implemented in the construction sector when the three main driving forces – clients, property developers and general contractors – demand it. Public CSR policies in this sector should lead by example in public procurement processes, establish standards (e.g. for energy consumption), enforce the implementation of existing norms and regulations (e.g. occupational health and safety), and combat corruption.

5. Responsible competitiveness in the textile sector

5.1. Facts and figures

The textile sector¹⁹ is characterised by the following activities (Stengg, 2001):

- treatment of raw materials
- production of knitted and woven fabrics
- finishing activities (i.e. bleaching, printing) and
- transformation of those fabrics into products such as clothing, carpets, home textiles and technical or industrial textiles.

Textile manufacturing industry can be broken down into three sub-sectors: (1) Industrial and technical textiles ("man-made fibres", (2) home and interior textiles ("textile") and (3) clothing. The size of each of these sub-sectors depicted in the table below:

Euratext estimates 2009	man-made fibres	textiles	clothing
Companies	75	47.596	80.659
Employment (1000 pers)	20	842	1.175
Turnover (billion Euro)	8,30	89,70	69,00
Investment (billion Euro)	0,14	2,90	1,90
extra EU-27 imports (billion Euro)		17,60	57,30
extra EU-27 exports (billion Euro)		16,00	14,40
employees / company	16 pers.		
turnover / employee	82.003 Euro		
investment / turnover	2,9 %		

Table 20: Textile sector: key figures of sub-sectors
Source: Euratex, 2009b

European textile industry has been experiencing a sharp decline in the past five decades. It is often stated that textile sector is undergoing a tremendous transformation - moving into niche markets and industrial textiles away from apparel. This is also manifested by the European Commission initiative European Technology Platform for the Future of Textiles and Clothing, identifying the following priorities a) a move from commodity fibers, filaments and fabrics towards specialty products from flexible high-tech processes b) the establishment and expansion of textiles as the raw materials of choice in many industrial sectors and new application fields c) ending the era of mass manufacture and moving towards a new paradigm of mass customisation, personalisation, intelligent production, logistic and distribution. However, textile

¹⁹ In our scientific work we included the textile and clothing sector. For better readability we refer to this sector as "the textile sector" in the following chapter.

industry despite strong effects of globalization and industry relocation to low income countries remains one of the largest industrial sectors in Europe.

According to latest available figures the textile industry in Europe employs approximately 2,037,000 persons in more than 128,000 enterprises (Euratex 2009b). 96% are SMEs, which account for three quarters of the sectoral value added in EU-27 and of employment in the sector. While clothing remains one of the largest consumer goods categories around the world, the textile industry also provides material for a vast number of other industries and a very large number of applications (Euratex 2006). This is illustrated in the figure below:

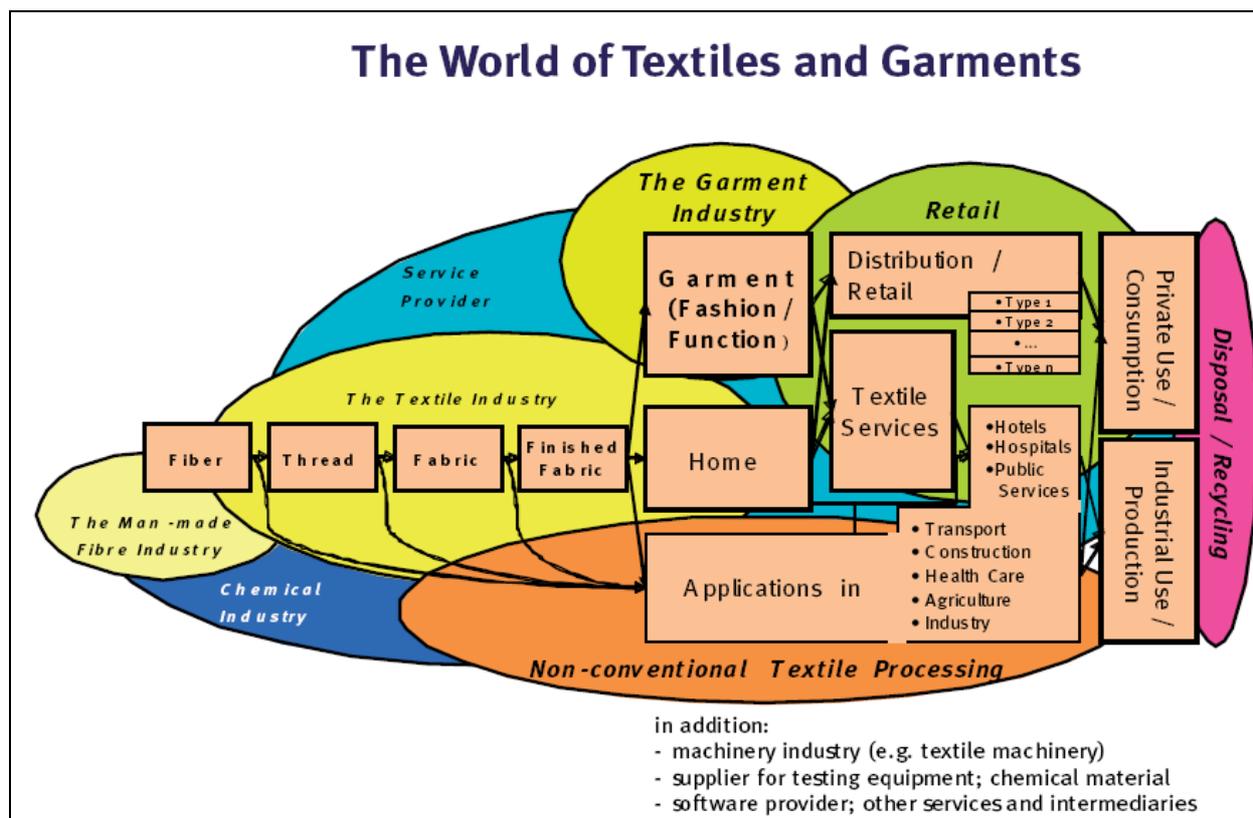


Figure 3: The world of textiles and garment
Source: Euratex, 2006, p. 8, based on: Tex-map project

Textile industry is of highest EU value added are Italy (33,6% of EU-27), Germany (12,1% of EU-27), France (11,6% of EU 27), Spain (9,2% of EU-27) and United Kingdom (7,8% of EU-27) (Eurostat 2009).

Today textiles and clothing are one of the most globalised goods. Globalisation and the market power of multinational retailing companies have led to massive relocation of the production process to low income countries (Pretious, 2006, Stengg, 2001). EU textile industry output has declined by one third in the past two years at an annual rate of decline of about 4.0% per year. However, the decline in 2006 and 2007 was much more moderate than the long term trend. The figure below depicts the long term decline of the EU textile industry.

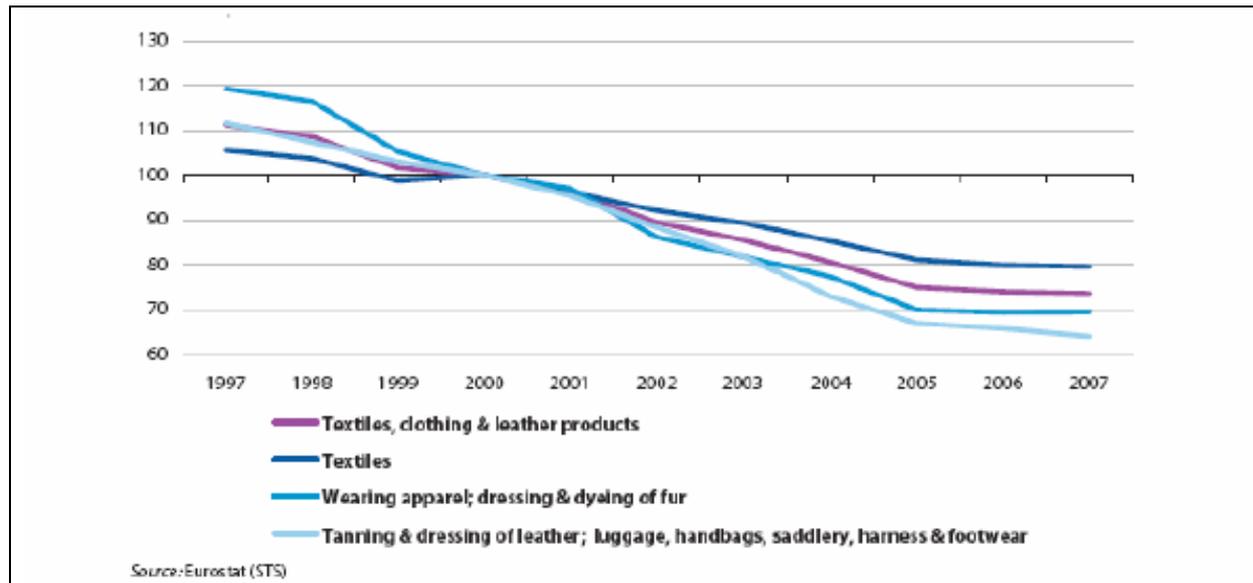


Figure 4: Textile sector: Decline of manufacture of textile by subsectors, index of production, EU-27 (2000=100)

Source: Eurostat 2009

The decline is not homogenous throughout the industry, it is greatest in leather and clothing manufacturing (annual decline of -5.4% and -5.3% respectively) (Eurostat, 2009). The internal EU market remains the major market for European textile companies: intra-EU trade stands at 72%. The main export markets outside the EU are: Switzerland, Russia and the US (European Commission, 2010b). The trade deficit in 2008 was approximately € 44 billion, whereas the main textile imports to the EU come from China (39%), Turkey (14%), India (7,7%) and Bangladesh (6,3%). Since the beginning of 2009 trade in the textile and clothing sector is fully liberalised and there are no longer quantitative restrictions on imports from China or other countries which lead to increased imports from lower income countries to the EU and intensified the competition EU textile industry faces (European Commission 2010).

Furthermore, due to the economic crisis, the textile industry in Europe is witnessing sluggish world demand due to economic difficulties of some textile end user sectors, such as automotive and construction industry. This coupled with increasing production costs due to an increase of energy cost and raw material prices, caused a further decline in the textile industry. According to Euratex production for the first quarter 2009 dropped by 23% in the textile industry as a whole and 14% in the clothing sector compared to the same period of the previous year. In 2008 the investments decreased by 14% and employment decreased by 7%. While figures taken from the General Assembly of Euratex (Euratex, 2009a) indicate a sharp decline of textile enterprises (minus 33% compared to 2006), the production in 2010 is showing signs of recovery, especially the production of textiles (Eurostat 2010).

5.2. Literature analysis

The following section provides an overview of the critical success factors for competitiveness and most challenging CSR issues in the textile industry derived from the European Commission and literature analysis.

Competitiveness: Literature on critical success factors in the textile industry is presented in the table below (see table 22).

Focus	Source	Year
Labour costs, industrial excellence, information technology, product and process development, efficient supply chain management, customer orientation, knowledge management, human resource management, quality, flexibility, strategy formulation and deployment	Bilalis et al.	2007
Fast responsiveness to market changes in fashion apparel, flexibility, market knowledge, collaborative supply chain networks, shortening lead times, speed-to-the market deliveries, information logistics	Oh et al.	2007
Innovative products and process especially in technical textiles, fashion and creativity, product quality, R&D, education, human resources, efficient use of resources, customisation, protection of intellectual property	Euratex	2006
Niche marketing strategy, thorough understanding of targeted consumers	Parrish et al.	2006
Reduction of environmental burdens, efficient supply chain management, cooperation	Seuring	2004
Innovation, quality, creativity, design and fashion, ICT, E-commerce,	Stengg	2001
Inter-organisational systems, collaborative strategies, Electronic Data Interchange (EDI)	Dhillon	2000
Networks & partnerships (trust, common objectives, commitment)	Sohal et al.	1998

Table 21: Literature on competitiveness and success factors of the textile sector

Most studies focus on specific companies, or countries and the effects of one or the other tool or management approach on the competitiveness of the textile industry. What emerges as a more common theme is the importance of **efficient supply chain management** and **cooperation** for the textile industry (Oh et al. 1998, Seuring 2004, Sohal et al. 1998). Oh et al. (1998) has especially emphasised the importance of supply chains for maintaining the competitiveness of the textile industry in the light of increasing competition, while Parrish (2006) argued that the textile industry's only way forward is through developing niche market strategies.

One of the key challenges for the European textile sector according to Stengg (2001) is the high cost structure in comparison to competitors from outside the EU, due to higher wages and with higher legal standards regarding health, safety and environment. While responsible behaviour in terms of health, safety and environment is not adequately rewarded by consumers (Euralex, 2006).

The European Commission has set up a High Level Group (HLG) on textiles and clothing already in 2004 in response to deteriorating competitiveness of the European Textile industry due to increased globalisation and competition from outside Europe. The progress of implementing the 36 recommendations the group has identified in order to boost European textile industries competitiveness in the areas of internal regulatory and market issues, education, training and employment, intellectual property rights, regional aspects, research and development, innovation and trade policy has been reviewed in the second report of the HLG on textiles and clothing in 2006 (European Commission, 2006). Regarding the harmonization of internal regulatory measures, the HLG report 2006 identified the need of harmonisation of the requirements posed on European manufacturing by REACH with those that the imported goods face. Increasingly the European textile industry is affected by several EU legal acts (European Commission, 2010b) such as Directive 2008/121/EC of 14 January 2009 on textile names, the Directive 96/73/EC of 16 December 1996 on certain methods for the quantitative analysis of binary textile fibre mixtures, the Integrated Pollution Prevention and Control Directive, Emission Trading System Directive, the Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Proposal for a new Regulation of the European Parliament and of the Council on Textile Names and Related Labelling of Textile Products. The aim of these legal acts is to harmonize the internal market with regard to names, composition and labelling of textile products in order to have a transparent and functioning EU market and to protect customers. Furthermore, the report of the HLG on textile and clothing in 2006, pointed out that the textile industry as well as other manufacturing industries in Europe will be affected by the upward spiralling energy prices and increasing scarcity of natural resources, which will lead to an increase of costs. In general, the report of the HLG has identified, that there was still much to be done in the textile industry in terms of its competitiveness. Moreover, the HLG called for more effort in projecting a more optimistic view of the textile industry, which in turn would improve the availability of credit for the industry. In terms of future industry perspectives, the industry itself has been identified as the potential driving force towards changing and adjusting the sector to global developments. The HLG named customised and technical textiles as major markets of opportunity for the textile industry. CSR is expected to gain ever more importance in dealing with the future challenges of the European textile industry (European Commission, 2006).

CSR issues: The table below provides an overview of the CSR issues derived from literature review on CSR in the textile sector.

Focus	Source	Year
Environmental and social standards	Gunay et al	2009
Retailers standards on CSR, sustainable supply chains, fair labour conditions (lower labour turnover, better quality workers), strategic alliances	Perry et al.	2009
Human rights, labour rights, health & safety	Turcotte et al.	2007
Innovation for improvement in efficiency (responsible, ethical and environmentally safe production), protection of human rights (unfair labour conditions)	Lobel et al.	2006
Ethics in industrial purchasing, fair working hours & adequate compensation (minimum wages, excessive overtime, exploitation of workforce), protection of human rights (sweatshops, child labour), health & safety, bribery & corruption, sustainable supply chains	Pretious et al.	2006
Overview of various standards	Van Yperen	2006

Table 22: Literature on CSR issues in the textile sector

Literature on CSR in the textile sector is centred around **sustainable supply chains** (Perry et al. 2009, Pretious et al. 2006) and **labour rights** (Pery et al. 2009, Turcotte et al. 2007, Loebel et al.) as CSR issues, and global introduction of **standards** and **code of conducts** by mass retailers and MNEs as main tools of CSR (Gunay et al. 2009, Perry et al. , Van Yperen 2006). Most authors also agree that the pressure from NGOs, society and media and the deriving risk of a damaged reputation was stated as the major drivers towards the implementation of code of conducts on the side of companies (Lobel et al., 2006, Pretious et al, 2006, Turcotte et al, 2007, Perry et al., 2009).

Lobel et a. (2007) argues that finding the right balance between profitability and social and environmental goals needs the involvement of governments, industries and civil societies, and standards can be seen as one important measure towards social change. While Turcotte et al. (2007) claims that the development of standards is a dynamic process, and some standards may loose power over time and new ones emerge.

Little literature is available from the point of view of textile manufacturing specific CSR issues (e.g. energy efficiency, waste management) as most studies focus on retailers and apparel industry.

5.3. Interview results

This section highlights the major empirical findings on the most relevant success factors for competitiveness and on CSR issues in the textile industry, identified by interview partners. Moreover the effects on three concrete CSR measures on the most relevant success factors are described. Finally, the interviewees' view on driving and restraining forces in relation to the successful implementation of CSR measures is portrayed.

5.3.1. Competitiveness and strategic success factors of the textile sector

Experts rated the following **six success factors**²⁰ as most important for the competitiveness of the textile sector, while the success factors were perceived as strongly interlinked, and the degree of importance of success factors differ for sub-sectors, and along the supply chain:

- High product quality
- Niche market/product differentiation strategies
- Efficient processes
- Research and Development
- Flexibility and fast response to market changes
- HR and organizational culture

The success factors are explained in more detail taking into account the importance of the success factors for the sub-sectors, mentioned by the interviewees:

High product quality: Product quality was regarded as being crucial for the textile sector. Specialised products, new products, products with new functionalities, innovation, fashion, design, reliable products and reliable service were named as the pillars of expected product quality. Customer relations and customer service were regarded as integral part of product quality as well as an important factor for product differentiation.

Niche market / differentiation strategies: Most interviewees mentioned that niche market strategies in terms of product differentiation and innovation are vital for the future of the European textile industry in order to remain competitive at the global level.

Efficient processes: The EU textile sector has comparatively high production costs, due to labour costs and higher ecological standards and increasing costs of energy and raw materials. Experts stated that consumers are not willing to pay more for textiles produced in Europe where environmental and social standards are high. Consequently, companies have to watch their costs and pay particular

²⁰ For the complete ranking of success factors of the textile sector see Annex III, Table 33

attention to efficient processes, either by investments in new technologies, vertical and horizontal integration along the supply chain. Efficient supply chain management and brand value is particularly relevant for clothing companies. For the technical textile industry strategic alliances with other industries as well as production close to the customer (industrial customers) was considered highly important.

Research and Development: Experts rated R&D as fundamental for the textile industry in Europe. In this area the textile industry cooperates with other industries, such as chemical and electronic industry, and other industries that uses textiles (e.g. aviation industry, construction industry) in order to foster further development of 'smart' textiles. At the same time interviewees mentioned that more attention to R&D in production processes (e.g. new technologies) is needed. Apart from technical R&D interviewees indicated that more R&D in terms of creativity at the workplace and marketing is required. Moreover, whereas R&D and innovation are the major ingredients for success of the technical textile industry, innovation and creativity are most crucial for the clothing industry.

Flexibility and fast response to market changes: Flexibility and fast response to market changes is considered to become more important within the next years. The European textile industry cannot compete with lower production costs, thus flexibility and fast response to market changes provides the added value required for the customers and is particularly relevant for the clothing sector.

Human resources and organizational culture: Some experts considered skilled workers as the foundation for the success of textile industry. Skills on ICT, technical skills, management skills, and negotiation skills are needed and require continuous training of workers in a safe and healthy work environment. Furthermore, an organisational culture and structure which provides space for creativity and close cooperation between various departments within a company (production, marketing, sales, design etc.) was also emphasised.

5.3.2. Corporate Social Responsibility in the textile sector

Experts agreed that CSR needs to provide an economic value for a company to engage in it while that there is no one-size fits all approach. Especially SMEs are in need of very concrete CSR tools, as the majority of SMEs perceive CSR as a bureaucratic exercise without having any benefits at company level.

Most experts agreed that the consideration of social aspects of CSR and adherence to social issues throughout the supply chain are expected by consumers and required by NGOs. Nevertheless, monitoring and controlling the supply chain is being considered a challenge.

All experts consented that companies are experiencing pressure from the European Commission and national legislation (partly) to become greener. Anticipation and reaction to these regulations is believed to be a matter of survival for European companies. An increase in costs due to these environmental standards is expected. The consumer demand was regarded as a major challenge, as consumers do appreciate textile products produced under environmental-friendly conditions, but mostly are not willing to pay more for those eco-friendly products.

Interview partners noted that the importance of CSR topics differs between sub-sectors: ²¹ Clothing is less touched by environmental concerns, whereas for the textile/finishing industry waste management, reduction of toxic substances, resource efficiency, and efficient use of natural resources is most important. Reduction of water consumption was considered as especially important for the dyeing and finishing industry. The table below illustrates the CSR profile of the textile sector, where innovation and environmental CSR issues were rated as very important for the textile sector.

Due to increased importance of environmental issues identified by the interview partners as well as increasing environmental regulations for the textile sector, we choose the following three specific CSR measures and their impact on competitiveness in the textile sector: The effects of eco-innovation, of environmental protection measures and of labelling (eco-labels). Since the effects of eco-innovation and of environmental protection measures were rated similarly, they are presented jointly below.

²¹ For the complete ranking of CSR issues of the textile sector see Annex III, Table 34

5.3.3. Linking CSR and competitiveness in the European textile industry: The case of eco-innovation and environmental protection measures

The experts' rating on the effects of eco-innovation and environmental protection measures on the competitiveness of the European textile industry is presented in the table below. In general interview partners mentioned cradle to cradle (recycling of textile products) and energy-efficient production as the two most important types of eco-innovation. Examples for environmental protection measures stated were: Ecological footprint, minimisation of toxic substances, more attention to water cleaning, alternatives for existing raw materials, waste reduction, reduction of energy usage, renewable energy, and considering the product life cycle.

Success factors	Expected effects of CSR measures on Success Factors	
Research and development	Very positive	R&D is the basis of eco-innovation and environmental protection measures. R&D should foster new product development and/or should lead to lower production costs .
Niche market/differentiation strategies	Very positive to positive	Eco-friendly products and especially eco-innovation can be a good opportunity for product differentiation/niche market strategies, as they can gain competitive advantages in comparison to non-European competitors. Nevertheless, it is a question whether the mass market takes the eco-friendly products up, as the costs of eco-friendly production are expected to remain high.
High product quality	Positive to neutral	The non-use of e.g. toxic substances does not necessarily lead to better product quality. Only if eco-friendliness is relevant for customers, it can be considered as part of the perceived product quality .
Flexibility and fast response to market changes	Positive to neutral	The market increasingly demands environmentally sound products, thus eco-innovations could possibly have a positive effect on the industry's ability to respond to these changing demands.
Efficient processes	Positive to neutral	Eco-innovation and the implementation of environmental protection measures do not automatically lead to more efficient processes. Achieving efficient processes first needs investment , which may pay off when considering increasing energy prices.

Table 23: Effects of measures for eco-innovation and environmental protection on the competitiveness of the textile sector

5.3.4. Linking CSR and competitiveness in the European textile industry: The case of Eco-labels

According to experts there are too many eco-labels in the market and consumers are easily confused. However, Eco-Tex was mentioned as being very useful, whereas the EU Ecolabel was judged by our interviewees as being too strict and not practical enough. Most of them would welcome the unification of labels, but doubt that this is possible as there are too many different actors, standards, consumer preferences and interests to be considered. Investment in a label was considered to be a strategic decision and needs to pay off economically. One interview partner suggested that labels are not needed at all, instead there should be clear rules and standards for all EU and imported products. If these standards are not met, the product should not be eligible to be on sale in Europe. Nevertheless, majority of experts agreed to have voluntary labels, with clear standards and strict monitoring and control from third parties.

The experts' rating on the effects of eco-labelling on the competitiveness is illustrated in the table below:

Success factors	Expected effects of CSR measures on Success Factors	
Niche market strategies	Very positive to positive	Labels are considered as important for niche market strategies, but it needs clear standards and communication towards the consumer.
Research and development	Very positive to neutral	R&D is the basis for eco-friendly products. If the market takes up eco-friendly products more R&D is necessary.
High product quality	Very positive to positive to no relation at all	If clear standards, transparency, and control systems are in place, eco-labelling could have a positive effect on the product quality.
Flexibility and fast response to market changes	Very positive to neutral to no relation at all	Labelling and certification could lead to faster identification of potential suppliers (supply chain). Nevertheless the establishment of good relationships within the supply chain needs time and trust .
Efficient processes	Very positive to neutral to no relation at all.	Eco-labels do not necessarily lead to more efficient processes.

Table 24: Effects of eco-labelling on the competitiveness of the textile sector

5.3.5. Perspectives to further increase Responsible Competitiveness in the textile sector

Most interview partners expressed their concern about the future of the European textile industry and the question whether Europe can keep its textile industry viable in the face of increased competition, market barriers for EU exports, the economic crisis and increased European legislative pressure in terms of environmental issues. Since EU imports are not subject to these regulations, some experts consider them as “unfair rules of the game”. According to experts’ opinion consumers’ disposition towards sustainable products varies geographically, i.e. in Scandinavian countries the demand for environmentally safe products is higher compared to Southern or Eastern Europe. Furthermore, there are different national environmental legislations, such as in France, where companies are forced by law to uptake waste management/recycling systems. Moreover, there are different national and regional traditions of trade unions and labour laws. The EU legislation and even stricter environmental regulations in some countries in terms of environmental production was considered as the major driver towards eco-friendly products. Interview partners stated the following major driving and restraining forces:

Driving forces	Description
EU and national legislation on environmental issues	The anticipation and response to EU and national legislation on environmental topics is seen as the major driver for the majority of companies to engage in environmental topics.
R&D financing	EU financed R&D in the textile sector is very supportive in fostering (eco-) innovation, which is particularly important for SMEs . Furthermore, fostering companies’ internal creativity was considered as a widely untapped opportunity.
Cost reduction	Increasing energy prices may force companies to more (energy-) efficient production processes in order to save costs.
Restraining forces	Description
Fierce competition from non-EU member countries	Environmental regulations at EU and national level will lead to an increase of production costs and thus provide a competitive disadvantage , as textile imports from non-EU member countries do not have to meet the EU standards.
Economic crisis	Companies (the majority are SMEs) cannot keep the pace up with investments and adaptation of their processes in order to react adequately to the increased environmental regulations. Due to the economic crisis access to capital has become difficult. In times of crisis, companies have a rather short-term view and are not willing or able to invest.
Consumer demand	The market for sustainable textiles remains small . In general consumers expect products which are produced under socially fair conditions throughout the supply chain. Consumers in Europe appreciate ecological friendly products but are not willing to pay more for eco-friendly products; this trend becomes even apparent during the economic crisis. Changing consumption patterns takes time and cannot be solved by companies alone.

Table 25: Driving and restricting forces affecting the textile sector’s CSR engagement

In order to transform the European textile industry into a socially and eco-friendly industry, experts agreed that it takes more than a drive for niche market strategies of few companies. Experts suggested the following measures (see the following Table) in order to increase the take up of CSR in the textile industry.

Level	Measures suggested by interview partners
EC and national governments	<p>Global agreements</p> <ul style="list-style-type: none"> • Taxes on CO2 emissions/energy tax, which apply for imported products as well. • High European environmental standards should be applied for imported products from non-EU countries as well. <p>Tax reductions and incentives:</p> <ul style="list-style-type: none"> • Reduced taxes for companies applying renewable energy and producing environmentally and socially sound products. • Financial support for R&D especially for SMEs and better transfer of R&D results to companies. • Incentives for investments in eco-friendly production and innovation. • Facilitate the implementation of strict and independent monitoring and control systems throughout the supply chain.
Textile sector	<p>Strategic alliances/networks:</p> <ul style="list-style-type: none"> • Closer cooperation regarding R&D and innovation within the industry and with other industries (electronic, chemical, end-user industries of textile companies) in order to provide new innovative products and potentially reduce costs. • Closer cooperation with retailers and distributors as they are dealing directly with end-consumers. • Joint codes of conduct with suppliers outside the EU. <p>Exchange of best practice examples:</p> <ul style="list-style-type: none"> • Exchange of best-practice examples. Especially SMEs need support on CSR and how CSR could be an opportunity. <p>Cooperation with other stakeholders</p> <ul style="list-style-type: none"> • Joint promotion of eco-friendly products throughout the supply chain together with EU and NGOs. It takes efforts of the textile industry, retailers, the EU, national governments and stakeholders to work together to change consumer patterns. • Cooperation with NGOs to improve social and environmental production also throughout the supply chain. • Stronger involvement of textile representatives in national and EC policy making.

Table 26: Measures suggested to further increase Responsible Competitiveness in the textile sector

5.4. Aims and findings of the COSMIC project

Project:

- Cosmic - CSR Oriented Supply-chain Management to Improve Competitiveness

Co-ordinator:

- Scuola Superiore di Studi Universitari e di Perfezionamento Sant'Anna, Italy

Partner organisations:

- University of Girona, Spain
- Agenzia per lo Sviluppo Empolese Valdelsa, Italy
- Fondazione per la Cittadinanza attiva, Italy

The aim of the COSMIC project was to analyse the relationship between CSR and competitiveness all along the textile/clothing²² supply chain. The project focused on demand factors (market and consumers), supply factors (innovation and dynamic efficiency, role of credit and insurance systems) and public CSR policies.

The project was carried out in three stages:

1. State of the art and definition of the methodology of analysis: Definition of a detailed method for data collection of analytical variables in the field of SMEs competitiveness related to CSR (and their relationships with CSR approaches); sharing of the method between project partners and its validation by external supporters.
2. Data collection and elaboration: Collecting data by direct interviews or desk-research, concerning path dependency analysis between textile/clothing SMEs efficiency and CSR; data evaluation and cross-analysis of the outcomes.
3. Policy proposals and field tests: identification of corporate CSR policies based on analysis outcomes; feasibility evaluation and sharing results with partners.

The main findings of the COSMIC project as summarized by the project coordinator:

- A high level of segmentation characterizes the whole supply-chain creating a large network of suppliers, constituting an important role of big distributors in managing the supply-chain and leading to clusters as typical structure. The process of trade liberalization (1995-2007) at international level gave companies the stimulus to outsourcing in low-cost countries and put European textile manufacturing under pressure. As a consequence CSR can be implemented by ethical management of supply chains, through co-operation and fair competition, through creation of networks and through equal treatment of labour force, work health and safety for each employee, quality

²² While the interviews we conducted with business associations focussed on the textile sector (including garment and industrial textiles) the COSMIC project focussed on fashion (excluding industrial textiles but including leather).

of the production. The importance of institutional networking is confirmed by the evidences collected during the COSMIC Project.

- Linking CSR and competitiveness is not easily translated into firms' daily activities, especially when it comes to small and medium enterprises. Thus, integrating business and social/environmental demands more than good intentions and strong leadership, since requires adjustments in organization, accountability, and external incentives.
- Spreading ethics among businesses has relevant consequences both for the competitiveness of single firms and for the competitiveness of regions of productions and local communities. For this reason, local and national institutions, in addition to firms, should play a key role in the promotion of CSR policies.
- There are evidences that consumers' behaviour has been changing in recent years. There is a growing awareness of firm's behaviours and greater importance is given to ethical practices (both from social and environmental point of view). An impulse to the value of ethical labels should be encouraged. This could foresee also the active involvement role of public policy-makers, in terms of simplification for virtuous enterprises and label promotion.
- The role of credit and insurance systems. In general, banks and credit institutions show low attention to these thematic, nevertheless there are some excellence experiences. However there is an unchallenged role as stimulus and glue played by the credit and insurance systems and innovative policies in this sense should be encouraged.
- The participation to initiatives with local communities is considered by a high number of enterprises important for increasing their local relationships with institutions and other local actors. This confirms that CSR usually requires dialogue and cooperation with stakeholders, both inside and outside the company.
- A good implementation of an EMS (Environmental Management System), in accordance with international standard, seems reasonably increase the cost efficiency of an enterprise. More than 50% of enterprises with EMS certification declared that their market share, in respect to new clients, has increased in the last five years.
- Enterprises that implemented benefits for employees (such as flexibility of individual working hours, requests for part time contracts, convention with sports and cultural centres, collaborations with trade unions, etc.), affirmed that the motivation and participation of company staff in their activities is high, or very high.

- The level of technical and organizational innovation for the companies with a certified Eco-Management System is moved in positive standards, with important shares of enterprises evaluating that their processes of innovation are good or very good. There is a positive relationship between some CSR practices and innovation performance at firm level. In detail, the adoption of environmental practices increases the probability that an organization increases the level of technical and/or organizational innovation. The positive relationship between the adoption of CSR-related practices and tools and innovation processes (both from technical and organizational point of views) is widely consolidated in literature, and also our study showed a positive correlation for this sector. Future policies to support the adoption of these tools by SMEs can represent interesting movers to innovation.

5.5. Summarizing responsible competitiveness in the textile sector

The European textile industry has been facing a long period of decline, rising global competition and relocation to low income countries. Compared to China and India, the European textile industry is disadvantaged due to high labour costs and higher environmental standards. Therefore, a strategy of cost leadership is impossible. To survive in this difficult situation, the European textile manufacturers specialize either in high-tech industrial textiles or in high-end fashion markets.

For the sub-sector of **industrial textiles**, cradle-to-cradle and energy-efficient production are the two most important types of eco-innovation and therefore of CSR. Examples are recycling of textile products, minimisation of toxic substances, alternatives for existing raw materials, waste reduction, reduction of energy usage, renewable energy, and considering the product life cycle.

In **high end fashion**, a few manufacturers of branded goods play a central role by setting trends and investing substantial amounts in PR and communication. They have the economic potential and the credibility to communicate CSR issues to consumers, to create and establish market niches for manufacturers, and to integrate CSR issues into the common practice of the sector. In so doing, eco-labels could play a crucial role.

- Linking CSR and competitiveness in the area of industrial textiles, shows certain similarities to the situation of the chemical industry, as **innovation is a strategic success factor**. To gain competitive advantages, investments in R&D are necessary, requiring financial resources and skilled staff. As a result, the production costs are expected to decrease, the product quality should improve and the environmental impact be reduced. As industrial textiles are sold only business to business the companies' image is not a highly important driver of CSR.
- In the market segment of high-end fashion **eco-friendly products and eco-labels** are perceived as opportunities for niche market strategies, but recently not for mass markets as high social and environmental standards lead to higher production costs. However, there is a certain ambiguity as consumers expect more eco-friendly and socially responsible products, but are often not willing to pay more for them. In addition there are many labels that confuse consumers and undermine consumers' confidence in CSR in the textile sector.

In a nutshell, linking CSR and competitiveness in the textile sector can be achieved by establishing niche markets in the globalized competition. Experts see a need for clear standards and public communication initiatives to increase the positive effects of eco-labels on competitiveness in the textile sector. Therefore, public CSR policies have to care for quality control and ensuring credibility.

6. Conclusions and recommendations

Summarizing and comparing the multitude of findings of the three different sectors the following characteristics are identified:

Competitiveness: High product quality and human resources as well as efficiency were considered important for all three sectors. Besides these general findings the importance of success factors varies between sectors and within sectors, according to company size as well as company strategy focus or subsector (cost leadership, product differentiation, niche or mass market strategy). One important reason for this variation between sub-sectors is differences in terms of with whom a sector or a respective sub-sector competes, and what the driving forces of this competition are. Textiles (except technical textiles) and base chemicals face global competition and experience strong pressure to reduce costs while maintaining product quality. Chemicals (except base chemicals) and technical textiles face mainly European competitors and innovation is relevant for competitiveness. Competition within the construction sector is mainly on a local/regional basis and besides all other success factors, costs are key to competitiveness. Experts of all three sectors highlighted that SMEs often lack knowledge, financial and human resources in order to engage in CSR. While only very few SMEs have the chance to gain a unique market position by engaging in CSR, most of them suffer from cost pressure.

CSR topics vary according to regulations, consumer demand, incentives to engage in CSR, and the degree of CSR implementation in a sector or country. Environmental CSR issues are of high relevance for all three sectors, while social issues depend on the societal impact areas of a sector: risk in the chemical industry, occupational health and safety in construction and human rights in the textile supply chain. While in the chemical sector Responsible Care is seen as a sector-wide voluntary CSR initiative that has been driving the CSR uptake the most for two decades, the uptake of CSR in construction depends on client demands and type of projects and in textile on consumer demands and the credibility of eco-labels. Most experts shared the opinion that CSR increases production costs in the short run (through investment in new technologies, R&D and human resources), but at the same time they expected a rather positive impact on success factors in the mid to long term. The most positive effects of CSR measures are foreseen for niche markets and product differentiation strategies, brand value and reputation, and customer relations. Investment into CSR might also lead to higher product prices which are seen as challenging especially in the textile and the construction industry. Financial incentives, consumer demand, legislation and societal pressure are seen as the most important driving forces for CSR uptake.

6.1. Systematizing the links of CSR and competitiveness

The interviews showed a great variety of perceptions of how CSR and competitiveness are linked and that the linkages are much more complex than assumed in most of the scientific literature: CSR requires certain resources (time and money), it can be implemented by a great variety of activities, and leads to expected outcomes that cause (directly or indirectly) impacts on very different aspects of competitiveness. This causal chain is complex and characterized by several feedback loops. While one company might experience that CSR leads to innovation, to new products and to better competitiveness, another company might also invest into CSR measures, but not gain any competitive advantage as it acts in a market segment, where technological leadership is not an important issue. In another enterprise investments into CSR measures might open up new markets or market niches leading to more turnover and revenue so that more investments are possible. In other cases a lack of awareness might result in the perception that CSR is merely a costly activity that does not lead to any competitive advantage.

We see therefore a need to clarify the different causal relations between CSR and competitiveness. Summarizing the findings of our study and comparing it to the different approaches to competitiveness in other scientific studies, we sketched six different types of links between CSR and competitiveness. This typology is based on an actors' perspective and draws conclusions relevant for CSR policies²³ on national and on EU level.

²³ For more detailed information on CSR policies in Europe see: Fox et al. 2002; Riess & Welzel 2006; DG Employment 2007; Lepoutre et al. 2007, Berger et al 2007, Steurer et al 2007, OECD 2008, Steurer et al 2008, Steurer 2009.

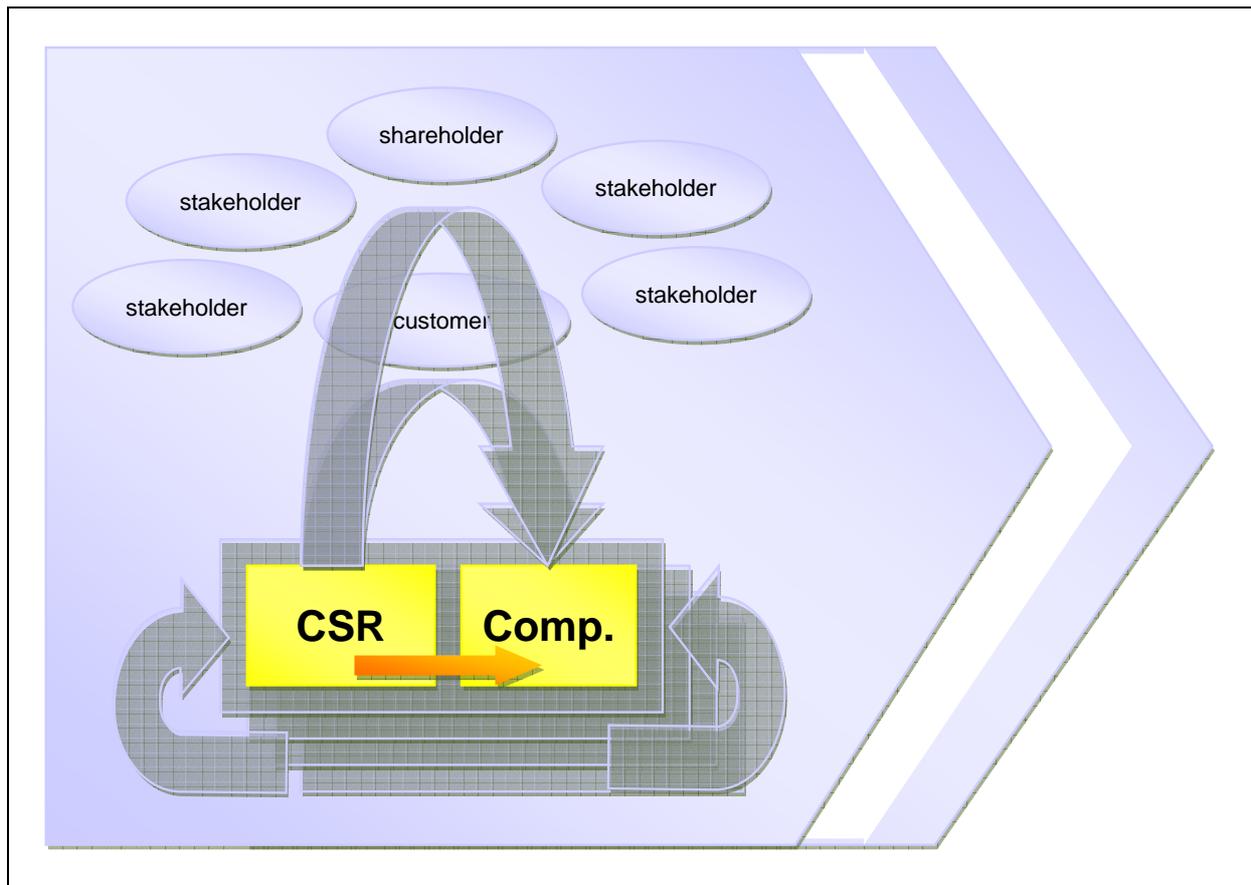


Figure 5: Linking CSR and competitiveness in investment decisions

Perspective: CSR is understood as an investment into production factors for higher (eco-)efficiency. Improved competitiveness is achieved by increased return on investment rates and lower production costs. This perspective fits to the models of micro-economics, to the resource based approach in strategic management and to Gutenberg's production theory in business administration. As neither consumers nor other stakeholders are taken into account in this model, the link of CSR and competitiveness is rather easy to conceptualize as an investment decision. Since investments and current costs are the main factors affecting the decision making and the perspective focuses on production and efficiency, other actors and stakeholders are not taken into account. Investment decisions are influenced by the prices and availability of technologies and the anticipated future prices.

Cases: new environmental technologies in the chemical industry; eco-innovation in the industrial textiles sub-sector; occupational health, security and safety in the construction sector and in the chemical industry.

Public CSR Policies: As the investment decision and monetary aspects are in the focus, CSR policies can trigger these decisions by financial instruments (e.g. taxes, subsidies), the creation of new markets (e.g. emission trading) or command and control (e.g. licensing requirements and orders). In addition R&D programs and policies might lead to new technologies and therefore promote CSR and competitiveness.

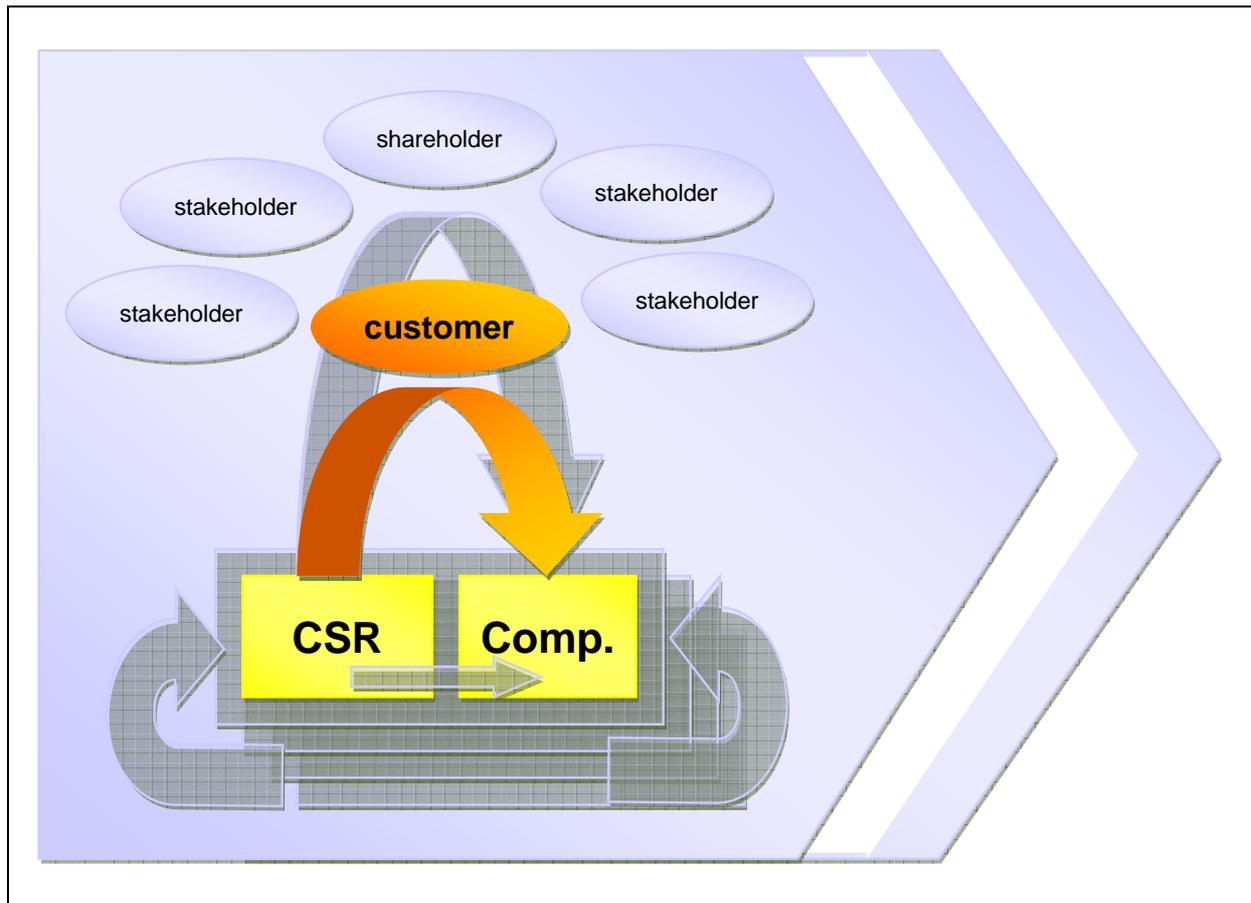


Figure 6: Linking CSR and competitiveness in marketing decisions

Perspective: CSR as a part of a differentiation strategy due to new products and services offered. Improved competitiveness is achieved by increased market shares, customer loyalty and higher product prices possible. This perspective fits to the marketing approach putting customer needs into the centre of all corporate decisions, to the market based view in strategic management and to concepts of sustainable consumption and production. Quality leadership and a unique selling proposition are obtained by new products (and therefore by R&D) and by branding. As consumer needs and perceptions are the most important factor, the link of CSR and competitiveness depends on their awareness, rationality and willingness to pay. Consequently, psychological aspects (in addition to economic aspects) become increasingly important (e.g. advertising psychology, motivation research).

Cases: Eco-labels for textiles, Eco-compatible buildings / sustainable construction.

Public CSR Policies: CSR policies serve to raise consumers' awareness (e.g. through information campaigns), guarantee high social and environmental conditions in production (e.g. through eco-labels) or directly influence purchasing decisions by influencing production costs (e.g. VAT reduction for Eco-Management-Systems certified enterprises in Italy).

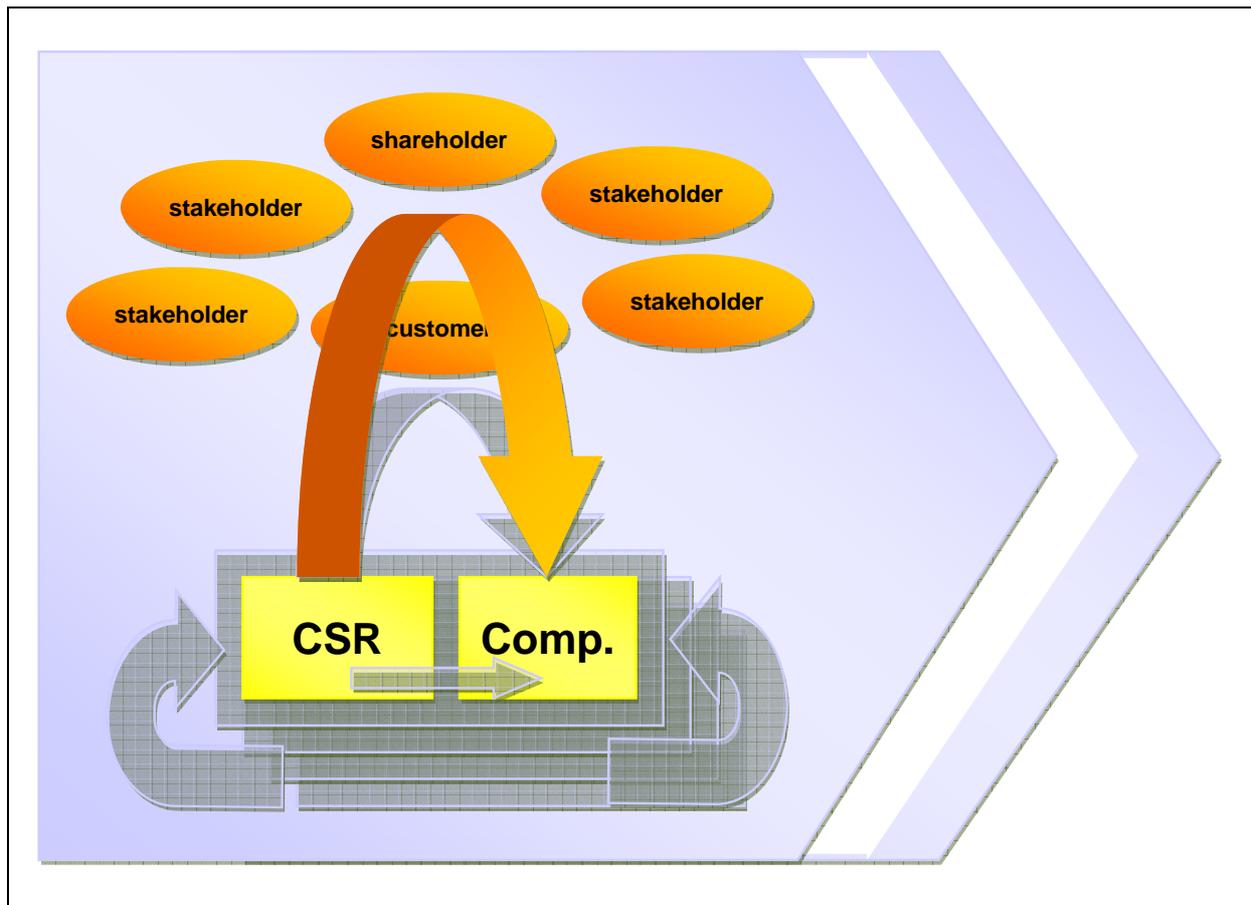


Figure 7: Linking CSR and competitiveness under a stakeholder perspective

Perspective: The stakeholder view puts a company in the focus of a broad variety of requests from different societal groups. CSR is seen as the attempt to fulfil these different expectations, needs and requirements and in turn increase societal trust in the sector and reduce the pressure faced. This perspective fits to relational view in strategic management, to new institutional economics and to systems theory. Theory and practice face the problem of high complexity and sometimes contradictory and ambiguous claims by the different stakeholders. Although high hopes are put on the link between CSR and competitiveness in day-to-day business (e.g. through the establishment of stakeholder relation, good relations to policy makers), it can hardly be estimated and/or quantified. The link becomes more “measurable” when the license to operate is concerned: if the interests of specific stakeholders are gravely disregarded, this may lead to the loss of trust and legitimacy, and in the end endanger the existence of a company or a whole sector.

Cases: the life cycle approach and risk management in the chemical industry; anti-corruption measures in the construction sector, labour standards in textile production sites overseas.

Public CSR Policies: CSR Policies following this perspective are either focused on the state as a specific stakeholder (e.g. by sustainable public procurement) or try to improve transparency and disclosure (e.g. by legally obligated CSR reporting).

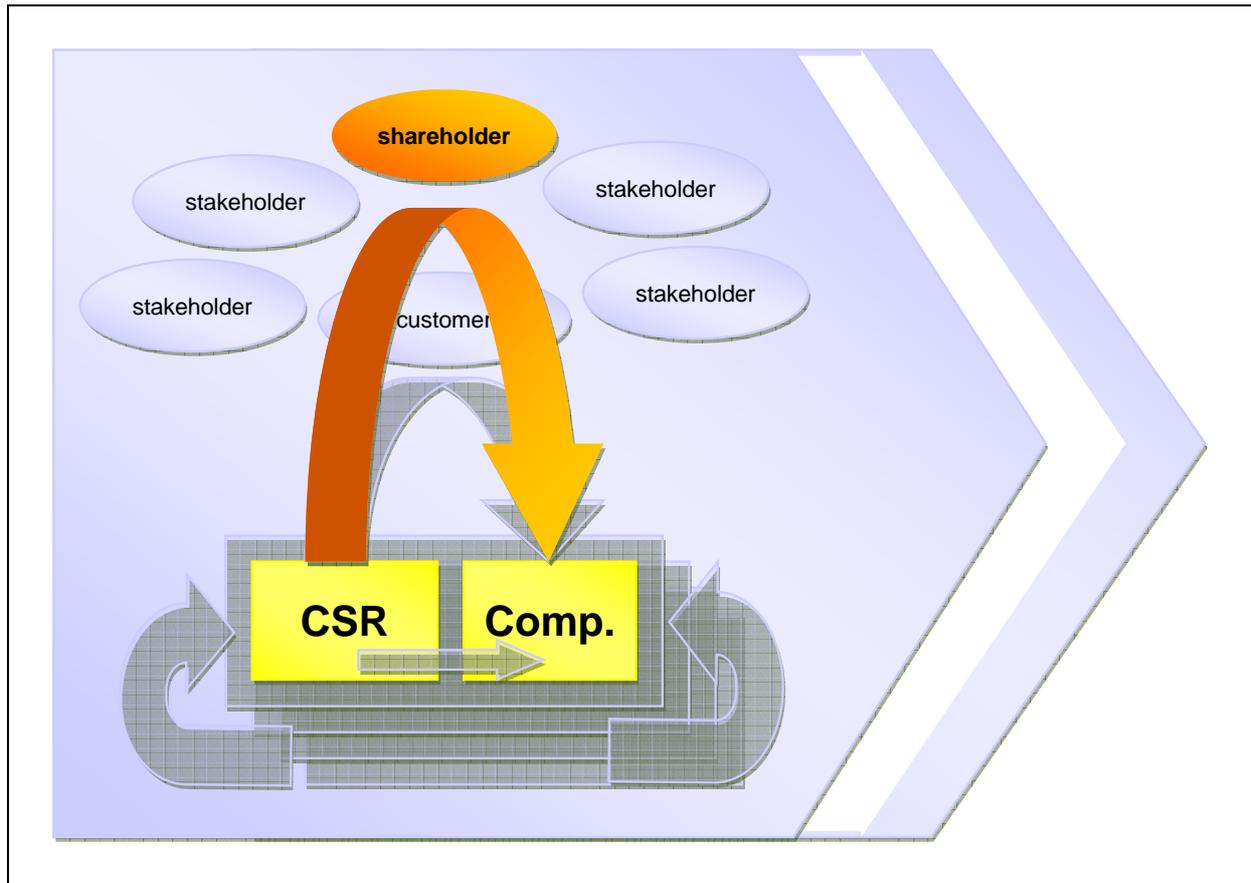


Figure 8: Linking CSR and competitiveness under a shareholder value perspective

Perspective: The shareholder value approach comprises all three previously presented approaches and projects them in the company's value for its shareholders. This approach reduces complexity and establishes an easy to understand basis for operational decisions. The main problem of this approach lies in the fact that a great number of assumptions have to be made and monetised (e.g. the availability of technologies, the development of market prices, the consumption decisions, willingness to pay and consumer loyalty as well as the manifold claims from other stakeholders). All this complexity is put into a „black box“, the performance of a company is measured by the means of a number of simple ratios and a conclusion on the relationship between CSR and competitiveness is made on the basis of benchmarking and time series.

Cases: Dow Jones Sustainability Index, Green Funds and Certificates, Socially Responsible Investment.

Public CSR Policies: CSR Policies following this perspective either focus on the state as a specific stakeholder (e.g. establishing obligatory criteria for public pension funds) or try to improve transparency and disclosure (e.g. by legally obligated CSR reporting, by supporting or conducting sustainability rankings and ratings).

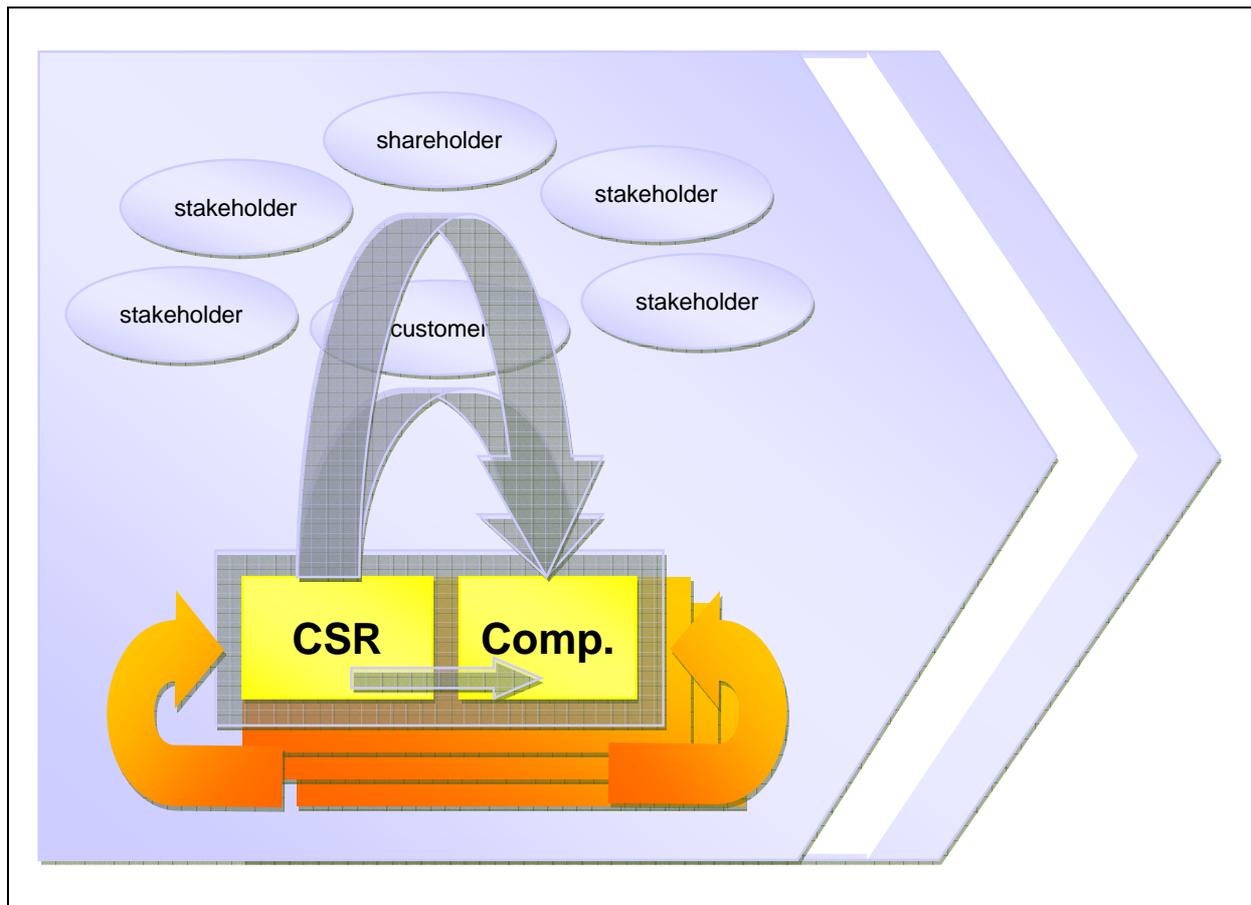


Figure 9: Linking CSR and competitiveness under the perspective of Porter's Five Forces

Perspective: Michael Porter's Five Forces is a framework for industry analysis and business strategy development and has been established as very influential concept in strategic management. The framework focuses on competitive rivalry, bargaining power of consumer and suppliers and threats of new and substitutive products. In applying this framework businesses and sectors could protect themselves from competitors by building up unique positions.

Cases: co-funded initiatives described in this report; European Competitiveness Report 2008.

Public CSR Policies: While no individual CSR Policy can be characterized as following specifically this approach, the whole idea of linking CSR and competitiveness can be seen in the light of Porter's Five Forces: While European industries are facing increased competition from outside Europe CSR is expected to help them regain competitiveness through innovation, outstanding product quality and brands, high social and environmental standards. It is obvious that this idea is in contradiction with the vision of sustainable development: Is CSR seen as a source of competitive advantage CSR measures should be designed in a way that they can not be imitated by competitors. In contrast sustainable development is heading for a quick dissemination of new ideas and technologies to achieve environmental and societal impacts. For future studies and policies we would recommend focusing on the links between CSR and "business excellence".

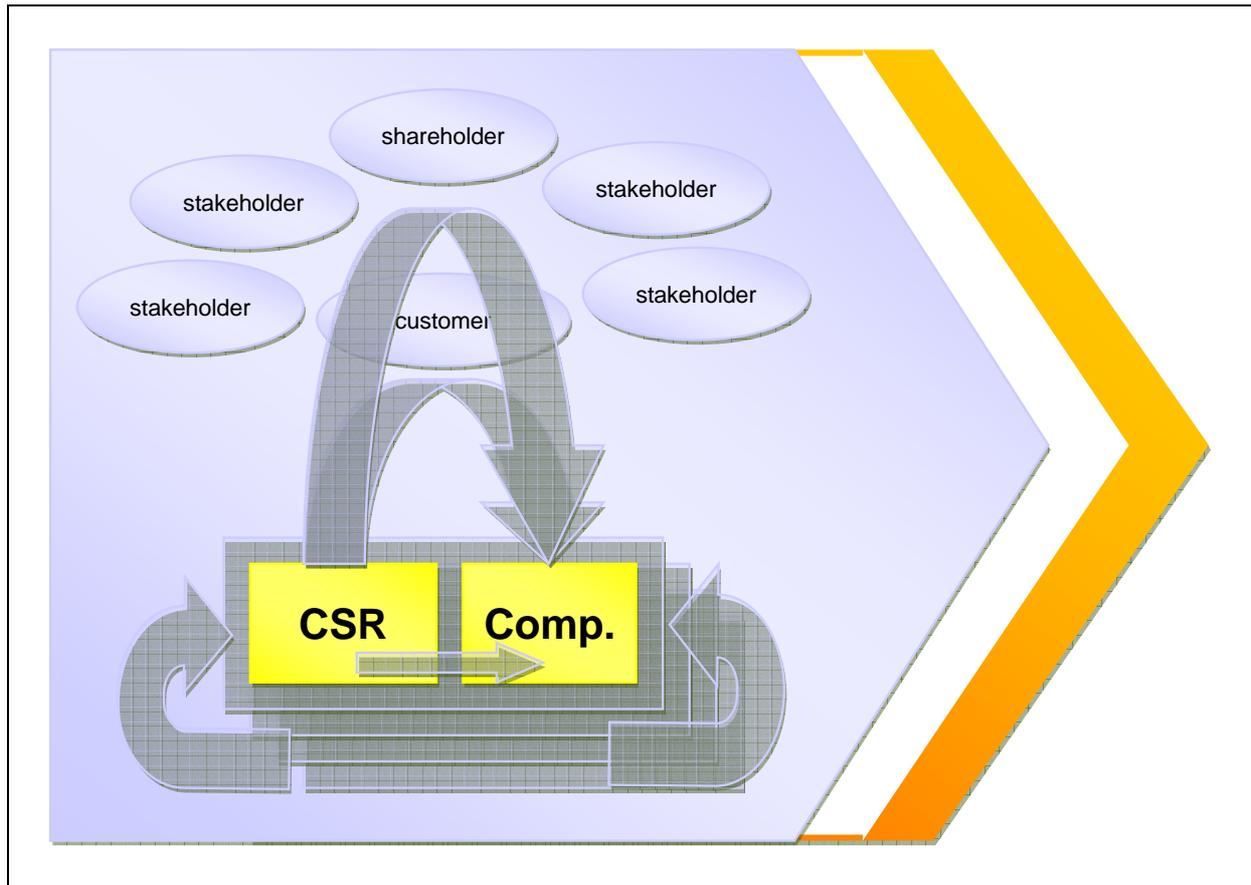


Figure 10: Linking CSR and competitiveness under a dynamic and systemic perspective

Perspective: While the previous approaches followed a rather static perspective, the concept of hyper competition follows a dynamic approach taking into account shorter product life cycles, the entry of unexpected competitors and the fact that standards and rules are in flux. In addition system theories offer new perspectives on the complexity, autopoiesis and resilience of social systems. Evolutionary approaches and constructionist concepts in management science highlight the limits of our ability to plan and control social systems. Under this perspective CSR has to focus on organizational learning to enable business and sectors to understand and deal with societal demands and trends. Therefore linking CSR and competitiveness takes place on a “meta-level”.

Cases: Multi-stakeholder dialogues, Public Private Partnerships, staff exchange between businesses and civil society organization.

Public CSR Policies: Hybrid instruments are tailored to support companies' capability to learn and engage in a dialogue. They don't create immediate competitive advantage, but they contribute to creating a business culture based on dialogue, learning, transparency and responsibility, along the principles of good governance. Both aim at increasing the social and operational reflexivity, the ability to anticipate and innovate.

6.2. Sector-wide CSR challenges need joint action

This project showed that linking CSR and competitiveness is strongly determined by sectoral specificity:

- The chemical sector shows a huge potential for linking CSR and competitiveness as innovation, resource availability and the license to operate are located in a very core of firms' economic success. CSR policies in this sector should therefore focus on supporting and promoting innovation, implementing health and safety standards and ensuring high (eco-)efficiency.
- In the construction sector CSR measures are being implemented when the three main driving forces – clients, property developers and general contractors – demand it. CSR policies in this sector should lead by example in public procurement processes, establish standards (e.g. for energy consumption), enforce the implementation of existing norms and regulations (e.g. occupational health and safety) and tackle corruption.
- Linking CSR and competitiveness in the textile sector can be achieved by establishing niche markets in a globalized competition. In this situation CSR policies have to care for quality control and ensuring credibility.

In order to promote CSR the European Commission should focus on sectoral CSR initiatives as each sector has several areas of high societal impact within the wide spectrum of CSR themes. General CSR checklists and cross-sectoral initiatives are of little help since certain CSR areas can be of the highest importance for one, but irrelevant for the other sector. Consumers in turn will have the impression that a company can pick and choose CSR activities as it likes potentially ignoring the areas where the most societal or environmental concerns are evident. CSR should therefore become concrete and targeted in each sector.

For this purpose, leading companies, business associations, trade unions, NGOs and the European Commission could jointly develop a common agenda for specific sectors. Involving stakeholders and transparently communicating strengths and weaknesses, threats and opportunities of the respective sector would ensure transparency and help gain trust. Sector specific research activities could contribute to this evidence based agenda setting. On this basis the social responsibility of a specific sector and of an individual company could easily be communicated and improved. Corporate CSR measures could be evaluated if they are in line with the sector agenda and contribute to solving sector specific problems. In doing so sectoral CSR initiatives would stimulate, focus and mainstream action and contribute to a sustainable Europe.

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8. Annex II - Methodology

This study is based on

- A comprehensive analysis of academic literature on CSR and competitiveness in general and on sector specific issues in the construction, textile and chemical industry;
- 15 telephone interviews for each of the three sectors conducted with representatives of European Commission sector units, European and national Trade Unions and Trade Associations (Please see Annex II for full list of interview partners²⁴) in the course of three rounds; and
- several qualitative face-to-face interviews with coordinators of the three co-funded projects in the course of project meetings in Brussels and during a field trip to Bologna (BRC) and Pisa (COSMIC) in May 2010.

In the course of the first and second rounds of telephone interviews we focussed on identifying the most relevant CSR issues and critical success factors in each of the three sectors. Based on these findings we derived three hypotheses for each sector and focused on them during the third round of interview (see Figure 1 on next page).

In agreement with the European Commission we decided to concentrate on a relatively homogenous group of interview partners, i.e. experts from trade associations and trade unions. Out of a list of contact persons of European national trade associations provided by DG Enterprise, and potential interview partners derived from further research conducted by the project team, we especially focused on representatives of big National Trade Associations and Trade Unions and of countries where the respective industry is the biggest (for the list of interviewees see Annex II). Consequently, most of our interview partners represented organisations with sometimes 5000 member companies. This was done to ensure that despite a limited number of interviews conducted, high reliability of results could be guaranteed.

²⁴ For the purpose of this study interview partners are also referred to as “experts” and “interviewees”

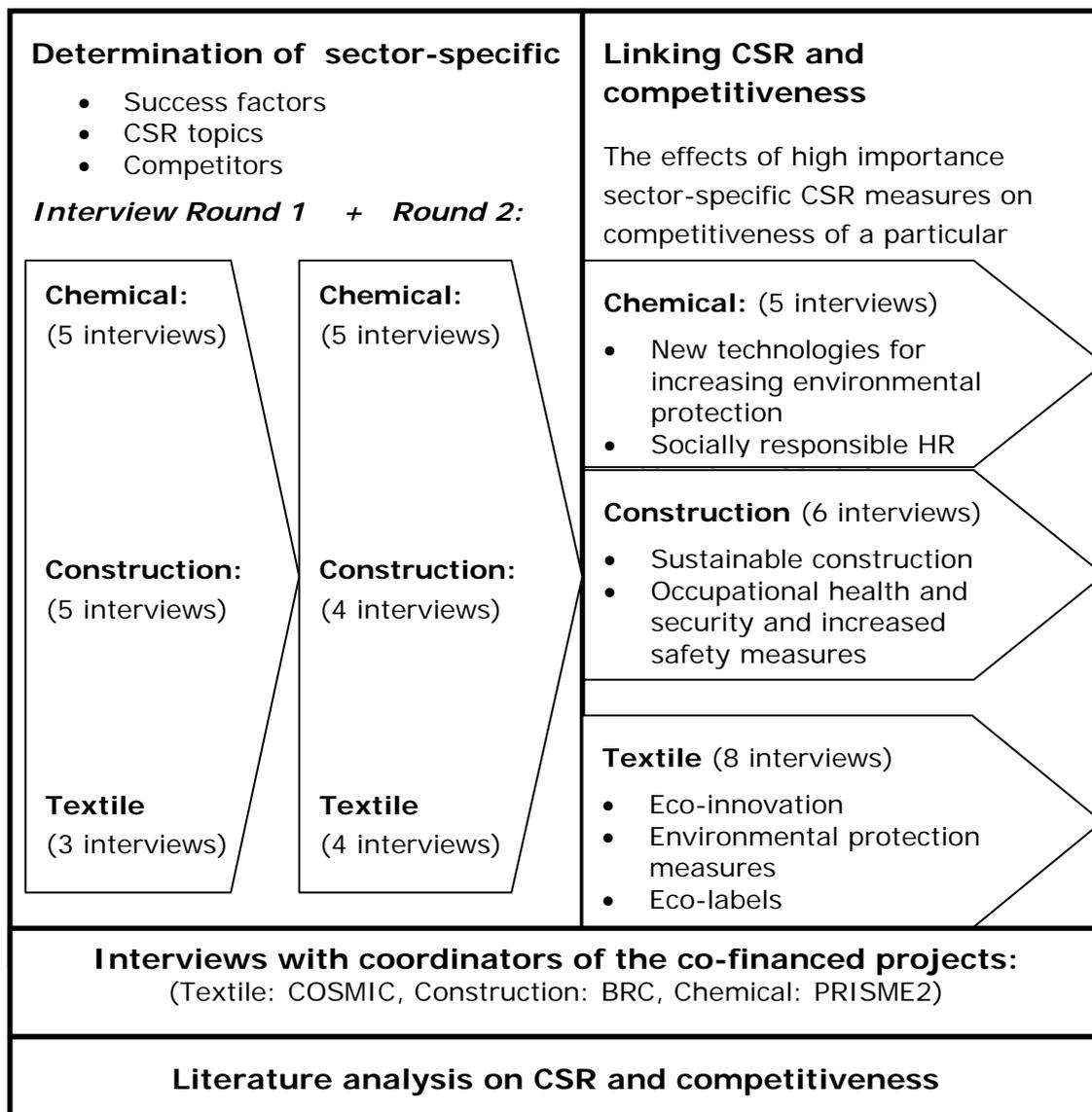


Figure 11: Overview - methodology

Interview round 1: Based on the initial literature analysis on CSR and competitiveness we have developed a questionnaire consisting of qualitative and quantitative questions to be used for interview round 1. The questionnaire was structured as follows (for full questionnaire see Annex II):

- Competitiveness in the respective sectors: exploring success factors, sector homogeneity with regards to success factors, sector competitiveness and sector clusters;
- CSR in the respective sectors: identifying sector-specific CSR topics, analysing the sector homogeneity concerning CSR, detecting major drivers for sector-based CSR, as well as key stakeholders;
- Linking CSR and competitiveness in the analysed sector.

Interview round 2: The questionnaire used for the second round of interviews had very little variation from the one used in the first round. However, the questions on clusters and regions have proved to be of little value for the purpose of this study, thus were omitted for the rest of the study. Interview partners for this round have been selected with a specific focus on Trade Unions as stakeholders with a few Trade Association representatives also interviewed.

Interview round 3: In accordance with DG Enterprise and Industry we selected three CSR measures for each sector that have emerged as most important during the first two rounds and focused on them during the third round of interviews:

Chemical sector:

- The effects of new environmental technologies on European chemical industry competitiveness.
- The effects of socially responsible human resource management and organizational culture on the competitiveness of the chemical industry.
- The potential effects of a life cycle approach on competitiveness of the chemical sector.

Construction sector:

- The effects of sustainable construction on the competitiveness of the European construction industry
- The effects of occupational health and security and increased safety measures on the competitiveness of the European construction industry
- The effects of anti-corruption measures for the competitiveness of the European construction sector.

Textile sector:

- The effects of eco-innovation on the competitiveness of the European textile industry.
- The effects of environmental protection measures on the competitiveness of the European textile industry.
- The effects of labelling (eco-labels) on the competitiveness of the European textile industry.

The majority of interview partners of round 3 already were interviewed in round 1 or round 2, only a few organisations were newly contacted. Moreover, the interview partners in round 3 consisted mainly of Trade Associations; only a few interview partners represented Trade Unions. This has been done in order to focus in the third round on the industry perspective on the effects of CSR measures on industry competitiveness.

Due to the low number of interviews we do not claim that our findings are representative for all sub-sectors and all European member states. Furthermore, it must be noted, that the context regarding success factors and especially CSR measures may vary between regions, countries and different contexts. Due to time and budgetary restrictions these variations were not extensively considered during this study.

9. Annex III - List of interview partners

Chemical industry (Total number of interviews: 15)			
No of interviews	Country	Target Group	Organisation
1 (Round 1)	EU	EC Sector Unit	European Commission
1 (Round 1)	BE	Trade assoc.	Essencia
2 (Round 1, 3)	UK	Trade assoc.	CBA (Chemical Business Association)
1 (Round 1)	NL	Trade assoc.	VHCP (Verbond van Handelaren in Chemische Produkten)
1 (Round 1)	BE	Trade assoc.	Belgische Kamer van Chemiehandel – Chambre Belge du Commerce Chimique
1 (Round 2)	EU	Trade assoc.	CEFIC
2 (Round 2, 3)	D	Trade assoc.	VCI (Verband der Chemischen Industrie)
2 (Round 2, 3)	GR	Trade assoc.	HACI (Hellenic Association of Chemical Industries)
2 (Round 2, 3)	E	Trade assoc.	FEIQUE (Federación Empresarial de la Industria Química Espanola)
2 (Round 2, 3)	FIN	Trade union	KEMIANLIITTO (Chemical Worker's Union in Finland)
Construction industry (Total number of interviews: 15)			
No of interviews	Country	Target Group	Organisation
1 (Round 1)	EU	EC Sector Unit	European Commission
2 (Round 1)	EU	Trade assoc.	FIEC

1 (Round 1, 3)	E	Trade assoc.	SEOPAN (Asociacion de Empresas Constructoras de Ambito Nacional)
1 (Round 1)	D	Trade assoc.	ZDB (Zentralverband des Deutschen Baugewerbes)
1 (Round 1)	DK	Trade assoc.	Dansk Byggeri
1 (Round 2)	FIN	Trade assoc.	Confederation of Finnish Construction Industries Rakennusteollisuus
1 (Round 2)	AT	Trade assoc.	Wirtschaftskammer Österreich - Fachverband
1 (Round 2)	NO	Trade union	Fellesforbundet
2 (Round 2,3)	FIN	Trade union	Rakennusliitto (Finnish Construction Union)
1 (Round 3)	UK	Research Institute	University of Reading, School of Construction Management and Engineering
1 (Round 3)	IE	Trade Assoc.	The Construction Industry Federatrion (CIF)
1 (Round 3)	BE	Trade Assoc.	Confédération Construction - Confederatie Bouw
1 (Round 3)	EU	Trade Union	European Federation of Building and Woodworkers (EFBWW)
Textile industry (Total number of interviews: 15)			
No of interviews	Country	Target Group	Organisation
1 (Round 1)	EU	Trade assoc.	ETUF: TCL (European Trade Union Federation: Textiles, Clothing and Leather)
2 (Round 1,3)	D	Trade assoc.	GTMI (Gesamtverband der deutschen Textil- und Modeindustrie)
2 (Round 1,3)	BE	Trade assoc.	FEDUSTRIA (Fédération Belge de l'Industrie Textile, du Bois et de l'Ameublement)
1 (Round 2)	I	Trade assoc.	SME (Federazione Tessile Moda)
2 (Round 2,3)	AT	Trade assoc.	Wirtschaftskammer Österreich - Fachverband Textilwirtschaft
2 (Round 2,3)	BE	Trade union	ACV Textura
2 (Round 2,3)	F	Trade assoc.	UIT (Union des Industries Textiles)
1 (Round 3)	EU	Assoc.	EURATEX (European Apparel and Textile Confederation)
1 (Round 3)	EU	Assoc.	AUTEX (Association of Universities for Textile)
1 (Round 3)	RO	Research Institute	The Research-Development National Institute for Textile and Leather

Table 27: List of interview partners

10. Annex IV - Sectoral competitiveness and CSR profiles

Competitiveness profile of the chemical sector	Importance
Human resources and organizational culture	Very important
Customer relations	
Financial resources	
Technologies and machines	
Efficient supply chain management	
Flexibility and fast responses to market changes	
Excellent customer service	
High product quality	
Efficient processes	Important
Research & Development	
Location	
Information, control systems, and effective risk management	
Niche market strategies	
Market entry barriers	
Low production costs and low labour costs	Less important
Access to raw materials	
Good value for money	
Strategic alliances and networks	
Cost leadership strategies	
Brand value and reputation	
Good relations to policy makers and stakeholder groups	
Differentiation strategies	Not important
Free-trade areas	

Table 28: Competitiveness profile of the chemical sector

CSR profile of the chemical sector	Importance
Support the protection of air and water, land, biodiversity	Very important
Engage in climate protection	
Consider the whole product life-cycle, facilitate reusability & recyclability of products	
Offer safe and high-quality products/services	
Minimize the amount of toxic substances, emissions, sewage & waste	
Guarantee safety, occupational health & security	
Conserve natural resources, apply renewable energy & avoid the usage of raw materials	
Pursue sound corporate governance practices	Important
Ensure transparency through economic, social & environmental reporting	
Foster innovation	
Respect consumer interests	
Foster sustainable consumption & production	
Respect consumer interests	
Boost innovation for improvement in efficiency	
Implement sound risk management systems	Less important
Engage in fair and efficient Human Resource Management	
Raise stakeholders awareness for social & environmental topics	
Facilitate sustainable supply chains	
Respect Human Rights	
Engage in fair competition	Not important
Combat bribery & corruption	
Employ Socially Responsible Investment	
Protect intellectual property rights	
Respect freedom of association	
Abandon discrimination & encourage diversity	
Practice sound stakeholder management	
Engage in poverty reduction	
Involve in the development of public policies	

Table 29: CSR profile of the chemical sector

Competitiveness profile of the construction sector	Importance
Human resources and organizational culture	Very important
Efficient processes	
Financial resources	
High product quality	
Brand value and reputation	Important
Good value for money	
Customer relations	
Excellent customer service	
Technologies and machines	
Information, control systems, and effective risk management	
Efficient supply chain management	
Good relations to policy makers and stakeholder groups	Less important
Cost leadership strategies	
Strategic alliances and networks	
Niche market strategies	
Access to raw materials	
Low production costs and low labour costs	Not important
Research & Development	
Flexibility and fast responses to market changes	
Differentiation strategies	
Location	
Market entry barriers	
Free-trade areas	

Table 30: Competitiveness profile of the construction sector

CSR profile construction sector	Importance
Offer safe and high-quality products/services	Very important
Foster sustainable consumption & production	
Guarantee safety, occupational health & security	
Support the protection of air and water, land, biodiversity	
Minimize the amount of toxic substances, emissions, sewage & waste	
Consider the whole product life-cycle, facilitate reusability & recyclability of products	Important
Engage in fair competition	
Combat bribery & corruption	
Conserve natural resources, apply renewable energy & avoid the usage of raw materials	
Engage in climate protection	
Pursue sound corporate governance practices	
Respect freedom of association	
Respect consumer interests	
Boost innovation for improvement in efficiency	
Ensure transparency through economic, social & environmental reporting	
Foster innovation	Less important
Involve in the development of public policies	
Implement sound risk management systems	
Respect Human Rights	Not important
Facilitate sustainable supply chains	
Engage in fair and efficient Human Resource Management	
Raise stakeholders awareness for social & environmental topics	
Practice sound stakeholder management	
Employ Socially Responsible Investment	
Abandon discrimination & encourage diversity	
Engage in poverty reduction	
Protect intellectual property rights	

Table 31: CSR profile of the construction sector

Competitiveness profile of the textile sector	Importance
Flexibility and fast responses to market changes	Very important
High product quality	
Efficient processes	
Research & Development	
Niche market strategies	
Human resources and organizational culture	Important
Technologies and machines	
Market entry barriers	
Financial resources	
Brand value and reputation	
Efficient supply chain management	
Customer relations	
Differentiation strategies	Less important
Strategic alliances and networks	
Free-trade areas	
Good value for money	
Excellent customer service	Not important
Cost leadership strategies	
Information, control systems, and effective risk management	
Access to raw materials	
Good relations to policy makers and stakeholder groups	
Location	
Low production costs and low labour costs	

Table 32: Competitiveness profile of the textile sector

CSR profile construction sector	Importance
Foster innovation	Very important
Protect intellectual property rights	
Offer safe and high-quality products/services	
Respect Human Rights	
Minimize the amount of toxic substances, emissions, sewage & waste	
Conserve natural resources, apply renewable energy, avoid the usage of raw materials	
Engage in fair and efficient Human Resource Management	Important
Support the protection of air and water, land, biodiversity	
Guarantee safety, occupational health & security	
Respect consumer interests	
Engage in climate protection	
Boost innovation for improvement in efficiency	
Facilitate sustainable supply chains	
Engage in poverty reduction	
Foster sustainable consumption & production	
Respect freedom of association	
Engage in fair competition	Less important
Raise stakeholders awareness for social & environmental topics	
Ensure transparency through economic, social & environmental	
Consider the whole product life-cycle, facilitate reusability & recyclability of products	
Pursue sound corporate governance practices	Not important
Practice sound stakeholder management	
Abandon discrimination & encourage diversity	
Implement sound risk management systems	
Involve in the development of public policies	
Combat bribery & corruption	
Employ Socially Responsible Investment	

Table 33: CSR profile of the textile sector

Impressum

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